

REFORMS IN TURBULENT TIMES

A study on the theory and practice of three irrigation
management policy reform models in Mashonaland,
Zimbabwe

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management policy reform models in Mashonaland,
Zimbabwe

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DEDICATION

*If you were here I am sure you would have praised the Lord
and talked about it to your friends*

For you who passed away while I was struggling with the PhD research
I assure you I cherish your wise words, some of which are now text to this book
Now your wise words to me will be spread to many others the world over:

Chidenyere Zawe	<i>My father</i>
Agnes Zawe	<i>My mother</i>
Richard Sibangani	<i>My father in-law</i>
Tongotarisa Zawe	<i>My brother</i>
Chipo Zawe	<i>My sister</i>
Musafare Zawe	<i>My brother</i>

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LIST OF ACRONYMS

AFC	Agricultural Finance Co-operation
AGRITEX	Agriculture, Technical and Extension Services
ARDA	Agriculture and Rural Development Authority
AREX	Agriculture Research and Extension Services
BSAC	British South Africa Company
CFU	Commercial Farmers Union
CICA	Chifundi Irrigation Cooperative Association
CICAC	Chifundi Irrigation Cooperative Association Committee
Conex	Department of Conservation and Extension
DANIDA	Danish International Development Agency
DDC	District Development Committee
DDF	District Development Fund
DERUDE	Department of Rural Development
Devag	Department of Agricultural Development
DoAE	Department of Agriculture Engineering
DoI	Department of Irrigation
DR&SS	Department of Research and Specialist Services
DWD	Department of Water Development
EEC	European Economic Commission
EPIMC	Elmly Park Irrigation Management Committee
ESAP	Economic Structural Adjustment Programme
FAO	Food and Agriculture Organisation
Farmesa	Farm Level Research in East and Southern Africa
FRoG	Federal Republic of Germany
GMB	Grain Marketing Board
GoZ	Government of Zimbabwe
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IFAD	International Fund for Agriculture Development
IMC	Irrigation Management Committees
IMF	International Monitoring Fund
IWE	Irrigation and Water Engineering Group
KCC	Kanhukamwe Co-operative Company
KfW	Kreditanstalt für Wiederaufbau
KSIP	Kutama Smallholder Irrigation Programme
MARR	Ministry of Agriculture and Rural Resettlement
MDC	Movement for Democratic Change
MEWRD	Ministry of Energy and Water Resources Development
MFEPD	Ministry of Finance Economic Planning and Development
MLC	Ministerial Liaison Committee
MLLRR	Ministry of Lands, Land Reform and Resettlement
MoLARR	Ministry of Lands Agriculture and Rural Resettlement
MoLGRUD	Ministry of Local Government, Rural and Urban Development
MoLPA	Ministry of Legal and Parliamentary Affairs
MoYGEC	Ministry of Youth, Gender and Employment Creation
MWRRD	Ministry of Water and Rural Resources Development

NDP	National Democratic Party (NDP)
NECF	National Economic Consultative Forum
NGO	Non Governmental Organisation
NMC	Negomo Irrigation Management Committee
PDC	Provincial Development Committee
RBZ	Reserve Bank of Zimbabwe
RDC	Rural District Council
RF	Rhodesia Front (RF)
RFU	Rhodesia Farmers Union
RNFU	Rhodesian National Farmers Union
RoZ	Republic of Zimbabwe
SDARMP	Smallholder Dry Areas Resource Management Project
SEDAP	Southern Eastern Dry Areas Project
SISP	Smallholder Irrigation Support Programme
SSHI	Support to Smallholder Irrigation Project
SSIP	Small Scale Irrigation Programme
TILCOR	Tribal Trust Lands Development Corporation
TTL	Tribal Trust Lands
UDI	Unilateral Declaration of Independence
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development
VIDCO	Village Development Committee
WADCO	Ward Development Committee
WARB	Water Act Review Board
WUA	Water User Association
ZANLA	Zimbabwe African National Liberation Army
ZANU	Zimbabwe African National Union
ZANU (PF)	Zimbabwe African National Union (Patriotic Front)
ZAPF	Zimbabwe Agricultural Policy Framework
ZAPU	Zimbabwe African Peoples Union
ZASA	Zimbabwe Agricultural Sector Assistance Programme
ZESA	Zimbabwe Electricity Supply Authority
ZFC	Zimbabwe Fertiliser Company
ZINWA	Zimbabwe National Water Authority
ZIPRA	Zimbabwe People's Revolutionary Army
ZIMWESI	Zimbabwe Programme on Women Studies, Extension, Sociology and Irrigation
ZNLWVA	Zimbabwe National Liberation War Veterans Association
ZRDC	Zvimba Rural District Council
ZTA	Zimbabwe Tobacco Association

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Photo 1: Overview of a sprinkler irrigated smallholder scheme at Ngezi-Mamina
Source: picture Zawe 2006

1 INTRODUCTION: IRRIGATION POLICY REFORM MODELS

This thesis focuses on smallholder Irrigation Management Reform (IMR) models implemented in Mashonaland West and Mashonaland Central provinces of Zimbabwe. In this study, a policy model is understood as a template (Hawkins 1998) that can be transferred from one situation to another and used to regulate and order the development, operation and maintenance of irrigation schemes. In particular it is concerned with how the models were negotiated, recursively shaped, adopted, transformed and accepted into policy by an array of actors spanning across international funding agencies, government ministries, local agencies responsible for smallholder irrigation development, the irrigators and their surrounding communities. The study also assesses how the socio-political and economic environment before and during the implementation of these models moderated both their shape and outcomes. The intention of this thesis is two pronged. First, the thesis aims to add to the growing body of debate on IMRs by providing information on ‘the reform process,’ an aspect that has been underplayed so far. Second, it aims to contribute to the development of an irrigation management policy for the smallholder irrigation sector in Zimbabwe that has been lacking to date. The latter has become imperative in the wake of the Third Chimurenga land invasions that resulted in smallholder farmers being settled on irrigated land vacated by white large scale commercial farmers.

A core assumption of this study is that policy models are favoured by international funding and development agencies and bureaucrats, because of their logic and ease of application in technological and organisational interventions aimed at solving problems in developing countries. Models are preferred, because they tend to be distinct, quantifiable and coherent. This character of models allows for the visualisation of the natural and social worlds as predictable, controllable and therefore capable of being optimised towards a predetermined goal (Long and van der Ploeg 1989, Mollinga and Bolding 2004, Rap 2004). However, the central argument of this study is that outcomes of policy models emanate not only from their substance and internal coherence. Rather, policy outcomes are mediated by multiple interactions between a variety of actors that draw on different cultural, social, technical and political repertoires (Mosse 2004). As a result, the crafting and implementation process of policy models is subject to the interplay of multiple drivers. In Zimbabwe, because of the effects of the changing political scenarios from colonialism to independence, communities are divided into different alliances that they mobilise depending on the type and form of intrusion. For example, traditional leaders may stand up to reclaim or defend their hold over ancestral lands, and war veterans of the liberation struggle may be mobilised to invade commercial farm land, using nationalist idioms of reclaiming the ‘lost land’ (Alexander 2003, Ranger 1985).

This chapter first situates the Land Question in Zimbabwe by discussing the different regimes, modes of governance, as well as economic and agrarian policies that together made up the context in which the IMR models were tried (1.1). Next (1.2) the origins and problems of the smallholder irrigation sector, that informed subsequent IMR models, are presented. Section 1.3 reviews the global consensus on Irrigation Management Reforms that emerged in the 1990s and provides a critique. The latter informs the leading concepts and theoretical framework of this study (1.4). Thereafter a basic outline of the three studied IMR models is given (1.5) followed by the research objectives and questions (1.6) and methodology used (1.7). Finally, the thesis outline is presented (1.8).

1.1 Land, water and the state in Zimbabwe: situating the land question

The smallholder irrigation sector in Zimbabwe is fundamentally shaped by the land question. The land question in Zimbabwe is epitomized by three main struggles. (a) The struggle to redress the inherited imbalance in access to productive land between the white commercial farmers and black natives¹ and the associated skewed access to water resources; (b) the struggle to create sustainable development through policies and programmes driving and reshaping the management and intensification of land and water use and (c) the struggle by the two peoples of the country to achieve a responsible and caring government.² How these three struggles have shaped and interfered with new policy models for irrigation development and management is the subject of this thesis. This section traces the birth of the Zimbabwean land question from the arrival of the Bantu tribes around the year 1000 through to the invasions of the white commercial farms by former freedom fighters in the year 2000 (Third Chimurenga). First an overview of the successive peoples that occupied the country before the onset of colonialism is given. Next it is shown how the segregated development policies of the white settler state of Rhodesia turned the Land Question into such a pivotal issue. Finally a brief reflection is presented on how independent Zimbabwe dealt with the inherited dual agrarian economy during the first 20 years of its existence, paying specific attention to two of the most contested resources (land and water).

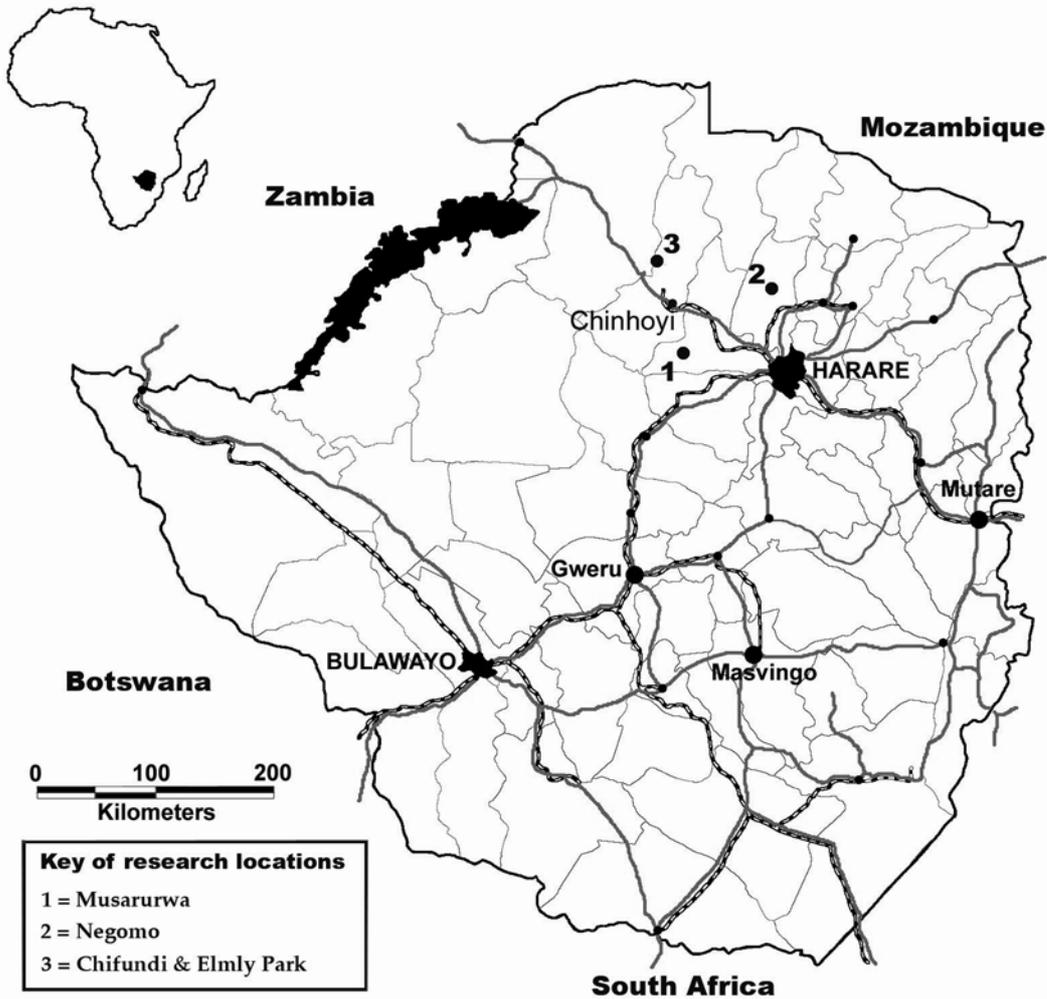
Situating Zimbabwe

Zimbabwe is a land-locked southern African country lying between the Zambezi River in the North, and the Limpopo River in the South that form its boundaries with Zambia and South Africa respectively. To the East, a thin line traced by its colonial master (Britain and their rival colonial power Portugal) meanders its way from the Zambezi to the Limpopo crafting the boundary with its neighbour and sister in arms during the liberation struggle, Mozambique. In the West, another line traced from the Zambezi to the Limpopo crafts the boundary with Botswana. A small dot where this line touches the Zambezi River at the Zambian town of Kazungula some 75 kilometres West of the fascinating tourist resort of Victoria Falls, marks the country's boundary with Namibia (see Map 1.1). To the local people, living in the vicinity, these boundaries are a nuisance for in most cases their chiefdoms have been split into two, with one part remaining on the Zimbabwean side and the other in the neighbouring country. As a result the borders are porous, with local people criss-crossing them during their day-to-day livelihood endeavours; attending funerals, weddings, rainmaking ceremonies and exchanging labour.

¹ Andrews (1935, 49) preferred to use the word 'Mashona' or 'African', instead of 'Native', since 'among the educated classes, especially, both in India and in Africa, there is growing dislike of this word, which is supposed, rightly or wrongly, to carry something of contempt with it when used by Europeans'. Despite these sentiments, I will use the word native/s in this book because this word was used in official texts in Rhodesian times. My father even named an ox of ours 'Native Commissioner'. I must admit though that this ox was always whipped more than the others during ploughing.

² To the white settlers, a responsible government was one that safeguarded their acquired property rights, land, cattle, markets and access to labour. To the African natives a caring government was a government that would ensure that land appropriated from them by the white settlers was reverted to them and that they regained their dignity i.e. their freedom from all forms of restrictions brought about by colonialism.

Map 1.1: Zimbabwe, its neighbours and the research locations



The land and its occupants (1000-1890)

Human habitation has been characterised by protracted battles and struggles for control over the land and its resources. Different tribes and races invaded the land from around the year 1000 and established dominion over it.

“My son, as for this land here, it is not something to fight for, for it belongs to God. What we are sure of is that we are going to be buried in it when we die. For your information no Shona or Ndebele tribe can claim that they were the first to settle on this land between the Zambezi and the Limpopo rivers. What my grandfather (your great grandfather) told me, was that God allows generations to settle on the land to make their mark that following generations will read to be reminded that land is not a property that they can claim to be of their own. If you go into those caves, you will see some paintings on the rocks. Who can tell us who made them? Some one was here before us. Your great grandfather died with a gun in his hand during the first Chimurenga, trying to drive the white man away from this land, so be cautious my son.”

The above sentiments were expressed by my father on his death bed in May 1999 when I visited him at our communal area home in Chihota, near Marondera town. We were chatting

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dispassionately of the ongoing violent campaigns by the main political parties contesting in the 2000 Zimbabwe parliamentary elections. One major campaign issue at stake was the resolution of the “Land question in Zimbabwe”. He looked very worried; knowing that I was employed by the Ministry of Lands, Agriculture and Rural Resettlement, whose mandate it was to implement the campaign promises (policies) on the land question of the winning political party. The Land Question in Zimbabwe refers to the situation in which the African people in the country were dispossessed of what they perceived to be their land by white settlers of British and Afrikaner origin. His sentiments tended to agree with a legend, that is almost certainly not true, but worth repeating anyway: “As the San people were driven from their prehistoric home, they placed a curse on the land between the Zambezi and the Limpopo, swearing that while others might live there, no one would ever truly control it, for it still belonged to the San people and there would never be peace on stolen land” (Hill 2003, 27). The curse seemed to be confirmed on 24 November 2000, when Zimbabwe’s President Mugabe declared that he was at war with the commercial farmers over the land question describing them as “white devils” and blaming them for all of the country’s ills, fanning grievances over land that had fuelled two previous wars (i.e. the First Chimurenga in 1896-7 and Second Chimurenga in 1964-80).

The Shona (c.1000-1840)

For untold millennia, the San people occupied the land between the Zambezi and the Limpopo Rivers now Zimbabwe. The San people were a nomadic tribe who neither raised cattle nor grew crops, but whose survival strategies revolved around hunting the plentiful game for their food, warmth and shelter. Their paintings from plant dyes on rock faces in many caves around the country vividly remind us that the San people once walked this land. The Shona tribes in Zimbabwe today are amongst some of the Bantu tribes that arrived from the North at around the year 1000 from an area close to present day Burundi and the Democratic Republic of Congo (Beach 1984, Bourdillon 1982). By 1400, the San people were all but extinct, the Shona people making the land their own (Hill 2003).³ The main known Shona establishment was the Mwene Mutapa or Munhumutapa Empire (Chieftaincy) of the Mbire people who are said to have built the Great Zimbabwe after which the country is named. The Mbire’s survival strategies revolved around small-scale industries (iron smelting, gold and copper mining), agriculture (crops and livestock) and trade with the Arabs and the Swahilis who brought cloths and spices (Bourdillon 1982, Gelfand 1961). Their Chieftaincy nearly collapsed from a wave of Portuguese imperial schemes during the early 17th Century. However several Shona Chieftaincies joined forces with the Munhumutapa Chieftaincy to fight the Portuguese and by 1690 the Portuguese had been driven out of Munhumutapa Chieftaincy. The country enjoyed some peace from then on until 1840 when the Matebele people invaded the country from the South (Good 1974).

The Mfekane⁴ and the Matebele and Gaza states (1840-1890)

The rise of the Zulu Monarch led by Shaka Zulu in the early 19th century had great impacts on events in Zimbabwe. The Zulus were one of the several Nguni tribes that roamed present day South Africa’s Kwazulu Natal Province. A series of droughts, the trek Boer system of cattle movement between the sweet and sour Veld, and increased European demands for cattle and

³ The Shona tribes included the Karanga, Zezuru, Manyika, Korekore, Ndau and Darwe-Tonga (Bourdillon 1982, 17).

⁴ Mfekane is the name given to the Nguni wars of the 1800s.

ivory, put severe strain on the Nguni Chiefdoms. They took to cattle raiding to replenish their herds (Newitt 1995, 257 cited in Bolding 2004). Shaka Zulu transformed the Nguni Tribes into war regiments and also created a militarised central Zulu state. The regiments were allowed autonomy for as long as they paid tribute (booty) in the form of women and cattle from subjugated tribes and they smoothly incorporated conquered tribes into the large Zulu state. "If it was the San curse that visited revenge on the Shona, it was a mighty and terrible hex" (Hill 2003, 27). Mfekane resulted in the establishment of two Nguni states that had influence in shaping the history of Zimbabwe. First in the East the Gaza state was established in the 1830s by Soshangane, the Ndwandwe general who fled from Zululand. Soshangane incorporated the local Tonga and Shona peoples into his Zulu-type state, demanding the payment of booty from them for his state's revenue. In the West, a Nguni warrior Muzilikazi invaded the country in 1837 and established the Matebele state. Muzilikazi had infringed one of Shaka's standing rules.⁵ The Matebele subjected the Shona chiefdoms to relentless raids and looting of their wealth and women in the Zulu style of booty payment. In 1868 Muzilikazi died and his son Lobengula took over the leadership of the Matebele people. Lobengula lacked his father's aggression and he let many white people who claimed to be hunters, but who were really looking for gold, pass into the country. Reports from one such fortune hunter (a German adventurer Karl Maunch), mistaking the Great Zimbabwe ruins for King Solomon's Temple, opened flood gates for miners in search for gold (Hill 2003).

White state: racial domination and the birth of land question (1890-1979)

Four periods are distinguishable in the occupation and rule of Zimbabwe by white settlers (see Table 1.1).

Occupation of the country by Rhodes' BSAC (1888-1897)

A mining concession (the Rudd concession) was granted to the British Empire builder Cecil John Rhodes by the (non-English-speaking) Matebele leader Lobengula in 1888. The concession gave Rhodes complete and exclusive charge over all metal and mineral rights in the land now called Zimbabwe (Ranger 1967, Phimister 1977, Keppel-Jones 1993). Using his British South Africa Company (BSAC), Rhodes obtained a charter from Queen Victoria in 1889 that granted him authority to operate in Zimbabwe and to the North of it (Meredith 2003). In 1890 the BSAC used a team of about 200 men (the Pioneer column) to enter the country and signed concessions with native chiefs, Mutasa and Ngungunyana, in the Eastern Highlands and the Portuguese (Anglo-Portuguese Treaty 1891) to establish the Eastern boundary (Chitiyo 2000, Hill 2003, Bolding 2004). Failing to find gold in as large amounts as dreams had portrayed, white settlers turned to the next available prize: land (Meredith 2003, Ranger 1967). Farms were pegged out regardless of whether local people were living there (Meredith 2003). This "land grab" brought the BSAC into collision with indigenous Shona and Ndebele policies and customs. Traditionally the real landowners were their ancestors represented by spirits who articulated their wishes through their mediums (*makombwe*) (Bourdillon 1982, Mararike 1999, Chitiyo 2000, 3).

⁵ One of Shaka's rules of conquest was that the warriors would kill the men, slaughter children, and when the battle was done, round up all the women, cattle, sheep and goats as booty (tribute) for the monarch. In this raid however "Muzilikazi set aside some of the plumpest cattle for his own herd and sent only part of the spoils to Shaka. Shaka summoned Muzilikazi to his chambers for explanation. Knowing that obeying meant certain death, Muzilikazi clipped the feathers from the messenger's headdress (an unpardonable insult in Zulu custom), and sent him back to the King" (Hill 2003, 27).

Table 1.1: The colonial instruments used in the occupation and control of Zimbabwe

Period	Phase	Year	Concessions, Acts, Commissions & Events
1888-1897	Occupation of the country by Rhodes' BSAC	1888	Rhodes/Lobengula Rudd Concession
		1889	Queen gives Rhodes Rhodesia charter
		1891	Ngungunyana & Mutasa Concessions
		1893	Matebele Uprising & launch of NRAs
		1896	Matebele & Mashona Rebellion foiled
1898-1930	Colonial establishment and racial segregation	1923	Rhodesia constitution passed
		1925	The Morris Carter Land Commission
		1926	Herskowitz cattle study
		1930	Land Apportionment Act (LAA)
		1931-1961	Technocratic agriculture polices -agricultural demonstrations -conservation and centralisation -state supervised production -labour control
1933	Cattle Levy Act		
1942	Natural Resources Act (NRA)		
1944	Godlonton Commission		
1950	Engledow commission leading to NLHA		
1962-1980	Traditionalist Segregation -community development -growth points -active violent resistance -liberation war -independence	1962	Supremacist RF voted into office
		1965	Smith UDI & Guerrilla war begins
		1967	Tribal Trust Lands Act passed
		1969	Tribal Courts & TLA passed
		1978	Smith/Muzorewa internal settlement
		1979	Lancaster House constitutional talks

Sources: Palmer 1977, Weinrich 1977, Riddell Commission 1981, Ranger 1985, Godwin and Hancock 1995, Weinmann 1996, Chitiyo 2000, Alexander 2003, Bolding 2004.

Rhodesia's first Chief Magistrate, Leander Starr Jameson, in 1891 introduced a boundary between Mashonaland and Matebeleland with the intention of maintaining Matebeleland as a labour pool for the development of Mashonaland (Hill 2003). This triggered the Matebele Uprising of 1893 in which, despite numerical advantage, the Matebele were defeated apparently because of white settlers' superior technology. Natural catastrophes (drought, locusts and rinderpest), hut tax and cruelty to the natives by the white settler administrative machinery coupled with Jameson's abortive raid into Transvaal in December 1895 triggered the native rebellion of 1896-1897 (Ranger 1967, Andrews 1935, 49, Iliffe 1990). The natives were defeated and their spirit medium war leaders were publicly hanged. This public hanging was an unforgivable insult to the native people's pride that could only be doused or extinguished by revenge (Chitiyo 2000).

Colonial establishment and racial segregation (1898-1930)

The British Parliament passed the Native Reserve Order in Council in 1898 in a bid to guarantee the right to land for all natives sufficient for their residence, cropping and pastoral requirements (Quenet 1976, Palmer 1977). The provisions of the Native Reserves Order-in-Council of 1898 were entrenched in the 1923 Rhodesian constitution. In compliance, the BSAC officially sanctioned forced, segregated development by creating Native Reserve Areas (NRAs). This was a blessing to the colonial administrators in that NRAs ensured not only effective control of the natives, but also an opportunity to modernise them and their agriculture (Chitiyo 2000). Natives were therefore forcedly driven away from their land to new sites invariably poorer in resources (Ranger 1967, Meredith 2003). The Morris Carter Land Commission of 1925 allocated 33 % of the land to the NRAs, whilst 50 % was reserved for white settlers. Based on this report the Land Apportionment Act (LAA) was passed in 1930 entrenching racial division in land use in Rhodesia. With the security offered by the

settler state against cattle and women raids of the Nguni and Matebele, population numbers of both humans and livestock continued to swell in NRAs, resulting in perceived massive land degradation (Palmer 1977). The 1926 Herskowitz cattle study produced the “cattle complex theory” postulating that the reluctance by natives to sell or kill cattle for market or home consumption stemmed from their culture, traditions, prestige and status. Tribal chiefs were as a result rewarded with money, regalia or other tokens if they persuaded their subjects to destock, resulting in conflicts with their subjects (Palmer 1977).

Creating a dual agro-economic system and intensifying racial tensions (1931-1961)

Alvord, an American agricultural missionary, had been appointed in 1926 to train agricultural demonstrators who would in turn demonstrate good farming practices to natives. Modernization of natives was not to compete with white settler agriculture for markets and labour. The Maize Control Act of 1931 and the Cattle Levy Act (Palmer 1977, Phimister 1988, Chitiyo 2000) were passed. The Natural Resources Act (NR Act) was passed in 1942 aimed at controlling the “destructive” behaviour of the native people. The 1944 Godlonton Commission blamed the conservation catastrophe in NRAs on the lack of good husbandry and leadership in African Agriculture and proposed the appointment of a statutory board to enforce good agricultural husbandry by legislative and administrative means. In 1944 Notice Number 612 of 29 / 11 /1944 prescribed livestock carrying capacities and culling quotas for NRAs to force de-stocking through cattle auctions (GoR 1944). A basic six-acre arable plot supported by herd of six cattle per household was adopted to replace the traditional native system of shifting cultivation (slash and burn) farming (Bolding 2004). See also Alvord (1930, 1958, n.d.) and Beinart (1984) for more insights on colonial efforts to modernise native agriculture. These recommendations remained the cornerstone of land utilisation in NRAs even after independence (Chitiyo 2000). To the natives, the NRA had telling impacts on irrigated agriculture by curbing the African furrow irrigation and the cultivation of (matoro) wet land (see Bolding 2004). It was followed by Native Land Husbandry Act (NLHA) of 1950 informed by the Engledow commission to safeguard white settler agriculture. The NLHA was also meant to ensure that native agriculture produced the country’s food while the white settlers concentrated on tobacco and post-war European food requirements, and to stabilise labour for secondary industry (Machigaidze 1991, Bolding 2004).

With the introduction of secondary industries, labour control aimed at ensuring continued availability of cheap labour for the settler production system became vital. The short-lived Federation of Rhodesia and Nyasaland was exploited by the settler government as Northern Rhodesia and Nyasaland became captive labour sources. At the collapse of the Federation many Malawian workers remained in Southern Rhodesia’s commercial farms and mines as cheap labour. Some of them became experts in their trade as is discussed in chapter 7 and 8 of this thesis. The natives’ reaction to these interventions was the rise of African nationalism that began around 1912 in the form of urban workers protests, the 1912 Wankie Colliery strike and the 1920 Shamva mine being notable examples. The first organised workers union was a union of migrant workers (the Industrial Workers Union (IWU) of 1927) (Gwisai 2002). The railway workers’ strike of 1945 and the general workers’ strike of 1948 are some of the labour union organised protests. From these early protests rose to stardom the African nationalist leaders like Benjamin Burombo and Joshua Nkomo (Mitchell 1998, Chitiyo 2000, Gwisai 2002).

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In 1955 the Southern Rhodesia Youth League (Harare based) and the African National Congress (ANC) (Bulawayo based) were formed. The two parties merged in 1957 to form the Southern Rhodesia African National Congress (SRANC). The SRANC engaged the settler government of Todd in constitutional reform dialogue resulting in Todd's revision of the Rhodesia 1923 constitution. Todd was regarded as being too lenient with natives and was replaced by Sir Edgar Whitehead. The African nationalists intensified their protests (Wilkinson 1973, GoR 1976b, Bossart 1993, Godwin and Hancock 1995). In 1958, Whitehead invoked the Law and Order Maintenance Act of 1956 and introduced the Emergency Powers Act and used them to ban the SRANC in 1959. The nationalists responded by forming the National Democratic Party (NDP) and adopted "Nkwame Nkrumah's political freedom, after which everything would follow" stance (Machigaidze 1991, Mitchell 1998). Whitehead's multiracial federal party was defeated by the white-supremacist Rhodesia Front (RF) in December 1962 (Godwin and Hancock 1995).

Tradionalist segregation and the Second Chimurenga (1962-1980)

The motive for the Second Chimurenga was rhetorically cited as 'to regain lost land and restore lost pride' by recreating a responsible state where the natives were free to do what they wanted (Chitiyo 2000). The armed conflict was all embracing in nature sucking students, intellectuals across the board, workers and peasants into it. The aim was to create sufficient violent disorder and lawlessness to coerce the British government into military intervention against the RF government. Initially the victims of this violence were natives who were either identified as having links with some white settler establishment or who had simply failed to demonstrate their allegiance to NDP. In December 1961 the NDP was banned but was reconstituted as the Zimbabwe African Peoples Union (ZAPU). In 1963, Nkomo's decision to establish a government in exile resulted in a split of the party with a splinter group forming the Zimbabwe African National Union ZANU under the leadership of Reverend Ndabaningi Sithole (Wilkinson 1973, GoR 1976c). In 1964 violence erupted between the two parties and both were banned. In 1965 Prime Minister Ian Smith unilaterally declared independence from British rule. Britain responded with economic sanctions on Rhodesia. With a hardening of the settler stance, ZAPU and ZANU opened up military bases in Zambia signalling the start of 15 year guerrilla war.

In this war, the natives in NRAs were terrorised by guerrillas at politicisation and recruitment campaigns referred to as "*Pungwes*". At these rallies one's life was never predictable since if one was labelled a sell-out, a witch or a thief, one could easily be horrifyingly killed (burnt alive, axed or beaten to death). On the other hand, the Rhodesian police and army harassed the natives during the day, they wanted to know where the guerrillas were staying. To ensure that the guerrillas were alienated from the support of the local people the government created protected villages popularly known as "Keeps" where natives were crammed at night and guarded by the Rhodesian army to "protect" them from harassment by the guerrillas. In Zambia there was a lot of infighting amongst the guerrilla leaders of both ZANU (ZANLA) and ZAPU (ZIPRA) that led to the death of such leaders as Chitepo and Mangena, almost paralysing the guerrilla war in 1975.

In 1975 the President of the newly independent Mozambique offered his country as a rear base to ZANLA forces. In Zimbabwe infighting resulted in the ouster of the ZANU leader Ndabaningi Sithole by his secretary general Robert Gabriel Mugabe who later crossed the

border to lead the ZANLA forces in Mozambique. Nkomo engaged in abortive constitutional talks with Ian Smith. He also later left the country to lead ZIPRA forces from Zambia. South Africa was sucked into the war sending troops and weapons to the white settler army (GoR 1976a). In 1976 the abortive Geneva constitutional talks were held between the Rhodesia government, the British government and the two guerrilla movements now represented by a loose coalition (Patriotic Front) jointly led by Nkomo and Mugabe. The withdrawal of South African forces from the battle front in 1978 forced Ian Smith to engage locally based politicians in constitutional negotiations popularly referred to as the “Internal Talks”. The talks resulted in the internal settlement that led to the short-lived Zimbabwe Rhodesia government of Bishop Muzorewa. Muzorewa however failed to achieve international recognition. The Lancaster House constitutional talks of 1979 attended by the Muzorewa government and the Patriotic Front of Mugabe and Nkomo mediated by the British government resulted in the Lancaster House Constitution that brought Independence to Zimbabwe. The 1980 elections were won by Robert Mugabe’s ZANU PF.

Independence and the “Third Chimurenga” (1980-2000)

“No other group received such favourable attention from Mugabe when he gained power in 1980 as white farmers. Their role was regarded as crucial to the economic welfare of Zimbabwe. They accounted for three-quarters of the output of the agricultural industry and produced a multitude of crops and commodities using sophisticated techniques and equipment. Mugabe saw the need to treat them as “Royal Game” awarding the sector generous price rises and other financial incentives” (Meredith 2003, 111). The said “royal game” treatment of the White commercial farmers though turned into “hunted game” treatment at the turn of the millennium 20 years after independence.

National reconciliation policy and the maintenance of the status quo in agriculture

To the surprise of many, Zimbabwe’s first Prime Minister Robert Mugabe declared a policy of national reconciliation. Some critical political commentators were not surprised by this move citing that Mugabe was a committed catholic. They doubted his commitment to the Marxist-Leninist principles he preached as a guerrilla leader (Weiss 1994). It is claimed that this policy helped Zimbabwe to create a peaceful integrated non-racial society (Lessing 1988). Although the policy helped to perpetuate the inherited imbalance in the distribution of land, water and other economic resources between the black and white communities, it assisted in forging another of ZANU PF’s policies, Growth with Equity (GwE) adopted in 1981. Informed by the Riddell Commission (1981) GwE was intended to foster sustained growth of the white commercial sectors in order to generate sustained revenues to finance subsidised education, health and agriculture to the hitherto neglected native community (Alexander 1993, GoZ 1981 cited in Bolding 2004, 6). A critical element of GwE was the provision of agricultural services to commercialise smallholder farming in communal areas and newly opened resettlement areas. Services such as provision of credit, extension and marketing facilities were amply offered to smallholder farmers resulting in increased maize and cotton (Rukuni and Eicher 1994). The Riddell Commission’s recommendation for communal area agriculture, were that “the allocation of consolidated landholdings to villages, the division of the land into arable, grazing and residential was not very different from the Rhodesian NLHA model” (Drinkwater 1989, 1991). The Chavunduka Commission (1982) reiterated the continuation of colonial agrarian policies when it emphasised improved husbandry for ensuring the productivity of the communal areas. The result was communal area land use

planning to map out the village's potential arable and grazing lands, and water resources for irrigation to inform decongestion of the communal areas through resettlement (Drinkwater 1989).

Slow land redistribution process

In 1980, about 4660 white farmers held 14.8 million hectares (the bulk of the prime land of the country). In contrast, black smallholder farmers numbering about 6 million occupied 16.4 million hectares in mainly low agricultural potential areas (UNDP 1998). Redressing the land question at independence was a slow process. Initially the target was to resettle 18,000 families on 1.2 million hectares over three years; this was later increased to 162,000 families on 10 million hectares due to political pressure (World Bank 1991). For the first 10 years after independence the process was guided by the Lancaster House-crafted constitutional requirement of a "willing buyer willing seller" arrangement (GoZ 1990, World Bank 1991). The government of Zimbabwe claims that in this arrangement, prohibitive prices and unsuitable land offered by white farmers were impediments to a fast resettlement (Hlatshwayo 1993). However others (Bratton 1994, Maphosa 1995, Mhishi 1995) cite lack of political will on the part of government citing the government's policy of holding land, leasing or selling it to selected individuals as evidence to show that land was not in short supply but that the government lacked effective resettlement schemes (Rugube and Chambati 2001). In 1985 the government passed the Land Acquisition Act to guide land resettlement. After the expiry of the Lancaster House agreement in 1990, the government amended the entrenched clauses in the constitution to remove the constraints to land redistribution.

However this did not change the pace of resettlement. With the introduction of the Economic Structural Adjustment Programme (ESAP), financial resources to compulsorily purchase the land from the commercial farmers became scarce. Meanwhile the peasants and the war veterans of the Second Chimurenga, reeling from the effects of reduced subsidies on basic commodities introduced by ESAP, were slowly and increasingly getting agitated and were pushing for a more vigorous land resettlement programme. In 1992 the government amended the 1985 Land Acquisition Act to incorporate the constitutional amendments of 1990 and at the same time embarked on a new National Land policy targeting acquisition and redistribution of 11.2 million hectares. Not much progress was made though even with this new impetus (Moyo 1998, Saruchera 2002), as detailed in Table 1.2.

Table 1.2: Land Distribution after Independence

Land Category	1980 million Ha	1990 million Ha	1997 million Ha
Communal Areas	16.4	16.4	16.4
Resettlement Areas	0.0	3.3	3.6
Small Scale Commercial Areas	1.0	1.4	1.4
Large Scale Commercial Areas	14.8	11.4	11.0
State Land	0.3	0.0	0.1
National Parks & Urban Centres	6.0	6.0	6.0
Total	38.5	38.5	38.5

Source: GoZ (1999), Rugube and Chambati (2001).

In 2000, following the rejection of the government-propelled new draft constitution, violent land invasions of commercial farming areas were started by war veterans of the Second

Chimurenga. The Mugabe government initially supported the invasions as a political tool to win the 2000 parliamentary elections. When the government tried to stop the invasions after the elections, they were confronted by the war veterans who were not prepared to be used any more. The government had no choice but to amend the 1992 Land Acquisition Act by removing its obligation to pay for agricultural land except for improvements to the land. With this amendment, the land invasions were legalised into the 'fast-track' resettlement programme resulting in massive transfer of irrigated land from the white settler farms to the land invaders. Details of what happened during this third Chimurenga and its effects are presented in chapter 2 and chapters 7 and 8 of this thesis.

Capturing the waters: the Water Act (1927) and its principles

Independent Zimbabwe inherited the 1976 Water Act from the colonial government as the guiding legislation for water resources development and use. The 1976 Water Act was an evolution from the 1927 Water Act. Before 1927 primary water rights for both natives and white settlers were safeguarded in the BSAC Charter (Wurzel 1987, 266 cited in Bolding 2004). Other water uses were regulated by the riparian doctrine enshrined in the British Common Law, implying that only those with access to land riparian to a stream had the right to abstract water from it, thus putting the onus on the individual land owner, (McIlwaine 1936, 788; Teclaff 1996, 362 cited in Bolding 2004). The 1913 Water Ordinance vested all public water in the State through an itinerant Water Court that prescribed the conditions for appropriation and use (McIlwaine 1936, 789). In 1920 the doctrine of prior appropriation was incorporated into the Water Ordinance engraving the principle of 'first come, first served' during periods of water scarcity (Weinmann 1972, 102). The 1927 Water Act centralised authority to grant water rights to the Water Court and abolished the earlier established preferential treatment to mines and railways (Robertson 1928, 45). The following principles were enshrined in the 1927 Water Act:

- Application for a water right had to be lodged on a standard form to the Water Court together with a government hydrologist's report on water availability and existing water rights and an agricultural officer's beneficial use report;
- It was up to the appropriator to monitor use by means of a functional measuring device;
- Ground water was regulated by the owner of the overlying riparian land;
- A water right specified the abstraction rate, diversion point, place and purpose of use;
- The Water Court could fix an area within which the rights of priority would operate to prevent undue clashes between the lower and upper ends of the river system;
- Unauthorised abstraction of water was a criminal offence monitored by the police;
- Protection of natives primary water rights was vested in the Native Commissioner; and
- The Act also allowed for the formation of river boards in river basins, devolving some of its monitoring tasks to grant holders.

The Water reform process (1993-1998)

At independence close to twelve thousand flow rights had been issued, mainly to white settler farmers (Wurzel 1987 cited in Bolding 2004, 293). Government subsidies and favourable loan packages helped greatly in establishing a nation-wide network of dams and irrigation infrastructure in white commercial farms (Bolding 2004). As a result, the distribution of public water resources at Independence was even more skewed than that of land. This skewed

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distribution was rendered permanent by the inherited Water Act, yet it had been a result of an unfair advantage enjoyed by white settlers who had applied for water rights first. A wakeup call was rung by the 1992 drought, regarded by many as the worst in the history of the country. Thus pushed, a water reform process was started in earnest in 1993 with the appointment by the Minister of Rural Resources and Water Development of a Water Act Review Board (WARB). The WARB organised consultative meetings with stakeholders in all provinces of the country. It presented its findings to the Minister in January 1994. The WARB revealed that the 1976 Water Act did have clauses within it that allowed for redistribution of water resources to the smallholder sector in times of scarcity. The WARB cited maladministration of the Act by the Minister and the Department of Water Development (DWD). By means of Catchment Outline Plans, DWD could re-allocate water from existing right holders to newcomers while the Minister could declare river catchments as shortage areas and temporarily suspend existing water rights during times of scarcity (Bolding 2004, 293). The WARB recommended the reservation of 10 % of water stored in government dams for use by smallholder farmers (Mlambo 1994). Although this was a brilliant idea, in a number of cases this could not be implemented since a majority of these dams were far away from the nearest communal area and funds for the development of the necessary abstraction infrastructure were not available (Bolding 2004).

A new impetus was attained when a consortium of bi-lateral donors (Governments of Norway, the Netherlands, Germany, and the United Kingdom) provided funding and expatriate staff to support the Water Resources Management Strategy (WRMS) secretariat (Bolding 2004). The WRMS project emphasised three main issues as reform elements. Firstly water was to be managed on the basis of the eight major rivers in the country. Secondly management was to be decentralised to Catchment Councils and sub-Catchment Councils that were constituted by stakeholder representatives. Thirdly the DWD was to be replaced by a parastatal called the Zimbabwe National Water Authority (ZINWA) that would sell water in government dams and institute a system of levies for all other water sources.

Table 1.3: Principal changes enshrined in the Water Act of 1998

1976 Water Act	1998 Water Act
Water rights granted in perpetuity	Water permits of 20 years
Priority date principle	Replaced by proportional water allocation
Limited control over ground water abstraction	All forms of water under state control
Management of water by DWD and river boards	Management of water by (sub)Catchment Councils
State responsible for clean water	Polluter pays
No reservations for environmental water use	Environment accepted as legitimate water user
Water is a public good	Water an economic good (price & levies instituted)

Source: Bolding *et al.* (1999).

The 1976 Water Act was replaced by the 1998 Water Act, whilst the ZINWA Act (1998) gave ZINWA the mandate over all water in Zimbabwe, effectively abolishing the Water Court (see Table 1.3). The DWD also devolved its responsibility for paying electricity bills for smallholder irrigators to the irrigators themselves (Bolding 2004). Two pilot Catchment Councils (Mupfure and Mazowe) were initiated to test the principles of the new Water Act. In 1999 Catchment Councils were established throughout the country. How these Catchment Councils have operated is a subject of research on its own.

1.2 Smallholder irrigation in Zimbabwe: politics, performance and problems

The irrigation sector in Zimbabwe at the end of the millennium comprised several sub-sectors that varied tremendously in terms of technology used, management regime and contribution to the national economy. In a way the sector mirrored the dual nature of Zimbabwe's economy that came about as a consequence of the segregated agrarian development policies highlighted above. First an overview of the irrigation sector and the origins of its sub-sectors is provided. Next the political expediency and economic importance of smallholder irrigation is assessed. Finally some persistent trends and problems affecting the management of smallholder irrigation that prevailed at the start of this research are explored. Thus the need and impetus for irrigation management reforms are brought to the fore. The history and management of the smallholder irrigation sector as well as the impact of the Third Chimurenga on the sector are examined in more detail in chapter 2.

An overview of Zimbabwe's irrigation sector

The irrigation sector in Zimbabwe is comprised of two main sectors. The large scale commercial irrigation (73%) encompassed two private sugar estates, citrus estates, and a multitude of individually operated farm systems. The sector was characterised by high output production levels providing for the bulk of the agricultural exports of the country (tobacco, tea, sugar, citrus, and coffee), as well as the bulk of the maize seed and wheat. Technologies used were predominantly overhead irrigation systems (centre pivots, sprinklers) often making use of an elaborate network of interconnected dams and pumps (Svubure and Zawe 2004). The sector had in the past enjoyed considerable government subsidy to develop this elaborate network of infrastructure. During the mid-1990s a new concept of infrastructure development was introduced: BOT build-own-operate-transfer with farmer syndicates. In terms of management, commercial farmers organised themselves in River Boards that would appoint water bailiffs to operate the elaborate network of interconnected dams and transfer canals, thus minimising water-related conflicts amongst different users (see Zimconsult 1996).

Informal and micro scale irrigation was developed by the smallholder farmers without government support. Rather government has always been suppressing and stifling such farmer initiated irrigation ventures on the ground that these were harmful for the environment. Different types of systems: wetland cultivation in dambos, furrow irrigation systems in the Eastern Highlands, collector well systems using groundwater resources in Southern Zimbabwe are some examples. The size of such schemes varied from 10 m² to 50 hectares. Organisational forms differed from individual use to women's groups or clan-based irrigator communities.

Smallholder irrigation: a privileged solution?

Smallholder irrigation has been a subject of recurrent discussion throughout Zimbabwe's colonial and postcolonial history. This apparent high interest in smallholder irrigation, however, did not correspond with its current or past contribution to the national economy (Rukuni 1993a, 2; Rukuni and Makadho 1994, 137). At the end of the millennium smallholder irrigation covered only 5 % of the officially recognised total irrigated area in the country (GoZ 1999). If one adds the estimated command area of informal irrigation practised by smallholders, their total share increases to some 17 % of a total of 172,400 hectares (see

Table 1.4). The gross output from smallholder irrigation in the 1984/85 agricultural season was only 0.4 % of the total agricultural produce (Harvey *et al.* 1987, Peacock 1995).

Table 1.4: Overview of Zimbabwe's irrigation sector (1999)

Category	Area (ha)	Area %	# schemes	# farmers
Large scale commercial	126,000	73	1,500	1,500
Parastatal (ARDA) Estates	13,500	8	26	N/A
Communal & resettlement	9,300	5	180	18,300
Small-scale out-growers	3,600	2	N/A	N/A
Informal/micro-scale	20,000	12	N/A	N/A
Total	172,400	100		

Source: GoZ (1999, 4).

The question then is, why this interest in smallholder irrigation by policy makers, academics, irrigation designers and planners? Four major answers can be put forward (partly based on Manzungu and van der Zaag 1996, 2):

- Smallholder irrigation development has always had a clear political content as it embodies the two most contentious issues in the Zimbabwean history namely land and water. Colonial injustice was obvious and had remained unsolved 19 years after Independence. The distribution of both these resources required a rigorous redress;
- Smallholder irrigation development is viewed as capable of alleviating rural poverty, which is manifested by transitory and chronic hunger, malnutrition and unemployment (Jayne and Rukuni 1994);
- Smallholder irrigation development offers a chance to modernise peasant agriculture. Modernisation may result in smallholder irrigation contributing to the growth of local industries as well as to foreign currency earnings. Intensifying agricultural production in communal lands through irrigation alleviates the increasing pressure on scarce land resources. Thus smallholder irrigation development has been described as a foundation for rural growth (Makadho 1994, 1);
- After the devastating 1992 drought, smallholder irrigation schemes gained great political expediency, with the Minister responsible for Agriculture as well as the State President promising each district a dam and an irrigation scheme (see Bolding *et al.* 2004, 191-2; Zawe 2000).

The government-managed smallholder irrigation sector has benefited from a great amount of donor involvement (see chapter 2) indirectly confirming its status as a privileged solution (Moris 1987). The post-independence growth of the sector from 4,270 hectares in 1983 to 9,958 hectares in 1997 was largely financed with the help of funds from aid organisations and international funders (GoZ 1997, 9). Whilst the pre-Independence schemes were almost all gravity systems making use of mostly unlined canals, the new schemes were mostly driven by pumps and using sprinkler technology (of the drag-hose type) (Zawe 2001). The total potential for additional irrigation development over the long term, based on the available water resources in already-constructed dams in 1999 was estimated at 250,000 hectares. Of this additional area, it was estimated that about 90,000 hectares could ultimately be available to the smallholder sector (GoZ 1999, 4).

Problems and trends in the management of smallholder irrigation in the mid-1990s

Despite the contradictory nature of smallholder irrigation management policies and practices there are issues that constantly resurface in literature from the colonial times to the post-colonial times. Basically four trends in the management of smallholder irrigation in the mid-1990s provided the impetus for the irrigation management reforms that this study is concerned with. These were: the persistence of strong, though ineffectual, government control over the schemes; the weak economic viability of the schemes, necessitating sustained government subsidies for their operation and maintenance; the fragmented nature of the government agencies managing the schemes and concurrent lack of a coherent irrigation policy, despite many donor funded policy formulation attempts; and the feeble, but largely ineffectual, attempts at user involvement in the development and management of the schemes.

Government control

Government control started way back during the colonial era as will be discussed later. Government control resulted in pressure on irrigators to:

- give up rain-fed farming and concentrate on irrigated plots;
- produce surplus food crops for the market;
- produce cash crops like wheat and beans;
- practise prescribed rotations and plant on specific dates and
- pay water rates.

These five pressures were introduced by Alvord⁶ and have prevailed way after his death. Hunt (1958, ii) observes: 'Probably the most important single factor in raising crop yields is the provision of close supervision, either by a European or African supervisor, until plotters generally realise more fully the requirements of irrigation farming. Where supervision is close the results are striking'. However, Reynolds (1969) suggests otherwise. He observes that six years after the construction of Nyamaropa irrigation scheme, there was a complete breakdown in communication between management and farmers. This he understood to be a result of government staff viewing irrigators "as children". The government staff therefore did not see the need for an organisational structure that would enhance the communication between them and the irrigators. Reynolds observes that: 'the farmers were sophisticated and rational within their effective management field, but that they faced numerous barriers to their and the community's progress which were, in the main, not of their own making' (1969, preface).

Studies on water distribution by Makadho in the 1990s confirmed the findings by Reynolds. He concluded that water deliveries in terms of both amounts and timing tended to be less reliable in government managed irrigation schemes than in community managed irrigation schemes (Makadho 1994). He therefore argued that the role of farmers in the design, construction and management of smallholder irrigation schemes needed to be increased and the role of government reduced. But how far government's role was expected to be reduced and how far farmers could be involved in the management of irrigation schemes still remained a subject of research. There were no ready answers there yet. More information was still required.

⁶ Alvord is the celebrated hero of agricultural extension and modernisation of African agriculture in colonial Rhodesia and independent Zimbabwe.

The economic viability controversy

The economic viability of smallholder irrigation became of concern to government as far back as 1958. The government had already realised that it was subsidising smallholder irrigation projects too much (Hunt 1958, Roder 1965, 125 cited in Manzungu and van der Zaag 1996, 10). By 1981, irrigation levies paid by users contributed only 15 % of the total operation and maintenance costs incurred by government (Pazvakavambwa 1981, 6). User contribution further plummeted with the increase in operation and maintenance costs to government while the levies charged to users remained the same over the years (Rukuni 1988a). There is now a big debate on this issue of viability with some refuting the use of the term economic viability and instead calling for 'social schemes' (Rukuni 1988b, 18, Pazvakavambwa 1987, 2). In the same line of reasoning others suggest that government should shoulder all capital costs of irrigation development, while irrigators should at least pay for all running costs (Mupawose 1984, i-ii; Rukuni 1988b, 17). Some have criticized planners, accusing them of exaggerating the expected financial returns. 'The data used by planners are often unrealistically optimistic' (Roder 1965, 137; Jansen *et al.* 1993, 36, 39). Others, like Pazvakavambwa, though question the commitment of farmers to irrigated agriculture: 'Farmers should be fully committed to the project to ensure viability' (Pazvakavambwa 1984, 423; cf. Peacock 1995, 47).

Payment of operation and maintenance fees is another issue of economic viability. There seems to be a consensus about the need to revise the bases of irrigation levies charged on users. However there are many accounts in the literature of irrigators' reluctance to pay even when the irrigation levies charged are very low. According to Pazvakavambwa, this reluctance in payments of levies by users had strong historical roots. 'During the colonial times irrigation rates were seen as the only thing the District Commissioner used to care about' (Pazvakavambwa 1981, 6). At independence DERUDE (The Department of Rural Development) had to cope with even greater reluctance (Pazvakavambwa 1981, 6). The reason given for this reluctance was that the farmers had no say in how the levies collected were used since all the collected money was remitted to the government treasury and payment did not guarantee good service to the farmer (Makadho 1994, 185). Rukuni (1988b, 20) advocated for financial autonomy of the irrigation Department AGRITEX. The researcher will argue that there is more to the refusal by farmers to pay for irrigation service fees. Clarity of government policy, reliability of markets for agricultural produce, interference from donors, availability of credit facilities and the influence of politicians are all entangled in the reasons why farmers refuse to pay for irrigation service. The four cases that will be discussed in chapter three to eight will show how these factors enhanced or hindered the willingness by the users to pay irrigation charges.

Institutional fluxes and lack of coherent management policy

Although there is not much documentation on this issue, Rukuni (1988b, 19) says that between 1932 and 1985 smallholder irrigation fell under eight different government agencies. These agencies included the Ministry of African Affairs, Internal Affairs administration, the department of Native agriculture, the Ministry of Internal Affairs, the Department of Agricultural Development (Devag), Department of Rural Development (DERUDE) and the department of agriculture, technical and extension services (AGRITEX) (Rukuni 1987). This situation created problems of co-ordination (Manzungu and van der Zaag 1996). After independence the situation was no better. From 1980 to 1987 the responsibility for the smallholder irrigation sector was split among three government departments, the department of water development (DWD), AGRITEX and DERUDE. Rukuni (1984b, 23) reported that,

‘an important characteristic of smallholder irrigation in Zimbabwe is that management and agricultural extension are located in three different ministries.’ Makadho (1990) reported another feature, the donor factor that haunted the smallholder irrigation sector. He sums it up as follows ‘one of the roles of AGRITEX is now to control donor activities’ (cited in Peacock 1995, 10). He said that this might have contributed to the already cited lack of a coherent approach to policy formulation for the smallholder irrigation sector. As will be discussed later, the turn of the new millennium resulted in a fragmentation of AGRITEX and with it responsibilities for smallholder irrigation were fragmented (Zawe *et al.* 2003). In chapters three to eight, the effects of this splintering of AGRITEX and how it played havoc with day-to-day operational realities of the irrigation schemes under review is presented informing us that irrigation policy models are embedded practices.

Towards farmer participation in management and design

Lack of communication between irrigators and the irrigation agency has been evident throughout colonial times (Roder 1965, 9). Lack of accountability of the irrigation agent to the farmer was cited. The development of producer co-operatives at smallholder irrigation projects was the first step towards the involvement of the farmers in irrigation management (Reynolds 1969, 12). However such organisations became a focus of the guerrilla fighters during the struggle for independence during the 1970s. Farmers who became members of such bodies were regarded as sell-outs and were victimised (Pazvakavambwa 1984, 421). The situation remained the same after independence. For example the Department of Rural Development (DERUDE), a government department then tasked with the role of irrigation development introduced Irrigation Management Committees (IMC) in 1983. These IMCs were meant to liaise with and assist the irrigation department in the management of irrigation projects (Rukuni 1988a, 206). Box 1.1 gives some of the functions of these IMCs.

Box 1.1: The functions of Irrigation Management Committees

- To enhance farmer participation in management and decision making at the local level;
- To prepare the farmers for a complete take-over of management functions carried out by government;
- To create a responsible attitude and a sense of belonging to the scheme by farmers and;
- To establish an effective farmer body that was capable of maintaining discipline and enforcing cropping patterns and recommended agronomic practices.

Source: Pazvakavambwa (1984, 423).

However, problems arose sooner rather than later with these IMCs (Pazvakavambwa 1984, 424-25). There still existed an element of mistrust between the irrigation agency and farmers, some confusion as to the role of IMCs in relation to local government structures like District councils and there was no proper legal recognition of the IMCs with the result that by-laws could not be implemented. It is this lack of legal recognition of IMCs that resulted in the crafters of Negomo irrigation scheme (to be discussed in chapter five and six of this thesis) creating and registering the user organisation responsible for irrigation management as a private company.

The situation did not change much over time. ‘Ten years after these observations were made there is still reason for concern as not much progress has been made towards a policy of

community run irrigation projects' (Rukuni 1993a, 2). By 1995 there still was no legal status for IMCs (Manzungu and van der Zaag 1996). 'However there is a growing recognition that farmer managed irrigation projects are at least as effective as projects run by government agencies' (Rukuni 1993b, Makadho 1993, 1994, Bourdillon and Madzudzo 1994, 11). 'However there is no obvious preparedness by government to hand over responsibilities and control of irrigation projects to IMCs' (Makadho 1994, 203). Also the appropriateness of irrigation technology in use vis-à-vis the users was said to have a bearing on how well the users would manage the irrigation scheme. 'It is important to underline the fact that these successes were possible, because the irrigation technology in place was cheap and easy to manage. If it were a pump operated scheme the story would have been different' (Manzungu 1999, 160). Manzungu here seemed to suggest that for as long as the irrigation technology was appropriate to the users, then users would be able to cope with it.

Experiments in Irrigation Management Transfer

My own experience as an irrigation officer with AGRITEX was that by the year 2000, the Government had very limited resources to operate and maintain irrigation projects for the farmers. It was clear that no one would benefit from such an arrangement and the farmers had more to lose at that moment. Payments for operation costs incurred were in most cases delayed and power cuts had become the order of the day. Maintenance was in most cases deferred and schemes were operating in fits and starts. The government had virtually no choice but to hand over operation and maintenance of smallholder irrigation projects to the irrigators. However a well-defined program of hand over was yet to be put in place and as a result AGRITEX had embarked on experiments for informed decisions in the formulation of sound hand over programme. This thesis is a review of some of the experiments that AGRITEX had embarked on their own and with the help of international partners.

1.3 Irrigation Management Reforms: state-of-the-art and critique

This section focuses on the debates that have informed the irrigation management discourse that guided the crafters of the irrigation management policy models that this thesis reviews. First a review and critique is given of the neo-liberal and neo-institutional discourse that has provided the impetus for a global consensus on irrigation management reforms. This is followed by discussion on frameworks to study irrigation management that link technical and social dimensions, and highlighting three existing approaches towards understanding the social dimension in managing irrigation. This is followed by Managerial reforms and finally a critique is given paving the way for the research problem, objectives and questions.

The global consensus on Irrigation Management Reforms

The neo-liberal impetus for reform

This debate emanated from the perceived poor performance of agency-managed irrigation schemes, the high financial requirements of irrigation agencies and the implementation of sweeping reforms aimed at devolving irrigation management functions from the agency - to the users, local non governmental organisations, private sector agencies or streamlined government agencies - that would be more accountable to the needs of the users. This transfer of irrigation management responsibilities is referred to as Irrigation Management Transfer

(IMT) (Kloezen 2002). In this thesis however the process is referred to as Irrigation Management Reforms (IMR), a much more accommodating term that includes strategies like reforming the irrigation agency, for example the Goulburn Murray-Darling Basin Commission in Australia and Office du Niger in Mali (Diemer *et al.* 2003, Aw and Diemer 2005, Johnson III *et al.* 2004).

Many advocates of Irrigation Management Reforms (IMR) view bureaucratic interest as the main obstacle to historical attempts to improve the management performance of irrigation systems (Repetto 1986, Moore 1989, Svendsen 1993). Public irrigation agencies are seen as inefficient, hierarchical, inflexible and excessively open to rent-seeking (Repetto 1986, Chambers 1988). In contrast the market is attributed a central role for developing a more rational, flexible and efficient allocation of irrigation resources. At first (early 1970s) a number of irrigation specialists articulated the need for users' active participation in irrigation operation and maintenance (Coward and Levine 1987). "Unfortunately by the time governments recognised that users needed to actively participate in operation and maintenance of irrigation systems, there were large, vested public irrigation organisations in place that viewed user participation as a challenge to their authority, power and their jobs" (Johnson III *et al.* 2004, 3). The same authors also claim that the strict control which governments, including colonial powers, had exercised over their citizens was breaking down in many countries and more democratic forms and expectations were taking root.

So while on the one hand, old establishments were unwilling to give up authority, on the other hand they were losing their ability to administer systems effectively under the old authoritarian rules. As a result this uneasy relationship between the users and agency staff increasingly became an obstacle to sustainable operation and maintenance of public irrigation schemes. "By the late 1980s, the large O&M subsidies required to operate large government run irrigation agencies were becoming a burden that governments could no longer bear. The problem was reinforced by the subsidies required for other state-run enterprises including municipal water supply and electricity distribution" (Johnson III *et al.* 2004, 3). To reduce these burdens, governments all over the world began instituting programs to privatise public enterprises (airlines, banks and steel mills). Irrigation and domestic water were last to be tackled because of the natural monopoly status of the services that provided their partial public goods character and their life-and-death importance to large segments of the rural population.

The reforms have focused on three main themes. These are: (i) Reduction of the role of irrigation bureaucracies by devolving operation and maintenance activities to Water User Associations (Uphoff *et al.* 1991). (ii) Making irrigation agencies financially autonomous, thus changing their accountability structure, ensuring efficient service delivery to their users (Merrey 1996). (iii) The introduction of water markets and tradable water rights (Bauer 1997, Carney 1998, Rosegrant and Binswanger 1994). The logic is that when users are involved in the day-to-day decision making of the operation and maintenance activities of irrigation schemes, including distribution of water among the users, they are likely to be willing to pay for the services (Meinzen-Dick *et al.* 1995). Once the users pay, they are likely to demand better services from the irrigation agency and if the agency in turn gains financial autonomy, it will be inclined to provide good services to the users, if only to ensure that the users will continue to pay (Small 1989). Once the agency is dependent for its survival on funds

generated from services sold, logic dictates that it becomes more efficient (Huppert and Urban 1998). The overall result of farmers paying for irrigation water (it is assumed), is that farmers would use water more efficiently. The government would also stand to benefit from this arrangement. It would reduce public spending on irrigation management, releasing therefore resources to other sectors like education and health (Huppert 1989, Small and Carruthers 1991, Svendsen 1993, Perry *et al.* 1997).

The neo-institutional impetus for reform

Neo-institutionalism has become the most enlisted and used paradigm in IMR policies of late (North 1990, Vermillion and Sagardoy 1999). The debates here focus on the role of users in the crafting of institutional principles and arrangements for effective (and often collective) mobilisation of resources that are necessary for local irrigation management (Kloezen 2002). The neo-institutionalists go beyond both state and market, by arguing that new well-functioning irrigation institutions can be crafted to take-over the operation and maintenance of irrigation schemes from government agencies (Ostrom 1992). Given the right set of incentives, embedded in rules and regulations that are based on “proven” design principles gleaned from indigenous farmer managed irrigation systems, new institutions can be crafted that out perform state agencies and or public agencies. Kloezen (2000, 10) drew on the work of Ostrom (1992), Ostrom and Gardner (1993) and others to summarise these as:

- arrangements of inclusion and exclusion of group members;
- rules and rights of property, allocation, distribution and use of resources and benefits;
- arrangement for selection of leadership and user representation;
- internal monitoring and auditing of everyday management, including financial and;
- arrangements of conflict resolution and sanctioning of defaulters.

Most of these will be seen in the IMR models of Zimbabwe.

Also it is asserted that if the crafted agencies are legally constituted, they can enter into contractual agreements with other corporate bodies, opening up contractual marketing opportunities for smallholder farmers and therefore affording them the opportunity to indulge in high value export cash crops (Huppert and Urban 1998). It is further asserted that successful institutional reform requires not only changing the system on paper but the ability to implement and enforce provisions of new legislation and regulation. This is done through institutions capable of supporting the intended changes (Vermilion and Sagardoy 1999, Abernethy *et al.* 2000).

If property rights are not clearly defined, with a firm guarantee of water supply and access to distribution facilities and land use rights, then users are generally unwilling to invest their own resources of time and money in creating strong user associations (Lahiff 1999). Likewise, without a clear and transparent recognition of ownership, users are unwilling to invest in rehabilitating existing infrastructure, much less in upgrading irrigation systems (Abernethy *et al.* 2000, Johnson III *et al.* 2004). Also important is the need to grow high value crops that are commercially marketed to cover the O & M costs (Chen and Renbao 1995, Johnson III 1997, Narayanamurthy *et al.* 1997, Svendsen and Nott 1998). If political support is guaranteed then the irrigation reform models will proceed smoothly (Musa 1995, Svendsen and Nott 1998, Brewer *et al.* 1999, Langford *et al.* 1999, Peter 2000).

While these frameworks can be useful to describe organisations and their internal functions, Kloezen (2002, 11) suggested that wider aspects should be considered to study the viability of new irrigation organisations, drawing on their wider political and socioeconomic environment. Thus to the above could be added:

- *supporting conditions and services* such as policy strategies and laws that both shape and support the formulation and implementation of new institutional arrangements;
- *individual actors and organisations* involved in new institutional arrangements both providing and receiving irrigation services;
- *practices and strategies* chosen for coping with the implementation and impacts of new institutional arrangements;
- *socio-economic and political relationships, networks and interactions*, between actors and organisations that provide and receive irrigation services and;
- *mechanisms and processes* that shape accountability between the service providers and service receivers.

Irrigation and management

Since the 1980s, students and staff of the Irrigation and Water Engineering Group (IWE) of the Wageningen Agricultural University have been developing an interdisciplinary framework to irrigation management (Vincent 1997, 2001, Mollinga 1998, 2001). Central in this framework is the conceptualisation of irrigation as a sociotechnical phenomenon, focusing on irrigation management practice as embedded practices. It takes the view that irrigation systems are sociotechnical systems. Kloezen (2002) points out that while the approach builds on the work of other sociotechnical thinkers such as Uphoff (1986), Chambers (1988), Huppert (1989, 1997, 2000) and Uphoff *et al.* (1991) and the typologies they have developed on activities and organisations, the Wageningen school has moved beyond these specifically to examine the social and political dimensions of irrigation management alongside concepts from technical, social and economic sciences. That is both physical dimensions of irrigation management (pumps, sprinklers, and pipes) and organisational dimensions of irrigation management (individuals, organisations, rules and regulations for their interactions) are important in ensuring that things happen at the irrigation system. Using this framework in his study of IMT in Mexico, Kloezen (2002, 222-228) noted the following core mechanisms as influencing institutional viability: supporting institutional and constitutional reforms; earning operational accountability; credibility, flexibility and transparency; being committed and engage in sharing responsibility and authority; creating financial accountability and signalling out favouritism and poor performance; scaling up institutional capacity through political accountability; matching institutions with technology; and linking institutions with water availability. To these this research adds control and access to scarce crop production inputs and markets, effects of natural calamities and the people's traditions and beliefs.

Classically the functions or tasks of irrigation management were seen to revolve around: planning (setting targets and objective); implementing the plan; controlling the plan and monitoring and evaluating the plan for securing and maintaining a right of access to irrigation water. Also important is the need to secure and maintain the irrigation technology to abstract and deliver water to a given people at the right time to satisfy the crop water requirements, and to maintain an adequate supply of water. Lenton (1988, 11) cited in Manzungu 1999, 6) defined irrigation management as follows:

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“Irrigation management is the process in which institutions or individuals set objectives for irrigation systems; establish appropriate conditions, and identify, mobilise, and use resources, so as to attain these objectives; while ensuring that these activities are performed without causing adverse effects.”

Lenton’s definition was based on the management model of Professor A.A. Kampfraath of the Department of Management Studies of the Wageningen Agricultural University that emphasised the following six aspects:

- Setting objectives;
- establishing conditions and acquiring resources to meet objectives;
- controlling the process to meet objectives;
- arranging all the above to suit the external context;
- renewing the system to enhance its capacities; and
- performance monitoring.

Manzungu (1999), quoting Lenton (1988), gave five factors that were regarded as critical in determining effectiveness and efficiency of irrigation management. These were: irrigation policies; system installation institutions and governance; management (of water, land, crops, institutions, finance, facilities, information); contextual factors, and improvement of physical facilities. Manzungu (1999, 6) asserts that “this irrigation management framework in its original or modified form has been very influential in the international debate on irrigation management”. According to Manzungu (1999, 7), “these approaches are about irrigation experts talking about how they can objectively ‘measure’ the performance of irrigation systems”. This thesis agrees with Manzungu in asserting that this instrumentalist perspective, emphasising inputs and outputs of irrigation, be it water utilization or crop production, does not answer the ‘how’ part of irrigation management observed phenomena. Vincent (1995) summarised three older sociotechnical approaches that were influential in describing the organisational dimensions of irrigation management around technology and water scarcity and seen also as critical factors that produced well-functioning irrigation schemes. “These are irrigation management activities (Uphoff 1986); property rights and hydraulic tenure (Coward 1979, 1990, Pradhan 1987) and governance in irrigation systems (Tang and Ostrom 1993).”

Uphoff’s approach sets up a three dimensional matrix to show how three core sets of management tasks interact, against which choices on management procedures and organisational forms can be researched (see Table 1.5). This approach is particularly useful for studying who performs which tasks and how they are done. It is however silent on why the arrangements are as they are. It also tends to standardise potential tasks and seems to have fuelled belief that there are ideal, standard irrigation management arrangements where production objectives and social principles emphasise intensive, market-oriented output and water rights (Vincent 1995). Finally this approach fails to appreciate that irrigation water and infrastructure can serve multiple uses, like domestic water use, livestock watering and, where electricity is involved like in pump fed sprinkler irrigation systems, security lighting at night.

The governance in irrigation systems approach has focused on the means by which institutions are created for irrigation. Its focus has been on studying locally managed irrigation schemes to understand critical aspects of rule development in enduring irrigation schemes. This approach has been instrumental in unearthing the sets of rules that can be

adopted by irrigation schemes to govern; (a) the daily use of water and local operation and maintenance needs (operational rules); how the scheme should be operated and managed, (collective choice rules) and who is eligible to participate in the scheme and who will draw up the collective choice and operational rules (constitutional choice rules). Looking at rules alone masks the influence of other social codes that are not inscribed in rules like the use of witchcraft, and the recruitment by individual users of politicians, traditional healers, local leaders and church leaders that are invisibly involved in the scheme.

Table 1.5: Uphoff (1986)’s irrigation management tasks

Water Use	Control Structures	Organisation
Acquisition	Design	Decision Making
Allocation	Construction	Resource mobilisation
Distribution	Operation	Communication
Drainage	Maintenance	Conflict resolution

Source: Vincent (1995).

The property rights and hydraulic tenure approach thrives on the fact that organisational arrangements at irrigation schemes are a reflection of property rights formed during the period of construction. Water rights are seen to be related to investment in the construction of the system and the subsequent maintenance of the system. Under hydraulic tenure, the benefits from investment in irrigation accrue to the descendants of those taking part in or investment in the original system construction or involved in current maintenance. The model also asserts that collective action in resource mobilisation reinforces the rights of the group performing these management tasks. Collective action it is, asserted declines with state intervention that reduces the tasks performed by the group. There are however other recognised property rights that are accrued by other means like conferred rights (granted with colonisation, seizure after war, or granted in exchange for tribute, revenue or political/military support) and claimed rights (rights through land occupation as governments change and introduce reforms).

These approaches make assumptions about users and rule makers, particularly consensus of interest among users and between users and rule makers in crafting rules. This is very rare and especially so in areas where there has been major colonisation and land reform like Zimbabwe. Vincent (1995) argues that management practices reflect socio-economic dimensions, especially the objectives of collective action, the nature of group identity, and preferred forms of negotiation and administration. This thesis focuses on the day-to-day irrigation activities of users, government departments, politicians and other actors at the irrigation scheme in shaping the realities of water abstraction and use. It accepts that irrigation management activities are mediated by many not so obvious actors and events and the realities of every day life in the community in which the irrigation scheme is located. Kloezen (2002) and Vincent (1995) both stress that not only the technology shapes management needs but also reliability or scarcity of water that technology delivers affects institutions and especially the viability of newly formed organisations. Scarcity of crop inputs for the production of the irrigated crops was also found to be central to the viability of institutions in this thesis.

Irrigation technology and management interaction

The IMR models have also taken a wider perspective to see technology and management inter-relationships (Diemer 2000). Huppert and Walker (1989, 8) suggest that although “improved management cannot automatically solve the problems affecting irrigation systems, the overriding and at the same time integrating character of management does lend it special importance in socio-technical systems”. They assert that for improved system management to be effective, it has to be based on a concept which makes it easier for persons and groups involved in an irrigation system to contribute effectively to its goal-and situation-oriented design and control. “The point of departure with this concept is a system-oriented contingency approach which sees irrigation projects as goal-oriented, open socio-technical systems, in which people are looked on as decision-makers and implementers within a specific system environment” (Huppert 1989, 9). With this approach, they borrow from modern organisation and management science. They say that the advantage of such an approach is that it sees the construction of a functional organisation and the performance of management functions within it as a process fundamentally shaped by people interacting with social and technical factors. They suggest that only when the complexity of the irrigation system is understood can a management approach be prescribed. They define management as a sub-system of an organisation being that group of individuals in the organisation that is assigned the responsibility and authority to carry out the management functions. This group of people are expected to deal with the “concrete situation” in which the irrigation scheme exists” (Huppert 1989, 9). With complexity of the environment known, and the management uncertainty of the users also known, intervention models can be designed to craft a situation specific management organisation that removes the management uncertainties.

Others though have advocated the designing of irrigation systems for particular management capacity. In this regard two schools of thought come to mind. The first school of thought romanticised the “small is beautiful” movement (Schumacher 1973 cited in Bolding 2004; Cernea and Meinzen-Dick 1994). This school favours the development of small-scale farmer managed irrigation schemes borrowing a lot from existing practices and modalities contained in the African indigenous irrigation paradigm (Adams 1990). To this end a lot of effort was put in studying and translating the secret of farmer managed irrigation schemes into methodologies for designing irrigation systems with farmers for management by farmers (Bolding 2004; see also DISWC 1990, IIMI 1987, Ostrom 1992, Ubels and Horst 1993). A second school suggests simplicity is important for irrigation technology to ensure improved system efficiency. In this regard two extremes are cited. On one extreme Horst (1998) suggested that irrigation systems designs be simplified to suit the management capacity their smallholder users. That is both physical dimensions of irrigation management (pumps, sprinklers, and pipes) and organisational dimensions of irrigation management (individuals, organisations, rules and regulations for their interactions) are important in ensuring that things happen at the irrigation system. Horst (1998) suggested fixed proportional distribution structures that required no operation at all in surface irrigation systems. On the other extreme Plusquellec *et al.* (1994) suggested that instead of worrying over the smallholder farmer’s capacity, irrigation system management should be delegated to machines. He suggests modernisation through automated manoeuvring of flexible hydraulic structures. Automation results in precision, on-demand water distribution to farmers with no human interference except the touch of a button by a few well-trained agency staff operating a central computer. However, Chidenga and Vincent (2004) pointed out that all too often, technology choices are

rarely systematically reviewed and chosen in countries. They described how smallholder irrigation agencies in Zimbabwe had taken up a technological trajectory into more modern overhead pressurised systems, despite frequent concern over its viability in certain agrarian and ecological contexts.

The above generic recommendations suit international policy makers particularly well, since they facilitate the development of standardised policy prescriptions and institutional policy models that are based on universally valid sets of factors, conditions and principles that can be applied to engineer a particular institutional transformation (Moore 1990, 1998). Thus IMR literature abounds with institutional policy models that vary in degrees of decentralisation of state-local governance (Mutizwa-Mangiza and Helmsing 1991). They also vary as well in the way irrigation services are delivered from the service provider to the service consumer, types of services that are delivered, and resulting service interaction/relation (Huppert and Urban 1998, Malano and van Hofwegen 1999). The following conceptual framework has been designed to open debate on these standardised prescriptions, and show how they become adapted and reformulated on the ground.

Linear conception of irrigation policy models

Sibanda (2004, 17) writes that “there is no agreed single definition of what policy is. Stated simply policy is the sum of government activities, whether acting directly or through agents that has influence on the livelihoods of citizens”. Anderson (1997) defines policy ‘as a relatively purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern’. Anderson emphasises that policy has more to do with action than rhetoric. Lowi (1985, 70) writes that ‘A policy then, is a rule formulated by some governmental authority expressing an intention to influence the behaviour of citizens, individually or collectively, by use of positive and negative sanctions’. Kerr (1976), on the other hand, says that for public policy to be policy it should; (a) have an agent who is to take some particular action; (b) have a conditional imperative (particular conditions under which the agent shall take action) (c) the agent must have intentions to act. Kerr also distinguishes policies from promises. Two critical issues emerge here. Firstly, policy is not spontaneous but is a deliberate effort taken over time. Secondly, when talking about public policy, policy is the preserve of the government. This linear conception gives the impression that the government acts unilaterally in formulating policy, i.e. policy is prescribed to the citizens. With this view, policy is understood as having three distinct stage; (a) policy formulation, (b) policy implementation and (c) policy outcomes. It also assumes that there are clearly defined policy agents who logically formulate and implement the policy on prescribed beneficiaries who are positively or negatively affected by the policy to come up with expected previously determined outcomes. In this view policy may fail in three possible ways:

- *implementation* failure when the set targets cannot be met, because they are unrealistic or because of inability on the part of the implementing agency;
- *instrumental* failure when the policy design does not fulfil or match the purpose or purposes of the policy; and
- a lack of being *normatively justifiable to the society*, meaning that while a policy might be successfully implemented and is effective as an instrument for achieving the agent’s policy, it is labelled a failure when it does not meet the ‘expectations of the society’.

With this view policy analysis focuses narrowly on the administrative apparatus and procedures of implementing bureaucracies or on the characteristics of bureaucratic officials (Wallman 1970, Grindle 1977 cited in Grindle 1980, 5; Espeland 1993⁷). This view fails to appreciate that in reality policy is negotiated by several actors with government acting as facilitator and custodian of the policy that has been developed due to a need identified by a certain group directly or implicitly during resource utilisation. Grindle (1980) noted that a wide variety of factors intervened between the statement of policy goals and their actual achievement in the society. Such factors included: availability of required resources; the structure of intergovernmental relations; the commitment of lower level officials; reporting mechanisms within the bureaucracy; political leverage of opponents; accidents of timing; luck, and seemingly unrelated events. The result was that there was divergence in the intended goals and the services actually delivered and that implementation involved a lot more than just instrumentalist translation of goals into routine procedures. "Instead it involves fundamental questions about conflict, decision making and "who gets what" in society" (Lasswell 1958 cited in Grindle 1980, 3). This goes well with Mosse's (2004) conception of policy outcomes as being mediated by multiple interactions among a variety of actors informed by different cultural, social, technical and political repertoires and Leftwich's (2000) conception of policy formation as courses of action with means of implementation and outcomes.

1.4 Conceptual Framework

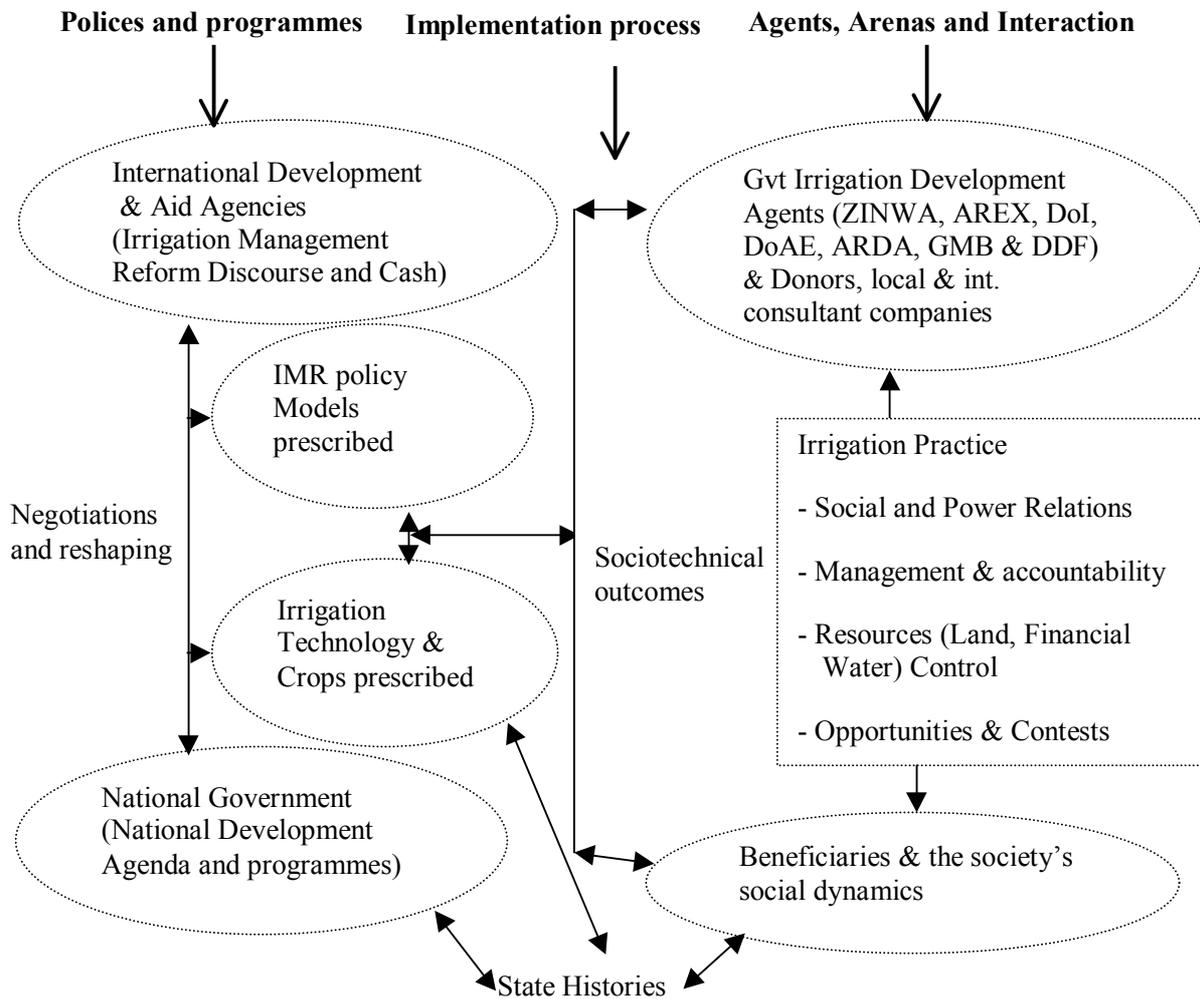
Introduction

This research is an example of a study based on interdisciplinary approaches informed by the notion that irrigation systems are embedded practices, i.e. surrounded or encircled by not only physical but also socio-political conditions of im/possibility. "Irrigation activities are not self-contained, isolated activities, but they are part of a wider process. Irrigation activities as we encounter them in practice have a number of conditions of possibility. With conditions of possibility, we mean the circumstances or contexts that make it possible that irrigation activities are conducted in the manner they are conducted" (Mollinga 1997, 9). As a result the research adopts an analytical framework that can unravel this embedded nature of irrigation systems based on five main propositions.

Firstly, international technical development agencies are guided by some kind of policy discourse or development fashion when they negotiate IMR assistance programmes with recipient countries. This fashion helps them to coin an object of knowledge and create a structure of knowledge about the object (Ferguson 1994). On the other hand the recipient state has its own development policies and agendas and courses of action. The two viewpoints are somehow reconciled in the development models adopted in development cooperation programmes. Agents interacting in different arenas then implement and renegotiate the resultant models, resulting in outcomes that have profound effects on the recipient state development agencies and the anticipated beneficiaries who have their own real life worlds that are mediated by the social dynamics of the societies they exist in. The result is a further reshaping of the models so that policy model formulation becomes a recursive process.

⁷ In this article, Espeland document how government documents are used to include or exclude the wishes of policy actors and thus misrepresents reality.

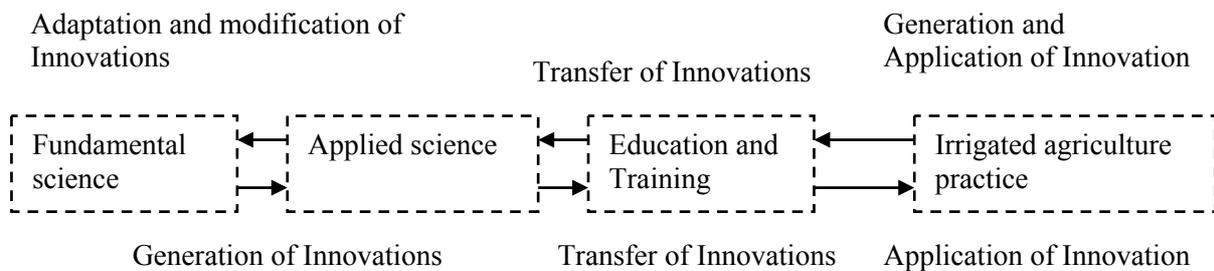
Figure 1.1: The conceptual framework



Secondly, policy is understood as an interactive process where policy content pops up from many domains and arenas and is negotiated, reshaped, accepted by societies who integrate it into their everyday life worlds adding it to the already available large pool of individual survival tricks and strategies that were themselves shaped by State histories. Carr (1964 cited in Vincent 2004) argues that history is not only the past, but analysis of ideas, relations and ideologies that are understood in the particular fields of the past focused upon – and present in the writers themselves. The function of history therefore is to help us to understand the society of the past and to increase mastery over the society of the present – and the spaces people exist in (Vincent 2004). This is as opposed to the linear model that is greatly informed by the ‘adoption and diffusion of innovations’ tradition that regards policy models as worthwhile, and that they would make sense for most beneficiaries to adopt them (‘the Røling 1988’s pro-innovation bias’ cited in Leeuwis 2004). With this stance the study challenged what Kline and Rosenberg (1986) labelled as the linear model of innovation that draws a straight one-direction line between science and practice and that also assigns ‘clear task divisions between various actors some of whom are supposed to specialise in the generation of the innovations while others work on their transfer’ (Leeuwis 2004). It instead adopted a reciprocal approach that asserts that policy models that work originate not only from scientists

for them to be transferred by government development agents and other intermediaries for adoption by rural under developed communities (Blaikie and Soussan 2001). They also originate from the rural under developed communities themselves for them to be transferred by government development agents and other intermediaries for adaptation and modification by scientists (Long 2004).

Figure 1.2: The reciprocal model of innovation



Source: Adapted from Leeuwis (2004, 288).

Thirdly the crafted IMR models cannot be separated from the irrigation technology in use. The technology in use will exert organisational demands on the users that are likely to have impacts on the organisations in terms of strength or weakness. The users will also modify the technology intentionally or by default to ensure that the technology performs according to their capacity (Zawe and Svubure 2004). Fourthly accountable service provision cannot be attributed to the model-crafted service provision organisations alone but to already existing organisations and individuals as well (Kloezen 2002). Finally, societies are divided into subgroups, which in turn further divide; all groups at the same level of segmentation are in balanced opposition (Gellner 1969 cited in Ilahiane and Park 2001). Most segments are corporate groups that rise to existence when in opposition to others (Gellner 1969, 116). Lewis (1991, 9 cited in Coward 2005) employed the idea of corporate groups as “social groups that control the use and inheritance of property, meet more or less regularly, and have representative leadership”. Coward stresses that social groups are corporate when they “own” property which they govern the use and inheritance of. He suggests that these corporate groups operate in landscapes (arenas as in which humans interact with their environments on a wide scale, to help view matters of governance above village level as well as the local scene). The irrigation schemes discussed in this thesis were seen to adopt this character of corporate grouping.

With these propositions in mind, observing the beneficiaries at the policy-beneficiary interface becomes important in the analysis of policy models. This interface takes place in different arenas spanning from the irrigation scheme in rural community settings to the corridors of irrigation development agencies and market places in urban centres. Manzungu (1999), citing Lenton (1988), Small and Svendsen (1992), Rao (1993), Murray-Rust and Snellen (1993), and Makadho (1993, 1994), observed that irrigation management was dominated by a business conception of management that focussed on the setting of objectives, developing performance criteria to monitor progress or lack of it. Manzungu also cited as problematic the way the term “management” was used as a large portmanteau into which were put most other things that were somehow different from technical factors (Wade and Seckler 1990). Manzungu (1999, 154) citing the works of others like Chambers (1988),

Shanan (1992), van der Zaag (1992), Pradhan (1996), Horst (1998) and Mollinga (1998), therefore suggested that irrigation management should be taken to the field and that it should focus on the practice of irrigation that is 'the day-to-day operational activities undertaken by the different actors in relation to water acquisition, delivery and field application and crop production'. However this thesis decided to include in the field other actor-arenas that were surrounding and sometimes even far away from the irrigation scheme- into the urban centres to include the actions of politicians, agro-processing companies, and personnel of the different irrigation development agencies.

Control over scarce water, land, inputs and markets

Two dimensions of control are used in this thesis: sociotechnical; and politico-administrative control. This corresponds well with analytical tendencies to study organisations from the perspective of practices of control (Reed 1992, Mollinga 1997, 1998). In sociotechnical control, the intention of the research is to analyse how actors in different organisations establish everyday control over the use of irrigation resources (Long 2001). The notion of sociotechnical control implies that irrigation management is practised through human and non-human networks and that organising aspects are also performed, embodied and represented in materials (Law 1994). The research therefore aims to analyse how the different actors mobilise, manage, and control these sociotechnical networks and how this changes the process of IMR. It also aims at investigating the social and institutional impacts of calculative practices and representations (Miller 1994) i.e. the programmes, techniques, documents and procedures through which institutions seek to embody their governmental ambitions. In politico-administrative control, the intention is to study how IMR leads to new opportunities and constraints for the diverse interest groups in the local social arena, which can result in renewed struggles over crucial resources. Emphasis will be on the practices, projects, strategies and alliances that are reconstituted with the aim of establishing economic and politico-institutional control over resources. Long and Van der Ploeg (1989) view actors' projects as the diverse representation and the material and social capabilities to mobilise resources utilised for achieving certain goals or ordering the future.

Power relations

Rummel (1979) defines power as an ability to make others do what they would not otherwise do. He desegregates power into coercive power, bargaining power, intellectual power, authoritative power, altruistic power and manipulative power. Coercive power is the intentional generation of two alternate negative interests between which a person must choose, where one is generated by threat in order to make the other likely choice. Bargaining power on the other hand is a capability to use promises to entice a person into choosing one form of behaviour over another. Intellectual power is the capability to persuade a person into believing or doing something. Authoritative power on the other hand is the capability to use legitimacy to convince a person to do something. Altruistic power is ignored in most social relations. This means a capability to use love to induce a person into doing something. Love for one's country, love for humanity or for a group of people is a basic force in social relations that serves as the basis for reform movements, ideologies, politics and conflict. Finally manipulative power is a capability to control the situation and opportunities of a person to cause him to do something. The research will recognise these forms of power during analysis of events and processes.

Accountability

Accountability is about ‘answerability’ and ‘controlling the actions of one party by another party’ and thus is about power relations (Vos 2002, 23). Accountability has also been closely linked with the notion of user or beneficiary participation. The concept of accountability has however mainly been limited to questioning the responsive behaviour of irrigation bureaucracies to the irrigators, referred to as downward accountability (Small and Carruthers 1991, Merrey 1996). The underlying assumption in these studies is that much of the problems in irrigation management are caused by the lack of voice of water users to hold unresponsive bureaucrats accountable for their doings. This thesis asserts that this assumption over-glorifies the powers that the bureaucrats have while marginalising the problems emanating from the water users themselves, their local socio-economic environment, their political representatives and their internal squabbles. It also masks the influence of non-farmer and silent players like witches, fortune tellers, prophets and other religious and traditional healers that are enmeshed in the struggle for survival by rural people of Zimbabwe.

Also emphasised in accountability studies are corruption, bribery and rent seeking by bureaucrats (Wade 1982, Repetto 1986, Tendler 1997). Kloezen (2002, 13) noted that institutional reform models often build into notions of accountability. However operational and financial accountability were most often raised. Political and socioeconomic accountability and administrative accountability were less often raised. The three mechanisms he studied for unpacking these different forms of accountability were: *mechanisms of hierarchical decision-making* (comprising bureaucratic directive, authorisations, administrative monitoring and consultative and bureaucratic control over decision-making processes); *mechanisms of democratic and electoral decision making* (comprising user representation, construction and use of bylaws, selection of leadership etc); *mechanisms of social and political bargaining* (cost recovery, financial transparency, cost of irrigation services, and rent-seeking). These mechanisms include, but spread wider than most of the accountability approaches found in rational models. This thesis asserts that actors are held accountable on the basis of moral obligations or everyday pressures put on them by being part to a community and that this has a big bearing on the outcome of policy models. This thesis thus goes beyond accountability between irrigators and bureaucrats by delving into moral or everyday forms of accountability (Hilhorst 2000).

Requirements for use: users’ management capability

A misunderstanding of management requirements of technology and farmers’ intentions and compatibilities threatens viability and sustainability of the irrigation schemes. It means that the management concept applied is radically different from what is actually reported on social organisation for irrigation in local studies. It also fails to address how farmers design and internalise and in turn can or cannot cope with the irrigation technology (Manzungu 1999, Diemer 2000, Chidenga 2003).

1.5 Outline of the three policy models studied

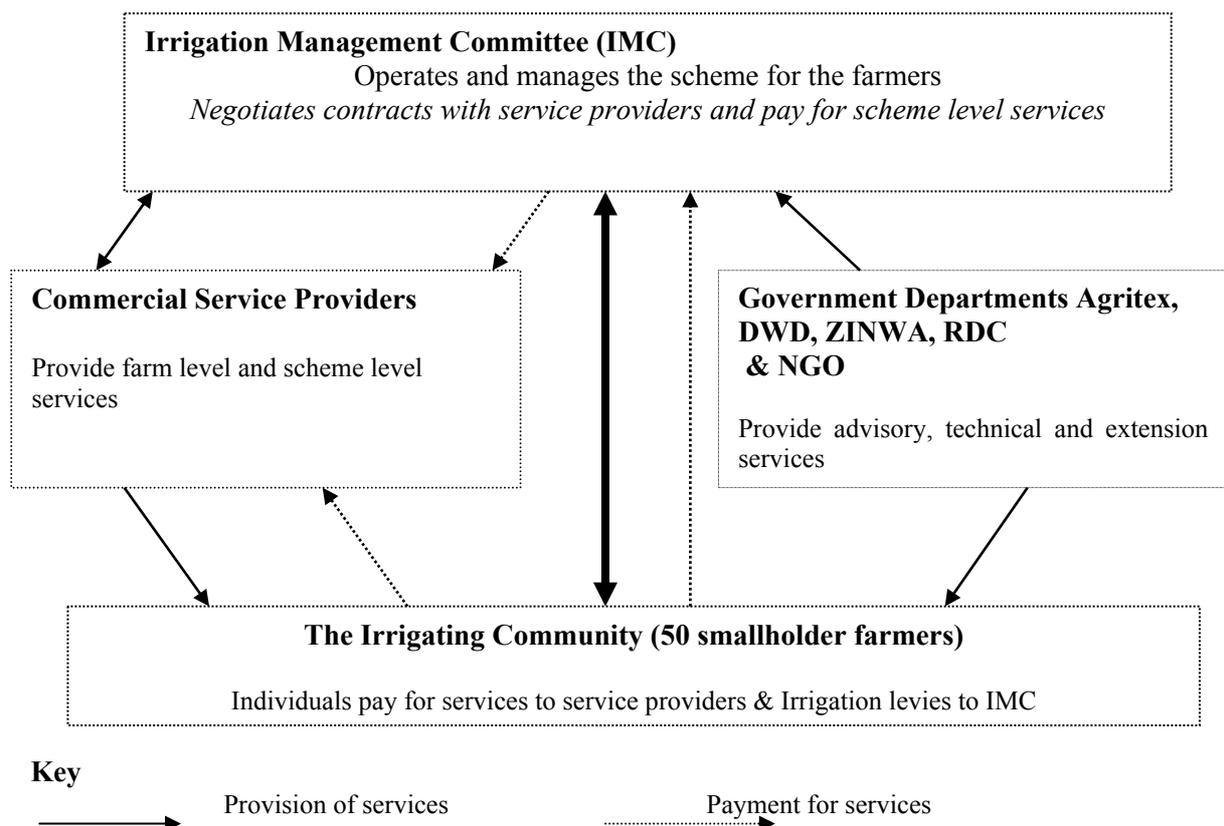
In this thesis, three IMR models are studied in detail. Each model represents a different driver. The Musarurwa case represents an AGRITEX in-house model, incorporating the lessons learnt to date in the government irrigation agency, building on an existing farmer management

institution (Irrigation Management Committee). The Negomo case is a donor-pushed model, incorporating the central tenets of the global consensus on irrigation management reforms. The model reflects a neo-liberal emphasis on accountability, service delivery and economic incentives, and a neo-institutional drive to find new institutional formats that promote public-private partnerships. Finally, the Chifundi and Elmly Park model has emerged in the wake of the chaotic days of the Third Chimurenga. It nevertheless reflects a policy model that is also tried in South Africa in land restitution projects (see Paters 2006), whereby former commercial farmers act as service providers and mentors for newly settled smallholder land invaders that have inherited a sophisticated irrigation technology on commercial farms.

The Water Users Association model (Musarurwa)

Musarurwa irrigation scheme represents the Water Users Association (WUA) model. Association here is used in two different ways, as organisation or as participation, that are in themselves important. In this model the farmers were expected to be organised into a group (an association) headed by an elected Irrigation Management Committee (IMC). The IMC could form sub-committees as it saw fit to assist in the day-to-day running of the irrigation scheme. Figure 1.3 illustrates the organisational framework.

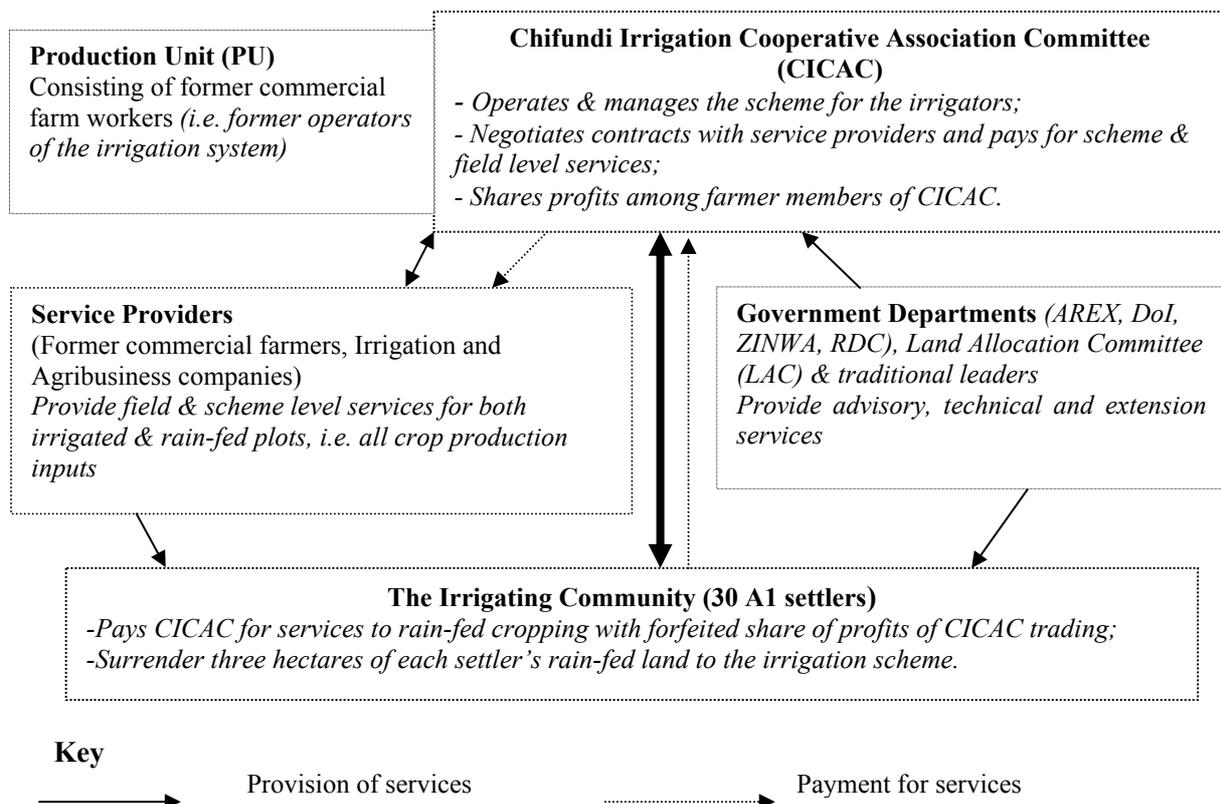
Figure 1.3: The organisational framework of the WUA model



Source: Author, based on his understanding as an Irrigation Specialist for the project.

The reform model was an attempt by the provincial Irrigation Branch of AGRITEX to implement the bits and pieces of policy statements and pronouncements of the Economic Structural Adjustment Programme (ESAP) in smallholder irrigation development. The reform model was based on the realisation that: (1) government had no means of continued financial indulgence in operation and maintenance of smallholder irrigation schemes; (2) farmers were to be in charge of the operation and maintenance (O&M) of their irrigation scheme, including the financing of such O&M; (3) farmers were therefore, to participate (be in association with design engineers) in the design and development of their irrigation schemes in a bid to craft technologies that were commensurate with their management capacity; (5) ownership of irrigation infrastructure was to be in two forms, i.e. field level equipment was owned by individual farmers, while scheme level infrastructure was held in communal custody by an elected IMC. Users' participation therefore was fundamental in this model (Uphoff 1981).

Figure 1.4: The organisational framework of the partnership model at Chifundi irrigation scheme

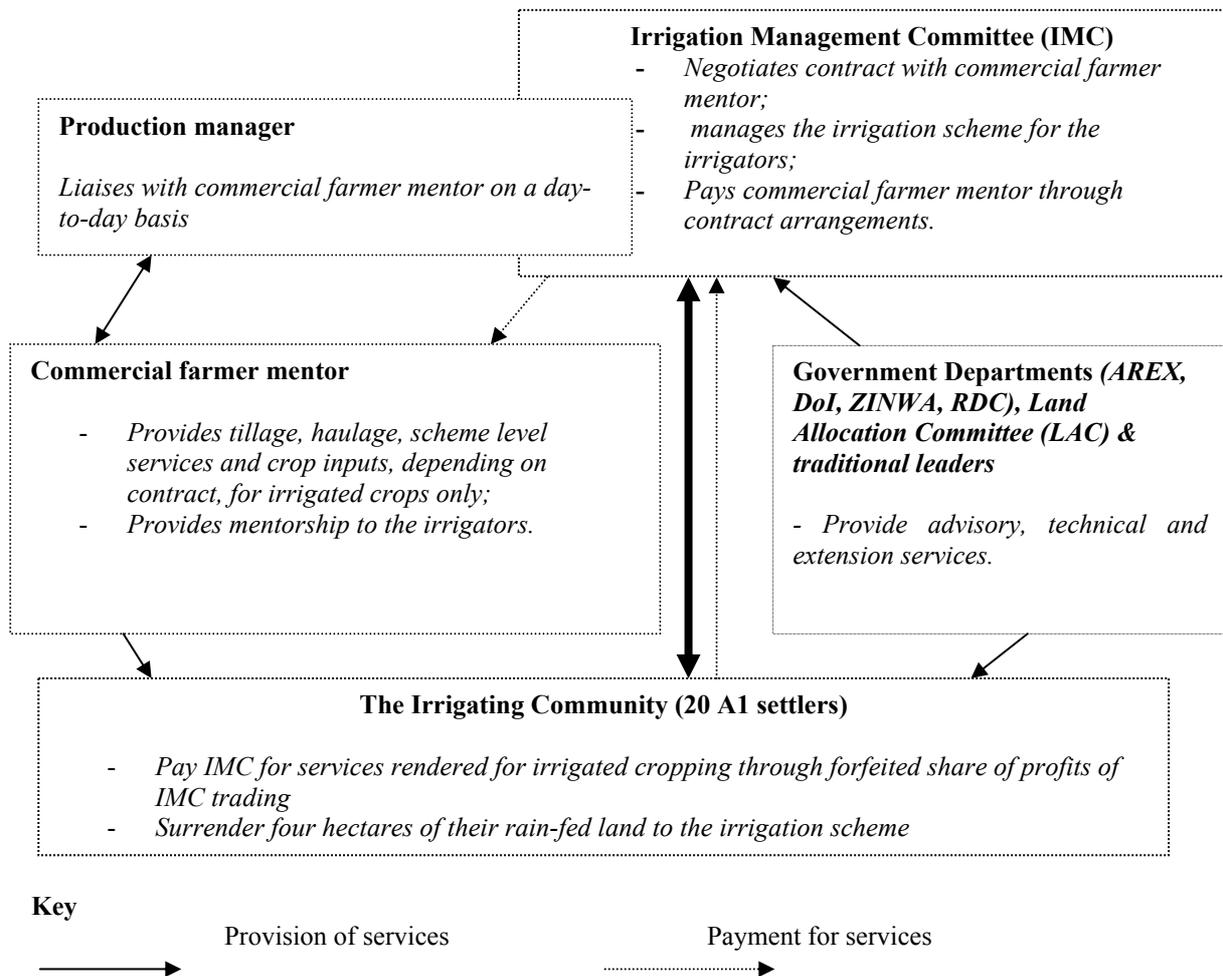


Source: Author, based on his understanding as an Irrigation Specialist for the project.

As will be shown in chapter 3, the design engineers' perception of participation was based on the World Bank (1996) definition of participation: 'The involvement of users in all aspects and levels of irrigation development and management (all aspects: planning, design, construction, operation and maintenance, financing and policy matters; all levels tertiary, secondary, main system level, project and sector level)' (van Vuren 1998, 3). This thesis recognises that participation is a causal word whose definition could range from

‘manipulation’ to ‘empowerment’ of the users (van Vuren 1998, 3, Berner and Philips 2005). The encounters presented in chapters 3 and 4 will show how slippery the concept of participation can be sliding from empowerment to manipulation and the reverse in the process of implementing a given project. Van Vuren (1998) presented two participation typologies the World Bank (1996) (non-conflictive or levels of participation) model and the Feistma (1996) (conflictive model or intentions of participation). This thesis though asserts that the fruits of participation emanate not only from the adherence to any one of these typologies but from wider interactions that are mediated by natural and or artificial events.

Figure 1.5: The organisational framework of the partnership model at Elmly Park



Source: Author, based on his understanding as an Irrigation Specialist for the project.

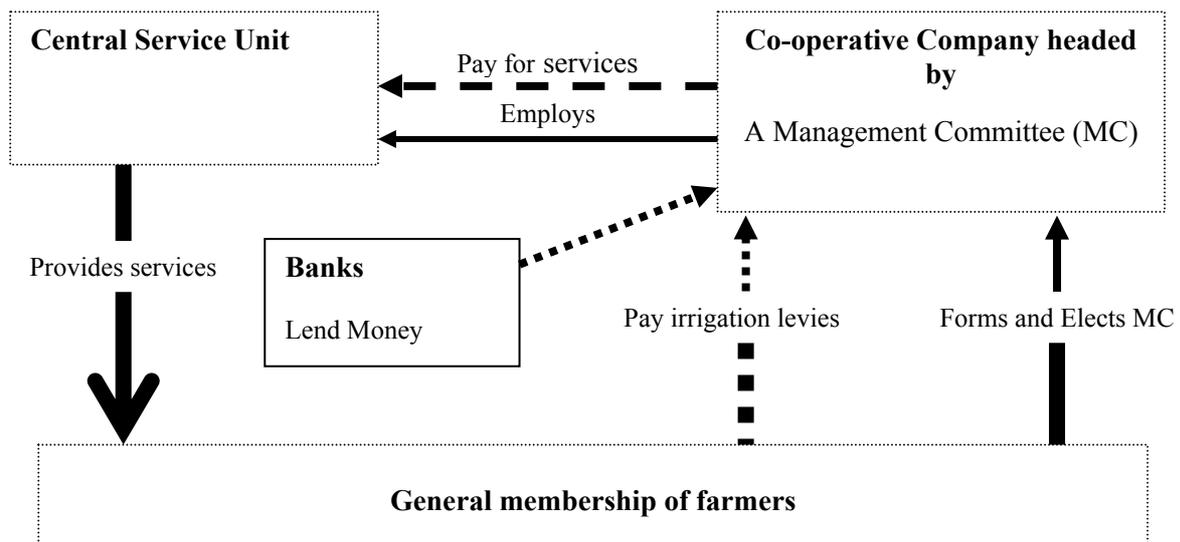
The A1 settlers and white farmer partnership model (Chifundi & Elmly Park)

The Chifundi and Elmly Park irrigation schemes represent an emergent IMR model that arose out of events unfolding during the Third Chimurenga. The model involves a group of A1 fast track resettlement smallholder irrigators that engage in a partnership with former commercial farmers, who provide both agricultural services (ploughing, input provision, harvesting) as well as mentorship to coach the new irrigators in the use of the centre pivot, sprinkler

irrigation technology on the farm. The partnership model that emerged in Chifundi and Elmly Park schemes differs slightly in terms of organisational format and type of contractual arrangements (see Figures 1.4 and 1.5). In the case of Chifundi the A1 settlers have officially registered as a cooperative association that heads an executive production unit consisting of former commercial farm workers. The production unit runs the semi-portable sprinkler irrigation system, whilst the Cooperative Association brokers deals with service providers, like the former commercial farmer. The latter gets paid for each service provided (Zawe *et al.* 2004). In Elmly Park the A1 settlers have organised themselves in an IMC that appoints a production manager, who liaises on a daily basis with the former commercial farmer. The latter provides all farm services in exchange for a share of the crop yield.

In contrast to the other two studied models, no conscious policy making effort on the part of irrigation development or funding agencies preceded the emergence of the model. Rather the model evolved as a consequence of a number of conditions of (im)possibility. Firstly, the mixed groups of farm invaders at Chifundi and Elmly Park were confronted with highly sophisticated irrigation technologies, borehole-based semi-portable sprinklers and centre pivots, which were also alien to the local government irrigation and extension service. Secondly, the willingness and commitment of the former commercial farm owners to provide technical, material, and coaching services allowed for the emergence of a partnership. Thirdly, in the case of Chifundi, the land invaders made up of communal area farmers and war veterans decided to co-opt the resident commercial farm workers into their A1 farm, thus benefiting from the latter's knowledge and experience of the farm and its irrigation system. Finally, the local government departments, like AREX and DoI, actively supported the partnership production model in order to avert a looming wheat shortage in the country. The wide scale destruction that was wrought on the irrigation infrastructure on invaded commercial farms necessitated an extensive rehabilitation programme.

Figure 1.6: The organisational framework of the Co-operative Company model



Source: Author, based on GoZ and Salzgitter Consult (1991).

The Co-operative Company model (Negomo)

Negomo irrigation scheme represents the co-operative company model. In this model the farmers were expected to form a Co-operative Company in which every one of them would be a shareholder. The Co-operative Company would then employ a central service unit to run the day-to-day activities of the irrigation scheme (see Figure 1.6). The idea was that if the service provider was employed by the farmers themselves, it would be more accountable to them. It was presumed that the company would mobilise operation and maintenance funds by charging irrigation levies to each of its members. The co-operative company could also borrow from, or enter into contracts with, other companies on behalf of its shareholders. In the model the irrigation services provided by the CSU encompassed a complete package, ranging from: the operation and maintenance of irrigation infrastructure; provision of loan facilities for crop inputs; provision of crop handling and marketing facilities and modalities; to the provision of tractor services for tillage and haulage.

1.6 Research objectives and questions

Research objectives

The main objective of this study is to review the intentions, implementation processes and outcomes of three Irrigation Management Reform models in Zimbabwe. To this end the research firstly seeks to establish how these models were negotiated, recursively shaped, adapted, transformed and implemented as policy by an array of actors spanning across International Development Agencies, government ministries, local agencies responsible for smallholder irrigation development, the irrigators and their surrounding communities. Secondly, this study aims to contribute to the ongoing academic debate on Irrigation Management Reform by paying explicit attention to the process dimensions of such reforms as well as the interaction between irrigation technology and user management options. Finally, based on the outcomes of the studied models this study aims to contribute to the formulation of a sustainable smallholder irrigation development and management policy for the post-Third Chimurenga era.

Research questions

The main research question

The main question that follows from the above is: How and why were the three Irrigation Management Reform models negotiated, adapted, and transformed by different policy actors, how did the reform models shape organisations and institutional forms at the three sprinkler irrigation schemes, what opportunities or contests have emerged among stakeholders, and what outcomes were produced by them?

The sub-questions

- What were the main drivers inspiring the IMR model? Who were the main actors, what negotiations and adaptations occurred during the crafting process, and what were the constituent elements of the model and its internal rationale?
- What type of irrigation technology was installed and what was the involvement of the users in its construction and how, if at all, did the requirements-for-use of the crafted technology influence the IMR model?

- What opportunities and contests ensued during the implementation process and what organisational and production practices and strategies have the actors developed to take advantage of the opportunities and to cope with the constraints?
- How was the transformation of the IMR model affected by power relations; management and accountability practices; control over water, inputs and markets; and the requirements-for-use of the irrigation technology?
- What were the outcomes produced by the IMR model in terms of: agricultural production performance; financial, social and environmental sustainability; and ability of the users to cope with the operation and maintenance requirements of the scheme?

1.7 Research methodology

Site selection

The research was carried out at four pump lift sprinkler irrigation schemes in Mashonaland West (3) and Mashonaland Central (1) provinces of Zimbabwe (see Map 1.1). The schemes vary in size, membership, date of commencement, type of IMR model, type of sprinkler technology and source of water (see Table 1.6).

Table 1.6: Some characteristics of the research sites

Scheme	IMR Model	Start year	Size (ha)	Membership	Type of sprinkler technology	Water source
Chifundi	Impromptu	2002	110	37	Semi-portable	Boreholes
Elmly Park	Impromptu	2002	100	25	Centre pivot	Boreholes
Negomo	Coop Company	1996	357	296	Draghose	Dam
Musarurwa	IMC	1997	25	50	Semi-portable	Dam

The choice for these research sites was informed by the comparative nature of the study as well as logistical considerations. The comparative nature of this study dictates that a great number of variables are kept constant (i.e. similar), whilst the critical variables differ. In this case the studied schemes are all located in the same agro-ecological zone (Natural Region II), involve pumped sprinkler irrigation technology, cover similar command areas and numbers of members, and are relatively young. They do however differ considerably in exact type of sprinkler technology (draghose, borehole-based semi-portable sprinkler, and centre pivot and IMR model (see 1.5). The latter reflects this study's emphasis on the role of technology and process dimension in irrigation management reforms. The four irrigation schemes are all located in agro-ecological region II of Zimbabwe. This natural region was preferred for two reasons. Firstly, the region harbours the best agricultural potential and previously comprised the heart land of commercial farming in Zimbabwe. The bulk of the stored (harnessed) water, and therefore irrigated agriculture, of the country is found in this region. With the advent of the fast track resettlement programme, it made sense to study irrigation schemes that are in this region, since it was projected to hold the bulk of smallholder irrigation schemes. It is possible for farmers in this region to grow most crops during the rainy season without irrigation, except in drought years. In fact all of the irrigators in the studied schemes performed rain-fed agriculture besides irrigation.

Very few studies have been undertaken on irrigation in this agro-ecological region, since most studies have centred on schemes in the dryer natural regions (III, IV and V), where irrigators are assumed to depend for the bulk of their livelihood on irrigated agriculture. Secondly the majority of smallholder sprinkler irrigation schemes in Zimbabwe are found in agro-ecological region II. Sprinkler irrigation schemes were preferred because of two main reasons. Firstly, sprinkler irrigation systems were more predominant in fast track resettlement areas. Secondly sprinkler irrigation systems were earlier regarded as difficult systems for smallholder irrigators, but were now being designed and handed over to farmers for operation and maintenance. It is therefore interesting to study the struggles that the smallholder farmers are facing in their day-to-day operation of these systems. Originally it was intended to include a scheme managed by a parastatal organisation (ARDA), but at the start of the study this scheme was not functional. Next it was decided to include two freshly invaded commercial farms (the partnership model) in a bid to capture the nature of the new challenges ensuing from the Third Chimurenga in the development of and organisational frameworks for operation and maintenance of smallholder irrigation schemes. Mashonaland West and Mashonaland Central were preferred for logistical reasons as well. The four schemes were easily accessible to the researcher, who was based in the centrally located town of Chinhoyi.

Methodology

The methodology chosen to address the research question and the concerns outlined earlier especially studying policy discourse and policy as an interactive process, was 'the intensive in-depth study' of four cases representing three policy models. The in-depth study was preferred because it helped me to go beyond the descriptive and quantitative approaches that most IMR studies have opted for (Burawoy 1991). In-depth studies help to uncover the process of IMR that is lacking in most IMR literature. In-depth studies also help to explain why and how certain outcomes of policy come about, thus showing the way irrigation systems are actually managed, how reform is actually taking place, and how both management and reform practices can be explained.

During fieldwork, the research took an ethnographic approach. Brewer (2000, 6) regards ethnography as the method of fieldwork that entails the study of 'people in natural occurring settings or fields by methods of data collection which capture their social meaning and ordinary activities, involving the researcher participating directly in the setting if not also the activities, in order to collect data in a systematic manner but without being imposed on them externally'. The ethnographic approach had a great impact into the methods of data collection and the issues that were of interest to me. I and my research assistants mingled with the irrigators at the research sites during various stages of the irrigation seasons for three years (from September 2001 to September 2004). The principal research technique that I opted for was participant observation. Participant observation was employed because of its emphasis on everyday interactions and observations rather than dependence on direct inquiries (interviews) into specific behaviours (Clifford 1988, Dewalt *et al.* 1998, 260). I regard this approach to be important and useful in the study of policy outcomes since in a number of cases some people cannot put what they know or experience into words and as such much knowledge is grounded in practices. Participant observation therefore assisted me to investigate properly what the irrigators regarded as important. It served as a measure for directing any further observations and inquiries without which the research would have been the project of the researcher with little relevance to the lived experience of the irrigators (Cernea 1985, Mararike 1999, Mudege 2005).

I also used a mix of qualitative research tools such as semi-structured interviews, relying on key informants and studies of written records. I interviewed four categories of actors: farmers and members of the irrigators' management organisations; members of the irrigation service providers; representatives of donors and some local leaders. I also observed the irrigation activities and other irrigation and non-irrigation related activities that the irrigators engaged in during their day-to-day lives. The case study method of research was also very important during the fieldwork. A case study in this case being an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between context and phenomenon are not clearly evident and in which multiple sources of evidence are used (Yin 1994). Others, like Hakim (1987, 27), assert that 'a case study is used to paint a portrait of a particular phenomenon'. The case study method differs from a sample-based study. A case seeks not to generalise to a population, as would a study based on a sample, but to a theory. The focus, thus, is not on statistical generalisation, but on analytical generalisation (Yin 1994).⁸

It is necessary at this point to mention that I was both a researcher and actor in this study. Being an irrigation engineer who was responsible for Mashonaland West Province, I was at times an actor in the implementation of the Policy Models under review. This situation helped me during the field work in that I was able to access a lot of information that outsiders would have found very difficult to get. On the other hand some responses from informants could have been compromised. However to ensure that this was minimised, I used research assistants and other government officials at my disposal to verify information that I got from informants. Also my vast experience in smallholder irrigation development and as a civil servant of the Government of Zimbabwe immensely helped me in gathering information for this thesis. The field work was carried out with two full-time research assistants from September 2001 to March 2005. This gave me the opportunity to observe three and half years of irrigated agriculture at the three irrigation schemes. I divided my time equally among the research sites. Data collection was also assisted by two MSc Students from Wageningen University who did their research on two of the sites (Negomo and Musarurwa).

1.8 Organisation of the thesis

This thesis is arranged into nine chapters. Chapter 1 has dwelt on the state histories of Zimbabwe thereby contextualizing the research arena. It has also discussed the policy and Irrigation Management Reform (IMR) debates and presented the research question conceptual framework and research methodology. The purpose of this chapter has been to apprise the reader of the context within which the policy models under review were conceived and implemented. I have sought to highlight the political context of policy processes in Zimbabwe. This has affected a variety of relationships especially in the crafting of and implementation of policy models for the development and management of smallholder irrigated agriculture in Zimbabwe. It will become apparent that because of the histories of the country, smallholder irrigation policy models and smallholder irrigation irrigated agriculture in Zimbabwe has been highly political in nature. Chapter two discusses the status of

⁸ However, as the number of cases increases, the principle of analytic generalization tends to be replaced by that of statistical inference (Hakim 1987).

smallholder irrigation in Zimbabwe chronologically from pre-independence times to the land invasions of the year 2000 clearly revealing the politics involved in smallholder irrigation in Zimbabwe. Chapter 3 to chapter 8 are the empirical chapters that focus on the policy models in theory and practice. Basically two chapters are devoted to each of the three policy models in which one chapter is devoted to describing the establishment of the irrigation cases and the other chapter is devoted to the operational realities of the irrigation cases. Finally in chapter 9, the overall conclusions and outcomes of the three policy models are presented.



Photo 2: Outside of a Third Chimurenga vandalised pump station at Hunyani Farm just east of Chinhoyi town
Source: picture Zawe 2006



Photo 3: The inside of the vandalised pump station at Hunyani Farm just east of Chinhoyi town
Source: picture Zawe 2006

2 THE CONTEXT OF SMALLHOLDER IRRIGATION IN ZIMBABWE

“Irrigation activities are not self-contained, isolated activities, but they are part of a wider process. Irrigation activities as we encounter them in practice have a number of conditions of possibility. With conditions of possibility we mean the circumstances or context that makes it possible that irrigation activities are conducted as they are. There are “material and social conditions of possibility” The idea of embeddedness presented here is derived from Burawoy’s (1985) notion of ‘production regime’ or ‘political and ideological apparatuses of production’, and Benvenuti’s (1982) TATE concept (the Technological and Administrative Task Environment).” (Mollinga 1997, 9)

In chapter 1, I presented the policy models that are the subject of this thesis. In this chapter I will identify the conditions of possibility for the irrigation schemes that represent these models by first outlining the pre-Independence policy process and the evolution of the government controlled smallholder irrigation sub-sector in the country (2.1). Next, the post-Independence policy process, available policy statements and development of the sub-sector is presented (2.2). A discussion on the institutional development, financing and subsequent demise of the main government irrigation agency (AGRITEX) is then presented (2.3). The onset of the Third Chimurenga and its impact on irrigation in Mashonaland West is the subject of section 2.4. Finally (2.5) the conditions of (im)possibility emanating from the chapter are presented.

2.1 Colonial era policy process and evolution of smallholder irrigation

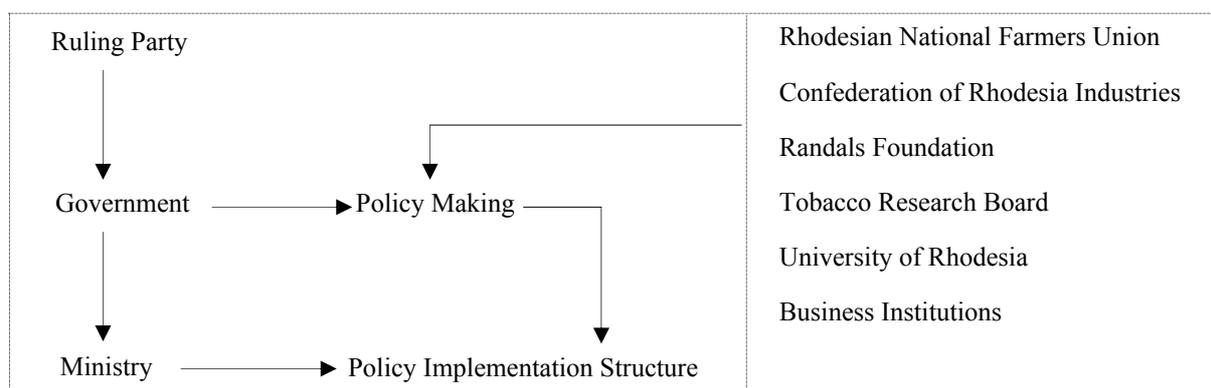
Irrigation development in Zimbabwe has been going on for more than a century. As discussed in chapter 1, there are distinctly two sub sectors, the large-scale and the smallholder sub sectors. The smallholder sub sector lagged behind the large-scale both in scale and in technology. During the colonial era, smallholder irrigation development was based on surface irrigation systems, while in the large-scale sector, the range included centre pivots, conventional sprinkler, micro sprinklers and some drip irrigation systems. Sprinkler irrigation systems during the era were regarded as being too expensive and too complicated for the resource poor smallholder farmers to operate and maintain (Svubure and Zawe 2004). The assumption was that they did not have the skill to operate the sprinkler systems or the resources to pay for the high pumping costs (Roder 1965). This section will discuss the evolution of smallholder policy and objectives during the era. The policies and objectives have varied with time (Rukuni 1985). To clearly outline these objectives, a historical analysis is made. First a brief outline of the ambitions and actors involved in the agrarian policy process of the government of the day is presented. This is followed by a chronological review of policy and objectives.

The policy process before independence

Like the segregated agrarian development thrust of the Rhodesian settler state, policy processes for irrigation were performed in a strictly segregated manner. Basically two processes obtained: One for the white commercial farming sector, which provided the

mainstay of the Rhodesian settler state, and was characterised by a large degree of influence exerted by lobby organisations. Second, an in-house policy making process for African irrigation schemes that was initially characterised by a large degree of discretion in the hands of the Agriculturist for Natives, but later became increasingly dictated by the Ministry of Internal Affairs. The pre-independence policy process was a function of the policies of the ruling party mediated by the wishes of the white commercial farmers, captains of industry, scientists at research stations and experts from the University of Rhodesia. As can be seen, in Figure 2.1 the beneficiaries of the policies (the local people) were out of the process. The policies developed were negotiated by the commercial farmers through the Rhodesian National Farmers Union (RNFU).⁹ The policies emanating from this process emphasised strict control of the farmers and intensification of crop production based on the white man’s crops. Although during the colonial era, native farmers in African Purchase Lands (APL) had a union of their own (the Bantu Farmers’ Congress), ‘it had no influence in the policy process because its loyalties were seen by the government as lying with the guerrilla forces of the liberation movement’ (Herbst 1988, 268). On the contrary the RNFU was consulted by the Minister of Agriculture on policy matters who took their recommendations to cabinet. ‘The minister’s recommendations were almost always accepted by cabinet. If the minister of agriculture did not get what he wanted, he would resign, and he never resigned’ (Herbst 1988, 269 citing the response of one RNFU official).

Figure 2.1: Policy process during the UDI period



Source: Zwizwai *et al.* 2004.

The evolution of the smallholder irrigation sub-sector pre-Independence

This section outlines the evolution of the smallholder irrigation sub-sector during the colonial era, through a chronological review of the main policy imperatives and resulting development and management practices.

Enterprising missionaries and their followers mediating droughts (1912-1927)

Missionaries joined hands with African farmers to expand irrigation development in smallholder agriculture, in response to recurring droughts in second and third decade of the century. The smallholder farmers constructed and operated their own irrigation projects

⁹ ‘The RNFU may be the only farmers’ union in the world that has a government enforced closed shop. This closed shop allows the white farmers to undertake research and lobbying exercises of enormous sophistication and expense. It is therefore no surprise that the RNFU operating from the ten-story Agriculture House had its motto “Unity Is Strength” (Herbst 1988, 268).

(Roder 1965). The important institutions in irrigation development during this phase therefore, were the missionaries and the local peoples' leadership structures. There was no direct government involvement. The local people retained control over construction and operation of their irrigation schemes (Mombeshora 2003, 6, Svubure and Zawe 2004).

Enter Alvord, enter government in smallholder irrigation (1928-1934)

The colonial government through the agricultural staff of the Ministry of African Affairs provided services and helped farmers develop irrigation schemes, but farmers retained control over the schemes (Chitsiko 1988). They continued to practice rain-fed farming (Mombeshora 2003, 6). In 1927 Emery Alvord was appointed as the "agriculturist for the instruction of natives".¹⁰ Alvord helped farmers develop small-irrigated plots of about one hectare or less. Farmers continued to rely heavily on rain-fed farming for the bulk of their food supply. Alvord's emphasis during this time was to assist schemes established by missionaries with proper surveys and layout (Roder 1965). This however marked the entry of government involvement in the design, construction and management of smallholder irrigation. Irrigation engineers and agricultural extension workers always find themselves prescribing Alvord's medicine to the design, construction and management of smallholder irrigation schemes. Some people are now asking this question "Why is Alvord ruling irrigation schemes from his grave?" This question is asked because from then on government remained in control of the smallholder irrigation schemes until after independence when government tried to pull itself out of their management without much success. This thesis will show how three irrigation management reform models were tried to identify ways of handing over irrigation management of four irrigation schemes to the farmers and how the farmers have struggled with the management roles given to them.

Government takes over control of crops, management and maintenance (1935-1945)

Government through the agricultural staff of the Ministry of African Affairs takes over the management of African irrigation schemes (Chitsiko 1988). The initial justification of government aid to smallholder irrigation schemes was famine relief. Alvord defended the construction of smallholder irrigation in the low veld of Manicaland as necessary for food security, saving on government mediated famine relief. Irrigation policy however changed after Alvord returned from a study tour of irrigation projects in the Indian reserves in the USA in 1935. This time farmers were required to give up rain-fed cropping and other non-irrigation activities (Roder 1965, 110). During slack times farmers were organised to maintain the scheme and the canals. Government also took over the construction of new schemes this time with less consultation and co-operation with local farmers in identification of design and construction of the new schemes. Most schemes in eastern Zimbabwe were reorganised under government control. There was pressure on farmers to produce cash crops like wheat and beans. Alvord and other government agronomists designed rotations based on wheat, beans and sun-hemp. Irrigation fees were also introduced (5 shillings in 1932 and 10 shillings in 1942) in order to maintain the schemes (Rukuni 1984a, Makombe *et al.* 1998, Mombeshora 2003, 7). These measures were unpopular with farmers, because of the lack of a guaranteed market for the compulsory crops (Roder 1965). This thesis will show that farmers always changed the cropping programs and the rotations set by AGRITEX depending on availability of crop inputs and market prices.

¹⁰ For a detailed discussion on Alvord, see Sadomba (1999) and Bolding (2004).

Irrigation as a means to implement the amended Land Apportionment Act (1946-1956)

The land apportionment act of 1930 was amended and black farmers were moved to Native Reserves (now communal areas). New irrigation schemes were created to resettle black farmers. These new schemes were heavily subsidised by government. However government did not want to spend money on expensive schemes like pump-fed irrigation schemes. Only very few pump-fed irrigation schemes (e.g. Chibuwe) were constructed during this period to resettle displaced smallholder farmers. These, however, experienced frequent breakdowns and water shortages (Magadla 1999). Experiments and designs for new settler schemes also brought attention to borehole development with groundwater as a water source (Chidenga 2003). During this period the development and management of smallholder irrigation was vested with the Internal Affairs Administration, whilst agricultural extension was the responsibility of the agricultural staff of the Ministry of African Affairs (Chitsiko 1988).

Smallholder irrigation halted for uneconomic returns (1957-1965)

Government curtails development of new smallholder irrigation schemes because they are not cost effective. Rising costs of construction and maintenance prompted the Department of Native Agriculture to review its irrigation development programme. The department employed an economist in 1957 to examine the profitability of smallholder irrigation schemes; he concluded that most of the smallholder irrigation schemes were uneconomic (Hunt 1958). As a result new development of smallholder irrigation schemes was temporarily halted. During this period the mandate for smallholder irrigation development was shifted to the Department of Conservation and Extension (Conex) in the Ministry of Agriculture. The department was responsible for development, management and extension (Chitsiko 1988, Mombeshora 2003, 6).

Disciplined irrigation tenants under state tutelage (1966-1980)

The UDI government with its policy of segregated development for Blacks and Whites set up a parastatal, the Tribal Trust Lands Development Corporation (TILCOR) to develop irrigation-based growth points in Tribal Trust Lands. The irrigated growth points had a large 'core estate' to provide services to smallholder settlers. The core estate was a heavily mechanised commercial farm using high levels of inputs. The smallholder settler farmers adopted the cropping programme of the core estate taking advantage of the marketing structure of the estate (Rukuni and Makadho 1994). The mandate to develop and manage smallholder irrigation schemes during this period up to 1978 was vested in the Ministry of Internal Affairs. However at the same time the mandate to develop dams and major pumping stations was under the Department of Water Development (DWD). This called for closer cooperation between DWD and Ministry of Internal Affairs (Chidenga 2003). The District Commissioner was responsible for administration while the agricultural personnel under the same ministry were responsible for extension. From 1978 to 1980 the mandate was vested in the Ministry of Lands, Resettlement and Natural Resources under the Department of Agricultural Development (Devag). This department was responsible for management and extension responsibilities (Chitsiko 1988).

During this period state control was so excessive that Reynolds (1969) observed that farmers were being treated as "children." Hughes (1974) even speaks of "despotic management control" by white irrigation managers. Irrigation management was based on alienating farmers

from exercising any management task, since they were considered unqualified for the job.¹¹ With the Control of Irrigable Areas Regulations that came into force in 1970 irrigators were very insecure, as they could be evicted at any time. Irrigators were requested to sign three annually renewable permits (one to reside, one to de-pasture stock and one to cultivate). Irrigation managers tasked with supervision and control of irrigated farming operations could withdraw the permits when irrigators faltered in paying water rates, timely application of seed and fertiliser, timely weeding, timely application of irrigation water and other recommended practises issued by the irrigation manager. Also irrigators were not allowed to own any businesses, cultivate any dry land or engage in gainful employment. They were to be full time irrigators. Many plot holders were evicted during the early 1970s for failing to comply with any one of the conditions. The government also practised control of irrigators by co-optation whereby farmers were accorded nominal management roles so that they could in turn control themselves.¹² This was seen as a viable mode of control, short of a police state being created. The farmer representation was constructed around traditional leaders.¹³ This explains the existence of institutions like the kraal-head furrow committee in Nyanyadzi (see also Bolding 1996 and 2004). In some cases this gimmick failed. For example in Mutambara the very traditional leaders turned out to be the agitators and responsible for the ultimate retreat of government and subsequent closure of the scheme (Manzungu 1995). It is this control that grassroots personnel of AGRITEX have always known and have tended to perpetuate as will be discussed later.

2.2 Independence era policy process, policy statements and evolution

Smallholder irrigation development in Zimbabwe post-Independence took an *ad hoc* posture. This *ad hoc* approach, it is argued, was a symptom of the absence of an appropriate policy to guide the process (Mfote 1994, Bolding *et al.* 2004). Many other commentators echo these sentiments (see Chabayanzara 1994, Chitsiko 1995, Magadzire 1994 and Mupawose 1984). Makadho¹⁴ (1994, 20) made it more explicit when he stated that, “irrigation policy is not in black and white: it is only understood”. As result the objectives of smallholder irrigation development in Zimbabwe have not differed in any meaningful way from the colonial era. The objectives have hovered around increased production per unit of land, introduction of new irrigation technology, decongestion of communal areas (Manzungu 1999) and bringing the marginalized communal farmers into the market economy (Mfote pers. comm. 2004). This is not to say that there has not been an attempt to come up with a clear policy for the sector. Several attempts were made by central government departments responsible for irrigation

¹¹ Rhodesian officials of the ministry of internal affairs often flirted with the idea to do away with plot holders all together and run the African irrigation schemes as state ventures with hired African tenants This model of tenant irrigation had proven very successful in other African colonies according to these officials (the Gezira in the Sudan and Mwea in Kenya). For a critique of the “success” of this tenant scheme approach see Barnett (1977) and Chambers (1969).

¹² The key word was “discipline”. Rhodesian officials stressed the need for discipline as an essential ingredient in the execution of successful irrigation operations. Robertshaw (1983) refers to African irrigators as “regimented plot holders”; a metaphor derived from the military.

¹³ For more elaborate discussion on how the white settler state “invented” and “manipulated” traditional authority structures, see Holleman (1969), Weinrich (1977) and Ranger (1983).

¹⁴ Makadho was the director of AGRITEX at the time this remark was made.

with funding from international and bilateral donor agencies. However the attempts were never coordinated in any way, with each attempt emphasising different or new agendas.

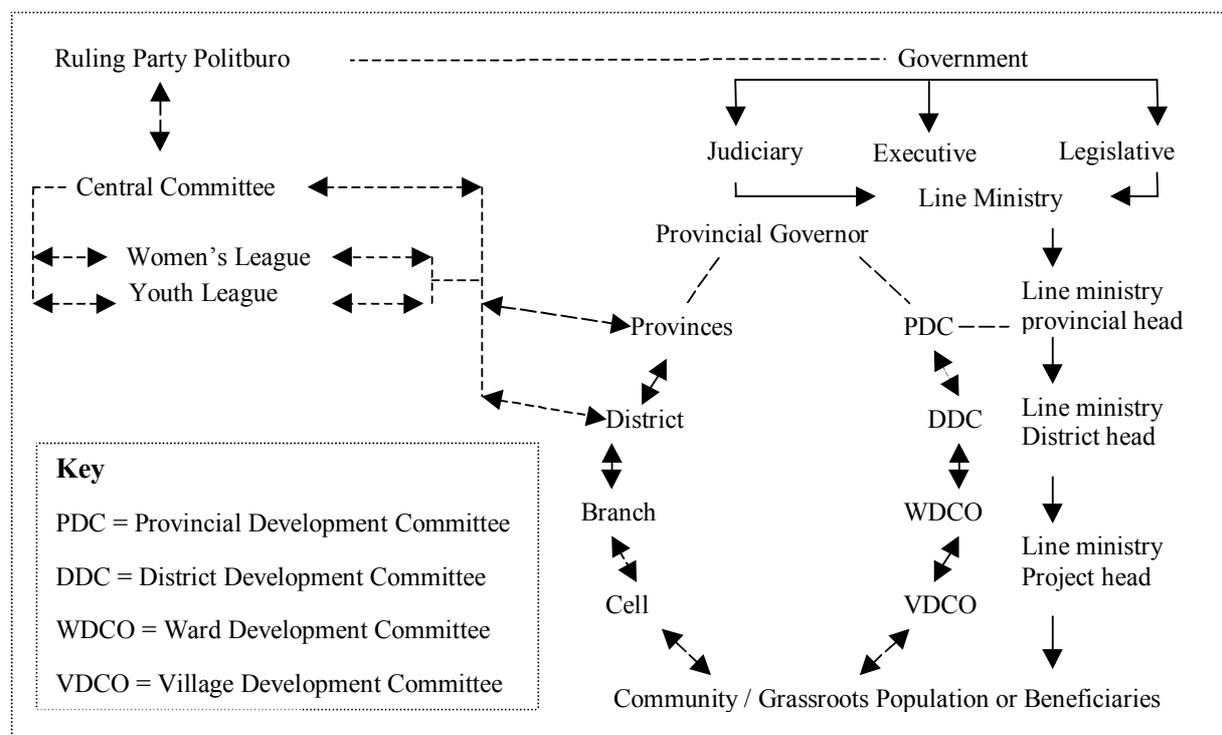
The policy process of the government post-Independence

After Independence three distinct periods can be identified in policy process in Zimbabwe. These periods coincide with shifts in the political ideological rhetoric of the ruling ZANU PF party. The periods cover before the Economic Structural Adjustment Programme (ESAP, 1980-90), the ESAP period (1990-2000) and the post “Third Chimurenga” period (2000 on).

Before ESAP (1980-1990)

During the period 1980 to 1990, as depicted in Figure 2.2, three distinct organisations were involved in the policy process. Quite distinguishable is the ruling party and its structures. This organisation played a big role in the policy process. It was the party policies that were transformed into national policies for implementation by central government, the second distinguishable organisation. Central government was represented by line ministries and their provincial, district and local level staff. The third distinct organisational forms were the local government structures. The latter were never fully functional though (Roe 1995). At best they were the ruling party, ZANU PF’s ‘organs of popular power and participation when they tried to function, used mainly to further ZANU PF’s hold on rural voters’ (ZANU PF’s Election Manifesto 1985). The invisible in Figure 2.2 is in fact very important in policy analysis. The community/grassroots population is not disaggregated, hiding the varied nature of the beneficiaries of policy.

Figure 2.2: Policy process post-independence before the ESAP



Source: Based on field experience and modification of Zwizwai *et al* 2004.

Lumped in grassroots are the local traditional leaders whose roles in society were at the mercy of the ruling party. They were sometimes sidelined or mobilised by the party willy-nilly to the party's political advantage. The policy process in this era is what Zwizwai *et al.* (2004) referred to as "partocracy". Partocracy here refers to a situation where formal state structures were criss-crossed with and subordinated to party structures. At the centre of all this was the person of the office of the Provincial Governor. In this way, the separation of party, government and state was effected, giving supremacy to the party. Party office bearers, some of whom held established state posts, mattered more in policy-making and implementation. Thus, the socialist rhetoric of free government services (education health, redistribution politics and abortive land reforms) abounded the policy process during this period. While party rhetoric was loudly heard, central government departments remained very strong during this period. The department of AGRITEX was able to remain powerful in directing government programmes albeit with the support of donors and NGOs.

Also not at all visible in Figure 2.2 is the Commercial Farmers Union (CFU). Guided by its national reconciliation policy, the government stated that it would allow the CFU a voice in policy negotiation (Herbst 1988, 269).¹⁵ However CFU's power was trimmed considerably in that while it is allowed to discuss policy and provide information to the minister of Agriculture, it can not negotiate a position because the minister's power is also limited. The final policy decisions are made by the cabinet as a whole (Herbst 1988, 272).

The ESAP period (1990-2000)

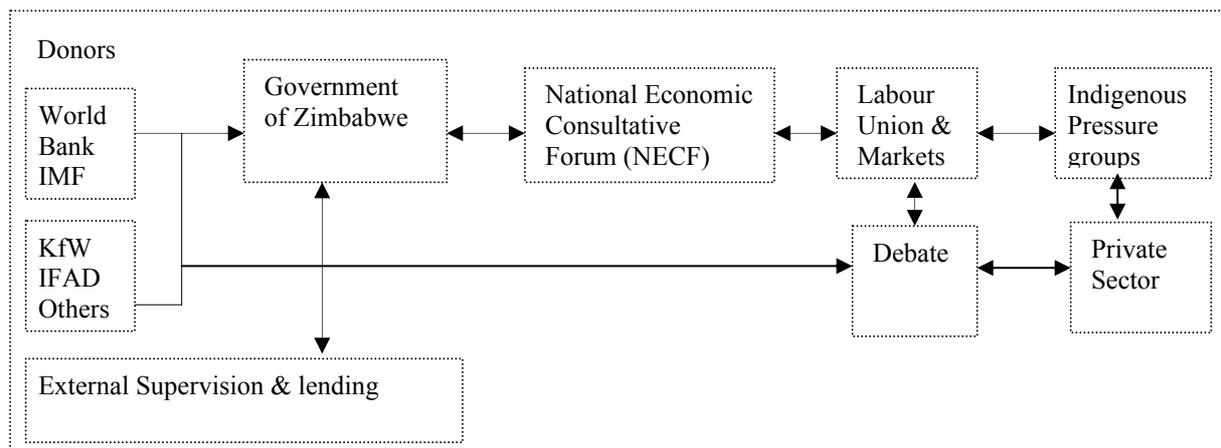
The economy started to nose-dive under partocracy, accompanied by rampant amassment of wealth through devious means climaxed by the Willow-gate scandal. Some top leaders like the party's secretary for legal affairs were forced to openly declare their huge assets. In 1990, the ZANU PF government abandoned its slowly sinking socialist ship. The country witnessed the advent of the International Monetary Fund (IMF) and the World Bank into the policy process arena. The multinational organisations breathed a new attitude to policy processes in Zimbabwe. Participation of all stakeholders in the policy process was made mandatory to funding. Thus the government invited many internal players into the policy process, although some have called it a window dressing affair, as only volunteers and party stalwarts in commerce and industry, agriculture and labour were invited (Zwizwai *et al.* 2004). In 1997, with a restless labour force, a confidence-losing business sector, and persistent economic decline, some convergence occurred among these diverse interested parties that resulted in the formation of the National Economic Consultative Forum (NECF, see Figure 2.3).

The motives of the converging parties though were never the same with each chasing an agenda so different from the other but sitting in the same forum. To government the NECF became a safety valve through which new ideas were thrown in by non-governmental interest groups thus placing the government in a better position to handle policy issues without assuming total blame for failure. The government was also free to take only those ideas that did tally with party philosophy since the NECF was a voluntary organisation and not

¹⁵ "Government cooperation with the CFU was possible because, even though it represents the most thoroughly conservative group in the country, its leadership saw before any other element of white society the need to have a constructive relationship with the new black government. While many government officials who had lived in Mozambique during the liberation struggle had seen first hand the damage caused by the mass exodus of white population." (Herbst 1988, 269)

constitutionally proscribed. To commerce, industry and labour though, it gave them an opportunity to air publicly the shortcomings of government and suggest better solutions in a bid to push for political change. A lot of policy initiatives were started during this period. However, most policy experiments in irrigation, initiated through funding from donors, came to nothing when ESAP was abandoned for the Third Chimurenga. Thus in the end nothing really came out of the ESAP policy processes. However, a discourse had been created that in 2004 still hovered in the air and that actors on the ground resorted to when implementing projects.

Figure 2.3: Policy process post-independence during ESAP



Source: Based on field experience and modification of Zwizwai *et al* 2004.

The “Third Chimurenga”(2000-onwards)

With the Third Chimurenga, the communities needing government support dramatically changed from the previous smallholder peasant farmers to a whole range of new communities. The range included urban poor and rich, rural poor and rich, politicians, civil servants and war veterans of the Second Chimurenga, all exerting varying degrees of coercive power. The policy process shifted from formal government policy process to presidential orders and decrees instituted through task forces invariably headed by army or police officers (heroes of the Second Chimurenga). The government policy process hence became more ‘fuzzy’. Emphasis was on developing or rehabilitating irrigation schemes for immediate hand over to settler farmers with funds provided by the Reserve Bank of Zimbabwe (RBZ).

Post-Independence evolution of the smallholder irrigation sub-sector

Rehabilitation and first attempts at user participation and cost recovery (1981-1984)

The “people’s government” changed the policy at independence to ‘Scientific Socialism’. The emphasis was to introduce agricultural co-operatives with state assistance. There was very little development of new irrigation schemes. Efforts were centred on the rehabilitation of the irrigation schemes destroyed during the liberation struggle. The United Nations High Commissioner for Refugees (UNHCR) and the United States Agency for International Development (USAID) funded the rehabilitation and reconstruction programme. Irrigation development responsibilities were split among three departments, DERUDE, in the Ministry of Lands, Resettlement and Rural Development, AGRITEX in the Ministry of Agriculture and DWD in the Ministry of Water and Natural Resources. DERUDE was responsible for the

management of irrigation schemes through the irrigation manager. AGRITEX was responsible for agricultural extension, while the DWD was responsible for water delivery to the irrigation schemes. The divided responsibility brought some problems in the development of smallholder irrigation. “Co-ordination of the departments was poor and their co-operation inadequate. Staff of the departments was confronted with the problem of divided loyalties. As a result of the poor co-ordination, at some irrigation schemes, serious personality clashes between management and extension personnel have occurred” (Chitsiko 1988, 70).

The main policy initiative during this period was the DERUDE policy paper on smallholder irrigation schemes of April 1983.¹⁶ Its main focus was to increase the financial contribution by farmers on establishment, operation and maintenance of smallholder irrigation schemes and to introduce irrigation management committees (IMCs) in such schemes with the hope of achieving user management (see Bolding 2004, 196 for more insights). The aim therefore was to enhance cost recovery so as to reduce government spending on smallholder irrigation schemes. The document however is silent on the users’ rights; for example ownership of irrigation infrastructure after hand over. Successive government irrigation agencies have depended heavily on this document described by Meinzen-Dick (1993, 35) as ‘the most definitive smallholder irrigation policy statement in Zimbabwe’. This document was however never formally adopted by the government as policy. This document borrowed heavily from the colonial era ‘Control of Irrigable Areas Regulations’ that came into force in 1970 discussed earlier on in this chapter.

Unification of irrigation departments and increased emphasis on user finance (1985-1990)

Government policy thus fostered the reduction of government subsidies and greater farmer participation in the design, financing and management of smallholder irrigation schemes. The mandate to design construct and operate small holder irrigation was wholly put under one department, AGRITEX. However the development of the water source and the subsequent delivery of the water to the irrigation schemes remained the responsibility of the DWD. In fact in July 1987 the irrigation component of DERUDE was transferred to AGRITEX effectively placing both the extension and management functions under one roof (Chitsiko 1988). In spite of this unification, there was some internal reassignment of the components of irrigation to the different divisions of AGRITEX. Irrigation designs were assigned to the Irrigation Division, while irrigation management was assigned to the Field Division of AGRITEX. The result was that irrigation schemes designed and constructed by the Irrigation division were handed over to the Field division of AGRITEX that had no input in technology choice for them to offer management services (Makwarimba and Vincent 2004). A detailed discussion of AGRITEX follows later in this chapter (2.3).

During the period government experimented with the policy of involving smallholder farmers in financing the construction of their irrigation scheme through the National Farm Irrigation Fund (NFIF), which was set aside in 1985. The aim was to provide smallholder farmers with access to cheap money for irrigation development. It was basically a loan facility through

¹⁶ It is not clear who formulated this policy paper. Most probably it was the formulated at directorate and provincial level by officers of Derude, who were themselves a mixture of officers that originated from the now defunct extension departments for communal and white commercial farmers (Devag and Conex) of the colonial era. Note that the director and deputy director of Derude later moved to become successive directors of AGRITEX in 1985 and 1988 respectively.

which a group of smallholder farmers could borrow money for the purchase of irrigation in-field equipment at low interest rates. Government remained responsible for financing the main system to field edge. Overall the policy was a flop as smallholders hardly made use of the loan facility (Rukuni and Makadho 1994, 136). Electoral promises by the state president and various ministers to provide each district with a dam and smallholder irrigation scheme free of charge as well as the availability of donor support to smallholder irrigation development at no cost recovery from the ultimate users, severely undermined the policy (Bolding 2004).

Irrigation management turn-over by experiment and default (1990-1999)

As a consequence of ESAP the economy of the country was opened to market forces. The government dismantled central marketing boards like the Grain Marketing Board, the Cotton Marketing Board and others.¹⁷ The government's capacity to provide finance for operation and maintenance for the smallholder irrigation schemes was eroded, as the government struggled with the economic reforms. The Irrigation Division of AGRITEX started to experiment with irrigation management turnover policies. In some areas farmers were forced to contribute resources for operation and maintenance as government and farmers experimented in some kind of joint irrigation management and in some cases irrigation schemes were turned over to the farmers by default (see Bolding *et al.* 2004). The main driving policy during the period was the Zimbabwe Agricultural Policy Framework of 1996. The ZAPF incorporated the 1994 FAO and GTZ financed irrigation policy and strategy paper (FAO 1994). The status of the FAO and GTZ 1994 document is disputed. At best it is a semi-official document because government never endorsed it as policy. The main highlights in this document are that the development of irrigation on state land, which includes smallholder areas, is a state responsibility but that users will in future be responsible for operation and maintenance of the irrigation schemes. The document also called for improved water use efficiency by adopting sprinkler and drip technologies (see also Bolding 2004, 197).

The following experiments were initiated to test policy models for future use by AGRITEX: The Farm Level Research in East and Southern Africa (Farmesa) initiative (1996); the Musikavanhu Small Scale Irrigation Programme (SSIP 1995); the Smallholder Irrigation Support Programme (SISP 1999) and the Negomo Irrigation Scheme. As a matter of fact AGRITEX adopted, in principle, a policy of participatory irrigation design and construction in the development of wholly farmer managed smallholder irrigation development (Manzungu 1998). AGRITEX were also experimenting with the commercialisation of irrigation services through the Agricultural Revolving Fund (ARF)¹⁸ instituted by the Ministry of Finance and the Ministry of Agriculture (Chidenga 2003). The Farmesa approach never bore fruit, despite being carried out under the auspices of AGRITEX. Its recommendations are gathering dust in government shelves following the collapse of AGRITEX that will be discussed later on in this chapter. The SSIP attempt was never completed, being abandoned in the aftermath of the

¹⁷ Presently various commercial marketing and agricultural processing companies operate on the Zimbabwe market.

¹⁸ The ARF aimed at building the capacity of government institutions to run a suspense account. Institutions participating in this kind of facility had opportunities to directly generate revenue from services they offered by charging the consumers of their services. The generated revenue was not remitted to central government but was instead used by the institution to finance its activities. Not all smallholder irrigation schemes were involved in the ARF programme because some Provincial Irrigation Specialists and Chief Agricultural and Extension Officers did not see the logic of collecting cash from farmers, charging them a service fee and then ploughing back the cash to the farmers.

Third Chimurenga. Chapter five and six further detail what happened to the internationally funded irrigation management reform policy model at Negomo.

The Third Chimurenga: massive irrigation rehabilitation with RBZ funding (2000-2005)

In the aftermath of the Third Chimurenga the irrigation thrust centred on the rehabilitation of vandalised former white commercial farmer irrigation schemes. The indulgence of the Reserve Bank of Zimbabwe in the financing of irrigation rehabilitation became a prominent feature. Irrigation policy emphasised the rehabilitation of the irrigation schemes with users borrowing capital from commercial banks pored into the banks by the RBZ under what the RBZ termed the productive sector facility. In chapters 7 and 8, implementation of the RBZ programme is further discussed.

2.3 Smallholder irrigation management and finance: The rise and demise of the irrigation division of AGRITEX¹⁹

“The government agency responsible for irrigation, the AGRITEX irrigation division, did not have any personnel responsible for irrigation management. The Irrigation Branch was therefore a design rather than a management outfit. Management fell under the field branch and was undertaken by junior personnel with educational levels of at most a certificate in general agriculture. Management was therefore no man’s land in as far as state institutions were involved. In the end farmers and frontline state workers were increasingly filling this void. Unfortunately the frontline workers were not equipped enough with the necessary knowledge and skills. (...) These state–farmer relationships in smallholder irrigation schemes need to be placed in their proper historical context.”
(Manzungu 1999, 161)

The Shona saying "*Chakafukidza dzimba matenga*" is important here. It translates to one may never know the squabbles and quarrels that take place behind the closed door of an organisation unless the roof is opened or one is let into the house. The question is how and why did the situation described by Manzungu develop? This section will try to provide some insight. This scrutiny of AGRITEX is important to understand to what extent and why the state was involved in irrigation scheme operation and maintenance and how this was affecting the performance of the irrigation schemes under review. This section therefore looks at the formation of AGRITEX and its irrigation division. In the process some of the silent squabbles raging within AGRITEX are exposed. The latter could have given rise to the state of affairs cited by Manzungu. The section seeks to open the AGRITEX roof.

The formation of AGRITEX

Shortly after Independence, the Chavunduka Commission (1982) reinforced the continuation of the Rhodesian agrarian policies, which stressed the potential of communal agriculture to become productive, if only the right agricultural practices were adopted (Alexander 1993, Bolding 2004). Another important policy of the new government entailed the Africanisation of the civil service. This process may have further stifled new attitudes and practices towards agrarian development, since many of the promoted African civil servants had received their

¹⁹ The sections below are largely based on my own experiences as an irrigation officer with AGRITEX, where possible reference is made to existing studies on the functioning and operations of AGRITEX.

training within the Rhodesian state (Alexander 1994, 326). It is beyond the scope of this thesis to elude as to why the ZANU (PF) government opted for these policies. It is however worth mentioning that these policy declarations were in direct contradiction to the promises of the freedom fighters of the Second Chimurenga, who had promised free land and abolishment of government interference in agriculture (Alexander 1994, Ranger 1985).

To put these policies in action in the agricultural sector, the ruling party ZANU (PF) created two important ministries, the Ministry of Agriculture and the Ministry of Lands, Resettlement and Rural Development. To the surprise of many the Prime Minister appointed a white commercial farmer, the then President of the Rhodesia Farmers Union (RFU now CFU) as the Minister of Agriculture.²⁰ The secretary of the ministry was a respected academic, Dr Mupawose. He had made history by being appointed as the first black general manager of the Tribal Trust Lands Development Corporation (TILCOR), a government organisation mandated with the development of irrigation-based growth points in Tribal Trust Lands (now communal areas) during Ian Smith's settler government (Weiss 1994). The Ministry of Agriculture was to become a technical ministry responsible for technical advice to all farmers irrespective of race or colour. One of the major tasks for the minister of Agriculture was to create a single agricultural extension service for all farmers. The Ministry of Lands, Resettlement and Rural Development was tasked with the acquisition and development of farms from the commercial farming sector for redistribution to the land-less refugees and farmers from the crowded communal areas. The development component of the ministry included irrigation construction and management.

It is under these circumstances that AGRITEX was formed in 1981 through the merger between the Department of Agricultural Development (Devag) and the Department of Conservation and Extension (Conex), two extension organisations that were responsible for agricultural extension to the smallholder (black) communal farmers and the large scale (white) commercial farmers respectively. The aim was to have a single agricultural extension organisation for all farmers (white or black, large or small) in the country. The department was however mandated to change the overall emphasis from the large-scale commercial farming sector to the smallholder communal and resettlement farming sectors. The department would have a particular focus on the "hitherto neglected" communal areas (Hansard 1981 cited in Madondo 1992, 39). The overall objective of the department was to implement agricultural policy of the government through the provision of agricultural, technical and extension services, which would stimulate the adoption of proven agricultural practices leading to increased, sustained and profitable production (Madondo 1992).

Partly because of fear of the unknown in terms of government intentions, despite the declared policy of reconciliation, many white professionals decided not to join the newly formed AGRITEX. Instead they opted to immigrate to other countries like South Africa and the United States of America. The result was that AGRITEX lost most of its experienced white professionals. The merger of two completely differently structured extension departments into one department with one structure meant that some personnel in management positions would lose its post. The whole exercise amounted to purging as personalities fought for positions of

²⁰ It was very surprising that the president of the minority white farmers was appointed minister of agriculture considering the controversial nature of the ministry with regard to the land question, in which 4500 commercial farmers owned about 40% of the land at the expense of the majority black smallholder farmers.

influence in the new department. As a result many of the management and professional positions were filled by “revolutionaries” compromising merit and professional qualifications in a bid to Africanize the department (CAEO Mashonaland West cited in Zawe 2000).

Devag personnel were made up of mainly officers with an academic qualification of at most a Chibero²¹ college diploma in agriculture. There were very few personnel with university degrees in Devag. Moreover these were not in management positions but had just been introduced as training officers to organise an in-service training programme like the one in Conex. In contrast, Conex had a number of conservation and extension specialists (both “black” and “white”) with university degrees in agriculture. The black officers however were not in management positions since they were very junior officers who had only just joined the department following the “Internal Settlement” of 1978 (Zimbabwe Rhodesia). Since the new department was to be a technical one, the department had to be led by people with at least a university degree. Yet the African staff members of both Conex and Devag with university degrees were very junior staff members with very little experience. Thus, white experienced personnel of the two merging departments were considered the best option to lead AGRITEX. A policy of accommodation was adopted to benefit from the vast experience with communal farmers that the Devag diploma holders could offer in the management of communal agricultural extension in the new department. These experienced diploma officers of Devag were therefore chosen to fill the management positions of District Agricultural Extension Officers (DAEO), Provincial Chief Agricultural Extension Officers (PCAEO) and the Deputy Director Field. The posts of Director, Deputy Director Technical and Chief Specialist positions were given to university degree holders comprising mostly white officers and a few black officers. This subsequently became the tradition within AGRITEX.

However the issue of academic qualifications haunted the department all the way to its demise in 2002. The department failed to develop a clear career path for its personnel joining the department with a diploma or certificate in agriculture. Yet these were the front line cadres of the department constituting the implementers of development projects like irrigation. The department thus comprised two distinct divisions: the technical division with subject matter specialist (university degree holders) at head office and provincial offices and the field division comprising diploma and agricultural certificate holders that were thick at grassroots level and very thin at province and national levels. The idea was that the technical division would generate new technology that the field division imparted to the farmers (see the AGRITEX organogram for further clarification).

At the same time the Department of Rural Development (DERUDE) was formed manned with staff from former Devag staff. DERUDE was housed under the Ministry of Lands, Resettlement and Rural Development. Irrigation became a shared responsibility of both DERUDE and AGRITEX with irrigation construction and management in DERUDE’s portfolio whilst irrigation planning and designing was the responsibility of AGRITEX. African agricultural engineers with university degrees headed DERUDE at the directorate level while AGRITEX had black extensionists and holders of general diplomas in agriculture at directorate level. The fact that experienced staff members of AGRITEX were whites and Diploma holders created succession problems within AGRITEX (see Table 2.1).

²¹ Chibero college was the first college to train African agriculturists in the then Rhodesia. The graduates were trained specifically to become agricultural extension officers to be deployed into the Tribal Trust Lands.

Table 2.1: Succession at AGRITEX, showing the director, period and emphasis

Period	Director	Emphasis
1981-1984	Johnny Hayward (white, former Conex)	Consolidating the newly formed department. Interested mainly in providing resource for the department such as cars, good communication systems (radios) and accommodation for the grassroots staff members using World Bank assisted programs.
1985-1987	Boniface Ndimande (former DRaSS)	Consolidated the gains made by Hayward. Emphasised on extension program plans.
1987-1988	Jack Matanyaire (former DERUDE)	Emphasised on resource and financial control. Was interested in the professionalisation of the department replacing diploma holders in management positions with degree holders. Brought the irrigation section of DERUDE to AGRITEX's fold.
1988-1991	Simon Pazvakavambwa (irrigation branch of AGRITEX)	Professionalisation continued. In-house staff development to improve technical capacity. Expansion of the irrigation division and creation of the engineering division.
1991-1999	Joe Makadho (irrigation branch of AGRITEX)	Emphasised academic qualifications. Upgrading of certificate holders to diploma to degree. Reorganisation of the department removing some management positions. Entrenching the 'no degree no promotion' policy at DAEO, CAEO or Deputy Director level. Streamlining the department on core business function lines to improve efficiency of service provision.

Source: Based on Madondo 1992.

In 1985, when the first director of AGRITEX, Johnny Hayward (a “white”) retired, there was no one within AGRITEX sufficiently qualified and experienced enough to take over from him. Peter Ivy could have qualified but he was white. In line with the Africanization policy of the civil service, the dilemma of colour popped up: a successor had to be black (Madondo 1992). The department resorted to the appointment of Dr Ndimande, who was then deputy director in the Department of Research and Specialist Services (DR&SS). When Dr Ndimande resigned from AGRITEX in 1987, again there was no one within AGRITEX sufficiently qualified and experienced to take over from him. The then Director of DERUDE, Jack Matanyaire, was subsequently appointed director of AGRITEX.

The above background on the emergence and operating modalities of AGRITEX serves to highlight a number of structural problems that affected the character and nature of the operations of the AGRITEX irrigation division in design, construction and management of smallholder irrigation schemes. Firstly the irrigation division had a critical shortage of professional and technical staff at its formation due to the exodus of white officers from the department. This called for a huge investment in on the job training and recruitment of new staff. Secondly the fact that the grassroots staff members of the AGRITEX irrigation division were the same “recycled” staff from Devag resulted in the sustenance of the colonial mentality of tight reign and control over farmers. Finally the replacement of the directorate by

staff from other departments was not conducive to develop a consistent policy on irrigation development resulting in confusion on the part of staff of the irrigation division.

The formation of the AGRITEX Irrigation Division

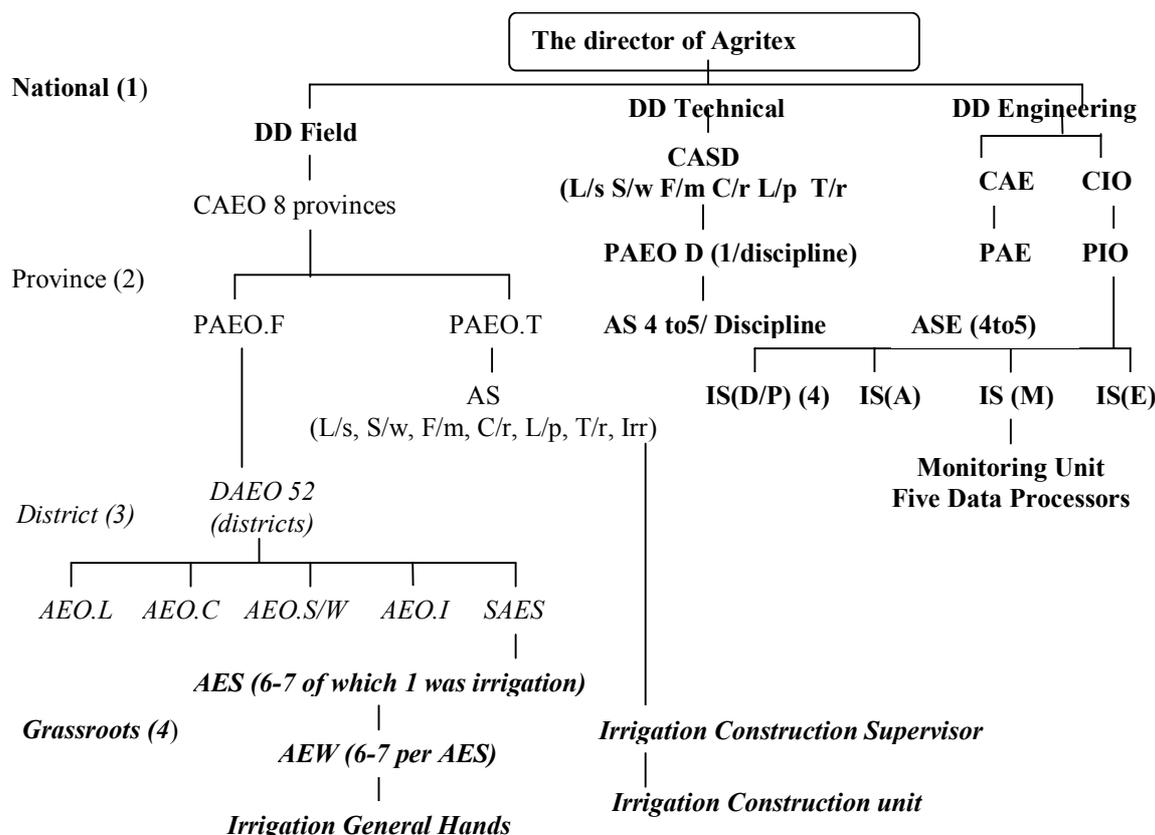
The AGRITEX irrigation division was born out of the merger in 1987 of the AGRITEX Irrigation branch and the irrigation section of DERUDE. This merger was precipitated by a cabinet reshuffle instigated by Mugabe that led to the dismantlement of the Ministry of Lands, Resettlement and Rural Development. The Ministry of Agriculture was expanded to become the Ministry of Lands, Agriculture and Rural Resettlement. Only the irrigation section of the department of DERUDE was brought to AGRITEX. The other sections of the department were transferred to the Ministry of Local Government, Rural and Urban Planning.

The DERUDE deputy director for irrigation development and all personnel under his supervision moved to AGRITEX. He became the head of the newly formed irrigation division of AGRITEX as deputy director Irrigation. A lot of changes soon followed this merger. Two more management posts were created at head office, the Chief Irrigation Officer (CIO) and the Principal Irrigation Officer (PIO). AGRITEX officers filled these two posts. The CIO was responsible for administrative duties like financial control, staffing, recruitment and training of staff for the division while the PIO was responsible for the professional and technical work like quality control of designs and construction work. The PIO was heading a team of irrigation specialists. These included an irrigation agronomist, an agricultural economist, and a number of irrigation engineers. Also resorting under the PIO was a monitoring and evaluation unit which was headed by an agricultural economist.

At provincial level the intention was to have an irrigation specialist in each of the eight provinces and an irrigation extension officer in each of the fifty-two Districts. The provincial irrigation specialist was to be in charge of all irrigation planning, including irrigation designs for the province. He was also expected to supervise the activities of an irrigation construction unit. A construction supervisor leading a team of general hands, drivers and grader operators headed the irrigation construction unit. The irrigation officers at district level were responsible for management of all irrigation schemes in the district leading a team of agricultural extension workers at each irrigation scheme. "The intention was to have at least one extension worker at each irrigation scheme irrespective of the size of the irrigation scheme" (CAEO Mashonaland West cited in Zawe 2000). To complete the staffing of the irrigation division, there was a team of general hands at each irrigation scheme responsible for maintenance of the irrigation infrastructure and for water delivery to the farmers (see Figure 2.4).

The irrigation division was split into three levels falling under three different managers. The national level was under the direct management of the CIO who was supervised by the DDE. The CIO was responsible for all funds required by the department for investigations, designs, construction, operation and maintenance. The provincial level was under the direct management of the CAEO who was managed by the DDF. This created problems whenever the CIO tried to control the operations of the provincial irrigation specialist. The CAEOs wanted to control the funds earmarked for projects in their respective province (and not the CIO). Through such financial control CAEOs hoped to wrest control over the operations of the provincial irrigation specialist. The CAEO Mashonaland West commented as follows:

Figure 2.4: The AGRITEX Organogram



Key

- Bold = National level
- Plain = provincial level
- Plain italics = District level
- Bold italics = grassroots level or zone

DDF	Deputy Director Field	DDT	Deputy Director Technical	DDE	Deputy Director Engineering
PAEOF	Principal agricultural extension officer field	CAE	Chief agricultural engineer	AS	Agricultural specialist
PAEOT	Principal extension officer technical	PAE	Principal agricultural engineer	CAS sec	Chief agricultural specialist (section)
PAEO D	Principal agricultural officer disciplines	ASE	Agricultural specialist engineering	L/s	Livestock section
AEW	Agricultural Extension worker	IS (D/P)	Irrigation specialist planning & designs	C/r	Crop section
AES	Agricultural Extension Supervisor	IS(A)	Irrigation specialist agronomy	F/m	Farm management section
SAES	Senior Agricultural Extension Supervisor	IS(m)	Irrigation specialist monitoring	L/p	Land use planning section
AEO L	Agricultural Extension officer Livestock	IS(E)	Irrigation specialist economics	S/w	Soil & water section
AEO C	Agricultural Extension officer crops	CIO	Chief irrigation officer	T/r	Training section
AEO I	Agricultural Extension officer irrigation	PIO	Principal irrigation officer	I/rr	Irrigation section
AEO S/W	Agricultural Extension officer soil and water	DAEO	District agricultural extension officer	CAEO	Chief agricultural extension officer

“If an officer is deployed in my province I am the only manager for that officer. If the officer is working on a project in my province then I will be the sole controller of the financial resources for such a project. There are instances when the CIO has transferred huge amounts of money from our projects to projects in Manicaland without our consent” (CAEO Mashonaland West pers. comm. cited in Zawe 2000).

On the other hand, the provincial irrigation specialist had no direct management control over the irrigation personnel at district level. The irrigation personnel at district level reported direct to the DAEO. The provincial irrigation specialist depended on the DAEO for the compilation of the provincial irrigation report (GoZ 1999).

The mandate of the irrigation division

The irrigation division was formed with the following mandate.

- The planning, design and construction of all smallholder irrigation projects;
- Co-ordination of all smallholder irrigation development in the country;
- Administration of all small holder irrigation schemes in the country, including collection of all maintenance fees and other service charges levied on the farmers by government;
- Maintenance of discipline among irrigators through the irrigation management committees (IMC);
- Ancillary development and maintenance of other infrastructure like roads, buildings, and sheds; and
- Completion of the rehabilitation programme of all smallholder irrigation projects destroyed during the liberation war. This programme started soon after independence with funds from the UNHCR, USA and the Swiss government and ended in 1987 (Chitsiko 1988).

Staffing of the irrigation division

When the irrigation division was formed, the smallholder sub-sector in Zimbabwe comprised 74 smallholder irrigation schemes covering a total irrigable area of 4,720 hectares throughout the country. The projects were benefiting 5,825 families engaged in either part time or full time irrigation. The schemes ranged in size from 2 to 425 hectares. Most (63) of the schemes were less than 100 hectares, with a majority of them (49) less than 50 hectares. Only 11 irrigation schemes were larger than 100 hectares. The individual plots sizes ranged from 0.1 to 2.0 hectares. Except for two irrigation schemes based on sprinkler irrigation, all irrigation schemes were based on flood irrigation. Flood systems had been favoured in the past because of the lower recurrent expenditure and reduced power costs, compared to pressurised irrigation systems (Chitsiko 1988). The government was funding the operation and maintenance costs at most of the irrigation schemes. DERUDE had started the introduction of Irrigation Management Committees (IMC) and AGRITEX decided to consolidate this move.

Between 1980 and 1986 AGRITEX had very limited capacity in terms of professional irrigation staff with only two professional irrigation officers (FAO 1990). In 1987 at the formation of the irrigation division there were only two officers formally trained in irrigation at MSc level (Pazvakavambwa, then the DDE, and Makadho, then the CIO). A staff development program was embarked on to significantly increase the number of irrigation professionals and the in-house irrigation skills within AGRITEX. In 1988, a total of 18

irrigation specialists and 8 agricultural extension officers specialising in irrigation were appointed.²² Each irrigation specialist was to undertake a Masters degree in irrigation at an overseas university. The agricultural extension officers were to complete a post graduate diploma in irrigation also at overseas universities. In addition to this both the specialists and the officers were receiving two years on the job training under 'The Small Scale Irrigation Scheme Project' of the FAO, launched in 1987. The latter project provided technical manpower training support in irrigation project planning, design, project-appraisal and construction. The project was basically offering 24 months on the job training to the AGRITEX staff of the irrigation branch (FAO 1990). To successfully complete the course, each irrigation specialist and irrigation officer was expected within the two years to have produced a feasibility report of an irrigation project of his own choice, using guidelines from the course manual prepared by FAO sponsored technical advisers.

This programme provided a turning point in the design and construction of smallholder irrigation projects in Zimbabwe. FAO personnel led by the Chief Technical adviser Mr. A. Savva quickly executed the training programme. Emphasis was put on the development of sprinkler irrigation systems, apparently for their supposed higher application efficiencies. Also important in the program was the issue of ensuring that each farmer was given his own infield irrigation equipment in the final irrigation project. This saw the introduction of the drag-hose sprinkler irrigation systems in the smallholder sector of Zimbabwe. Surface irrigation systems were portrayed as low efficiency applicators in situations of water scarcity like in Zimbabwe. These were therefore restricted to last hope situations as it was assumed that there was a shortage of water resources in the country.²³

By 1990, three years after the launch of the training program, the 18 specialists and the 8 irrigation officers had completed the FAO training programme. These specialists and officers were located in all the provincial centres and at head office. However most were undergoing external MSc or postgraduate diploma training (FAO 1990). By 1995 all the appointed specialists and irrigation officers had successfully completed the overseas MSc and postgraduate Diploma training respectively. However of the entire group of trained irrigation specialist, by 1999 ten had left the irrigation division for "greener pastures" in the private sector. This resulted in a big "brain drain" from the irrigation division. It is important to note that this training programme resulted in a sharp increase of pump fed and sprinkler irrigation projects in Zimbabwe's smallholder irrigation sector. The pump-fed irrigation schemes are dependent on electricity and the cost of electricity has in recent years been sharply increasing. Most of these irrigation schemes, government managed or farmer-managed, have experienced some power cuts due to failure to pay the power bills in time. The loss of experienced staff to the private sector obviously weakened the capacity of AGRITEX to conduct its duties.

Financing of the irrigation projects

The AGRITEX irrigation division was supported for the design and construction of irrigation systems by numerous funders. Table 2.2 presents irrigation development projects under the control of AGRITEX by source and type of funding as at July 1990. It is beyond the scope of

²² The researcher was one of the 8-irrigation extension officers appointed. The 18 irrigation specialists were appointed straight from the university with a BSc agriculture degree, while the irrigation officers were appointed from the AGRITEX field division and had only a diploma in agriculture.

²³ This information is based my own experience as a trainee of the FAO twenty-four months course in 1989.

this thesis to give a full account of all the funding institutions and programs supporting the irrigation division. It is however worth mentioning that some of the projects were contradicting each other in their objectives and implementation strategies. This created confusion among implementing personnel of AGRITEX. Below an analysis is given of some of the programs so as to highlight some of the contradictions.

Table 2.2: AGRITEX Irrigation projects by source of funding as at July 1990 (Zim \$'000)

Scheme / Programme	Donor	Cost Estimate	GOZ Input	Donor Input	Type of funds	Area (ha)	Start Date
Nyanyadzi	ZASA	7 200	4 949	2 251	Grant	150	1983
Masvingo rehabilitation	KfW	9 454	3 111	6 343	Soft loan		1985
Nyamaropa	NFIF	564	564	0	Loan	198	1985
Irrigation Support Fund	PSIP	19 800	19 800	0	Loan	3 000	1985
Tawona extension	ZASA	360	0	360	Grant	71	1986
National rehabilitation	KfW	6 132	1 766	4 366	Soft loan	98	1986
SSHI	DANIDA	6 370	0	6 370	Grant	2 500	1985
Musikavanhu	EEC	10 375	0	10 375	Soft loan	700	1989
Biri / Hama	Dutch Gvt	1 120	0	1 120	Grant	92	1988
Devure Block C	Australia Gvt	2 297	0	2 297	Grant	45	1989
Ngezi	KfW	2 050	0	2 050	Soft loan	216	1989
Siwaze / Kalope	KfW	1 366	0	1 366	Grant	50	1989
Bonde	Dutch Gvt	15 420	5 820	9 600	Grant	600	1989
Total all projects		82 508	36 010	46 498		9 504	

Source: FAO (1990).

Note: The exchange rate in July 1990 was US \$1.00 to Zim \$2.45.

Key

- EEC = European Economic Commission
- NFIF = National Farm Irrigation Fund
- KfW = Kreditanstalt für Wiederaufbau
- ZASA = Zimbabwe Agricultural Sector Assistance Programme
- GoZ = Government of Zimbabwe
- DANIDA = Danish International Development Agency
- PSIP = Public Sector Investment programme
- ISF = Irrigation Support Fund
- SSHI = Support to Smallholder Irrigation Project

The DANIDA Support to Smallholder Irrigation Project (1987-1995)

The DANIDA Support to Smallholder Irrigation Project provided manpower and funds to rehabilitate small-scale irrigation projects as well as materials and equipment for the establishment of provincial irrigation construction units. This project was used for the construction of irrigation schemes in resettlement areas taking advantage of the irrigation infrastructure left behind by the former white commercial farmers. The project was however criticised for concentrating its efforts on high rainfall areas of the country that were not the worst areas in relation to food shortage. Its focus was on the creation of farmer managed irrigation schemes. The development strategy was to provide all irrigation equipment for the

establishment of the irrigation scheme from main system to infield equipment. In addition funding was also supplied for the financing of operation and maintenance costs during the first two years of operation. AGRITEX referred to these initial two years as a period of farmer acclimatisation to the irrigation system. All design and construction errors were corrected during this period. The farmers were expected to save some money for the eventual take-over of all management duties at the end of the period. 'A 1994 project review showed that: the project had achieved 56 % of its targeted command area and 25 % of its targeted number of irrigation projects; future projects needed to invest not only in infrastructure development but also in the provision of support services covering the full range of activities needed in managing irrigated agriculture; adoption of a participatory approach to take aboard the users' own skills and managerial capabilities; and accept the need for redesigning technology during implementation (GoZ 1999, 20).

The National Farm Irrigation Fund (1985 to 1993)

As already discussed, the National Farm Irrigation Fund (NFIF) was a credit facility created by the government in 1985 to assist farmers to purchase infield irrigation equipment. Government created the fund in view of the high development costs and the inevitable government subsidies to sustain the schemes. This was a revolving fund administered by the Agricultural Finance Corporation (AFC). The fund was designed in such a way that farmers would play a role in meeting part of the capital investment costs and all the operation and maintenance costs. In principle this was one of the most suitable programs to ensure easy turnover of irrigation management to the farmers. The idea was that by providing funding to farmers in the form of a loan, the farmers would regard the irrigation infrastructure as their own and thus more willing to operate and maintain it. This kind of reasoning failed to recognise the weakness of lending to groups. A single defaulter in a group easily makes all members of the group defaulters. Under this program AGRITEX had by October 1989 developed 10 smallholder irrigation schemes throughout the country (Makadho 1990). However the program was abandoned in 1993. Makadho (1990) hinted at the following problems with the program:

- The condition of group borrowing was not popular since most farmers found it difficult to trust each. Group borrowing could badly affect family relations in the event of death;
- The majority of smallholder irrigation schemes were fully funded by government including more than 80 % payment of the operation and maintenance costs. The introduction of NFIF was therefore in contradiction to prevalent practices of government subsidies;
- The lack of a grace period in loan repayment and the insistence on centrally marketed crops made the program even less attractive and;
- The availability of a number of donor finance agreements in the irrigation sector that worked with grants at no cost to the beneficiaries, made it unreasonable to push the NFIF program.

The irrigation support fund (ISF)

This was the single largest facility through which government channelled funds for smallholder irrigation development. AGRITEX administered the ISF for the purchase of main system irrigation equipment they donated to the farmers as a grant from government. The funds were however released to AGRITEX from the public sector investment programme

(PSIP) as an annual budget and not as project funds available to AGRITEX until the project was complete. If funds were not exhausted at the end of the financial year they were remitted back to treasury. This presented problems with implementation of projects as funds were only available to AGRITEX in September in any one year and by the end of the month of June the funds were withdrawn as the financial year came to an end. 'It is well known however that the principal construction period for irrigation is during the dry months of May to September. AGRITEX were therefore out of funds at the time it needed the funds most, thus further complicating the development of irrigation schemes under the ISF program' (FAO 1990, 14).

The Dutch government

The Dutch government provided only funds for the construction of new irrigation schemes making use of newly constructed dams funded by the same government. The Dutch government operated mainly in the Midlands province. The Dutch projects were fully funded from main system to infield level. The farmers contributed only labour during construction. The programme also provided for operation and maintenance funds for the initial two years of operation.

Donor fatigue

These conditions of abundant financial resources however did not continue after the introduction of liberalisation policies that accompanied the Economic Structural Adjustment Programme. From 1995 onwards it became clear that the government could not continue to pay for operation and maintenance of irrigation schemes for the farmers as donor fatigue set in (see Graph 2.1 and Table 2.3). Most of the donor funded irrigation development programs ended around 1995.²⁴ This resulted in a serious shortage of operation and maintenance funds for AGRITEX which in turn triggered a process of irrigation management turn-over by default and in some cases irrigation management turn-over by experiment (Bolding *et al.* 2004).

Table 2.3: Public Sector Investment Programme for smallholder irrigation after the land invasions

Year	Currency Rate US\$ to Zim\$	Budget Allocation	
		Zim \$	US \$
2002	58	463,030,000.00	7,983,275.86
2003	850	3,575,000 000.00	4,205,882.35
2004	6200	65,533,000 000.00	10,569,838.71
2005	9500	97,000,000 000.00	10,210,526.32

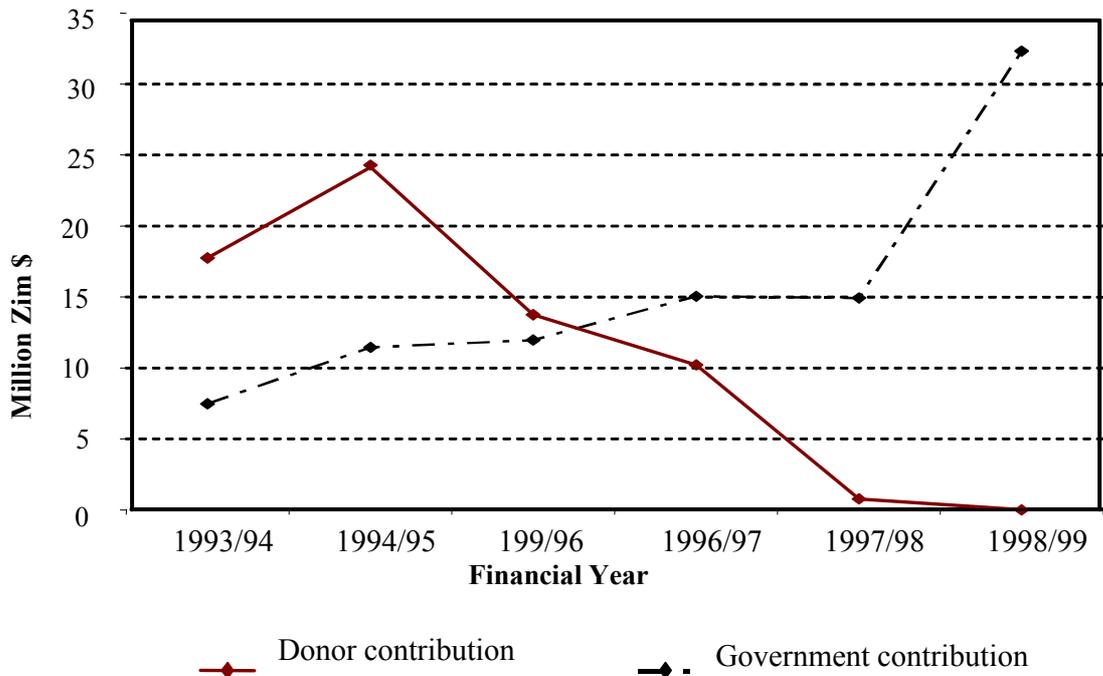
Note: This budget excludes the RBZ funded Winter Wheat Irrigation Rehabilitation Programmes.

This brief look at the financing of the irrigation division highlights that there were many institutions funding irrigation development in Zimbabwe. However there was no consistency in the policy and procedures of financing the establishment of smallholder irrigation schemes. The AGRITEX irrigation division found it difficult to deal with numerous funding institutions as they were poorly staffed at head office with only two substantive management posts to manage the many programmes. To further complicate the situation the post of PIO remained vacant from 1994 up to the demise of AGRITEX in 2002. All of this resulted in confusion at

²⁴ For example the Dutch fund and the SSHIP ended in 1995 and were not renewed.

grassroots level where officers found it difficult to inform the farmers as to the correct funding procedure and why a certain procedure and not the other was used to establish one irrigation scheme and not the other.

Graph 2.1: Donor & government contribution to AGRITEX’s smallholder irrigation programmes



The demise of AGRITEX and fragmentation of government irrigation services

The dawning of the new millennium saw the Government of Zimbabwe (GoZ) pursuing a titanic shake-up of the country’s main agricultural extension agency AGRITEX, parallel to the dramatic land restructuring exercise of the “Third Chimurenga”. The wisdom of the shake-up, its timing and its origin has remained unclear to many AGRITEX employees.

The majority of fingers though point at the restructuring exercise started by the AGRITEX leadership itself. Before the 2002 shake-up, a restructuring exercise, informed by the neo-liberal reforms haunting the country then was leisurely being executed by the department. The restructuring exercise was a response to the demands of the Economic Structural Adjustment Programme (ESAP) adopted by the Government in 1990, and guided by the Zimbabwe Agricultural Policy Framework (ZAPF), for the period 1995–2020, and the Agricultural Services Management Programme (ASMP). The main objective of the reform was to establish a more effective institutional structure based on core business virtues. A KfW funded consultant was engaged by AGRITEX to institute the restructuring exercise. The exercise was started in 1996 by introducing a series of changes to the department in a bid to redefine its core functions and objective. The changes included the introduction of cost recovery, commercialisation and stakeholder consultation in the service delivery and operational culture of AGRITEX. The consultant also recommended the shedding off of some of the general extension delivery functions of the department to non-state actors.

A review of the restructuring process and consultant's recommendations made in 2000 by a team of Chief Agricultural Extension Officers of the department concluded that:

"We are generally in agreement with the consultant that the future of AGRITEX should shed off some of the general extension delivery aspects to non-state agencies. Those aspects of a private nature which it will retain will be discharged on a cost recovery basis hence the future role of AGRITEX should be more of co-ordination, quality control, regulatory services, farmer training, agricultural development work, policy administration, information gathering and dissemination and technology generation and advisory services." (AGRITEX 2000, 3)

In order to slim the organisation, the team recommended a reduction in staff numbers. The reforms provided a sharp contrast to the command agricultural policy that the Government embarked on following the "Third Chimurenga".

Others though attribute AGRITEX downfall to the lack of a clear professional path for the diploma holder personnel of the department, who were lumped in its field division. The Deputy Director (Field) post had always been filled by an officer without a first degree in agriculture, as were the CAEO and DAEO posts. However it became departmental policy in 1997 that no one without a first degree, irrespective of the fact that one had a post graduate diploma or an MSc degree could be promoted to the post of DD(F). This move came in the wake of almost all CAEOs having spent considerable time studying for an MSc degree on agricultural management with the Wye College of the University of London. The result was that only young, sometimes-inexperienced, first-degree holders were promoted to directorate level at the expense of experienced CAEOs.

Coupled with dwindling operating funds like travel and subsistence allowances in AGRITEX, the result was low-morale and poor commitment to work by staff at provincial level and below. In the end there was a spate of resignations by CAEOs who joined numerous non-governmental organisations that were mushrooming in Zimbabwe funded by bilateral and international aid organisations. For example the DD(F), acting CAEO Mashonaland Central, and CAEOs for Manicaland, Matebeleland North, and Matebeleland South had by 1998 resigned to join newly formed smallholder farming development programmes like the IFAD and DANIDA funded Smallholder Dry Areas Resource Management Project (SDARMP), Southern Eastern Dry Areas Project (SEDAP), the Farmer Development Trust, Small Scale Irrigation Project (SSIP) and the Smallholder Irrigation Support Programme (SISP) who were offering better remuneration and employment packages. All these projects maintained close ties with the department of AGRITEX. In the process AGRITEX lost experienced managers and some of its powerful negotiators. Many point at this exodus as the main cause for the subsequent demise of AGRITEX. Asked to comment on this exodus of experienced personnel in 2003, the former Mashonaland West CAEO now Director of Agricultural Education in the Ministry of Agriculture, Mr Zishiri, said:

"The problem was that the directors were obsessed with the need to have highly educated personnel leading the department. I talked to most of my colleagues who were leaving the department. The reason for their resignation was frustration. But AGRITEX lost a lot of powerful negotiators. So it was very difficult to keep AGRITEX together with only very young people in managerial positions. These resignations are partly to blame for the demise of AGRITEX."

Others blame the Third Chimurenga for the demise of AGRITEX. The insistence on planned resettlement by AGRITEX's directorate was considered an obstacle to the pace of the land resettlement programme demanded by the Third Chimurenga propagators. The appointment of a "War Cabinet"²⁵ by President Robert Mugabe in April 2000 precipitated a complete restructuring of the whole Ministry by ZANU (PF) politicians. In the ensuing reforms AGRITEX was dismantled and five departments emerged from its corpse. Some of its limbs went solo, while others were merged with other departments in the Ministry or migrated to other Ministries.

The following departments with some interests in irrigation emerged. The department of Agricultural Research and Extension (AREX) retained almost the entire provincial and district structure of AGRITEX. It emerged from the shake-up as the most widespread department, seemingly strong on the ground. It retained the function of irrigation extension. A new Department of Agricultural Engineering (DoAE) took up the function of irrigation design (for a brief period between 2001 and 2003) among other responsibilities like soil and water conservation, farm mechanisation and farm buildings and structures. However by then it was a Harare based department with no established provincial structures and offices. It however had Irrigation Specialists operating at provincial level. In Mashonaland West the Irrigation Specialists maintained intimate ties with AREX.

A new Department of Irrigation (DoI) that migrated to the Ministry of Rural Resources and Water Development for a while (2000 to 2003) took over the functions of irrigation construction in the smallholder irrigation sector. It quickly established provincial offices but remained grossly under staffed. By September 2004 efforts were underway to turn the department into a parastatal organisation called the Irrigation Development Authority.²⁶ A new Department of Land Resettlement was created out of the AGRITEX Planning branch and migrated to the new Ministry of Land Resettlement in the President's office. Other departments emerging from AGRITEX were the Department of Livestock Production and the Department of Agricultural Economics. The District Development Fund (DDF), ARDA, Rural District Councils and the Rural Development Fund (RDF) were other agencies involved in irrigation development. As a result during the "Third Chimurenga", which coincided with the research period, the new departments were busy finding their feet. There was a lot of confusion as to who would be doing what with which farmers. Most of the new departments, except for AREX, remained absent at the frontline level. Overall, irrigation development services suffered a huge blow.

Uncoordinated irrigation development plan

By way of example events in Mashonaland West province are briefly examined. Due to the many government agencies responsible for irrigation development, the province failed to produce a concerted irrigation development plan. In 2003 for example, many projects were on the provincial irrigation development menu under different agencies (see Table 2.4).

²⁵ The term War Cabinet refers to the Third Chimurenga war against the white commercial farmers.

²⁶ To date this transformation has been successfully thwarted by arguing that such a move would provide the final nail in the coffin of smallholder irrigation. Establishment of an Authority would result in the department re-orienting its efforts to clients that are financially powerful, i.e. away from smallholder irrigators.

Table 2.4: Summary of the irrigation projects under implementation in Mashonaland West

Project Name	Area(ha)	District	Executing Agency	Spearheading Agency
Ngezi B	116	Kadoma	Department of Irrigation	Department of Irrigation
Seke-Sanyati	100	Kadoma	Department of Irrigation	Department of Irrigation
Mzvezve B	16	Kadoma	Department of Irrigation	Department of Irrigation
Magunje	36	Hurungwe	Department of Irrigation	Department of Irrigation
Chirundu	2000	Hurungwe	ARDA, DDF, AREX	Governor's Office
Mola	200	Kariba	ARDA, DDF, AREX	Governor's Office
Gatche-Gatche	1000	Kariba	ARDA, DDF, AREX	Governor's Office
Katsvenzve	56	Zvimba	Department of Irrigation	Department of Irrigation
Nyanga	10	Makonde	RDF, RDC	RDF, RDC
Negande	16	Kariba	RDF RDC	RDF, RDC
Kutama	100	Zvimba	DDF	DDF
Winter Wheat	Not specified	All	ARDA, DoAE	ARDA, DoAE

Source: The PSIP budget of the GoZ (2002).

In all of these projects the government through the Public Sector Investment Programme (PSIP) allocated funding for the construction of the irrigation schemes. This was no enviable task considering the staffing situation in all the irrigation service agencies and the economic meltdown bedevilling the country then. It was not surprising therefore that most of the projects were still to be tendered for construction half way through the year 2003.

This raises questions as to the wisdom of the fragmentation of government irrigation service providers and the resulting capacity of government to implement the numerous projects. Calls by the RDCs for assistance in creating irrigation based income-generating projects midway through the year did not help the situation either. In the end only the Winter Wheat projects were implemented during 2003, whilst the majority of the projects had not gone beyond the feasibility study stage.

2.4 Impact of the Third Chimurenga on irrigation development in Mashonaland West Province

The impacts of the Third Chimurenga on irrigation development were felt through its impacts on the country's political, social and economic climate. The Third Chimurenga land invasions occurred with no consensus on the part of the government and the commercial farmers and their sympathisers. The invasions in most cases took violent courses and in the process attracted large media coverage, both internal and external, tarnishing the country's image internationally. Bilateral and international aid programmes and projects collapsed and a host of economic problems ensued. Chapters 3 to 8 will show how this scenario became part and parcel of the every day reality of smallholder irrigation in Zimbabwe.

The land invasions

From 1995 to 1999, in Mashonaland West province police had been engaged in protracted battles with the "Chiwhiti squatters" (one of many such black spots in the province). Every year squatters had their huts burnt down, to be loaded into Police Support-Unit trucks with what remained of their property and dumped at bus terminuses with instructions to return to

their communal area villages of origin. However the squatters always returned to Chiwhiti to be evicted again. For more insights into the squatter problem in Zimbabwe see Hammar (2001). In the year 2000 the government's proposed new constitution was rejected in a national referendum amid stiff opposition from the National Constitutional Assembly (NCA) and a newly formed political party, the Movement for Democratic Change (MDC). This constitution was viewed by many, particularly land hungry communal farmers and the war veterans of the liberation struggle, to have contained a critical clause to ensure speedy land redress. The rejection of the constitution triggered a nation-wide "land invasion programme" by the landless masses under the stewardship of the war veterans of the liberation struggle of the 1970s. The large-scale commercial farmers and several civic society groups condemned the land invasions as a brutal and unlawful exercise. The government on the other hand decided to treat the invasions as a legitimate political process in which legality was irrelevant:

"The courts can do whatever they want, but no judicial decision will stand in our way (...). My own position is that we should not even be defending our position in the courts. This country is our country and this land is our land (...). They think because they are white they have a divine right to our resources. Not here. The white man is not indigenous to Africa. Africa is for Africans, Zimbabwe is for Zimbabweans." (Mugabe 2000 cited in Meredith 2003, 203)

For more insights on Mugabe's position on the land invasions see also Matavire (2003).

Legalising the land invasions into the fast track resettlement programme

Despite this political stance by President Mugabe, constitutional and legal amendments were quickly put in place to legalise the land invasions. Shortly after the 2000 constitutional referendum, the ZANU PF dominated Parliament passed a constitutional amendment (amendment number 16 section 16A, Land Acquisition and 108A, Anti corruption) altering sections of the Lancaster House agreement that required the Zimbabwe government to compensate white settlers for land appropriated by the state. The amendment transferred from Zimbabwe to Britain the responsibility of paying compensation for land appropriated by government and designated for resettlement. The Zimbabwe government became responsible only for compensation of improvements to the land. The 2000 parliamentary elections saw a newly formed Movement for Democratic Change political party picking up 57 of the 120 parliamentary seats off ZANU PF's earlier majority. With a very slender majority in Parliament no further constitutional amendments were made by ZANU PF. Instead the government resorted to repealing all of the land laws that required only a simple majority vote in parliament thanks to the constitutional amendment number 7 of 1987 that established the post of Executive President and his powers. This amendment empowered the President of Zimbabwe to appoint 8 provincial governors and 12 twelve non-constituent members of parliament to represent special interest groups into parliament. Effectively this gave the ruling party 20 more votes in parliament.

In 2000 President Mugabe, using the extraordinary presidential powers, amended the 1992 Land Act to bring it into conformity with the constitutional amendment number 16. This amendment was quickly passed into law by ZANU PF legislators in parliament. However the law was nullified by the Supreme Court a few months later. In 2001 a reconstituted Supreme Court reversed the 2000 decision that the land occupations violated constitutional private property rights and protection from arbitrary search and entry, ruling that the fast-track programme was being conducted consistent with the law.

In 2001 President Mugabe amended the Land Act by decree to permit the immediate government seizure of all commercial farming land. The ZANU-PF dominated Parliament duly formalized this decree. The law required all farm owners who had received a final compulsory acquisition notice (Section 8) to halt farming activities within 45 days of receipt of the order and leave their homes within 90 days. Many farmers filed legal challenges, arguing that the acquisition orders were not legitimate since they did not follow the Government's own procedural laws. In many cases, the Government had not followed the procedure of having the Administrative Court sign an eviction order; in others the Government had failed to notify banks or other bondholders who had an interest in the properties. Some farmers had limited success arguing in court that eviction notices were invalid because they were not served on all interested parties of a property, i.e. the bank or mortgage holder, the bondholder, and the farmer. In practice they were often served on the farmer alone. In September 2001 Parliament legislated that procedurally irregular Section 8 orders could be reissued without starting a new 90-day evacuation period. In addition, Section 8 orders that expired due to technical irregularities or failure of the Government to acquire the property within its own statutory time limit could be reissued with only a 7-day evacuation period.

Effects of the programme in Mashonaland West province

Armed with this legislation, the government embarked on a fast track resettlement programme that saw large chunks of land being redistributed from the large-scale white commercial farmers to the majority blacks based on the A1 and A2 resettlement models.²⁷ Table 2.5 shows the resettled people in Mashonaland West by District and the hectares involved.

Table 2.5: Resettled farmers in Mashonaland West, by district and resettlement model

District	A1 Resettlement Model			A2 Resettlement Model		
	No. of farms	Area (Ha)	No. of settled	No. of farms	Area (Ha)	No. settled
Kadoma	86	129,861.29	3,863	22	15,666.52	2,660
Chegutu	110	118,447.63	5,331	56	45,292.34	580
Zvimba	160	137,755.00	6,670	185	158,219.80	2,466
Makonde	156	258,753.71	6,819	142	151,128.50	2,292
Hurungwe	91	79,924.32	3,414	73	62,423.32	1,597
Total	603	724,471.91	26,097	478	432,730.48	9,595
Average area/settler (ha)			28			45
%of land acquired			63			37
% of people settled			73			27

Source: AREX (2003).

Along with this land redistribution, irrigated land was also redistributed. A1 farmers and A2 farmers acquired irrigated land harbouring a cocktail of irrigation technologies, ranging from semi-portable systems to centre pivot and drip systems. Varying complications in organisation were encountered. Organisational variation ranged from single farm pumping units feeding straight into sprinkler laterals to complicated consortiums comprising networks that included

²⁷ A1 resettlement model was a model in which farmers were allocated communal grazing, an individually owned arable 6 hectare plot and a 0.5 hectare residential plot in a village setting as in communal areas while A2 was a model in which farmers were allocated individual plots like in commercial farming areas.

lift pumps to canal systems, night storage dams and separate booster pump stations at individual farms. The systems had been constructed to minimise management costs by sharing overheads created by dams, mainlines and canals, main pumping stations, security guarding costs and operation and maintenance costs. This transformed some otherwise impossible individual irrigation systems into some of the most efficient, profitable and enviable irrigation ventures in the country (see case study below). The result of the fast track resettlement programme was that the once single user or consortium managed networks were invariably converted into multi-user systems over night. Also important to note is that in most cases either the outgoing farmers or petty criminals and vandals (in search of a quick buck) removed movable irrigation equipment and vandalised immovable parts of the irrigation network. This scenario has since defined the new irrigation development agenda that the country has set for itself, aiming to revive the flamboyant agricultural sector that was once the marvel of the African continent.

The fast track irrigation rehabilitation programme

In 2002 the government realised that most commercial farm irrigation systems were no longer functional, and embarked on a massive irrigation rehabilitation programme dubbed the Winter Wheat Irrigation Rehabilitation Programme (WWIRP). This programme was extended annually up to 2005 when this research was terminated, sucking the Reserve Bank of Zimbabwe (RBZ) head on into it. The RBZ progressively became the main financier of the programme. Initially the Government financed and implemented the programme through a number of departments. The Agriculture and Rural Development Authority (ARDA) was responsible for the disbursement of funds, while the Department of Agricultural Engineering (AREX) and to some extent DDF were responsible for verifying the project funding requests in terms of land quality, water resources, adequacy of equipment applied for, and capability of the applicant. Most of the funding for this programme in 2003 was generated through a suspension of all new smallholder irrigation projects then pursued under the Public Sector Investment Programme (PSIP). In Mashonaland West province, projects like Negande in Kariba, Magunje in Hurungwe, Ngezi B in Kadoma and Hamilton Hills in Chegutu were suspended.

The programme started with no clear implementation guidelines from central government and departmental headquarters, leaving actors on the ground to experiment with operational procedures. It was never clearly stated who would be the beneficiaries: A1 settlers, A2 settlers, and small-scale commercial farmers, smallholder irrigators in communal areas, earlier resettlement farmers or white commercial farmers. In Mashonaland West, the provincial task force on the programme interpreted this to mean that all farmer categories were eligible. Moreover there was no deliberate effort to explain the programme to all farmers. Chapter 7 details how the programme worked on the ground.

The case of the Ghost acre irrigation consortium

The Ghost acre consortium comprised six farms that were interconnected by a single irrigation system that supplied water to the individual farms from Mazvikadei dam (Figure 2.5). Mazvikadei Dam was some twenty-five kilometres away from the furthest farm, Gwina. Water was pumped from Mazvikadei dam into Ghost Acre dam from where it was pumped into individual farm reservoirs at Ghost Acre (350 hectares), Besseville (320 hectares), Liverdale (650 hectares), Gwina A (550 hectares), Gwina B (120 hectares) and Koodhill (300 hectares) of irrigated land. At Between Rivers farm (with 150 hectares of irrigated land) water

is pumped direct into the irrigation system through booster pumps. These pumping stations were manned by a consortium of farmers who mobilised resources for operation and maintenance of the irrigation system. In this way the farmers shared the overheads like main pipelines, main pumping system and security of irrigation equipment.

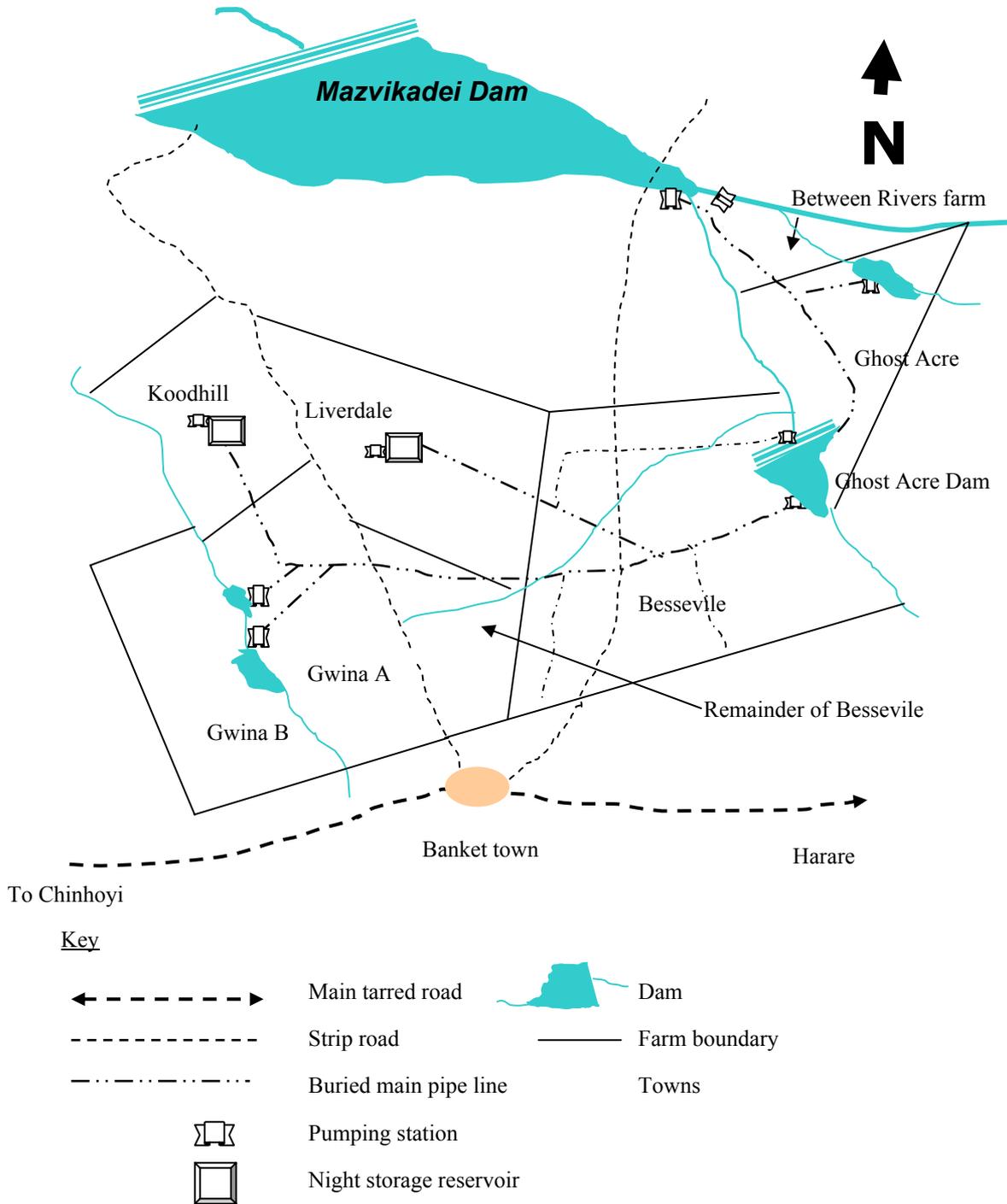
At individual farm level, each farmer provided irrigation equipment and managed on-farm irrigation water application. Payment for irrigation services to the consortium was by a complex algorithm performed by a central management unit, basing the individual charge on initial contributions to the establishment of the irrigation system, area irrigated and actual water used. It was the duty of each farmer to keep the water meter at farm level functional. If the water meter failed to function, the central management unit replaced the meter and charged the affected farmer for the installation fees. The Ghost Acre consortium was made up of brothers, sisters and in-laws of one family. The individual farms were however operated strictly as separate units. The close relationships amongst members of the consortium helped in forging and cementing the functioning of the consortium.

With the Third Chimurenga though the new occupants of the farms constituting the Ghost Acre consortium were not only strangers to each other, but varied very much in relation to social, political, and occupational background; age; connections (networks) and educational status. The new occupants arrived in dribs and drabs to take up their plots. Coupled with differing financial backgrounds, networks and access to information, they espoused different paces and thrusts in developing their newly acquired subdivisions of the former commercial farms. As a result the existing irrigation network was of little use. Soon its constituent parts were taken apart.

Between Rivers farm

Between Rivers farm was occupied by four separate occupants who took up their plots over a period of three years. The first to arrive in 2002 was a University of Zimbabwe lecturer. He immediately applied for a loan from the government administered Winter Wheat programme to revive irrigated agriculture at his plot. The lecturer opted for a pumping station of his own, citing that it would be unwise and illogical to use the existing pumping station, since he was going to irrigate only a fourth of the irrigated command area of the former commercial farmer. Next to arrive was the managing director of a local bank who had resources to develop his own irrigation system. He bought his own irrigation pumps without even consulting government agencies. The private companies who developed the irrigation system on his behalf disregarded the existing underground pipes and constructed a completely new system. Next an army major arrived in 2003. He appropriated the former commercial farmer's pump house and put up his own pump. He blocked off all underground pipes leading to the other three plots to ensure that his pumped water would not get to these plots. The last to take up his plot was the Zimbabwe Ambassador to the UN, comrade Simbi Mubako. He had no choice but to put up his own pumping station. At the end of the research period, the farm was 100% irrigated but from irrigation systems that ignored the underground infrastructure developed by the previous farm owner that government is obligated to pay for as stipulated by land acquisition laws of the country.

Figure 2.5: The former Ghost Acre irrigation consortium network



Ghost Acre farm

At Ghost Acre farm the new occupants convinced each other to operate the irrigation system on the farm as a single unit by adopting the outgoing commercial farmer’s irrigation system without modification. The farm was divided into seven plots and occupied by a woman executive assistant to the CAEO for AREX, two army majors, an unemployed woman war

veteran of the second Chimurenga, and three unemployed urban inhabitants of Banket town. Despite their different backgrounds the farmers have somehow managed to forge a partnership. The role played by the strategically positioned executive assistant to the CAEO, who was elected secretary of the group, in forging and cementing the group's cohesion can not be underestimated. She was a valuable source of information for the group. AREX coordinated government agricultural assistance programmes to A1 and A2 farmers, involving the supply of fuel for tillage, and crop production inputs for both summer and winter crops. She was also well connected with sister government departments like the Department of Irrigation (DoI) and Department of Agricultural Engineering (DoAE), most of whose personnel she had worked with during the days of AGRITEX. Her awareness and access to these programmes allowed her to assist the other members of the group. At the end of the research period, only 120 hectares of 350 hectares were under irrigation because irrigation infrastructure rehabilitation was still not complete.

Besseville farm

At Besseville farm the new occupants proved unable to work as a unit. The farm was divided into nine subdivisions. The new 'farmers' included a branch manager and a debt manager of the Agribank, a doctor of medicine in private practice, a woman executive assistant to the Provincial Administrator for Mashonaland West province, two executive assistants from the national head office of the Ministry of Local Government, Public Works and National Housing in Harare, a veterinary doctor who was the Provincial Veterinary Officer of the Department of Veterinary Services for Mashonaland West province, a female retired Regional Director of Education, and a renowned stone sculptor. The latter was also a Harare based business man *cum* politician. He lost twice on a ZANU PF ticket to an MDC candidate: in Kuwadzana constituency in a 2004 by-election and during the 2005 parliamentary elections. Only three out of the seven farm occupants were irrigating at the time of writing of this thesis (2006). The sculptor used his own money as well as finances provided by the Winter Wheat Rehabilitation programme of 2003 to develop a new irrigation system on his own plot. The two Agribank personnel provided their own borrowed money to revive irrigation systems in their plots. Each put an individually owned and operated pump in the former commercial farmer's pump house. They also installed several gate valves on the underground pipe lines of the former commercial farmer to isolate others and each other during day-to-day operation of their irrigation systems.

The retired educationist was forced to purchase her own 100 KVA transformer to establish her own separate pumping station and irrigation system. Her irrigation system was still not functioning at the end of the research period, because of the slow release of loan funds by the RBZ to DoI, who were developing the irrigation scheme on her behalf. The medical doctor and the woman executive assistant to the PA had not even started to revive irrigation systems on their plots. The two women executive assistants from the Ministry of Local Government, Public Works and National Housing and the veterinary doctor clashed over space in the former commercial farmer's pump house as well as the sharing of the transformer's capacity. At the end of the research, DoI had applied to ZESA for an upgrade of the transformer. The farmers were still awaiting disbursement of RBZ funds to finance the completion of their irrigation systems. Only 180 hectares of the 320 hectares were being irrigated at the time of writing this thesis in 2006.

Koodhill, Liverdale and Gwina farms

As for Koodhill, only one out of the possible five farmers had occupied his plot. The rest were still to come and land lay idle. The assistant police commissioner who had taken up his plot had decided not to bother himself with water from the Ghost Acre complex. Instead he had used the Winter Wheat Rehabilitation Programme of 2002 to drill two boreholes on his plot and was now irrigating 20 of his 200 hectare plot. The drilling of boreholes for irrigation was in violation of DoI's in-house standing regulation that farmers were to use their own resources to drill boreholes for irrigation. As for Liverdale and Gwina, no irrigation had started. The farms were occupied by the Agricultural and Rural Development Authority (ARDA). The starter switch at the main pump station at Ghost Acre dam had been vandalised. ARDA was still waiting for funds from the RBZ to repair the pump station and to provide in-field semi-portable irrigation pipes. The main pumps at Mazvikadei were still not functional at the end of the research period. Gwina B, occupied by a judge of the high court of Zimbabwe, was fully irrigated. The judge had made some concessions with the outgoing white farmer who had agreed to lease to sale all his farm machinery and equipment including irrigation to the judge. As a result production at the farm remained at the same level as before the departure of the white commercial farmer.

The Ghost Acre story is not an isolated or extreme case. Many similar systems were inherited by smallholder A1 and A2 resettlement farmers overnight and in most cases they stopped functioning sooner rather than later. However in some cases, like Chifundi and Elmly Park (presented in chapters 7 and 8) the invaders and the incumbent commercial farmers co-existed well, until the irrigation scheme schemes were officially acquired by government on behalf of the A1 settlers. In such cases, the outgoing farmer was able to demonstrate the intricacies of irrigated farming to the A1 settlers, and even enter in partnerships with them after the official hand-over of the irrigation systems. Thus A1 farmers were able to appreciate the challenges expected of them and as a result were able to forge functional organisational frameworks on their newly acquired farming land.

2.5 Conclusion: identified conditions of possibility

In this chapter I set out to establish contextual realities of smallholder irrigation development and operation in Zimbabwe. In chapter one I said that the smallholder irrigation sector was fundamentally shaped by the land question in the country. In this chapter I have shown how successive governments in their bid to increase or intensify the land use for sustainable development, created policies and programmes that shaped the smallholder irrigation arena. The struggle by the respective governments to create sustainable smallholder irrigation operation and management frameworks was clearly shown. What has become clear from this chapter is that Zimbabwe has struggled to formulate and implement a clear policy on smallholder irrigation development post independence. At best a certain policy discourse has developed that stresses the need for irrigation management turnover and establishment of farmer managed irrigation schemes. Justification for this revolved around the supposed better performance of smallholder irrigation schemes under farmer management. But a closer look shows that mostly improved cost recovery on operation and maintenance expenditures required to keep the irrigation schemes running was the major motive. The main interest of government has always been limited to cost recovery.

Also emerging is that this policy discourse was given shape through various policy papers (government initiated and donor initiated), research projects, donor initiated stakeholder workshops and donor funded experiments or pilot projects. The main dialogue points outlined in this chapter say it all. These centred around the need to soften the government's grip on smallholder irrigation, the need to ensure development of economically viable irrigation schemes, the need to consolidate the government institutions providing irrigation services to smallholder irrigation into well streamlined organisations and to involve farmers in the design and construction of their irrigation schemes. This discourse though was never cemented into a national policy or clear guidelines. The numerous ways of donor-funding also confused the young irrigation division as each donor weighed in with different implementation procedures.

The economic structural adjustment programme (ESAP) reshaped the destiny of the smallholder irrigation development path from the 1990s onwards. Not only the funding of smallholder irrigation capital development was affected but also the government departments and their operational cultures were altered. With reduced funding, the government was forced to recover costs from the users. The government departments were also now expected to be leaner offering only core services to their clients. ESAP also emphasised cost recovery and the involvement of the "more efficient private sector" in some non core functions of the government departments. The emphasis on high educational qualification in the restructured government departments resulted in mass resignations by diploma holders from the government departments responsible for smallholder irrigation. Moreover, the fragmentation of AGRITEX into many different departments, headed by political appointees, did not help to see to an orderly implementation of irrigation hand-over and rehabilitation policies during the fast track resettlement drive that followed after the Third Chimurenga land invasions.

The Third Chimurenga turned the whole situation of smallholder irrigation in Zimbabwe upside down. It resulted in violent invasions of the white commercial farms by the black masses resulting vandalism of white commercial irrigation systems. It resulted in the overnight take over of former white commercial irrigation schemes by smallholder farmers. With this Chimurenga, the country's agrarian based economy plummeted and with it bilateral and international aid agreements collapsed. Moreover, the internal logic and supporting agro-industrial base for the irrigation schemes in the former commercial farming areas evaporated in the face of the hurried and violent land invasions. Suddenly a major irrigation rehabilitation effort in the new A1 and A2 resettlement farms was required, in line with the demands of the new settlers, demanding nothing less than a complete overhaul of the existing systems. This, coupled with droughts and a cyclone attack to the country (2000), resulted in the sudden collapse of the country's political and economic stability. The following chapters, three to eight, will reveal how this context of smallholder irrigation in Zimbabwe impacted on the day-to-day realities of irrigation management policy models at the four irrigation schemes under review.



Photo 4: Signpost of one member of Musarurwa irrigation scheme
Source: picture Zawe 2006

3 THE ESTABLISHMENT OF MUSARURWA SCHEME

The establishment of a smallholder irrigation scheme is usually presented as a scientific, linear process with clear procedures regarding identification, gazetting, planning, designing and construction. This chapter aims to analyze the development path followed during the establishment of the Musarurwa irrigation scheme. The story of Musarurwa will show clearly that smallholder irrigation development in Zimbabwe never was a logical, procedural and progressive process following clear objectives, implementation plans and outcomes. Although the intention of the crafters of Musarurwa was to develop a smallholder farmer managed sprinkler irrigation scheme with the participation of the users, in reality, the development of the scheme from planning to operation was the result of a mixture of incidents, co-incidents, and interactions of different organisations and individuals in various arenas, deploying a variety of strategies. These manifestations occurred throughout all stages of the development process of the scheme. The day-to-day struggles faced by the irrigation agency staff in identifying the land and the water source, prescribing the irrigation technology to the users and in involving the users in the physical construction of the irrigation scheme are brought to the fore. The boardroom meetings held by various rural development agencies are presented as well as the field meetings held by front line development agency personnel with farmers. The strategies adopted by individual actors within the different organisations to achieve their goals are highlighted. This way the crafting of the Musarurwa irrigation scheme is uncovered, clearly showing how policy models are negotiated and recursively shaped on the ground.

First (3.1) the setting is presented exposing the agro-ecological, climatic, and socio-political parameters of the scheme. The next section (3.2) presents the genesis of the irrigation scheme idea showing what the national policy makers initially hoped to achieve. Thereafter (3.3) the actual crafting of the irrigation scheme is presented by highlighting the irrigation principles, land identification and design parameters of the constituent parts making up the scheme. Next (3.4) the construction process of the irrigation scheme is dealt with. The organisational arrangements that were introduced in interaction with the users conclude the description of the establishment of the scheme (3.5). In the conclusion (3.6) the salient features of the scheme and its design are briefly discussed.

3.1 The setting

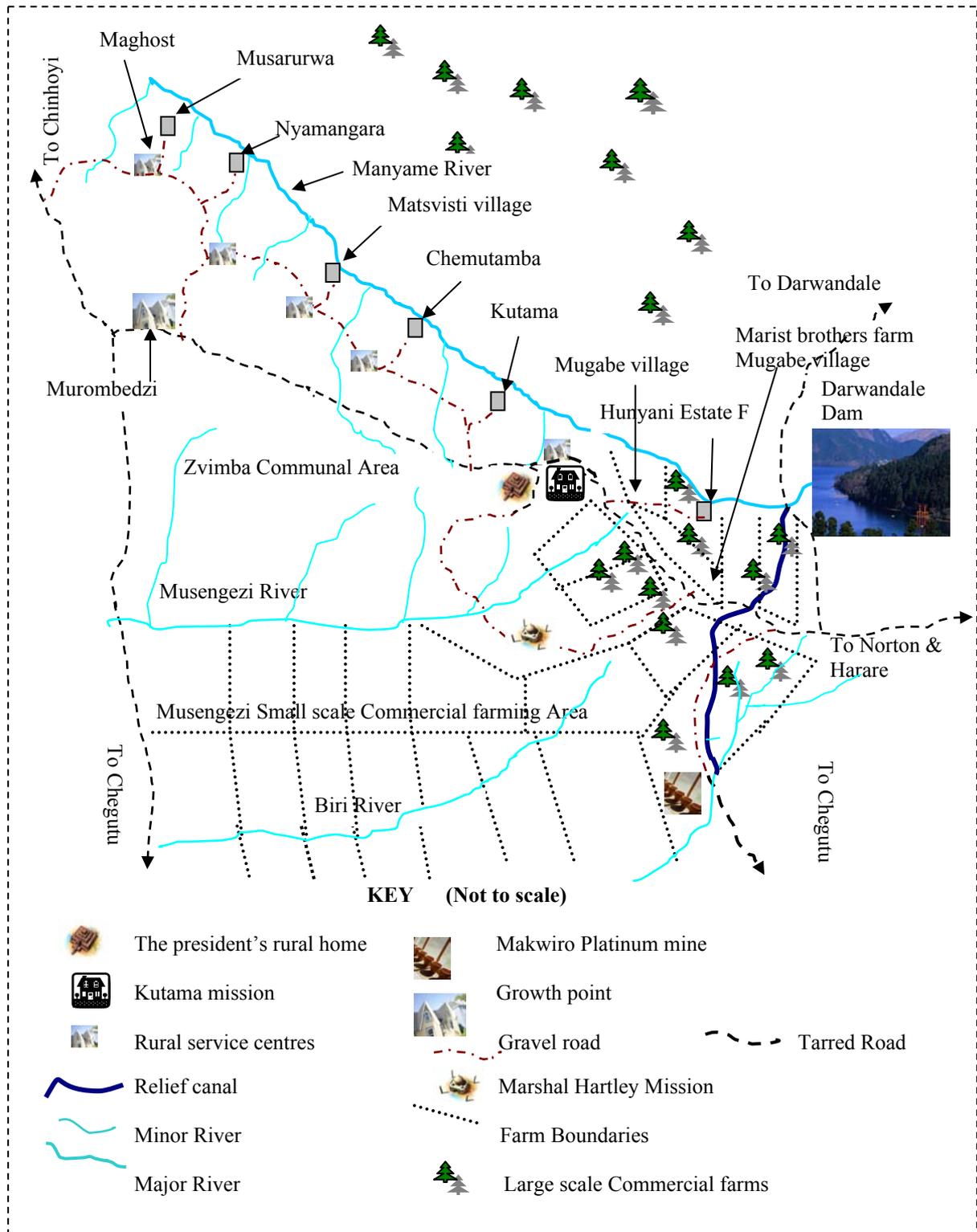
The setting of a smallholder irrigation scheme defines to a large extent its fate and the parameters within which it has to operate, making it inimitable from the rest. This section defines these parameters and by so doing sets the stage for the rest of this chapter and the following chapter (4), both devoted to the Musarurwa case. The uniqueness of the scheme is shown by successively presenting the settlement and market pattern, the climatic setting, and finally the political setting.

Settlement and market patterns

The irrigation scheme is located in the Musarurwa village of the Zvimba District of Mashonaland West province, 40 km south east of Chinhoyi town (the provincial capital and main service centre). The scheme is linked to the rest of the country by a network of roads. It

can be accessed from Chinhoyi town by 33 kilometres of wide tarred road and a mere 7 kilometres of a well serviced all weather gravel road.

Map 3.1: The setting of Musarurwa irrigation scheme roads, markets and other blocks

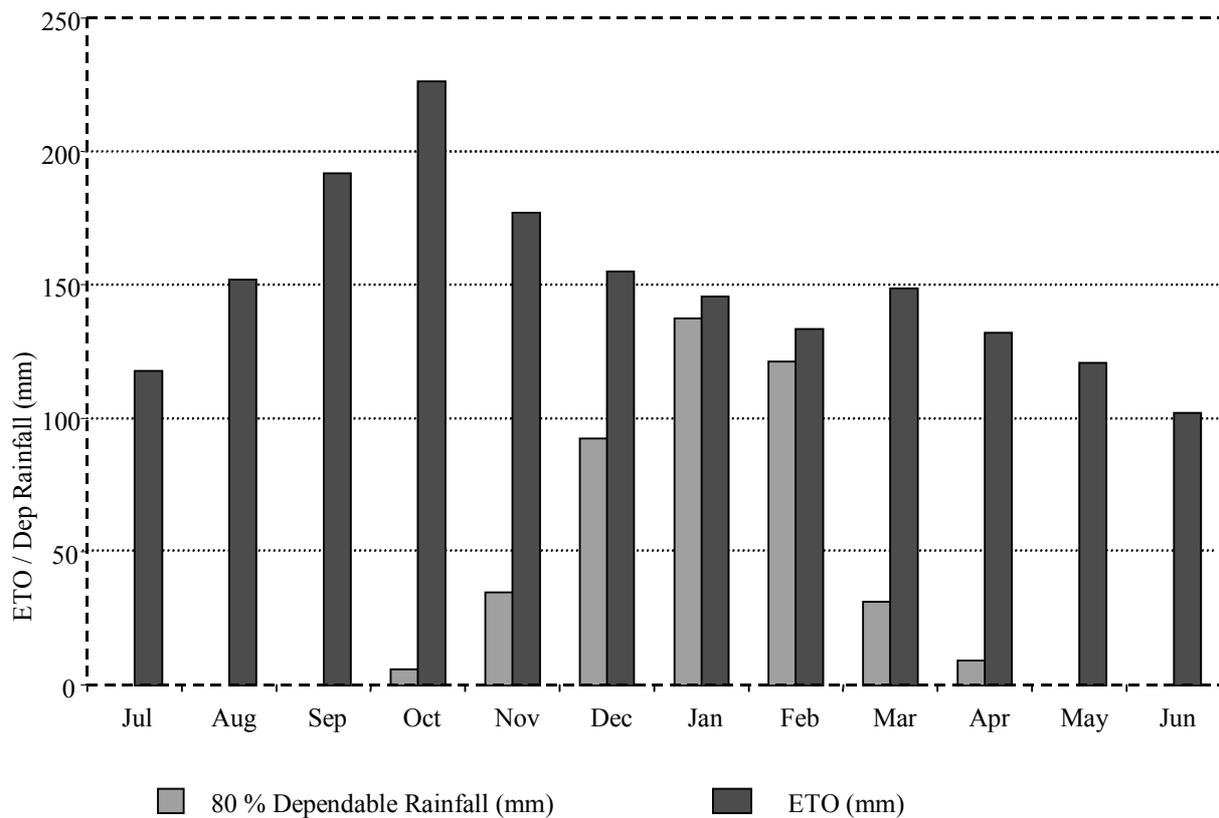


From Harare (the national capital), the scheme can be accessed through the wide tarred Robert Mugabe highway (75 km) and a mere 10 kilometres of well maintained all weather gravel road. From Chegutu town 45 km to the south, the scheme is linked by a wide tarred road and some 8 km of gravel road taking off from the Zvimba district growth point Murombedzi (see Map 3.1). Compared to most smallholder irrigation schemes in Zimbabwe, the scheme is well positioned enjoying some of the best road networks.

Agro-ecological and climatic setting

Zvimba district was regarded as the hub of agricultural production in Mashonaland West province. For example, in the year 2001, of the country’s 100,000 hectares of wheat, Mashonaland West province provided 45,000 hectares. Of this area, 20,000 hectares were grown in Zvimba district. In 2004 the district contributed 11,000 of the 20,000 hectares of wheat that were grown in Mashonaland West province. The district lies in agro-ecological regions 2A and 2B, both regions with high agricultural potential. Musarurwa irrigation scheme is situated in agro-ecological region 2A. According to the scheme’s feasibility report of 1996, Musarurwa receives a mean annual rainfall of 750 mm, distributed over an average of 18 rainfall pentads.²⁸ Monthly rainfall is reliable, as mid season dry spells are rare during the main rainfall period.

Graph 3.1: The Rainfall and Evapotranspiration scenario at Musarurwa irrigation scheme



Source: GoZ (1996).

²⁸ A rainfall pentad in Zimbabwe is a five-day rainfall period.

Under normal rainfall conditions the users in the district can easily grow rain-fed crops without fail. Evapotranspiration ranges from as low as 3.4 mm per day in June to as high as 7.3 mm per day in October. Graph 3.1 presents a comparison of the monthly evapotranspiration and monthly rainfall, which occurs in 4 out of every 5 years. It is not surprising therefore that Musarurwa became only the second smallholder irrigation scheme to be developed in the district, following the now defunct Mukadzimustva²⁹ irrigation scheme constructed in 1992. Temperatures vary from a mean of 15.2 °C in June to 23.1 °C in October giving an average of 19.2 °C. Chances for frost hazard are moderate to low. As a result most vegetable crops can be grown during the dry season for as long as irrigation water is available. This good climate gives the Musarurwa users a great advantage over many (pumped) smallholder irrigation schemes that are situated in the marginal, but hotter, agro-ecological regions. Musarurwa's pumping hours are much reduced in the rainy season, resulting in lower operation and maintenance bills compared to other pumped smallholder irrigation schemes.

Socio-political setting

From the socio-political perspective, Zvimba District is a hot place. It is the home district of the state president, Comrade Robert Mugabe, while Musarurwa village is the home village of the late veteran journalist and politician Willie Hamadzawanda Musarurwa, who was the chief rival of the state president from the late 1960s to the late 1980s. Willie Hamadzawanda Musarurwa was ZAPU's secretary general while Robert Mugabe was ZANU's secretary general and later its president. ZAPU and ZANU were the two main Zimbabwean Nationalist Movements during the fight for liberation from colonial rule. As noted in chapter one, they were also bitter rivals from 1963 to 1976. Hostilities between them only eased up in 1976 when the two movements formed a loose coalition "The Patriotic Front" for the purposes of negotiating with the British and the Rhodesian settler governments at the Geneva conference (Meredith 2003). Soon after independence hostilities resumed when the two parties were pitched in a bloody conflict referred to in Zimbabwe as the *Gukurahundi*³⁰ atrocities. The hostilities only ended with the signing of the ZAPU/ZANU PF unity accord of 1987 mediated by Zimbabwe's first President, reverend Canaan Banana. This alliance resulted in Zimbabwe becoming a one party state by default.

²⁹ Mukadzimustva smallholder irrigation scheme was established in 1992 by the DDF with SNV donated funds at Matibiri village, the home village of the father of the president. The president's rural home is at Kutama village. Kutama village is as a matter of fact the home village of the president's mother. The president is therefore a *mutorwa* (foreigner) at Kutama village. He, his mother, his two brothers and his two sisters moved in to stay with their maternal family when his father went away to Bulawayo for work, picking up another wife, and never to return home (Meredith 2002).

³⁰ *Gukurahundi* signifies in Shona: the first storm after the harvests. It is believed that this storm comes to clean the countryside by washing away chaff (*hundi*) that remains after thrashing and winnowing of the crops. It is widely believed that these atrocities, code named *Gukurahundi* by the government itself, whilst perpetrated by a Korean trained army unit (the Fifth Brigade) in the Midlands and Matebeleland provinces against ZAPU elements, were an attempt by ZANU PF to wipe out ZAPU in a bid to create a one party state in Zimbabwe. To many in Zimbabwe, because of the scale of manslaughter that occurred during these atrocities, the operation was akin to a genocide that somehow escaped the eyes of the rest of the world, resulting in its perpetrators escaping the wrath of the law and silencing numerous voices of dissent that can only be quelled by a truth commission like the one implemented by President Nelson Mandela in South Africa. For more details on *Gukurahundi*, see CCJP and LRF (1997).

The people of Musarurwa village are regarded as *Vatorwa* or *Vauyi* (foreigners or immigrants) to Zvimba district. *Sadunhu* Nyamangara (senior village headmen) of nearby Nyamangara area explained in 2002:

“These Musarurwa people are not of this district. They are not of the Gushungo³¹ clan, bona fide inhabitants of this District. The Musarurwa people were given the village by their Gushungo tezvara (father in law), my father Sadunhu Macheke Nyamangara, when they were driven out of their Darwandale home by the incoming white commercial farmers during the occupation of this country by the BSAC. They used to stay right on this piece of land we are standing on.³² They were later moved to where they are stationed now in 1968 by the government of the Rhodesia Front of Mr Smith in a bid to create grazing land for us, the people of Nyamangara”.

Musarurwa village is made up of three main families: Janga or Mang’ohzo, Musarurwa and Mushayakarara. All three clans descend from Nyangaikarira. The brother to Willie Hamadzawanda Musarurwa, Constance, explained their origins as follows:

“Nyangaikarira was a migrant from Sena (Mozambique) who arrived in Zimbabwe in the nineteenth century as a trader who decided to settle in the Njanja area of present day Chikomba District. Nyangaikarira like most traders from Mozambique was of the totem Eland “Sinyoro Mhofu yemukono”.

Nyangaikarira later moved from Njanja in search of good farming land. He finally settled in Darwandale area where he stayed till his death. He left behind three sons: Musarurwa, Mang’ohzo and Mushayakarara. It is these three sons of Nyangaikarira who form the three main families of the Musarurwa clan. Mrs Mang’ohzo said that one of the Nyangaikarira brothers, Musarurwa married Mahonye, the daughter of one of the Gushungo *Sadunhus*, headman Nyamangara. According to Mr. Constance Musarurwa, history binds the Musarurwa people together:

“Our history says that Nyangaikarira’s sons stayed in Darwandale until they were removed from the area by the white settlers who were taking over the land to be their own farms. They settled in the Nyamangara area. The Rhodesia government created Zvimba Native Reserve area for Chief Zvimba of the Gushungo clan. Our forefathers told us that they were accepted in Zvimba, courtesy of Musarurwa’s father in-law, Chief Zvimba’s headman Macheke Nyamangara. They also told us that many incidents happened that cemented the family bonds of the sons of Nyangaikarira. It is said that sometime, way before the coming of the white man, Musarurwa who was the oldest of the three brothers, followed his sister from whom nothing had been heard after she had eloped with a man to the Njanja area to the South East of Zvimba. While he was away, in Njanja, his youngest wife Mahonye was abducted by the raiding Matebele warriors because Musarurwa was not present to pay booty (tribute) to the raiding Matebele warriors. On his arrival a month or so later, he and one of his brothers, Janga a well known fighter, pursued her abductors and managed to recover his wife Mahonye after paying the required tribute. It is however said that the Matebele warrior who had taken Mahonye as wife had already cast a spell that is used by married couples or even single men and women in Zimbabwe to prevent their partners from having sex with others except themselves. When a person to which the spell was cast by a partner, has sex with some other person who is not his or her partner, strange things,

³¹ The Gushungo clan is the main ruling clan of the Zvimba district and the state president belongs to this clan. It is this clan that claims to be the real owner of the land in Zvimba district.

³² “This land we are standing on” refers to the land where I as irrigation specialist for Mashonaland West province and *Sadunhu* Nyamangara were standing in 2002 to discuss possible cultural problems that could hinder or disturb the smooth construction of the proposed Nyamangara irrigation scheme.

including death, will happen to the two. In Zimbabwe, this practice is popularly known as 'Rukawo' or 'Runyoka'.³³ So when Musarurwa came back with his wife he died from the spell cast on his wife. It is in his last words (and the last words of a dying relative are cherished and respected dearly in Shona traditions and customs³⁴) just before he died, Musarurwa asked his two brothers to look after his children and ensure that they kept the family together. Janga was later killed in Harare by the settler government for participating in the First Chimurenga."

Considering their previous acrimonious relationship with the State president, it seemed unlikely that the Musarurwa people would ever benefit from state trappings to establish an irrigation scheme. Moreover their agro-ecological and climatic conditions seemed to obviate the need for irrigated production. Yet, the idea of a smallholder irrigation scheme in Musarurwa became real enough, as the next section is going to show.

3.2 The genesis of the Musarurwa irrigation scheme

The story of the origins of the Musarurwa Smallholder Irrigation scheme is a tale of a series of incidents or events not necessarily intimately related to each other or the scheme uniquely. The Smallholder Irrigation Scheme is one of six blocks that constitute the Kutama Smallholder Irrigation Programme (KSIP) also known as the Lower Manyame Irrigation Scheme (LMIS). The Zvimba Rural District Council (ZRDC) and the provincial and district level staff of AGRITEX referred to the irrigation development programme as LMIS, because, according to councillor Kupara, it's a name that does not glorify any political or social leaders of the District and thus does not antagonise people. However the AGRITEX head office staff and those of the Planning Commission and the Ministry of Finance preferred to refer to it as the KSIP, referring to the initial source of funding. This section outlines the incidents and events that made up the process of the creation of the irrigation scheme.

The 1992 drought

The occurrence of the "worst drought in living memory" is one such event. In the year 1992, Zimbabwe experienced a severe drought. The state president, Comrade Robert Mugabe, declared it a national disaster. This prompted the government to pass a law in parliament stipulating that 10% of all water in major state dams be reserved for smallholder irrigation

³³ *Rukawo* or *runyoka* entails the use of traditional potions to prevent spouses or sexual partners from being unfaithful in Zimbabwe. *Rukawo* has recently attained a modern nickname, the "human central locking system", and is surreptitiously administered to unsuspecting partners, usually wives, by their jealous or over-protective spouses. In some instances, mistresses use it on their boyfriends, because they want to starve the rival woman, while prostitutes use it to "fix" a client who refuses to pay the agreed fee. "It's like an alarm system you install at home or on a car, to prevent sex outside the union, just like the chastity belt," said Mr. Constance Musarurwa. The charms are found in various forms and with varying effects, including death. While the "central locking system" is seen by some as one way to control infidelity among couples, the practice is illegal.

³⁴ Songs like "*VaNehanda kufa vachitaura sure shokoriya randakakuudza tora gidi uzvitonge*" (Surely Nehanda died saying to liberate yourself take up the gun) were composed from the last words of the famous spirit mediums Nehanda, Kaguvi and the great Zimbabwean African prophet Chaminuka. These songs were broadcasted on the ZANU PF propaganda radio operating from Mozambique during the 1970s. They propelled thousands of young Zimbabweans to join the liberation struggle, pushed by the zeal to fulfil the last words of these famous spirit mediums and prophet.

development. The Musarurwa irrigation scheme's water source, Darwandale Dam, is one such dam. Because of the drought, Chegutu town, some 45 kilometres to the south of the scheme, suffered a momentous shortage of water. This prompted the Department of Water Development to construct a five kilometre "relief" canal to link the town to a stable water source, Darwandale Dam. Water was pumped from Darwandale dam into the canal that directed it into the Seruwe tributary of the Mupfure River that feeds the Chegutu town pumping station. The canal was used for only five months, until the onset of the rainy season. During the period of operation, many commercial farmers, who were also suffering from the effects of the drought, were "looting" water from the canal for livestock watering and irrigation of crops (the water engineer responsible for projects, pers. comm. 2003). The canal crossed the Robert Mugabe highway from Norton town to the state president's rural home at Kutama village.

On weekend trips to his rural home Comrade Mugabe marvelled at this relief canal with covetousness. Comrade Mugabe wished the communal users in his Zvimba home District could somehow benefit from such pieces of gymnastic engineering solutions to the drought. If water could be tamed, ordered and channelled over such a long distance, then the dream of using 10% of all water in major state dams for the benefit of the smallholder irrigation users was not quixotic after all. He registered this desire with the District Administrator (DA),³⁵ who took it up to the District Development Council (DDC) for consideration and adoption as a development project for government support. The then DA was Mr. Maphosa, nicknamed "Mr. Whitehead" because of his graying hair. The president also took the idea up with the national planning commissioner who immediately summoned the Minister of Agriculture and Water Development to consider the possibility of establishing an irrigation scheme drawing its water from the relief canal. The project was therefore put onto the irrigation development agenda from both the top "National Government Development agenda" and bottom "District Development agenda" in 1993 and consultation started. To passers-by, the project could easily pass for "a perfect project from the grassroots" originating from the local people. In fact there were numerous boardroom discussions of service ministries at district level spearheaded by the DA to craft strategies to sell the project to the local people.

The outgoing Japanese Ambassador offers the state President a present

Coincidentally or incidentally in November 1993 the outgoing Japanese ambassador to Zimbabwe offered a present to the state president in the form of a development project in the president's home area. The president suggested an irrigation scheme for the communal users of his home district. The Japanese ambassador accepted the project. Thus to the president the idea of flinging a lethal blow to drought in his home district Zvimba became even more a reality. However, Japanese funding never materialised simply because one important criterion for accessing Japanese funding in irrigation development support could not be met. This criterion was that projects should be in blocks of a size of 200 hectares and above. However to the government of Zimbabwe, Japanese funding or no Japanese funding, the community's

³⁵ The then DA claimed that he was very close to the president and that he discussed the wishes of the president for the district with him during the president's weekend visits to his rural home. He lost many friends because of these claims. The story of his fate is beyond the scope of this paper. "Take it from me Mr. Zawe I know what the president wants, do not listen to what those people in Harare are saying", the DA would always remind me when I referred to instructions from the Director of AGRITEX during discussions about the project.

desire for irrigated agriculture had been provoked, needing a douse. Also the president who had promised people in his home area irrigation development could not be seen to revoke his promises simply because the Japanese criterion could not be met. It is from this failed Japanese funding that the name KSIP originated.

Irrigation personnel trained in user participation join Mashonaland West

In November 1994 the irrigation specialist for Mashonaland West province resigned to join Triangle Sugar Estates in the low Veld. The only remaining irrigation officer in the province went for further training to the UK. The two were replaced by an irrigation specialist and an irrigation officer fresh from Cranfield University in the UK. They had studied Irrigation Water Management (the officer at post graduate diploma level and the specialist at MSc level) funded by the EU Musikavanhu project.³⁶ The course had emphasised designing smallholder irrigation schemes for management by and in close consultation with the beneficiaries at all stages. In an unprecedented development, in 1995, the director of AGRITEX, Doctor Makadho, rotated all the provincial Chief Agricultural Extension Officers (CAEO) of the department. According to the CAEO Mashonaland West province, Mr. Zishiri, the move was precipitated because most CAEOs had stayed too long in their respective provinces. This move resulted in the District Agricultural Extension Officer (DAEO) for Zvimba district resigning from AGRITEX to take up fulltime farming. The DAEO explained to me just before he resigned in 1995:

“There is no way I can work again with the in coming CAEO from Midlands. He is not professional. I worked with him in 1987 in Midlands Province. I had to seek a transfer from the province, because of an altercation with him over a fabricated case. The man wanted to get rid of all the in post DAEOs in the province on his arrival on promotion from Masvingo Province. Somehow he did not trust us. I can’t endure his leadership once more.”

His replacement, arriving eight months later, came from Chipinge District in Manicaland, where he had implemented the 600 hectare Musikavanhu irrigation scheme with EU funding. The EU insisted on developing irrigation schemes with full participation of the beneficiaries at all stages.

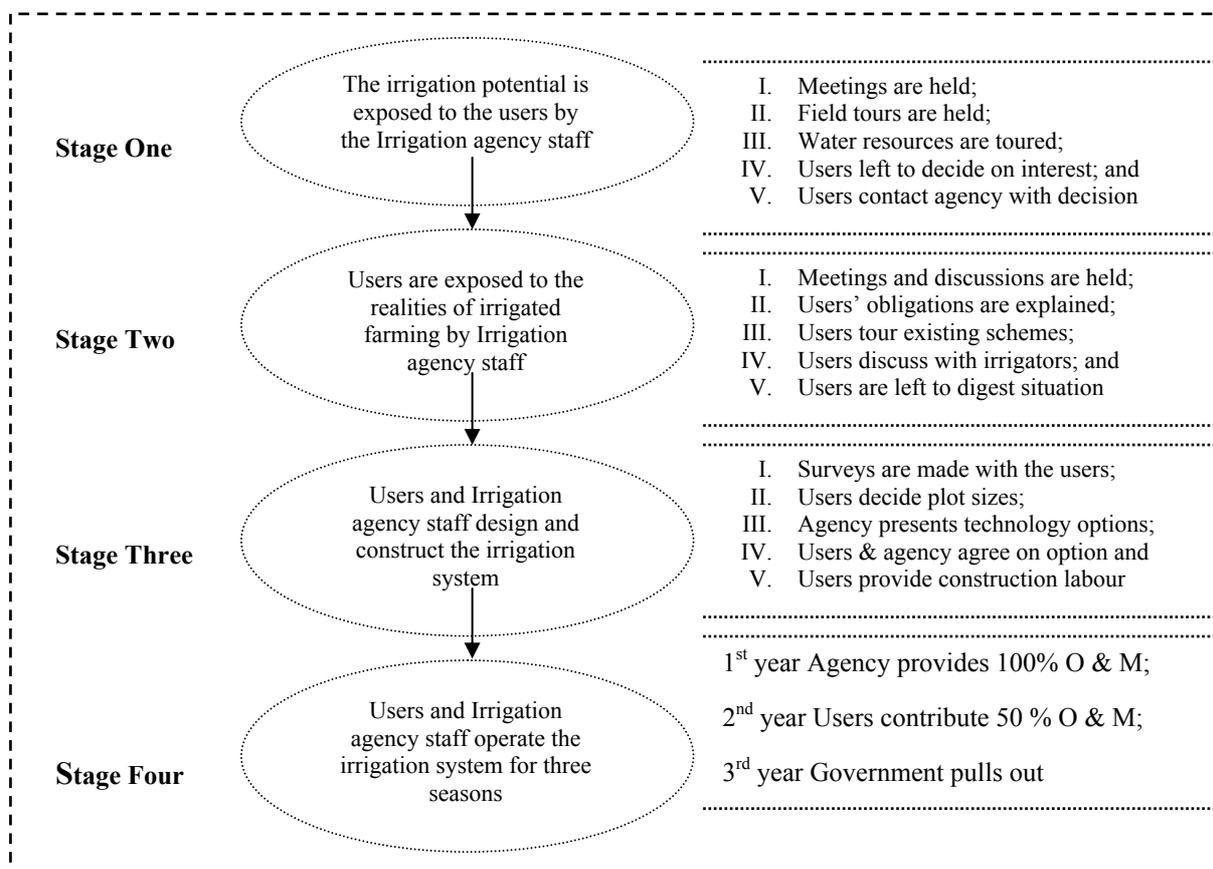
Thus the prime movers responsible for the emergence of the Musarurwa irrigation scheme got into gear. The scheme epitomised the unlikely confluence of a drought, a well-watered relief canal, a promise of the State president to his own people, a potential funder in the shape of the outgoing Japanese ambassador, a government bureaucracy eager to please its patron, and the arrival of two new irrigation engineers as well as a DAEO, all three eager to establish a smallholder irrigation scheme in a participatory manner. The next section shows how these different and sometimes contradictory currents interacted with each other, in the process crafting a farmer managed irrigation scheme in Musarurwa.

³⁶ The author was the officer with a Diploma in smallholder irrigation water management. Thus I was involved in the negotiations surrounding the KSIP project.

3.3 Crafting the farmer managed irrigation scheme³⁷

Many development agents and professionals assume a linear progression of a project or programme, following neatly structured stages. Figure 3.1 summarises how the AGRITEX Provincial office in Mashonaland West concretised the concept of participatory design and construction of smallholder irrigation schemes in the province. This however was never written down in any irrigation development manual or guidelines for staff. It was only understood, it was in the air, and one could feel it or observe it. However although the developers of the Musarurwa scheme would have wanted to follow the outlined stages, a review of the actual process suggests otherwise. This section will detail what actually happened.

Figure 3.1: Proposed participatory irrigation development process in Mashonaland West



Source: Author, based on his experience as an irrigation officer with AGRITEX³⁸

The guiding principles for irrigation development

Musarurwa smallholder irrigation scheme was developed purposely for user management under an effective Water Users' Association. The users were expected to be fully in charge of operation and maintenance of the irrigation scheme to ensure valuable and worthwhile crop

³⁷ This section relies mainly on the author's experiences as a smallholder irrigation specialist involved in the construction of the scheme.

³⁸ The DAEO for Zvimba District, Mr. Tapererwa, surmised about this figure: "This is what we call participatory irrigation development; it can not be any closer to what we understand".

production. This section details the development process, giving the individual roles of the different actors and organisations from land identification to the handover of the scheme to the users. At the end of this section the reader is expected to appreciate that the smallholder irrigation development process is a game of wits that involves negotiations, individual clout, events and sheer luck and/or providence.

The AGRITEX staff members of the Irrigation Division who developed Musarurwa irrigation scheme were guided by their individual interpretation of the December 1994 Irrigation Policy and Strategy document. The Policy and Strategy document had been developed by the Ministry of Lands, Agriculture and Water Development with the assistance of the Food and Agriculture Organisation (FAO) of the United Nations. Although the authenticity of this document as the irrigation policy of the country is disputed among irrigation researchers, professionals and development agencies in Zimbabwe today, at that time it was a romanticised document by those in the echelons of power in the Irrigation Division of AGRITEX. Small wonder, if one considers that one of the authors of the document was the Deputy Director Irrigation of AGRITEX.³⁹ The policy was subject to various interpretations since it did not clearly spell out the operational level guidelines and objectives for different farming sub-sectors. “The policy recognises that specific objectives for each sub-sector will be elaborated on at the operational levels given the differences in priorities, design, potential and constraints” (FAO 1994, 5). The policy remained a shelf document in the absence of deliberate efforts to make the contents of the policy known to the public. Access to the document was by chance, through the inquisitiveness of the individual staff member and/or peculiar acquaintance to the team members of the drafting committee.

The establishment of the irrigation scheme therefore brings to the fore the role of the individual clout of the different actors and/or their organisations involved in smallholder irrigation, an often neglected phenomenon in the analysis of smallholder irrigated agriculture. Out of the fifteen outlined policy guidelines, the following three were of particular importance to the establishment process of the Musarurwa irrigation scheme:

- *“Irrigation technology to cover sprinkler, surface and micro irrigation shall be availed to all categories of irrigation users in spite of any current patterns of adoption and use. This is largely aimed at improving the current low levels of water use efficiency by all categories of users. As part of this policy, priority is placed on farmer-managed and operated systems. Where government may assist in development, the users retain the responsibility for operation and maintenance of the irrigation system;*
- *In principle, it is policy that O & M costs are borne by all irrigation farmers. This may be on a blend cost for equity reasons. Any subsidy shall be targeted and justified with the following examples:*
 - *Where plot sizes and incomes of users are below the poverty datum level,*
 - *Badly designed and uneconomic schemes;*
- *Effective water users’ associations shall be encouraged and facilitated in order to involve irrigation users and other water users and interests groups to participate fully in planning, development and evaluation of irrigation projects.” (FAO 1994, 23)*

³⁹ For a critique of the document as an authentic Zimbabwe Irrigation Policy, see Bolding *et al.* (2004).

Incidentally during the same period, the department of AGRITEX was experimenting with irrigation management transfer and the development of irrigation purposely for farmer management. The EU sponsored Musikavanhu irrigation development programme⁴⁰ is a good example of such experiments. The programme was used to develop principles, strategies and procedures for the design and construction of a sustainable smallholder farmer managed irrigation scheme. The popular catch phrase was “participatory irrigation development”, implying the involvement of users in all stages of development of the irrigation system so as to facilitate their assumption of operation and management functions at the end of the construction period. The Musikavanhu smallholder irrigation scheme was developed using these principles. The transfer of the DAEO who was responsible for Musikavanhu irrigation scheme to Zvimba District⁴¹ bolstered the resolve of the project’s propagators to develop the Lower Manyame Smallholder Irrigation Schemes along the lines of this participatory approach.

Identifying suitable land: Japanese funding flops

One of the conditions for accessing Japanese funding in smallholder irrigation development was that the irrigation schemes had to be not less than 200 hectares in extent in a conjugate block. The failure to fulfil this condition resulted in the Japanese funding being withdrawn from the programme. This section presents the attempts of the irrigation development agencies to secure conjugate blocks of 200 hectares for the implementation of the programme.

Land identification for Musarurwa irrigation scheme was a sneaky business. As highlighted above, it is clear that the scheme was not a result of demand from the farmers. Instead the users had to be persuaded to take up irrigated farming. The project was initiated to take advantage of a gift to the State President by an outgoing Japanese ambassador. This was an anomaly when it comes to funding of smallholder irrigation development in Zimbabwe. Identifying funding for smallholder irrigation development is conventionally a momentous task. To secure funding from either donors or government traditionally, a rigorous project proposal that includes designs and feasibility reports has to be prepared and approval is a celebrated event. In this case however it was manna from heaven. Irrigated land to suit the available funds had to be identified. AGRITEX, the government agency mandated to develop smallholder irrigation then, was put into a peculiar situation. Because of the pomp associated with the project, shouts for urgent land identification were heard from many quarters. Thus the land identification process soon deteriorated into a circus.

First meeting in Harare: a quick scan

On the 10th of August 1995, a day before the commemoration of the Heroes-Day holiday, the Director of AGRITEX called for a meeting on the establishment of the KSIP in Harare. The meeting was attended by the Director, two deputy Directors (Field and Irrigation), the Chief Irrigation Officer (CIO), a delegation from Mashonaland West Province consisting of the CAEO, the Principal irrigation officer, the irrigation specialist and the irrigation officer as

⁴⁰ This programme aimed to develop a completely farmer managed 600 hectare smallholder irrigation scheme in the Chipinge District of Manicaland province. The programme involved training of AGRITEX staff in participatory smallholder irrigation development principles and strategies and using these principles to involve users in the development of the scheme. The programme however became a colossal window of opportunity for the overseas training of AGRITEX irrigation specialists to MSc degree level.

⁴¹ The DAEO requested the transfer after the death of his wife, wanting to be closer to his rural home in Guruve.

well as the DAEO for Zvimba. The meeting was very brief. The Director did not waste time. He explained the urgency of identifying land for establishing irrigation to the group:

“We have to identify 200 hectares of irrigable land in Kutama area like yesterday. You all know that “kwaKutama ndiko kumusha kwevakuru” Kutama is the home of the old man.⁴² So I can not emphasise the urgency any further”.

The Chief Agricultural Extension Officer for Mashonaland West Province was quick to respond:

“Land is not a problem, but do we have a budget to develop this scheme?”

The director countered:

“What do you mean budget? The project is in the President’s home village, so what budget are you asking for? The money is not your business.”

So the meeting ended and the search for land started. All present, except for the director and his vices, trooped into the Chief Irrigation Officer’s office. They went straight to the map stuck on one of the walls of the office and looked for Kutama. Quickly a block of land was shaded on the map and the area measured using a square grid. Ten minutes later a 350 hectare block of land was identified and the director duly informed. The Mashonaland West Irrigation staff members were asked to bring a contour map of the shaded area five days after the two day heroes’ holiday. This was how the hunt for land began.

The first hiccup: the Zvimba RDC meeting

A day after the two day heroes’ holiday the DAEO for Zvimba District was chairing a meeting of the Agriculture and Conservation Sub-committee⁴³ of the Zvimba District Development Committee (DDC). The main subject of the meeting was feed-back on the Harare meeting on the KSIP. To make the explanations easier and to induce the urgency it deserved the DAEO had invited the two provincial irrigation personnel of AGRITEX to the meeting. The meeting resolved that despite the urgency of the matter, the irrigation personnel could not immediately embark on the surveys. Instead, the matter was referred to the full council meeting for discussion and adoption, since the KSIP was not a project under the Zvimba Rural District Council’s development plan. This did not amuse the AGRITEX staff at all since their Director had given them only a very limited number of days to come up with a topographical map. The DAEO Zvimba and the two provincial AGRITEX irrigation personnel subsequently took the matter to the DA, Mr. Whitehead. His reaction was:

“This is not a problem; I know you are new to this district. These councillors are my people. I will call an emergency full council meeting for you. You bring your maps and as much information as possible in two days time”

Thus the full council meeting was convened with a 100% attendance. How the DA managed to garner 100 % attendance should be easy to guess. The name of the president is likely to have featured in the invitations. The DA introduced the subject of the day to the councillors

⁴² By old man here he meant the State President.

⁴³ Members of the Agriculture and Conservation Sub-committee of the DDC included district heads or their representatives of the following departments: AGRITEX (chairperson), Natural Resources Board (NRB), Veterinary Department, the Executive Officer projects for the Rural District Council (RDC) and the Chairperson of the Conservation Committee of the RDC. The Chairperson could invite any other people to the committee meetings whom he felt relevant to the subject under review.

and invited the AGRITEX staff to give more details and to show the councillors the proposed irrigated area on the map. After the AGRITEX presentation, the chairperson of the ZRDC responded:

“There are two issues here, Mr. Whitehead: the issue of establishment of a 200 hectare irrigation scheme for the district and the proposed site. Let us separate the two. We have no objection to the 200 hectare irrigation project. We can however not adopt the proposed land. That requires consultation with the Sabukus of the proposed land and the individuals whose land is affected.”

Sabhukus reject the plan: back at square one

Thus in the end the KSIP was adopted into the RDC development plan but the selection of the proposed land was delayed. A meeting with the affected *Sabukus* and villagers was held soon after the council meeting. Although the *Sabukus* supported the idea of an irrigation scheme, the affected villagers flatly refused to part with their land. One villager, whose homestead was very close to the president’s Kutama rural residence, erupted:

“Who wants this green belt? This is another of Mugabe’s dreams. He is always parroting of this at the slightest of opportunities. We can not help him enjoy his dream. This is not Gushungo land, be advised. This is Gumbo land.⁴⁴ If Mugabe is keen to establish a green belt then he should go and develop this irrigation scheme at Matibiri, his father’s village. You think we do not know Mugabe’s plan? He wants to find a pretext for evicting some of us from our homes so that he extends his land holding. Who doesn’t know that irrigation doesn’t work in Zimbabwe? What are his relatives from Matibiri village harvesting from that Mukadzimustva irrigation scheme?”

This eruption was followed by many more mild ones echoed by many villagers regardless of gender. As a matter of fact the President was consolidating land around his home to increase his land holding. Most of his relatives, including his brother and uncles, had already been resettled on land of the nearby Rothwell farm acquired from the Roman Catholic’s Marist Brothers of the Kutama Catholic Mission. With the help of the Ministry of Local Government and National Housing Mugabe had developed a satellite village for the dispossessed. Each victim was given a modern house with individual water and electricity connection. The water and electricity bills were paid for by DDF. Thus the proposed irrigation project was rejected by the affected villagers. At the end of the meeting, Mr. Whitehead said to the AGRITEX staff:

“Let me handle this land issue now, I know these people. Give me time to do my home work with them.”

⁴⁴ As a matter of fact the land is Gushungo land. “The people of Kutama can not say that Gushungo is in Kutama land. The Kutamas are the *vatorwas*. The land they claim to be theirs is land taken away from the Gushungo people by the Roman Catholic Church. Of course Robert Mugabe is now staying with his mother’s relatives but the land remains Gushungo land” explained Mr Samkange a distant brother to Mugabe. “Mugabe was born on February 21, 1924 in the “Christian Village” at Kutama Mission in the Zimbabwe District west of Salisbury, established by the Jesuit Fathers for Africans who had been baptised. Catholic missionaries had set up “Christian Villages” on land given to them by Cecil Rhodes’s private commercial enterprise the British South Africa Company, which had declared the occupation of Mashonaland in 1890 in the name of Queen Victoria. Like all the land that Rhodes handed out to white settlers, including the land given to the Catholic church, it was acquired by dispossessing the local people” (Meredith 2002, 20).

Part 2 of the land hunt: Rothwell farm

The irrigation specialist reported the “progress” to the director of AGRITEX. However to his surprise the director already knew of their failure to secure the land from the villagers. He already had located alternative land for the irrigation scheme:

“You know this new Mugabe satellite village on Rothwell farm? That is the place for the irrigation scheme.”

So the land chase was redirected to Rothwell farm. But when the irrigation specialist and the irrigation officer visited the Mugabe village, the villagers were not so keen. The village chairperson said:

“Irrigation on our land is a good idea for as long as it is not going to affect our present land allocation. If you want to displace us to create the irrigation scheme, no thank you. We want some peace now.”

As a matter of fact at this meeting the villagers suggested a “brilliant” idea. They suggested a single hydrant for each farmer at their present dry land holding. Once the water was at the farmer’s field edge, it would then be the farmer’s discretion to use the water to irrigate whatever crop and area as and when they wanted. One woman who had been attentively listening suggested a solution:

“You just set aside a hydrant at all the plots; the rest is up to the owner of the plot.”

However this was a “crazy” idea to the AGRITEX irrigation personnel who took it as an insult. To them a smallholder irrigation scheme was a conjugate block of land shared by a group of villagers with an individual plot or with a communally owned plot in the case of cooperatives.

One big mistake made by the irrigation personnel, was to hold the meeting without the blessing of Mr. Whitehead. When Mr. Whitehead finally got wind of the meeting, he was not amused. He summoned the two irrigation personnel to his office to register his disappointment with their overzealous misdemeanours. He lamented:

“Gentlemen what you did is most unwelcome. What were you doing agitating the President’s people like that? Please stay away from that village. Do not listen to those people in Harare. They know nothing of what the President wants in this District. I am the only one who knows. Now leave this land identification to me and the councillors. We will advise you once the land is found.”

At this point the Irrigation Specialist surrendered the land identification and the topographical surveys to the Irrigation Officer. He shifted his attention to a much bigger project, also earmarked for Japanese funding (the proposed 15,000 hectare Kudu Munyati irrigation scheme). The Irrigation Specialist would only participate in the KSIP once the topographical maps were ready for designing.

Part 3 of the land hunt: Hunyani Estate

Meanwhile, the District Development Fund (DDF) hatched a new option to solve the land identification problem. The DDF planning unit were asked to subdivide the recently acquired Hunyani Estate F farm for the purpose of resettlement. DDF suggested that it was more opportune and easier to establish the irrigation scheme on this farm. Since it was still not

settled, it would pose no problems.⁴⁵ Incidentally DDF were operating and maintaining a newly established 5 hectare irrigation project at the rural home of state president. The director general of DDF always had meetings with the president at his rural home. As a result when DDF suggested this farm, the DA Mr Whitehead did not immediately object. Thus topographical surveys were swiftly made by the irrigation officer. However when the survey team were about halfway through, they were stopped by Mr. Chikerema who informed the team that they were trespassing on his property. It turned out that only a portion of Mr. Chikerema's farm had been acquired by government. Most of the acquired portion of the farm comprised rock outcrops and wet land that was not suitable for irrigation. In the end only 56 hectares were found suitable for irrigation. Thus a conjugate 200 hectare piece of irrigated land remained elusive.

When Mr Chikerema interfered with the surveyors, Mr Whitehead sought clarification from the President himself during one of his weekend visits to his rural home. At a meeting with all the Zvimba Rural District councillors, the DDF, AGRITEX district head (DAEO) and the provincial irrigation officer, Mr Whitehead purported that the President was very angry with the surveys that AGRITEX were doing at Hunyani Estate F. He bellowed:

"The president was very disturbed by your actions. That farm is not for irrigation. It is for resettlement and do not ask me who is going to be resettled there. The president is the only one who knows, and that is not news for your consumption. You DDF quickly give me a resettlement plan and get away from that land. As for you people from irrigation just forget about that farm. Last weekend I travelled to the villages close to the Manyame River and I discovered that there was a lot of idle land in almost all the villages. If I were you I would look as far away as Karoi School.⁴⁶ There is land there that can be used for irrigation development even if it is only 20 or so hectares."

Even with this new development, the irrigation officer surrendered the topographical map to the irrigation specialist for designing anyway. The irrigation specialist quickly made the designs.

The final hunt for land

Meanwhile, the AGRITEX team led by the DAEO started the new hunt for land. The acting DAEO Mr. Charewha was not very familiar with the communal area farming set up. He was used to the commercial farming sector where he had operated all his working life. He also lived in Banket, some 75 kilometres away from Zvimba communal area. His experience with

⁴⁵ Hunyani Estate F farm had been compulsorily acquired from a black commercial farmer and veteran Nationalist politician, James Dambaza Chikerema. He had founded the first African National Political Party and the Youth League, but had since sunk into political and economic oblivion. Chikerema is in fact Robert Mugabe's distant nephew, being a son of a Gushungo woman. This relationship is however well respected in the Gushungo tradition. In political circles though, Mugabe and Chikerema passed not as best of friends. Chikerema had joined the internal settlement bandwagon of Muzorewa, Ndabaningi Sithole, Chirau and Ndiweni that Mugabe ridiculed as a sell-out agreement. Mugabe regarded Chikerema as a traitor and Ian Smith's puppet. However in private during traditional family ceremonies it was quite a different story. *"Chikerema is our muzukuru and at all family ceremonies he is present. As a matter of fact the President always jokingly teases Mr. Chikerema to come out of his hiding place Hunyani Estate F"*, said Mr. Samukange. Thus although the acquisition of Mr. Chikerema's farm attracted a lot of media attention with Mr. Chikerema protesting heavily, it may as a matter of fact have been a ploy to rescue Mr. Chikerema from his financial desperation. In fact in the acquisition process Mr. Chikerema was left with a portion of the farm, called Diana, otherwise known as "his hiding place".

⁴⁶ Karoi School is where the Musarurwa irrigation scheme is located.

communal irrigation development was next to nothing. To save himself from any blushes, he delegated the land identification issue to a lady extension officer (AEO) Ms Mutonhodza who was accommodated at the growth point. She had worked in the communal area for seven years. She was well respected by many users and most councillors in Zvimba communal areas. She also claimed that she had access to the president and she proved it by arranging a visit to the president's rural home for the provincial irrigation officer. Although the president was not home, it was quite an experience for the irrigation officer. The AEO subsequently became an important figure in the land identification process. It became the job of the AEO and the local councillors to identify the land. Once identified, the irrigation officer would then confirm suitability and start the topographical surveys. Since a lot of time had been lost, the irrigation officer was in a hurry. With a streamlined team of very few people, progress was likely to occur.

After only two working days, the AEO phoned the irrigation officer that some land had been identified at Musarurwa. The irrigation officer swiftly assembled three survey teams and shipped them to Musarurwa. They literally invaded the Musarurwa village. The AEO was not prepared for the teams, she thought that the irrigation officer would first come for a confirmation visit and then survey the land later. However to be polite to the survey teams, she asked them to proceed with the surveys while she organised a meeting to officially inform and explain the mission of the surveyors to the farmers. The villagers were surprised to find strangers working in their lands without asking for permission (Machiridza 2003). In 2004 the first chairperson of the IMC Mr Mang'ohzo commented:

"In hindsight, I can not explain why we did not chase you away from our lands when you stormed into our lands without permission. I guess it was because we had got to trust Mutonhodza so much that when we saw her with you we trusted there was nothing sinister about your presence."

Fortunately most of the land identified was formerly cultivated land now reverting to climax vegetation through the several plant succession stages. However one farmer whose house was very close to the proposed irrigation scheme secretly sneaked into Mr Whitehead's office to register a complaint. The farmer was not happy with government officials taking his land without his consent. The DA was very polite, he asked the farmer to go back home and await his coming to the site. The DA then went quickly to the site. A meeting was held with all the affected farmers, the village head, Ms Mutonhodza, the irrigation officer and the local councillor. At the meeting it turned out that a lot more farmers were not happy with their land being taken up by the irrigation project. After a tour of the proposed irrigation scheme, the DA acknowledged the farmer's concerns:

"I agree with those who feel dispossessed. However I have a simple solution to your problem. From the AGRITEX report in my office, the largest piece of land lost by any single one of you is 4 hectares, I am offering a much bigger land (15 hectares) in the resettlement areas to those who are not happy that their land has been taken up by the irrigation project. All you need to do is come to my office and fill the form and the 15 hectares of land belong to you in place of the 4 hectares. The project has to go on without disturbance now."

No one accepted the offer and instead one of the affected men stood up and thanked the DA for the offer and asserted that the farmers had no intentions of stopping the project. Rather they wished to express irritation caused by the deliberate lack of respect shown by the team of

surveyors. He promised the DA that there would be no problem and that they would sort out the land issue themselves as the Musarurwa people. Thus the land question was resolved.

Although the AEO expected up to 150 hectares of land, after surveying, the land turned out to be a disappointing 30 hectares, further diminished to only 25 hectares after blocking and allowing for access and ring roads during the irrigation design process. The result was a further search for land. The team moved to neighbouring Nyamangara village, five kilometres east of Musarurwa, where 50 hectares of land were identified. This was followed by a trip to Matsvisti village where although land had been identified by the AEO, the team was chased away when it turned out that some of the identified land belonged to a retired school teacher and very prominent farmer. The man was cultivating flue cured tobacco (a rare crop in communal areas of Zimbabwe). The identified idle land was in fact fallow, because of the three-year grass lay that the tobacco crop rotation demands. The farmer lamented:

“I do not care whether it’s a government project or not. The tobacco crop I am growing is important to the country as well since it brings in foreign currency.”

The search then moved to Chemutamba village, where despite 50% of the land being cultivated by a powerful church leader, surveying proceeded smoothly.⁴⁷ Chemutamba turned out to be only 25 hectares. The search for land returned to Matsvisti village. This time a DEAO had arrived from Chipinge. Using his experience in participatory irrigation development strategies gained in Chipinge district he was able to convince the tobacco farmer that he would in fact benefit from the irrigation scheme by assured water supply for the nursery and planting of his tobacco. It was agreed that farmers benefiting from the irrigation scheme would surrender part of their remaining rain-fed cropping land to the tobacco farmer. Also it was agreed that the irrigation project would include the construction of a reservoir for the tobacco farmer to irrigate his nursery and water his tobacco. Thus the tobacco farmer who was using donkey drawn water carts found enough reason to give up some of his land to the irrigation scheme. In the end a 50 hectares block of land was surveyed at Matsvisti village, effectively satisfying the tally of 200 hectares of irrigated land required by the Japanese embassy.

The Japanese reject the plans

Thus the search for land ended and irrigation designs were quickly made and submitted to the Japanese embassy. A field visit was organised to show the sites to the Japanese embassy staff. Farmers were mobilised to welcome them. They composed songs in praise of the Japanese ambassador and the friendship between the Zimbabwe government and the Japanese government. Chicken were slaughtered and rice was prepared for the visitors. However at the end of the tour the Japanese were not impressed. They had hoped for a 200 hectares composite block of irrigated land and not the small scattered blocks of irrigation schemes. They flatly rejected the irrigation proposals. Thus even the drums, songs, dance and ululations of praise failed to do the trick. This disappointed Mr. Whitehead’s team very much. It was very difficult to explain the result to the farmers. Thus the team quietly sneaked away from the farmers only to return in 1997 when the government finally managed to provide funding for the irrigation schemes through the Public Sector Investment Programme (PSIP). However

⁴⁷ The church leader, reverend Magoronga, was at loggerheads with his three sons who did not approve of their father taking a second wife barely their age. They connived with the village head in dispossessing their own father for as long as they were assured of a plot in the irrigation scheme.

the available funds were insufficient to develop the identified 200 hectares at one go. It was agreed to develop the irrigation schemes in stages. Musarurwa became the first block to be developed. There was no special reason why Musarurwa was prioritised. However in hindsight, maybe it was prioritised because it was designed by the most senior irrigation specialist who obviously wanted his own glory. I would have done the same: it's good for one's curriculum vitae.

Designing the irrigation scheme

A look into the design process of the Musarurwa scheme throws one into the politics of service provision. It reveals that one has to go beyond departmental design cultures to understand the creation of a functional irrigation scheme. From the periphery, i.e. from discussions with AGRITEX staff at all levels, Musarurwa irrigation scheme is described as a scheme designed using participatory design methodologies (Machiridza 2003). As a matter of fact "participatory development" was the fashionable catchword with most donors roaming the country then.⁴⁸ As has already been discussed above, the two irrigation engineers in the province were also eager to implement the very participatory irrigation design approaches they had picked up at Cranfield University. The two engineers' relations with Head Office were at their lowest. One had been transferred from Midlands to Mashonaland West Province with no clearly defined accommodation provided for the engineer.⁴⁹ The irrigation specialist had decided to extend his stay in the UK after the MSc study leave. When he finally turned up, he was transferred from Head Office to Mashonaland West province while his case (unauthorised leave) was being investigated. As a result ties with Head Office were not very good. This, coupled with the expiry of the contract of an influential expatriate FAO technical advisor to AGRITEX (Mr. Savva)⁵⁰ at the end of 1994, led to a situation where the engineers tried designs they had always wished to engage in but that expatriates based at Head Office had not been so keen to accept. Thus Musarurwa's design became a noticeable departure from the majority of smallholder irrigation schemes developed at the time.

The water source

At the start of the KSIP, the intention was to take water from the five kilometre relief canal for Chegutu town. The aim was to irrigate land near Chikambi village close to Kutama Mission. However, because of the land identification the problem cited above, and also because ZINWA stopped pumping water for Chegutu town soon after the rainy season of the

⁴⁸ IFAD was implementing four projects using the participatory development concept (National Agricultural Extension and Research Project, Agricultural Credit and Export Promotion Project, Smallholder Dry Areas Resource Management Project (SDARMP) and South East Dry Areas Project (SEDAP)). It was contemplating extending it to Smallholder Irrigation Development through the Smallholder Irrigation Support Programme (SISP) by 1999. "The benefits of using participatory approaches in promoting ownership of programme among the targeted communities are being demonstrated by SDARMP and other development programmes, and the approach has the full support of government" (IFAD 1999, 19).

⁴⁹ The officer was housed at a remote primary school in the Small Scale Farming Areas of Chitomborwizi, where his wife was teaching. His belongings were crammed into a three roomed small house. Because there was no electricity at the school most of the engineer's electrical goods were kept in removal cartons and were at the mercy of rats. It created a stressful situation for the engineer. The Chief Agricultural Extension Officer (CAEO) did not make the situation any better: "Mr. Zawe, Harare told me to give you an office to work from only, so I do not want to hear your accommodation or any other problems. Liaise directly with Harare."

⁵⁰ Mr. Savva was the FAO chief technical advisor to the Irrigation division of AGRITEX. He was the inventor of the "famous" draghose sprinkler irrigation system now adorning numerous smallholder irrigation schemes in Zimbabwe.

year 1993, use of the canal was abandoned. Instead the scheme would now depend for its water on releases from the Darwandale dam, some 35 kilometres upstream, direct into the Manyame River. The irrigation specialist designed the irrigation scheme to make use of the 10% water reserved for smallholder users through the statutory instrument of 1992. As a result the users had not much say in the choice of the water source, it was a given from the government. However the users were of the opinion that they were going to irrigate using water stored in, what they believed were reliable natural pools that did not dry out even during years of very poor rainfall. The first IMC secretary Mr. Alford Musarurwa argued in 1996:

“Why do you talk of water coming from the far away Darwandale dam when there are all these huge pools of water so close to us? There are two very deep pools that never dry out. Even during the famous 1992 “worst drought in living memory” they were full and as black as ever. You can make your choice.”

What the users and even the engineers did not know then was that the pools were as black as ever and the river was always flowing throughout the year, because water was being released from the Manyame Dam to Chinhoyi town, 45 kilometres downstream of the scheme at 80 kilometres from the dam. This was however to change with the commissioning of the Biri Dam, 20 kilometres downstream of the Musarurwa irrigation scheme. Biri dam became the new water source for Chinhoyi town, obviating water releases from the Manyame Dam. This Biri Dam became bad news to the users, as will be shown when the operation of the irrigation scheme is discussed. The water is released into the Manyame River to flow through the untrained river to the scheme. On its 35 kilometre journey to the Musarurwa scheme the water encounters many huge pools that take hours to fill as well as barricades erected by other irrigators. Formerly the latter were the mighty white commercial users, but these overnight had to give way to A2 resettlement users in the third Chimurenga. Other obstacles for the descending water comprised bridges across the river, smallholder irrigators pumping stations, Makwiro Platinum Mine pumping station, the State President’s rural home pumping station, Kutama Mission pumping and the Murombedzi Growth Point water works that all interfered with the water before it arrived at Musarurwa. This posed an unforeseen operational problem for the irrigation scheme (see 4.3).

The pump station

The position of the pump station raised a lot of discussion among the users themselves and the irrigation engineers. Three options were available: a deep pool 800 meters upstream of the irrigated lands; a fairly shallow, wide pool with a nice weir site only 300 meters upstream of the irrigated lands; and a deep pool 600 meters downstream of the irrigated lands. The downstream option was easily dismissed as an expensive option since pumping upstream engendered higher costs. Opting for this site meant adding 6 meters to the static head. In the eyes of the users however this site offered a very reliable water source as the deep pool would reduce dependence on water releases from Lake Manyame.

The upstream deep pool was not so easy to dismiss. To the users this was “the pumping station”. It cut down the static head by 4 m when compared to the downstream option. It also provided a much more reliable water source since the deep and wide pool could store a lot more of the water released from Darwandale dam. The presence of a neighbouring commercial farmer’s pumping station on the other bank of the river strengthened the resolve of the farmers. The first IMC chairperson, Mr. Joseph Mang’ohzo, argued:

“Mr. Zawe, I think this is the right place. Do you think the white commercial farmer is stupid? Why did he put his pump station here? This place is downstream of his irrigated lands and he also depends on releases from Darwandale dam, but he chose this pool. You took us on a tour of operating irrigation schemes in far away places for us to learn from other farmers, I think we should learn from this commercial farmer.”

However the AGRITEX Irrigation personnel dismissed this option as being expensive in terms of capital development. Adopting this option engendered an additional 500 meters to the main delivery pipe line, a 200 mm AC pipe line. This would produce a significant increase to the cost of establishing the irrigation scheme. It was important to keep the construction cost down since the project was funded by government funds without donor support.⁵¹ In the end the two parties settled for the middle option. At least it cut down the static head by 6 meters from the lower option (from 29.16 meters to 23.16 meters, see GoZ (1996)). It offered the shortest length of main supply line, cutting the construction costs significantly. As for reliability, the AGRITEX Irrigation personnel saw no problem since the users depended on water releases from Darwandale dam and from their previous two year observations the Manyame River downstream of the Darwandale dam was perennially flowing.

Also important to note is that at the time of these consultations, the Irrigation Specialist had already bound the irrigation scheme tender document for submission to the tender board. Changing the pumping station at that stage would have resulted in an unwelcome delay as this involved a redrafting of the maps, a big hassle since the irrigation division did not have a cartographic section of their own at provincial level. The irrigation division depended on cartographers and draftsmen of the planning branch, who had priorities of their own what with village land use planning so overwhelmingly fashionable with the department at the time. The national irrigation cartographic unit was oversubscribed and unreliable. Taking a map for drafting into that unit was no joy. An Irrigation Specialist from province could not guarantee that their work could be finished on time, since the staff of this unit needed almost hourly follow up for them to stick to one job. Head Office Irrigation Specialists were better placed to carry out such kind of follow up. To worsen the situation the Irrigation Specialists were not in the best of relations with Head office. As a result they avoided as much as possible any visit to Harare. With hindsight though, the Irrigation Specialists could have changed the pumping station at the site visit stage of the tendering process. This was not so obvious to the Irrigation Specialists who were doing the tendering process for the first time. Before, tendering had been a job reserved for Head Office staff under the guidance of expatriates.

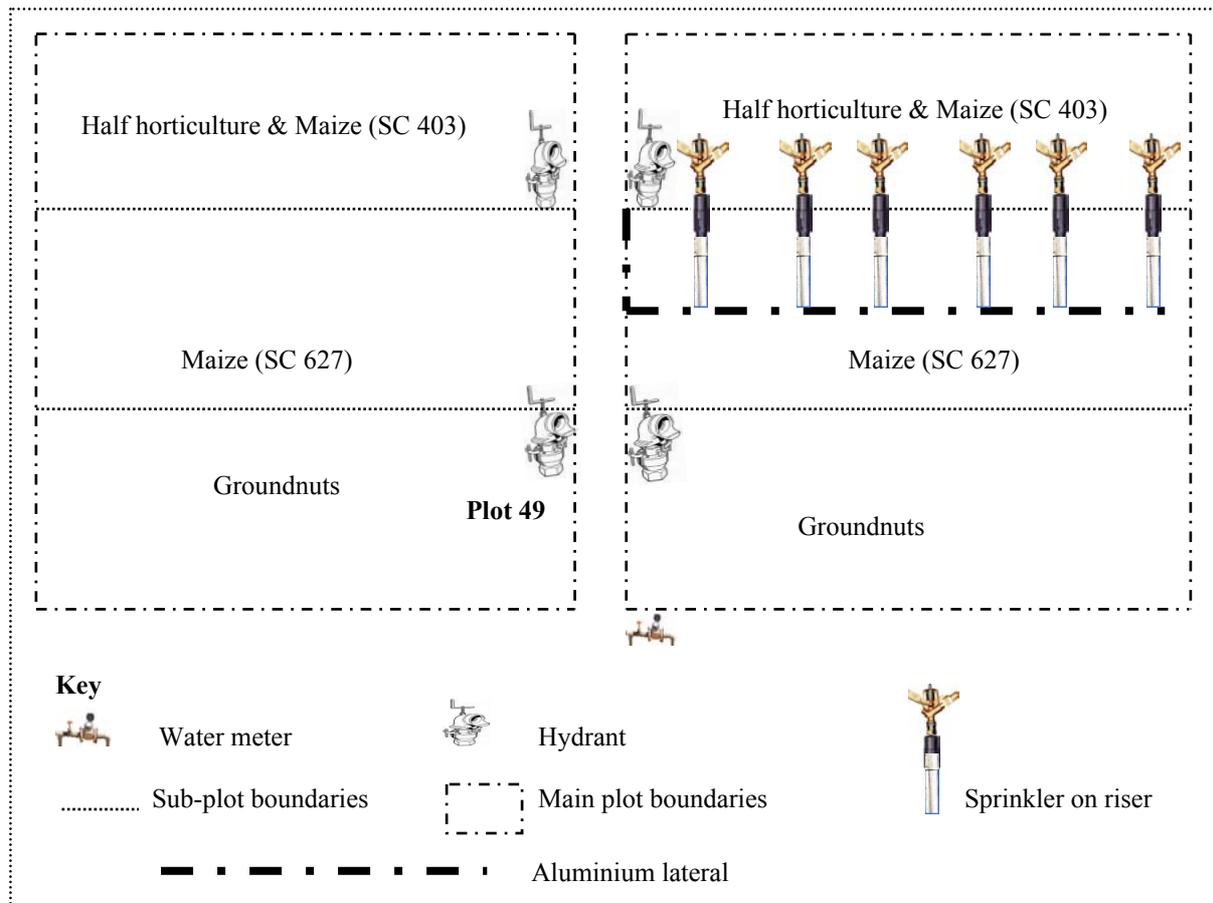
The water application infrastructure

Due to the speed with which the feasibility reports were wanted by the Japanese Embassy, the initial designs for the irrigation water application system carried very little input from the farmers. The users were presented with two alternative system designs; the drag hose sprinkler and the semi portable sprinkler system. The two alternatives were first elucidated to the users in preparation for the Japanese field visits. In both cases the proposed technology entailed the pumping of water from the Manyame River by an electricity motor driven

⁵¹ ‘To qualify for government a smallholder irrigation scheme was subjected to financial and economic viability test subject to scrutiny by Ministry of Lands Agriculture and Rural Resettlement and the Ministry of Finance Economic Planning and Development (MFEPD). The appraisal set by the MFEPD for smallholder projects were that food security projects with an internal rate of return below 2.9 % would have difficulty in being accepted while all projects above 8 % would be passed for funding’ (FAO 1990, Technical Annex 4 page 8).

centrifugal pump direct to the sprinklers. The only difference was that in the one design, water was to be delivered to the sprinklers through 50 mm aluminium pipes (Figure 3.2) while in the other water was to be delivered through 15 mm reinforced rubber hose pipes (Figure 3.3). In both cases the pump was to be mounted on a trolley that would move on rails to follow the receding water in the dry season or rise away from the harsh rising of the Manyame waters when in flood. This manoeuvring was to be aided by mechanical leverage through a rope and winch assembly to ease the otherwise arduous work.

Figure 3.2: The plot layout for two users irrigating from a single six sprinkler lateral



When the Japanese funding flopped, the irrigation personnel unceremoniously withdrew from the scene with no explanation to the users. In 2002 the irrigation specialist, Mr. Murwisi, explained their behaviour:

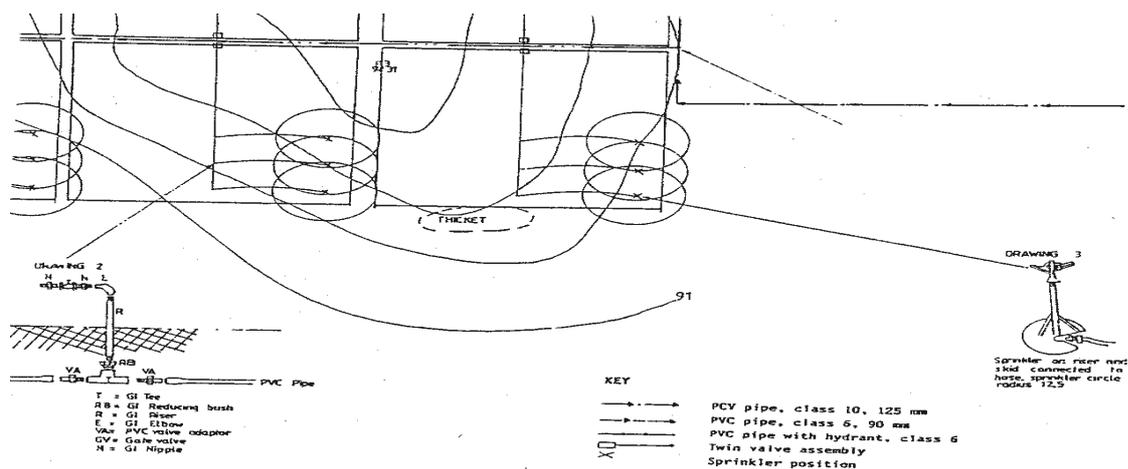
“It was difficult to explain to the users that the irrigation scheme was in fact not going to be after so much agitation of the community.”

The users however thought that the irrigation engineers wanted to afford them time to ponder over the designs (Machiridza 2003).

When funding was finally secured in 1996, tender documents for the construction of the irrigation scheme were made ahead of the consultation process. This happened because of a change in operational procedures adopted by the Department of AGRITEX that emphasised

individual Key Result Areas (KRAs) for each member of staff.⁵² This new order arose from a concerted civil service reform programme adopted by the Zimbabwe government to improve its functioning. The irrigation officer's KRAs were set on irrigation construction supervision, farmer development and operation and maintenance of irrigation schemes. Any delays in irrigation construction, such as those necessitated by the participatory design process, would reflect badly on his performance.

Figure 3.3: A typical drag hose irrigation system



On the other hand the irrigation specialist's KRAs were set around preparation of irrigation designs, tender documents and provincial irrigation planning. Each irrigation personnel as a result tended to concentrate on their KRAs not wanting to tread on each other's toes. Thus coordination of activities suffered a bit. The irrigation officer went straight into the business of empowering the farmers. The users were first taken on a tour of operating irrigation schemes within and outside the province. The users visited drag hose, semi portable and flood irrigation schemes enjoying different degrees of success in operation and maintenance, cropping, organisational and institutional proficiency and effectiveness. The aim was for them to garner the experiences of other users already "engulfed" in the art of irrigated farming. The users were therefore ready for the presentations from the irrigation specialist, who had made a swift job in producing tender documents to meet the short construction period. It soon became clear that the consultation process was meant to ratify whatever the irrigation specialist had chosen for the users, relegating the whole process an academic exercise. In 2002, the first secretary of the IMC summed up the users' perception of the consultation process:

⁵² In 1996 AGRITEX introduced the "Performance Management System" with the assistance of a GTZ funded German expatriate, Mr. Conoley. The new system provided a systematic way of planning, implementing and evaluating service delivery by individual members of the department. Key Result Areas (KRA) are set for each individual, (SMART) objectives, targets, and standards of performance are also set and consolidated into a concrete work plan and a contract is signed between the individual and his/her immediate superior. The work plan is reviewed every four months. Amendment or adjustments are made to take into account the realities of the day. At the end of the year performance is measured and rated based on percentage accomplishment of targets set. As a result of this new assessment system all staff were keen not to work on other's key result areas at the expense of their own.

“It was very clear from the way the irrigation specialist and the irrigation officer preached to us that we would please them very much if we chose the semi portable option. Also when we visited Ngezi and Mahusekwa drag hose irrigation schemes, it was evident to all that the drag hose irrigation scheme was more difficult to set when compared to the semi portable at Shamrock and Johanadale 2A irrigation schemes.”

His sentiments were echoed by many users who were asked for their opinion of the consultation process. However when the irrigation specialist suggested that the scheme was designed to afford a one hectare plot to each household, the users objected. To them a hectare per individual household would result in too few villagers benefiting from the irrigation scheme. They suggested reducing the individual plot holding to half a hectare. In 2003 the first chairperson of the IMC commented:

“One hectare per household was going to make it difficult for us to fully cater for the households in the village. To reduce discord among ourselves we opted for a smaller area per household and this worked.”

However, the Irrigation Specialist did not redesign the scheme to suit the new reality. This would have implied redrafting of the maps and doubling of infield irrigation equipment, nightmares that the Irrigation Specialist was not prepared to face. In the end it was agreed that two users would share a set of infield irrigation equipment consisting of a water discharge metre, six sprinklers, a hydrant valve control elbow, 14 * 50 mm * 6 m aluminium (6 with riser assembly and 8 plain) pipes and an end cap. However, each user would be provided with their own two hydrants. This was to ensure that no irrigation pipes crossed the road during irrigation, thus blocking the road (see Figure 3.2 for the plot layout).

The scheme was designed for the irrigation of field crops and did not suit vegetables very well (what the users described as “garden” crops). Mrs Mang’ohzo explained in 2003:

“This irrigation system does not allow us to prepare nurseries for our garden crops. Also with garden crops you want to plant one row after say two to three days just to stagger their ripening time. You do not want to end up with large amounts of ripe vegetables in your hands at a time, otherwise (unoona moto) you will see fire with marketing. We raised our concerns with the engineer, but he was not keen to take this into account.”

This has proved to be quite an irritation to the users as will be discussed in Chapter 4. Asked why the issue was not considered during the design, the Irrigation Specialist replied:

“Mr Zawwe, what is your experience with the nursery tanks that you put at Hama Irrigation scheme?”⁵³

In the end the system was designed in such a way that 25 of the 50 users would operate their six sprinklers simultaneously when the pump was running. This situation forces the users to be united from the pump to the infield operation of the irrigation system as will be demonstrated in Chapter 4.

⁵³ At Hama irrigation scheme concrete water tanks were designed and provided as nurseries for the farmers. These tanks were designed to fill during the irrigation of the main field crops. However vegetables are not as popular a crop at the dry and remote Hama irrigation scheme. The tanks remained idle with no farmer using them. However at Musarurwa vegetables comprise a major component of the cropping programme.

3.4 Construction of the irrigation scheme

The construction of the scheme was a game of load sharing between the users and government, in which negotiations were made, deals struck, frightening occurrences took place and traditional rituals were performed. This section details the game from tendering to hand over of the irrigation scheme to the users.

An established irrigation company wins the construction tender

After advertising the tender in the local press, nine Irrigation Companies bought the tender documents. Except for one these were newly formed indigenous irrigation companies. A site visit was arranged and representatives of the nine companies attended. The designs were discussed on site and some amendments were made to the designs and clarifications given to queries arising from the company representatives. The major points of dispute were on the number of sprinklers set for a hectare and the water metres set for each hectare. In both cases most company engineers thought that they were too many. Also not clearly specified was the pumping station. Although the pump size had been specified, its mounting was not specified in the tender. At the meeting the company representatives were asked to submit their own proposals and the most appealing pump station would win the day. Asked later why he did not specify this in the tender, the Irrigation Specialist indicated to me that he was not sure himself what he wanted:

“Why spend time on things that you are not sure of? These companies know the best options. Why not learn from them?”

Also worrying to the irrigation engineers was the labour required for land clearing, trenching and backfilling that had not been specified in the tender. The IRRICON representative asked on the day of the site visit:

“Gentlemen you have not included land clearing in the tender, who is going to do it?”

When the reply suggested that it was the benefiting user, he remarked

“You are not serious, communal farmers doing the land clearing, trenching and backfilling? Then it is going to take three years to complete the project.”

In the end the tender was won by the one established irrigation company (IRRICON). The IRRICON offer was particularly good on its pump mounting option. It was also the cheapest on transport, taking advantage of its proximity to the project site. While the rest of the companies were Harare based, IRRICON was situated in nearby Banket town, a mere 65 kilometres away.

Farmers are employed as casuals through the mediation of the DAEO

Soon after tendering, the irrigation specialist went on an irrigation management course in Israel. The task of tender adjudication and construction supervision was delegated to the irrigation officer. The irrigation officer was also responsible for the supervision of the construction of another smallholder scheme funded by the EU micro projects programme, 45 kilometres west of Musarurwa. To cope with the work the officer was assisted by the AEO Soil and Water Conservation for Zvimba District who had been recently transferred from the two hundred and sixteen-hectare Ngezi smallholder irrigation scheme in Kadoma district, apparently because the irrigation scheme was failing to perform according to the expectations of the CAEO. The users were given the task of land clearing, trenching, backfilling and

providing all labour, except for expert labour. Although the users accepted this, progress was very slow. The AEO reported the slow progress to the newly arrived DAEO. The DAEO suggested the employment of casual workers to speed up the land clearing process;

“Why don't you employ casuals? When we were at Musikavanhu we employed casuals and worked progressed faster.”

The Irrigation Officer dismissed the idea condemning it as defeating the idea of participatory irrigation development that the department was advocating. The DAEO however decided to mobilise the CAEO for Mashonaland West province. The CAEO told the Irrigation Officer to somehow find a way of financially motivating the users to speed up the land clearing process. In the end the DAEO with the help a seasoned Senior Agricultural Extension Supervisor (SAES) coined a way for paying the beneficiaries for land preparation without blatantly revealing to them that they were being engaged as casual workers. One day during the land clearing period the DAEO addressed the users:

“The government has recognised the heavy burden on your backs in the short space of time that you are required to clear the land and to dig the trenches. As a result the government has decided to assist you with a small amount of money for you to buy some food to assist you while you do the hard work. This is not a wage it's only a token of appreciation from your caring government.”

In the end the users and the AGRITEX staff members designed a behavioural code for use during the construction period. In the IMC's minutes of a meeting the users held with the DAEO for Zvimba district, the latter is said to have summarised the code of conduct to be adopted during the construction period as follows:

- *“All beneficiaries to work for half the casual wage;*
- *All beneficiaries to clear the land as a group under the supervision of the IMC leader;*
- *The IMC to keep a time book for the beneficiaries reporting for work;*
- *Beneficiaries to be allocated plots after completion of land clearing;*
- *Trenching and backfilling for plot level trenches shall be the duty of the owner at their own spare time without any payment at all;*
- *Trenching and backfilling of the main and secondary trenches shall be the duty of all beneficiaries under the supervision of the IMC;*
- *No excuse for not turning out to work was acceptable, except for attending the funeral of an immediate relative in which case most of the members would be affected anyway;*
- *The SAES shall supervise the operations of the IMC;*
- *During fitting of the pipes and pumps the contractor to engage the beneficiaries as unskilled labour; and*
- *The contractor to train the beneficiaries engaged on all aspects of fitting and operation of the system.”*

This was how the beneficiaries participated in the construction of the irrigation scheme. The contractor recruited eight workers from amongst the Musarurwa people, though not necessarily those listed as the beneficiaries.

Young men join the irrigation scheme

The contractor opted mostly for young male residents of the Musarurwa area, citing their quick grasp of what was needed as well as physical strength as important labour factors, if the project was to be finished in time.⁵⁴ The IRRICON engineer responsible for the Musarurwa project justified his choice for young men as follows:

“If you insist on us employing these old women, we are definitely going to charge for delays when we fall behind construction schedule. These women will not be able to move at the speed we want to move once we start fitting. If they are so keen on having some of their members trained on the fitting and operation of the irrigation system, why don’t they include these young men into the irrigation scheme? I am not going to accept a situation where I have to employ new workers every day to accommodate every beneficiary in the fitting of the system. It will not work. I will only employ eight people whom I will train for the job.”

Most old women found land clearing and trenching to be too strenuous work. To cope, they resorted to employing workers (mostly young men) on their behalf. Most of them had to persuade husbands, daughters, sons and other relatives working in towns like Chegutu, Chinhoyi and Harare to contribute to the payment of the recruited workers. This was not an easy task since most of them were not convinced that constructing an irrigation scheme would be of any benefit to them. One formerly employed man, Mr Mang’ohzo, confessed in 2004:⁵⁵

“I told my wife that she was crazy and that it was a waste of time. I even reminded her of the previously much talked about Mukadzimustva Irrigation Scheme that had come to nothing. She however remained resolute and I budged.”

The government’s contribution to the deal

The government’s part of the deal was to pay for the purchase and installation of all the irrigation equipment including pumps, fencing, underground PVC pipes, hydrants, hydrant valves, aluminium pipes, riser pipes, sprinklers field reversible bends, elbows and end caps. The government also paid for the construction of the main access road, the in-scheme roads and levelling of anthills in the field. Users took advantage of the contractor engaged to construct the roads to lighten the load of trenching. They hired the driver of the bulldozer to rip along the trench lines to make the ground soft, thus eliminating most of the digging. Trenching was thus reduced to simply shovelling the ripped soil out of the trench. The ripping was paid for by the users themselves, and payments were made to the driver who never remitted such payments to the owner of the company. Hiring the bulldozer driver greatly enhanced the task of trenching. The users did not pay much for such hiring. The first IMC secretary said of the hiring process in 2003:

“One scud⁵⁶ or two to the driver did the trick for those who were persuasive enough.”

A human skeleton is unearthed

The trenching process proceeded well and was as a matter of fact ahead of schedule. However during the trenching process one beneficiary uncovered human bones buried at an anthill.

⁵⁴ These beneficiaries later became very useful in the day-to-day operation and maintenance of the scheme.

⁵⁵ Mr. Mang’ohzo was retrenched from David Whitehead Textile Company in July 2001. He was working in Chegutu during the construction of the Musarurwa irrigation scheme. At the time of the interview, he was wholly employed at his wife’s 0.5 hectare irrigation plot at Musarurwa greatly appreciating the wisdom of his wife.

⁵⁶ Scud is the popular name for a 2 litre container of the local opaque beer sold in most beer outlets in the high density suburbs and rural remote areas.

This caused a bit of a scare resulting in a temporary halt of all trenching for two weeks. Trenching only resumed after traditional rituals had been conducted by the village elders to appease the spirit of the dead person whose skeleton had been uncovered. In the traditional rituals, AGRITEX was asked to pay for the ritual requirements that included a black cloth, a black goat and finger millet for beer brewing. Because AGRITEX did not have a budget for these traditional rituals, the contractor IRRICON provided the required materials to speed up the process.

3.5 Organisational arrangements for technology use

Unlike Negomo (see chapter 5) the organisational development was not supported by technical or financial inputs from international development and aid agencies. The organisational model adopted reflected an attempt by the provincial AGRITEX Irrigation branch to implement the bits and pieces of policy statements and the pronouncements of the ESAP programme in smallholder irrigation development. The organisational management model was strongly influenced by the principal factor that the users would be in charge of the operation and maintenance (O&M) of their irrigation scheme, including financing of such O&M activities. As a result users required a well scheduled start up programme for gradual hand over of irrigation management. According to the DAEO Zvimba (pers. comm. 2003) the organisational framework at Musarurwa was based on a number of assumptions:

“In our view in coming up with the organisational framework for the irrigation scheme, the users needed to appreciate that ownership of irrigation infrastructure was to be in two forms. At field level individual users were expected to assume ownership of the irrigation equipment in pairs. An organisation created by the users themselves was expected to assume ownership of the scheme level irrigation equipment like pumps, main and secondary pipelines, scheme buildings and the security fence. The organisational arrangements needed to appreciate that the irrigation infrastructure was in place to ensure successful crop production and that the irrigation infrastructure depended for its survival on proceeds from the crop production enterprises. It was under these conditions that the department assisted the users to craft their organisational framework. We also did not want to impose an organisation on the users. As a result we organised look and learn tours for the users before they were asked to craft their own organisations.”

Look and learn tours: Adventures and dramas for the Musarurwa people

According to the first IMC treasurer, Mrs Kesiwe Muzuva, the look and learn tours provided the prospective irrigators with a lot of adventure and drama:

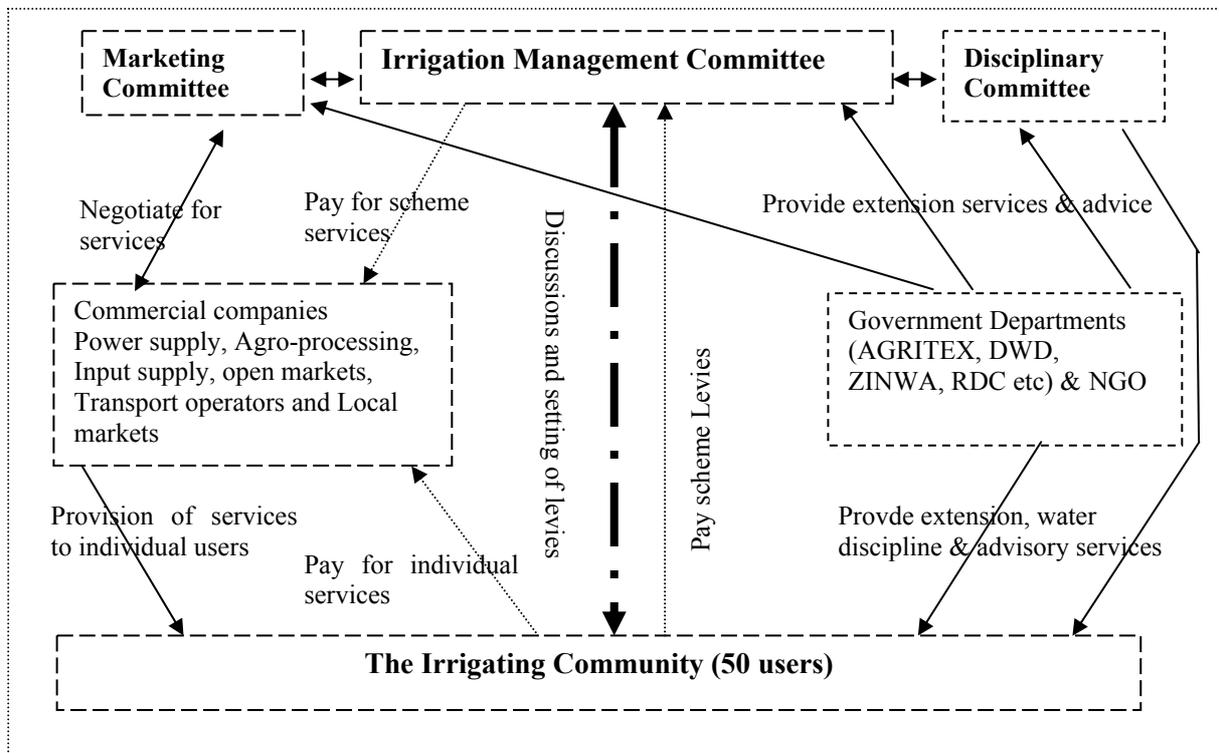
“The look and learn tours were indeed an eye opener to us, particularly to us old women who are home bound. They offered us the opportunity to explore our country. Some of us had not been to most of the districts that we visited, like Mutoko and Chihota in Mashonaland East and Lower Gweru and Mvuma in Midlands. We also were able to discuss with the irrigators the problems they had faced with irrigated agriculture and what organisations they had formed to ensure that they were able to operate and maintain their irrigation schemes. However the tours proved to be full of drama. In all but the tour to Nyandoro irrigation scheme in Chihota we had bus breakdowns that shook our nerves. In the Lower Gweru trip we had three tyre punctures along the way. In one of the incidents the bus nearly left the road. As a result some women refused to travel to Mutoko fearing the occurrence of such breakdowns. In the Mutoko trip we slept in the bus when the bus developed a mechanical problem. While with the Mvuma trip, although the bus did not have any

problems, most of us had a terrible running stomach from food poisoning apparently arising from the drums in which the food was prepared. So although we learnt a lot, these tours had some anxious moments for us.”

The users craft their organisational framework

The first chairperson of the IMC recalls that after the look-and-learn tours they had a meeting facilitated by the SAES, Mr Sithole, to deliberate on the organisational framework they needed for their irrigation scheme. He says that they initially settled on three user organisations, the IMC as the mother body with its two sub-committees the Disciplinary Committee (DC) and the Marketing Committee (MC). Based on discussions with AGRITEX Zvimba district staff in 2002, I was able draw up Figure 3.4 as the initial organisational framework crafted by the users with AGRITEX assistance. Chapter 4 will detail how the organisational framework functioned in practice.

Figure 3.4: The organisational framework at the inception of the Musarurwa irrigation scheme



3.6 Conclusion: the birth of a community irrigation scheme

In this chapter I have traced the establishment of Musarurwa irrigation scheme from the idea to the construction of a semi-portable sprinkler irrigation scheme in which two irrigators would share a six sprinkler 50 mm aluminium lateral. In this concluding section I discuss the process of developing the policy model and the irrigation scheme. I start by discussing the identified main drivers inspiring the Water User Association (WUA) policy model. This is followed by a presentation of the main actors involved in the construction of the scheme and the negotiations and adaptations that occurred during the construction process. Finally the

type of crafted technology is presented and the involvement of the users in the design and construction of the model is discussed.

The main drivers of the model

Musarurwa irrigation scheme was developed by AGRITEX Irrigation engineers at provincial level wishing to implement their own brand of user involvement in the design and establishment of exclusively farmer managed smallholder irrigation schemes. The birth of the irrigation scheme was induced by the 1992 “worst drought in living memory”. The State President Mugabe marvelled by the ingenuity of the relief canal from Darwandale dam to Chegutu town coupled with the Japanese Ambassador’s generous present to him hatched the idea of irrigated agriculture to ensure reduced effects of any impending droughts. Government bureaucrats perceived the president’s idea as a political dictate and seized it as an opportunity to please the patron of the state and thereby enhancing their own professional careers through political patronage. The final product through was pretty much determined by a number of factors, incidents and co-incidents. The failure by government agencies to identify a conjugate 200 hectare irrigated block of land resulted in Japanese funding faltering.

The model itself was informed by the cost reduction and cost recovery principles gleaned from the Economic Structural Adjustment Programme (ESAP) rhetoric abound during this period. User involvement in design and construction, operation and maintenance it was assumed, would result in cost reduction to government as users would provide all the labour required for surveys and construction. The logic was that in the process users would develop a sense of ownership of the irrigation system and thus increase their willingness to finance the operation and maintenance cost of the irrigation scheme leading to minimal costs to government. The principle of participatory designs was also informed by the numerous donor development discourses flooding the country then. The two irrigation engineers trained in participatory irrigation development ably assisted by individual who had hands on experience from the EU funded construction of the Musikavanhu irrigation project in Manicaland were keen to implement the principle. Poor relations between the two engineers and Head Office, allowed the two engineers to do as they pleased. Apart from donor influence and overseas training the model was also heavily influenced by the existing irrigation policy statements, especially the DERUDE 1983 and the FAO 1994 policy papers. The model therefore was very much dependent on the individual clout of the implementing engineers and their familiarity with the pieces of policy statements for its success and continuity.

The main actors in the implementation of the irrigation scheme

The main actors

Many a time in my discussions with especially researchers in the smallholder irrigation sector of Zimbabwe I hear them referring to smallholder irrigation schemes as AGRITEX schemes suggesting that AGRITEX was exclusively at liberty to develop the schemes where ever they needed to and as they wished. From this chapter the main actors include the two AGRITEX engineers, the DAEO, the DA and the AEO. Funnily enough farmers themselves were initially not involved. Quite an important actor was the invisible hand of the State President Mugabe who was hovering in the background. Also involved in the initial stages of the project was the Japanese Ambassador who later faded out when it became apparent that his wish for a “magnanimous” 200 hectare irrigated block of land would not materialise.

Adaptations

A number of modifications were made during the implementation of the irrigation scheme. Initially the intention was to develop 200 hectares of irrigated land. However failure to identify 200 hectares of land in one stretch not only resulted in a smaller irrigated block but also in a change in the funding structure of the project, from Japanese funding to local funding through the Irrigation Support Fund (ISF). The plot size per irrigator was reduced from 1 hectare to 0.5 hectares to accommodate the wishes of the farmers who wanted to ensure that all those whose land lay in the irrigated land were members of the irrigation scheme. The number of direct beneficiaries was as a result increased from 25 to 50 farmers. With this change, the result was that two farmers ended up sharing one lateral. Although initial land identification was the mandate of the AGRITEX engineers, in the end, the Rural District Council, the local leaders (Sabhukus) and the individual farmers whose plots would eventually be used for developing the scheme became involved. Although the intention was to reduce costs by using beneficiaries as the suppliers of construction labour, the farmers were later paid as casual workers when it became evident that the pace of construction was too slow. Although the intention was to involve the farmers in the design of the irrigation scheme, the choice of the choice for semi-portable irrigation system and the pump station was more or less fixed as the knowledge of the farmers on best site for a pump station was not used by the engineers. Also suggestions for reservoirs for nurseries were not taken up. These modifications had great impact on the operation and maintenance of the irrigation scheme.

The type of technology and organisational framework crafted

The resultant irrigation technology from the design process was a semi-portable on and off irrigation system based on a single pumping unit. The fact that the users were involved in the construction of the irrigation system, and that 8 of them were trained to fix the irrigation scheme and worked as casual workers of the contractor who installed the irrigation system, resulted in the users gaining valuable skills in operating and maintaining the irrigation scheme. The irrigation system exerted organisational demands on the users. First the single pump station and on and of nature of the system united the users under the one IMC. This also forced the users to adopt a single cropping programme that was strictly followed to ensure timely irrigation of the crops. The shared in-field irrigation equipment also forced the two farmers sharing the lateral to cooperate with each other in the maintenance of the irrigation system. The on and of nature of the irrigation system also demanded that the IMC monitored the maintenance of not only the main system but the in-field irrigation system as well. The IMC was therefore to be assisted by a disciplinary committee and a marketing committee in the running of the irrigation scheme. The disciplinary committee was important for strict discipline in the irrigation scheme while the marketing committee was required for the negotiation for services with providers of inputs and prices for produce to ensure that all in the scheme produced at near parity level. Chapter four details what happened in practice.



Photo 5: Lengthening stabilising batten
Source: picture Zawe 2004



Photo 6: Stone buttressing stabilising batten
Source: picture Zawe 2004

4 THE MUSARURWA WUA MODEL IN PRACTICE

“Upon completion of the construction, farmer training sessions will be organized and directed by AGRITEX. Training is important for familiarizing the irrigators, and especially their Irrigation Management Committee, on the operation and maintenance of the scheme. While the overall irrigation aspects of the scheme will be dealt with by the Irrigation Management Committee, each individual farmer will be responsible for the plot level facilities provided by the scheme. Guidance and advice on the implementation of the agreed cropping pattern will be provided by AGRITEX. Technical advice on correct type and timing of the cultural practices; use of fertilisers, pest and disease measures will be provided by the District Agricultural Extension Office with support from province. The scheme will be managed by the irrigators through the Irrigation Management Committee elected by the irrigators for specified periods.” (Musarurwa feasibility report 1996, 15)

Institutional development through relevant training and liaison has become key policy rhetoric. The above quote and chapter 3 show what the planners and designers of the Musarurwa irrigation scheme had in mind during the planning of the irrigation scheme. This chapter will discuss the operational realities of the Musarurwa irrigation scheme. Firstly the selection of irrigators (4.1) is discussed to show how and why the selection criteria for the “right” irrigators developed by the irrigation agency were abandoned by actors on the ground. Then (4.2) organisations crafted to manage the irrigation scheme, together with the actors within the organisations, and how these have interacted with each other and with other seemingly invisible organisations and individuals. The subsequent section (4.3) presents the struggles by the irrigators to get to grips with the irrigation infrastructure. How the irrigators dealt with the cropping and marketing aspects of irrigated agriculture is discussed in section 4.4. Finally (4.5) conclusions are drawn on the practice of the WUA model.

4.1 Selection of irrigators

The process of selection of irrigators is easier said than done and yet it is greatly acclaimed (Chitsiko 1988, KfW/GoZ 2001a, 2001b). Under the irrigation development discourse in Zimbabwe, irrigators are selected based on government criteria that prioritize persons: of good health; of the productive age group; with inadequate rain-fed land holding; that possess agricultural skills; that are unemployed; that are not engaged in business and who are citizens of Zimbabwe. This section will show that the farmer selection process at Musarurwa was not a distinct stand-alone process but an intertwined procedure that started with the land identification process. The AGRITEX personnel tasked with land identification were also expected to select the irrigators using to a large extent the DERUDE irrigator selection criteria (Box 4.1). In practice however these criteria were never fully adhered to. The Irrigation Officer and the representative of the dominant political organisations were not part of the selection board. A woman Agricultural Extension Officer (AEO) replaced the Irrigation Officer while representatives of dominant political organisations were not considered at all. Asked in 2002 why this was so the local councillor of the Zvimba Rural District council (ZRDC), Mr. Kupara, said that Zvimba District was dominated by a single political party: ZANU PF. He claimed that in Zvimba District, the elected councillor of the ZRDC represented the party and the people in his/her ward in all development matters. In his

opinion, the ZANU PF party leadership was not involved in development matters. They were restricted to organising the party:

“We don’t mix party politics and development in Zvimba District.”

Box 4.1: The AGRITEX selection criteria for irrigators

Every irrigation scheme is planned with the aim of creating a new living community with roots in the new soil. This involves bringing together not only experienced irrigators, but also others with initiative and ability to learn onto the schemes to give the highest possible economic gains and social stability. To achieve these goals, consideration should be given to the following:

Selection of irrigators will be carried out by a selection board composed of the Irrigation Officer, representatives from the Local District Council, dominant political organisations and the people to be displaced;

- The community to be displaced by the irrigation development process will be accorded priority in selection as long as they fulfil the selection criteria;
- Good health and physical fitness;
- Aged preferably between 18 and 50 years with dependants ;
- Effectively landless or with dryland holdings insufficient to provide for the family’s maintenance;
- Agricultural suitability or have other skills;
- Businessmen and those in wage employment are specifically excluded;
- Zimbabwean citizenship and;
- Priority will be accorded to qualifying people who will be displaced by the development of the scheme, followed by locals, then others.

Source: DERUDE (1983).

Additions were instead made to the selection board to include three village headmen (*Sabhukus*) Mang’ohzo, Musarurwa and Mushayakarara of the Musarurwa clan. In 2002 Mr Kupara said that the three *Sabhukus* were included to ensure that the local people’s representatives were involved in the selection of irrigators. He said that *Sabhukus* were the undisputed representatives of the people in communal areas, because they were the custodians of land in communal areas. He claims that they were the ones who allocated land to their subjects for all purposes; residential, arable, wetland (for small gardens) and even for burying the dead.⁵⁷ He emphasised that:

“Irrigation invariably involves dispossessing some people of their land and reallocating it to others. Invariably different people were going to claim ownership to the land that is going to be irrigated. It was the Sabhuku who would know which piece of land he/she allocated to who. In Musarurwa we wanted to accommodate as much as possible those people whose land lay on the proposed irrigation scheme. Because most of the land had by then fallen fallow, different people were laying claims to the same pieces of land. The Sabhuku would be available to confirm the real owner of the piece of land”.

⁵⁷ See Mudege (2005) on the role of the *Sabhuku* in the allocation of land for burying the dead.

In 2002 AEO Mutonhodza explained her strategy to get the irrigation scheme accepted by the Musarurwa villagers during the land identification process:

“I told the villagers that the irrigation scheme aimed at stopping all stream-bank cultivation along the Manyame River, including the small vegetable gardens littered along the river. For people of the Musarurwa area, the irrigation scheme would result in the owners of these small gardens being allocated much bigger gardens away from the stream banks of the Manyame River. Also watering of the garden would be made much easier, because of the use of electric motor driven pumps and sprinklers. So a list of those who had these small gardens was required. To avoid claims and counter claims on which garden belonged to who, the Sabhukus had to be part of the farmer selection board. During the visit to Nyandoro irrigation scheme in the Mahusekwa area of the Chihota Communal area of Mashonaland East province⁵⁸, the irrigators were convinced that it was beneficial to abandon their small gardens in favour of the irrigation scheme.”

In the end the selection process was reduced to a listing of potential beneficiaries by the three *Sabhukus* based on either previous ownership of a vegetable garden along the Manyame River or ownership of land that lay in the proposed irrigation site. Even if a household had land in both situations, it was only counted once. The three *Sabhukus* came up with forty four proposed beneficiaries from this exercise. Thirty-three of the listed beneficiaries were women, sixteen of them above the fifty-year age limit for prospective irrigators. Of the eleven men selected, four were above the fifty-year age limit. As discussed in Chapter 3, the identified number of prospective irrigators was way above the twenty-five one-hectare plots that the AGRITEX design had envisaged. To accommodate all the affected persons, the *Sabhukus* and the AEO decided that every two households would share irrigation equipment designed for the one-hectare plot, with each household having its own half a hectare plot.

An additional six irrigators were required to fully utilise the resultant fifty half-a-hectare plots. These six vacancies were not filled until after the construction of the irrigation scheme. The irrigators decided to incorporate six of the eight casual workers (young men) who were employed by the contractor IRRICON during the construction period to take advantage of the training and knowledge of irrigation system the young men had gained from the contractor. To decide which of the eight would be offered a plot in the irrigation scheme, the eight were asked to pick a piece of paper from a hat. Among the successful six young men was Royce Chaya a former farm worker who later became a key figure in the operation and management of the irrigation scheme.

4.2 The organisational framework

The irrigators with the advice of AGRITEX crafted a number of organisations. When discussing with the irrigators and former AGRITEX officials now working as personnel of its offshoots (AREX, DoAE and DoI) one got the impression that the irrigation scheme was run by an Irrigation Management Committee (IMC) assisted by a Disciplinary Committee (DC), a

⁵⁸ The Nyandoro irrigation scheme was one of the first draghose irrigation schemes to be established by AGRITEX with technical support from the FAO. The irrigation scheme was one of the most successful horticulture-based smallholder irrigation schemes. It thrived on carrots, onions, cabbages and green maize, all sold at the Mbare open vegetable market in Harare. The scheme was made up of Chihota vegetable irrigators who had left their stream bank vegetable gardens for the irrigation scheme.

Marketing Committee (MC) and a Water Committee (WC). The functions and interactions of the organisations were said to be sanctioned by a constitution crafted by the irrigators themselves (see also Machiridza 2003). One also gets the impression that the irrigators had mastered the art of running the irrigation scheme and that they were at harmony with it. However a stay at the scheme to observe day-to-day operations revealed that there were many unsung other organisations and individuals involved in making the Musarurwa irrigation scheme wheel turn. Intra organisational battles among the irrigators that require interaction with other organisations and institutions were observed. This section discusses how the irrigators at Musarurwa organised themselves in order to adopt irrigated agriculture as a survival strategy and how they coped with day-to-day struggles of living and working together as a community of irrigators.

The crafted organisations and operational reality

The four organisations at the scheme were elected into office by all the irrigators at a general meeting. Membership at Musarurwa irrigation scheme was based on irrigators mentioned in the irrigation scheme register. To become a registered member at the start of the scheme, one had to pay a Zim \$50 (US \$2.11) joining fee (Machiridza 2003, 23). According to Machiridza (2003) Musarurwa irrigators had six obligations to the scheme sanctioned by their constitution:

- To pay an irrigation scheme levy to the IMC twice a year (January and June) for the payment of water bills, electricity bills and repair and maintenance of scheme level irrigation hardware. This levy was calculated by the IMC based on the going rates of water and electricity charges with a 30 % contingency for unforeseen rises in tariffs. Irrigators had the option to pay the levy in monthly instalments over the six month period. However an instalment in arrears attracted a 10 % monthly interest charge;
- Members were expected to strictly follow a cropping pattern designed with the assistance of a government Agricultural Extension Worker (AEW) stationed at the scheme. In this regard any activities that the AEO might advise irrigators to do were obligatory including keeping their plots free of weeds (inside and along the roads) in accordance to a crop and cultural practice calendar given to them by the AEW;
- Each irrigator was obliged annually to clear a section of a fireguard along the scheme fence (four meter wide by fifty meter long) at the beginning of the dry season in May to protect the crops from bush fires and also afford easy repair and maintenance of the fence;
- Each irrigator was obliged to provide security services overnight by guarding the irrigation scheme in accordance with a group of ten irrigators for six days a month;
- The two irrigators sharing the six sprinkler lateral were obliged to replace stolen, lost or worn-out parts of the lateral; and
- Irrigators were obliged to attend all meetings called by the IMC. If an irrigator could not make it to the meeting, a notification had to be filed with the IMC secretary or the chairperson or any irrigator who was to pass the notification to secretary or chairperson. It was possible to send a representative to the meeting, but only one who was capable of recounting the meeting's proceedings to the irrigator.

The history and functioning of the Irrigation Management Committee (IMC)

Since the inauguration of the Musarurwa irrigation scheme in 1999, the scheme has had three elected IMCs.

The first IMC (1998-2004)

The first IMC was elected into office in 1998 towards the end of the irrigation construction period. The committee was made up of seven members: the chairperson, the vice-chairperson, the secretary, the vice-secretary, treasurer and two committee members. It consisted of four women and three men elected by irrigators of the scheme. From a gender perspective, the proportion of female to male committee members in a way resembled the proportion of female to male irrigators in the scheme. One would therefore conclude that women were included in forums for decision making at the scheme. However an analysis of positions held by female and male committee members showed that women were not in the powerful positions despite their numerical majority. The positions of chairperson and secretary were both held by men. Their deputies and the position of treasurer were held by women and so was one position of committee member. According to the Musarurwa irrigators' own wealth rankings, the whole IMC leadership was rich, except for the vice chairperson and the male committee member who were classified as being in the medium rich category (Machiridza 2003). Except for the male committee member, the members belonged to the Musarurwa clan. This committee was in power from 1998 to 2004, when it was voted out of office.

The second IMC (2004)

The second IMC emerged as a result of calls from the irrigators for a leadership change following what they perceived as declining production levels. They were also accusing the chairperson of being dominated by the secretary. Most irrigators cited old age and lack of confidence in the chairperson. Emotions flared up in March 2004 when forty-two irrigators who had contributed cash to the IMC for the bulk purchase of potato seed failed to plant potatoes when the IMC failed to secure the seed. Their usual source, a commercial farmer in Mount Hamden near Harare, failed to supply the seed, citing too much demand from A2 irrigators around Harare. Only eight irrigators planted potatoes that year. These eight apparently were too late in paying their subscriptions to the IMC and were thus forced to buy what the Musarurwa irrigators were condemning as poor quality seed from the Mbare open market in Harare. At the end of 2003, the IMC had also failed to secure streak resistant maize seed from the Zimbabwe Seed Company (Seed Co), who suffered from a critical shortage of any maize variety.

Frustrated by these failures, the irrigators called for a leadership change, especially the chairperson. In the ensuing elections women members of the committee were the main casualties. Of the four women in the first IMC, only one (the treasurer) survived. A new woman Mrs Jessie Musarurwa was voted in as a committee member. Although the three men remained in the committee, the former secretary was elevated to the post of chairperson while the former chairperson was demoted to the post of vice-chairperson. A new man, Mr. Pilot Muchenje who was a retrenched former clerk of the Chegutu town council, became the secretary. His deputy was Mr Royce Chaya, a former farm worker (see Box 4.2). Mr Chaya was also appointed the irrigation scheme's production manager.

Box 4.2: The life of the IMC vice-secretary and production manager Mr. Royce Chaya

In Mr. Royce Chaya's opinion, he was chosen to be the vice-secretary and production manager of the Musarurwa irrigation scheme because he had been very successful in his farming endeavours at the scheme in almost all his crops. He attributes his success in farming to his past. He was born in 1968 of farm worker parents who worked for a commercial farmer at Red Mile farm to the North of the Musarurwa village across the Manyame River. He says that he started working as a farm worker at the age of ten years when he was still a primary school boy. Both his parents died at the time he had just started secondary education. He says he used to wake up early in the morning, around 3:30, to carry out his tasks of weeding, harvesting and also preparation of the land. At 6:30 am he would be back in the compound to prepare and go to school. At 17:00 hours, he would return from school and assist the farm foreman with his daily records in his office until 19:00 hours.

With two sisters and one brother to care for, he still needed to supplement his meagre earnings with "illegal" fishing from farm dams, which started as a hobby, but later became a good source of money for him. He recalls a day in 1996 when the farm owner caught him illegally fishing on one of the farm dams. Anticipating horrible punishment from the farm owner, he painstakingly followed him to the farm house where his catch of the day was weighed. The farm owner took all the fish and paid him Zim \$20 (US \$1.72). He asked him to bring the same amount of fish twice a week together with a list of all fish poachers that were using nets. He complied, because he needed to earn a living and pay school fees for his brother and sister who were still going to school, although it was dangerous to report fish poachers to the farm owner. Royce was pushed off the farm when it was bought by government for resettlement in 1977. By then he was an assistant to the farm lorry driver responsible for sending produce to the market and bringing farm inputs from town. Royce found employment with a young man from the Musarurwa village, who was himself working in Harare. His job was to guard the young man's rural home and property, including cattle and household utensils. To supplement his meagre earnings Royce was employed by IRRICON as one of the casual workers during the construction of Musarurwa irrigation scheme. At the end of the construction period he was one of the people who were offered a plot in the scheme. When his boss discovered that Mr Chaya now owned a plot in the irrigation scheme, he accused him of being a cheat and immediately dismissed him from work. Having lost his job, Mr Chaya had nowhere to stay. To worsen the situation, his former boss asked the IMC to evict Mr Chaya from the scheme and allocate the Chaya's plot to him instead, since Mr Chaya was his worker. The IMC though declined to do so because it was the services that Mr Chaya could offer to the scheme that earned him the plot. With the IMC's support, Mr Chaya was given a residential stand in Musarurwa village by *Sabhuku* Musarurwa.

The third IMC (2004-)

The second IMC lasted for only four months. The IMC chairperson and its secretary were booted out of office when they were accused of conniving with a conman and defrauding the irrigators of seven tonnes of sugar bean worth Zim \$ 24,000,000 (US \$3,871). A third election was held to choose a new IMC. A woman chairperson, a woman vice chairperson and a woman vice-secretary were elected into office raising the number of women members of the IMC back to four and reducing the number of man to three. Asked in 2004 to comment on the irrigators' voting patterns, Mr Chifura, a committee member in the first and second committees, not belonging to the Musarurwa clan, said:

"In 1998, people voted on Sabhuku lines. Thus the committee was made up of people from the Musarurwa and Mang'ohzo Sabhukus. I was only thrown into the committee because they wanted someone who knew the irrigation system in and out so as to ensure that the committee would be confident to operate the scheme. The women were put in the committee only to appease the insistence of the returning officer (AGRITEX Senior Agricultural

Extension Supervisor (SAES) Sithole). For example the vice-secretary elected could not read or write because she never went to school at all. However in 2004, irrigators wanted people who could lead them to prosperity. They still respected the chairperson but they wanted a much younger person. As for the women, they had not been very active in the day-to-day running of the scheme. As a result they were booted out of the committee. The treasurer is the best we can ever have. She is very honest and has a lot of experience. Her children are well off and she has a lot of cattle. However in the third election, the irrigators voted for the two women because the former chairperson was threatening us with witchcraft. These women said openly that they were not afraid of witchcraft. They had also been very vocal that the constitution was to be applied in full. So people voted for them. I can only say that the people are now more focused on good leadership.”

The water committee (WC)

The WC was started as an eight member committee that was elected to ensure that the pump was operated by irrigators who had the know-how. Most irrigators at the scheme referred to the members of the WC as the Engineers of the scheme. The members of the committee worked in pairs. Each pair operated the pump for a week after which another pair took over. Members of the pair took turns in switching the pump on and off in the morning and in the afternoon. The important items checked before starting and during operation at the pump were adjustment and replacement of the parking material, the pump oil level, the pump and electric motor bearings, and the operating pressure amperage. The WC also offered maintenance services to the individual irrigators for plot level repairs at negotiated prices paid by the individual irrigator. A review of the scheme’s constitution showed that the functions of the committee had not been included. According to members of the committee, their job was a full-time job and was the core of the irrigation scheme. Members of the WC were not paid for their services, but they were excused from other irrigation scheme duties like weeding the fire guard and repair of the scheme’s fence. They claim that because of their duties requiring them to be in the irrigation scheme, they had spent much more time on their plots than those who were free to go out of the scheme as and when they wished. As a result their plots always looked much neater than the rest. The history and functioning of the WC is briefly discussed.

The history and functioning of the WC according to two “permanent” members

Never Chifura is one of the two “permanent” members of the WC. He recalled that the irrigators initiated the WC in 2000. It was established at a meeting organised by the AGRITEX SAES to announce that the Agricultural Extension Worker based at Musarurwa would be going to Chibero college for further education and that they were to remain without an AEW, whilst AGRITEX were looking for a replacement:

“It was at this meeting that the SAES reminded us that government was going to pull out of the operation and maintenance of the irrigation scheme in September of 2001 at the end of the government’s two year operational and maintenance assistance period for scheme. The SAES therefore asked the chairperson to appoint a single person who would operate the pump on behalf of the irrigators, a job that had until then been directed by the AEW. The Chairperson however, while agreeing that there was a need for the irrigators to operate the irrigation scheme without AGRITEX assistance, suggested that a single person would not be the best option. His argument being that if that one person somehow fell ill or was away on say a funeral then the scheme would not operate. So he opened up the matter for debate by the irrigators. In the end the secretary who was taking minutes summarised the irrigators’ contributions as having suggested that the six irrigators who had worked with the contractor during the construction period would be in charge of the pump. With advice from the SAES,

the six, an elected woman irrigator and the IMC secretary were asked to form the first WC of scheme.”

Mr Chifura claimed that the seven members then decided amongst themselves who would take which portfolio. Since the secretary of the irrigation scheme was included they made him the chairperson of the committee, while Mr Chifura became the vice chairperson and the rest ordinary committee members. However the committee was assigned many other functions, including irrigation scheduling; monitoring the performance of the sprinklers at individual plots; and advising irrigators on how to correct the anomalies. According to Mr. Chifura, the woman committee member did not last long. He says that she was not able to handle the hard work of digging and lifting pipes especially when there was a need to repair burst pipes:

“She also found it difficult to manoeuvre the winch when it came to pulling the pump out of the river to safety during floods. Things came to a head when she failed to hold the winch in position resulting in one of my fingers being crushed. The secretary did not last long either. He quit, citing too much pressure of work. The other two members resigned for the same reason. In the end it was Mr. Chaya and I who remained in the committee but were later joined by four all male and much younger other irrigators. There are two reasons why we can not resign. Firstly (and especially so for Mr Chaya), we are not members of the Musarurwa clan. If we decided to resign I foresee them throwing us out of the irrigation scheme in favour of their own sons who are loitering around. You can not trust these people. Secondly Mr. Chaya and I are the only persons with some real hands-on experience on electricity and pumps. I once worked for ZESA while Mr. Chaya was a pump minder as a farm worker. The guy is also very smart. He can read and understand the operational instructions very well. He also has a lot of contacts in most towns. Without him the operation of the pump would be very difficult.”

Mr. Chifura blamed government for dumping the irrigation scheme on them without any training on how to operate and maintain it. He said that there was nothing difficult in operating an irrigation pump but without training everything became very complicated.

The disciplinary committee

The first DC was elected on the same day as the WC. It was made up of three women and two men. The three women members of the committee and the one male member were in what the irrigators at Musarurwa had classified as the medium rich wealth ranking group while one man was classified as being in the poor category (Machiridza 2003, 63). Two of the women were widowed members of the Musarurwa clan. The other woman had a husband who worked in Harare. The man classified as poor was the *Sabhuku* for the Mushayakarara village of the Musarurwa people.⁵⁹ The functions of the committee were to preside over internal disputes among irrigators. They only approached the IMC when no amicable solution was reached. A stay at the scheme though revealed that most cases were tried by the IMC and very few cases were referred to the DC. However in 2004 the DC was tasked to preside over a dispute involving the IMC chairperson and the secretary who were accused of the sugar bean scandal mentioned above. This was a marathon case that revealed the mettle of the DC.

⁵⁹ He was a young man who became *Sabhuku* because his father's young brother who traditionally should have inherited the post had declined for reasons of being at work in Harare. However when the company he was working for closed down in 2003, he came back to Musarurwa to claim his throne. The two were still locked in negotiations by end of the study in May 2005.

The case of the stolen sugar beans (the DC in action)

In July 2004 a seemingly good sugar bean marketing deal negotiated by the newly elected chairperson to spearhead the revamping of the irrigation scheme turned into a nightmare for the irrigators and the chairperson. It all started at a *braai* fire at a beer drinking outlet at Murombedzi growth point. The Chairperson claims he was roasting a piece of meat when he was approached by a young man with a much bigger piece of meat. He says that it was when their pieces of meat were roasting that the young man informed him that he was coming from Harare to look for sugar beans to buy for the company he was working for. The chairperson purportedly told the young man that he could arrange for him to buy up to 10 tonnes of sugar beans from Musarurwa if he was paying cash. The young man asked for directions to get to the scheme for concrete discussions and samples the following morning. After that, they went into the bar and drank some more before the chairperson cycled home, a happy man. As a new chairperson, things were shaping up well. However while he was having a nice time, he was observed by one woman irrigator who was also drinking with friends in the same bar.

In the morning the chairperson called an emergency meeting to discuss the marketing of the sugar bean crop. The irrigators had agreed in an earlier meeting to market their beans as a group to one good buyer so that they could make a bulk order of inputs for their following cropping season. This way the irrigators would be able to plant their crops at the same time, with the correct amounts of inputs, and by the same vein making irrigation scheduling easy. The task of finding a buyer for the bean crop had been assigned to the MC. The chairperson started the meeting by asking the MC chairperson Mr Chaya to report on the MC's progress towards securing a market for the sugar bean crop. Mr Chaya told the meeting that they had managed to negotiate a price of Zim \$4,000 (US \$0.65) per kilogram with a Chinhoyi mini-supermarket (Chinhoyi Greens). After this report the chairperson recounted of his meeting at Murombedzi with the young man whose company was interested in buying their sugar beans. He told the meeting that he had asked the young man to come to the scheme that afternoon to debate concrete arrangements for the sale of the sugar beans. He then asked the irrigators to brainstorm on the conditions of sale of their sugar beans before the arrival of the young man. The irrigators discussed the issue at length after which the chairperson asked the secretary to summarise the discussion. According to Mr. Chaya's notes of the meeting, though undated, the secretary's summary centred on the following:

"Irrigators will only consider selling the sugar beans to the young man's company if the company pays them in cash and not by cheque; The company must provide its own transport; The company will only collect the beans after the IMC has been paid; and the company's price must be higher than what Chinhoyi Greens had offered."

The young man arrived at the scheme around 13:00 hours to negotiate the purchase of the sugar beans. After introductions, the chairperson handed over the chairpersonship of the meeting to the chairperson of the MC to lead the negotiations. The MC Chairperson asked the young man to explain his mission to the irrigators by detailing what company he represented, how much beans he required and what price his company was offering. The young man told the irrigators that his was a new company based in Harare that was involved in agricultural produce market brokering. He told them that they handled all crops from field crops to tropical fruits like mangoes.⁶⁰ He told them that his company had many buyers of these crops

⁶⁰ Mangoes were abundant in Zvimba district and the irrigators in Zvimba were having problems when it came to the marketing of mangoes with most of the crop rotting every summer.

in neighbouring countries like South Africa, Zambia and Botswana who were in dire need of these products. He then told them that his company was brokering sugar beans for its client in Botswana. He told the irrigators that he was going to offer the Musarurwa irrigators Zim\$ 6,000 (US \$0.97) per kilogram, Zim \$ 2,000 (US \$0.32) more than what Chinhoyi Greens were offering. The irrigators agreed with the price but insisted on cash payment. In the deal the young man's company would provide transport to collect the bean crop from the scheme to Harare. The irrigators were given three days to pack and weigh their sugar beans into 50 kilogram bags. Meanwhile the young man would go back to Harare and scrounge for cash from the banks.⁶¹

When the young man arrived with a seven tonne lorry after three days, most irrigators except those whose crop was not yet ripe had their sugar beans stored at the irrigation scheme's warehouse. Since the IMC had already recorded the contribution of each and calculated what was due to each farmer, they loaded the beans into the lorry while they waited for the arrival of the young man's manager who was bringing the cash. When the manager arrived, he did not have the cash, citing a shortage of cash in the banks in Harare. The manager proposed to pay the IMC by cheque swearing that the irrigators would not experience any problems with the cheque. The IMC was initially not interested in a cheque payment. After a lengthy discussion the IMC gave in to the manager's offer. However the IMC demanded his office telephone number, mobile cell phone number, the physical address of the company and the names of both the young man and the manager including their National Identification numbers. The physical address of the company was also printed on the company's acknowledgement of receipt of the sugar beans, a document signed between the IMC and the company manager. The latter insisted on this signed document to ensure that both parties were protected. The company needed the signed document to use as proof of purchase in the event of encounters with GMB inspectors while the IMC needed it as proof of sale of the said tonnage in the event of disputes. The manager further presented himself as a good business associate when he promised the IMC that he would make arrangements with Windmill, a fertiliser manufacturing company, to supply them with fertiliser. He claimed that the sales manager at Windmill's Harare depot was his brother in law.

Finally the IMC was left with a cheque that they deposited in their bank account on the day of sale. However it took fourteen days in Zimbabwe for a cheque to be cleared. The IMC remained in contact with both the manager and young man on their mobile telephones for ten days after the sugar beans had been collected. During this period they were negotiating for the purchase of fertiliser from Windmill. However when they tried to phone them on the office telephone number, the phone rang but it was never answered.

The IMC made two mistakes in this deal. First they did not record the vehicle registration numbers of both the lorry and the manager's car. Secondly, they took the National registration Identity numbers for the two men from their passports. On day fourteen after the sale, when the IMC visited the bank to withdraw cash, the Zimbank branch manager at Murombedzi informed them that the Zim \$ 24,000,000 (US \$ 3,871) cheque that they had deposited was in

⁶¹ Starting in early 2003, Zimbabwean banks were experiencing cash shortages that precipitated rationed withdrawals and long queues at banks. "The cash fiasco, which has affected everyone in one way or another, resulted in the introduction of bearer's cheques in denominations of \$1,000, \$5,000, \$10,000 and \$20,000 onto the market in tandem with new \$500 notes last Friday" (The Standard 2003).

fact just a piece of paper, not worth anything. They were charged for depositing a fake cheque into their account. When they tried to phone the two company representatives on their mobile phones, the operator informed them that the numbers were no longer in use. The IMC chairperson and the secretary immediately boarded a commuter bus and went on a pursuit mission to Harare. However when they got to the physical address of the company, they were greeted by one of the most beautifully crafted tombstones in the country.

Further investigations revealed that the address they were given was that of a newly formed funeral services company that had nothing to do with agricultural produce brokering. They reported the case to the police who soon told them that the identity numbers they were given were fake. Back at Musarurwa, the irrigators were not amused. They accused the Chairperson and his secretary of conniving with the conmen. In January 2005 Mrs. Kesiwe Muzuva, the treasurer of the irrigation scheme, commented:

“The irrigators are very disappointed with the actions of the IMC particularly the chairperson and the secretary. What many are not happy with is why the chairperson decided to look for a market for the sugar beans, a function that should have been carried out by the MC. The secretary was particularly blamed for not taking down the registration numbers of the three vehicles involved in the fraudulent deal. Most irrigators are of the opinion that these numbers would have assisted very much in the recovery of their beans. Also most people are mystified by the chairperson’s decision to accept cheque payment without the prior approval of the general assembly of irrigators. We had all said that we did not want cheque payment at all in view of the cash shortages in the country then. Also there were witnesses in the scheme who saw the chairperson, the secretary and the two said company representatives drinking happily at Murombedzi on the day the sugar beans were collected from the scheme. Instead of the chairmen being apologetic, he is shouting at people accusing them of not being appreciative of his services to the scheme. As a result we are now all convinced that the two must be evicted from the irrigation scheme.”

The chairperson and the secretary were therefore hauled in front of the disciplinary committee. The DC recommended that the chairperson and the secretary be suspended from the scheme, while the police investigated their case. A general meeting (chaired by the vice chairperson) was held, at which the recommendations of the DC were painstakingly deliberated by all irrigators. The chairperson and the secretary were also afforded the opportunity to further explain the matter to the irrigators. The chairperson behaved very abusively at the meeting. Commenting on the proceedings of the meeting in 2005, Mr Chaya, the chairperson of the MC said:

“Instead of explaining to the people what had actually happened, the chairperson started narrating to the people the sacrifices he had made to the rest of the irrigators since the start of the irrigation scheme. He swore that even if the general meeting endorsed the recommendations of the DC he would not recognise the suspension. He started to threaten people with physical action if they continued to discuss the issue. The vice chairperson then asked for permission to adjourn the meeting citing that it was now time to involve government. At this juncture, the irrigators who were visibly agitated called for an immediate election to elect a new substantive IMC. They accused the acting chairperson of accepting to be intimidated. The election was held and the chairperson of the DC Mrs Cecilia Musarurwa was elected chairperson and I was elected secretary of the IMC. The newly elected chairperson of the IMC immediately took over (...) and the suspension of the now former chairperson and his secretary was endorsed.”

The former chairperson, true to his word, did not recognise the suspension. He continued to conduct his farming ventures at the scheme as if nothing had happened. The new chairperson says that she was forced to travel to the AREX offices at Murombedzi for assistance. The DAEO asked the SAES to assist the chairperson to resolve the issue. The SAES who is also a 'muzukuru' (nephew) to the Musarurwa people, asked the chairperson to organise a meeting of all irrigators to which the local councillor, the Zvimba RDC chairperson and the DA would be invited. At the meeting the irrigators reiterated their resolve to suspend the former chairperson. The DA was then asked to inform the former chairperson of his suspension by letter. However when the former chairperson was officially handed the letter, he still refused to be suspended citing that the DA or the ZRDC had no jurisdiction over land at Musarurwa irrigation scheme. He therefore continued to work in his plot as if nothing had happened. In March 2005, the new chairperson narrated how the case was finally resolved:

"I was confused by the situation. Many irrigators were telling me that the former chairperson had hired a lawyer for the case. I therefore consulted Mr Elisha Mushayakarara⁶² who was here one weekend. He told me that the former chairperson was right in a way. He told me that in a way land in communal areas was still under the custody of the traditional chiefs. He therefore advised me to take the issue up with the Sabhuku. As a result a village court was held at which the issue was heard. The Sabhuku whose wife had also lost her sugar bean in the scam simply endorsed the suspension. The former chairperson still refused to be suspended throwing his insults on the Sabhuku. The Sabhuku did not waste time. He took the matter up with Chief Zvimba. At the chief's court, the former chairperson continued with his insults on authority. However his luck ran out this time. The chief called the police and the former chairperson was arrested and taken away by the police for two weeks, only to be released after paying a fine of Zim \$100,000 (US \$16.13) He was also slapped with a peace order prohibiting him from setting foot into the Musarurwa irrigation scheme. We took both the former chairperson and his secretary's plots for us to grow a crop that the IMC will market to pay back those irrigators who lost their sugar bean in this scam."

The marketing committee

The first marketing committee (MC) was made up of four members, two women and two men. The marketing committee was responsible for the bulk sourcing of crop production inputs and for organising markets for bulk marketing of produce. To do this it was envisaged that towards harvesting time the MC members would travel to nearby towns (Chinhoyi, Chegutu, Norton and Harare) to inform traders at open markets in these towns of the quantities of what products were on offer at the scheme. They were also expected to take samples of the products to show the traders the quality of produce the scheme was offering. Royce Chaya, the chairperson of the first MC, led a team of three others much older than him. The other members included a 51 year old woman, a 60 year old woman and 50 year old man while he was only 28 years old. He says that it was probably because of his exposure and knowledge of the markets that he gained when he was an assistant to the lorry driver at Red Mile farm that he was able to lead his much older colleagues. The MC was also responsible for deciding on the price at which to market the produce from the scheme although not all

⁶² Elisha Mushayakarara is one of the affluent members of the Musarurwa clan, being a former permanent secretary in the Ministry of finance and managing director of the Financial Holdings that incorporates Syfrets Merchant Bank and Scotfin Limited. Previously he had assisted with the connection of electricity to the nearby Garoi primary school.

members always stuck these prices. Asked in 2005 what should be the attributes of members of the MC, Mr Chaya replied:

“MC members should have extensive knowledge of agricultural markets in Zimbabwe. I was very fortunate in that while I was at Red Mile farm for three years I was a lorry driver assistant. Almost everyday I was on the road, visiting such towns as Chinhoyi, Banket, Harare, Kariba, Karoi and sometimes Marondera. My duty was to collect all orders of spare parts (tractors, irrigation pipes, electric motors, pumps of all kinds all sorts of inputs), take in all sorts of items needing repairs to repair shops and deliver products (pork, poultry, milk, vegetables and soyabean). As a result I have knowledge of where to take our irrigation equipment when it breaks down. I also know where to buy spares for sprinklers, knapsack sprayers, parking materials and all sorts of inputs. (...) Although it is nice to involve even women and old men in the MC, sometimes what we notice is that it is not practical. If women are still young, travelling extensively is not possible because they have a lot of household duties to take care of. An old person on the other hand, while they may not have household commitments, the speed of walking in crowded cities is a big setback for them. It is not surprising therefore that in our case I do most of the travelling. However the wisdom that these old members of our MC have has helped when it came to finalising contracts with buyers of our products.”

In reality though the functions of the MC were compromised by the IMC or other irrigators who from time to time found their own buyers who come to the scheme to collect produce at prices negotiated by the individual. In some cases irrigators take their products to individually negotiated markets at prices never revealed to other members. The case of the stolen beans discussed earlier is a case where the chairperson of the IMC looked for markets for the irrigators.

The intercession of natural calamities

Natural calamities are important mediators in day-to-day people to people relations at smallholder irrigation schemes in Zimbabwe. This phenomenon is often neglected in the study of such schemes. These natural calamities are interpreted differently by people and thus shape people to people relationships in profound and differing ways. This section presents two natural calamities that occurred at Musarurwa irrigation scheme and discusses the events that ensued.

The hailstorm of 2003

One Saturday afternoon on 14th October 2003 from around 17:00 to about 17:15 hours, Musarurwa irrigation scheme was pounded by a hailstorm. In the irrigation scheme were beautiful vegetables, groundnuts at flowering stage and a maize crop at tassel formation stage. At the end of the pounding storm, twenty-eight of the fifty-one plots in the scheme had suffered serious crop damage. Crop leaves were lacerated badly, reducing what most people had hoped to be a good harvest to a catastrophic loss. The storm also ripped gullies across many plots. The CAEO for Mashonaland West visited the irrigation scheme at the invitation of the irrigators. He promised the irrigators that government would assist the irrigators affected by the storm. However after all the estimates had been completed, it turned out that there was no budget within AGRITEX to take care of such calamities. Also since the financial year was coming to end, the Irrigation Extension budget line that could have been used was empty like almost all budget lines of the department. So the promises made to the irrigators by the CAEO were never fulfilled, creating mistrust between the Musarurwa irrigators and AGRITEX provincial offices. The IMC secretary summed up his frustration in 2003:

“How can an old man in such a high office lie to us like that? This is the problem with government officials today. They just are no longer able to tell people the truth. This was a natural occurrence and government had nothing to do with this. Why government officers decided to make promises of assistance and then fail to assist is puzzling. If people tell the truth it gives irrigators the opportunity to make their own arrangements to cope with the situation.”

The situation was further aggravated by another promise of assistance made to the irrigators by the State President through the provincial governor’s office. The provincial governor sent his driver to the Musarurwa irrigation scheme to inform them of the date when he was going to present them with the president’s donation of one hundred bags of fertiliser to the scheme following the hail storm. Mr. Mang’ohzo, the first IMC chairperson, narrated the events in 2003:

“The irrigators donated cash and prepared drinks and a good meal for the governor on this day. They were happy that at least some help was now forth coming from government. However all that happiness never materialised. When the governor came, he only had twenty seven bags of compound D fertiliser. He promised that the rest of the fertiliser would follow later. The fertiliser never came. The irrigators were very disappointed by this. Some were in fact accusing us, the IMC, of having somehow received and sold the fertiliser. We followed up the matter with the SAES but he told us that no fertiliser was going to come for the governor who had promised us the fertiliser had been replaced by a new governor who did not want to involve himself with the previous governors’ deals. So it is difficult to trust government now.”

Among the irrigators themselves, the storm created tensions as well. Because the storm affected each farmer differently, their yield expectations from the crop in the field were different. To those whose crop was damaged by hailstorm at least during the first two weeks after the storm it was not worthwhile paying for electricity bills that would not benefit them as much as those whose crop had not been damaged. Those whose crop had been damaged by the storm were of the opinion that those whose crop had not been damaged should have paid a bigger chunk of the electricity bills. Fortunately, most crops recovered well from the storm damage after about a month. Those outside the irrigation scheme, whose mangoes had been hammered by the storm, blamed the irrigators for the occurrence of the storm. They accused the irrigators of irrigating their crops on “*chisi*”, a weekly traditional resting day for all people in a given area when no one is allowed to visit their fields.⁶³ It is believed that natural calamities like drought, frost and hailstorm are a direct punishment from the ancestors for violating such traditional customs. The result was that the Musarurwa irrigators adjusted their irrigation turns to ensure that they did not irrigate on Friday, the *chisi* day for Musarurwa area.

An irrigator is struck by lightning and a Tsikamutanda visits the Musarurwa community

On Thursday 25th of December 2003, after a merry making day, when the Musarurwa people were preparing their Christmas day evening meals (usually rice and chicken), a year’s savings to some, lightning struck at the hut of one woman irrigator. She was busy preparing the Christmas dinner for her two children and her pregnant daughter in law. Her son, the husband of the daughter in law, was drinking beer with friends at Maghost Township as is usual for young energetic men on a Christmas day in rural Zimbabwe. When the lightning flashed, all

⁶³ See Mudege 2005 for a detailed account of *Chisi*.

the occupants of the hut were thrown out of the hut and instantly the hut caught fire. Of the four only the woman irrigator was injured by the lightning. She was burnt on the left side of her face, left hand and leg. She was in shock and not able to move immediately after the strike. One of her children rushed to Maghost Township, about a kilometre away, to fetch his brother whom he met on the way also running towards home in panic, having been terrified by the sound of the blast and the immediate blaze that followed. On meeting, the two ran back to Maghost to negotiate for transport with some beer patrons at the liquor outlet. Two patrons at the bar with cars both offered to help at no charge. The injured woman accompanied by *Sabhuku* Mang'ohzo, the woman's son and other villagers who managed to fit into the two cars was taken to Father Ohea hospital at Kutama Mission where she spent two weeks recovering from the burns.

The lightning incident as well as the deaths of young people that occurred in the Musarurwa village puzzled many. Lovemore Muzuva, a 30 year old man irrigator, explained in March 2004:

"Today many young people are dying in the Musarurwa area. Yes, people are quick to point at the Aids virus scourge, I don't dispute that there is this virus. But many strange things are also happening in our villages that boggle the mind. For example there is the old woman who always falls ill at the beginning of November only to be well again three months later, after the planting season is over, and the lightning that almost killed another woman. These things can not easily be explained. When we ask the old people of the Musarurwa clan to explain, no explanation is given. The old do not seem to care about all this."

Some irrigators say that the lightning incident and the scenarios described by Mr. Muzuva above prompted the people of Musarurwa to call in a "*Tsikamutanda*", a witch hunter, to cleanse the Musarurwa community.⁶⁴ However, most irrigators claim that *Tsikamutanda* was called into the Musarurwa community in March 2004 to verify or confirm the use of unnatural means to cause disease or injury by some on others of the same community. It was never established who actually invited the *Tsikamutanda*. However one old woman accused a young man in the community of bringing him from Harare. Most of the irrigators claim that they attended the ceremony not because they believed in it, but because they felt that if they did not attend, *Tsikamutanda* would take advantage of their absence by labelling them witches.

On his arrival, almost all the people of Musarurwa spent a week attending the *Tsikamutanda*'s sessions on a daily basis. Irrigation duties were delegated to the children and hired workers.

⁶⁴ In Zimbabwe, one possible explanation for calamities such as sickness and death is the malevolent influence of a *muroyi* (usually translated as 'witch'). Such an explanation was not acceptable to European jurisprudence, which did not admit the possibility that witchcraft could have material effect. Consequently, the highly-respected and socially-valued work of the *n'anga* or 'witch-finder' was outlawed in Southern Rhodesia by the Witchcraft Regulations of 1895, confirmed with harsher penalties by the Witchcraft Suppression Ordinance in 1899. This legal position regarding witchcraft was directly inherited from the Cape Colony, and many of the ideas of Southern Rhodesian whites about witchcraft also have their roots in the long history of white settlement in the south. *Tsikamutandas* are the latest crop of *n'anga* who claims to possess powers to cleanse society of evil spirits, heal us and drive out the most dreaded creatures called goblins. Across communities, we have heard of chilling experiences of *Tsikamutanda* warring with goblins, in some instances escaping with bruises. Villagers adore *Tsikamutandas*. They hire them to drive out witches and goblins, paying them as much as four head of cattle. Our legal system accuses *Tsikamutandas* of cheating and looting from villagers and violating the Witchcraft Suppression Act (Masukume 2000, see also Bourdillon 1982, Rutherford 1999, Mudege 2005).

They say that at first the sessions were fascinating when *Tsikamutanda* pinpointed a few people whom he accused of being responsible for the lightning strike and other goblin-related ailments that were haunting the Musarurwa people. However over time almost everyone in the Musarurwa community was labelled a witch of some kind. In the irrigation scheme, many were accused of using magic to steal other irrigators' harvests. Some irrigators at first believed *Tsikamutanda* resulting in a lot of animosities among irrigators. However, most old women, who were the main victims of *Tsikamutanda*, did not believe him. They condemned him as being a conman. One of them summed it all up when I asked her in 2004 what she thought of the village cleansing ceremonies by *Tsikamutanda*:

"You see my son I don't know where this Tsikamutanda came from and who brought him here. The way this cleansing ceremony was carried out is not even according traditional procedures. According to tradition, it is the Sabhuku with permission from the chief and all the elders of the family who invites a Tsikamutanda to come. These procedures were not followed here, I suppose because the whole process is also not supported by government. You know inviting Tsikamutanda into the communities like this is illegal. If it was before Independence, this Tsikamutanda would have been arrested by the police. It's just that now the "mitemo yacho yangove zinyekenyeke" the laws are loosely applied. When I watch and listen to this Tsikamutanda I see a conman. What worries me is that the men among the Musarurwas have not been able to see this. During these trying times of economic hardship in Zimbabwe, people are engaging in all sorts of devious practices in pursuit of survival. The problem is that young people in Zimbabwe are looking for quick earned money but with no soiled hands. Look at what he has done to the scheme, accusing almost everyone in the scheme of using witchcraft. Look at the time that was spent attending to this young man's magic. We got nothing except hostilities, division amongst us, destroyed friendships and relationships. We were so united before he came. We used to assist each other in times of need, but now all this is gone. I pray that the people of Musarurwa will one day open their eyes and refuse to be cheated openly like this."

The old woman's prayers were somehow answered. The people of Musarurwa soon chased away the young *Tsikamutanda*. He left, but the wounds he inflicted on the community remained visible long after he was gone. The trust that prevailed amongst the Musarurwa irrigators is still to return. I asked one young man why he was not assisting an old woman to change irrigation pipes from one lateral position to another, a common feature before the arrival of *Tsikamutanda* (Machiridza 2003). His reply was:

"I don't want to be accused of stealing her harvest by setting my foot into her plot. Tsikamutanda accused me of this in front of a whole crowd. Most of these old women believed him. I hear them talking about me when they are going to the borehole to fetch water and when they are gathering firewood. I used to assist these people but now I will not. It's much safer not to do so."

4.3 Coping with irrigation technology

The irrigation technology united the irrigators at the one pump at main system level. At plot level, although two irrigators shared a single lateral, all the fifty-one plots were still kept joined together by the fact that the system demanded that all the twenty-five laterals were operated simultaneously when the pump was running. The system therefore demanded strict maintenance of the plot level irrigation equipment by the individual irrigators for it to function well. For the irrigation system to provide the irrigators with irrigation water it

demanded that the irrigators paid for the electricity costs, and the maintenance and replacement costs of both scheme level and plot level irrigation equipment. They also provided labour to move the irrigation lateral at plot level. The irrigators struggled on a daily basis with the system in order to satisfy the water requirements of their different crops at their different stages of growth in continuously changing (sometimes minute-by-minute) wind conditions. The irrigators also struggled to make the system satisfy other types of water uses that the designers of the system had never imagined. Provision of security for the irrigation equipment in the economically and politically turbulent times of the country was also a daily struggle to the irrigators. This section briefly discusses how the irrigators at Musarurwa coped with these daily struggles.

The registered irrigators take turns to overnight guarding of irrigation equipment

For operation and maintenance of the irrigation system, the irrigators crafted the WC that depended heavily on two of the six irrigators who had worked with the contractor during the construction phase. The responsibility for efficient functioning and good working order of infield irrigation equipment was in the hands of the two irrigators sharing the said six-sprinkler aluminium lateral. However, loss of infield equipment by any pair of users has a big bearing on the operation of the whole scheme. Since for the pump to operate it requires all the 25 six-sprinkler laterals to be simultaneously operated, collective security of infield irrigation equipment becomes a must. At first the IMC hired two night watchmen whom they paid for guarding both main system and infield equipment. Following the theft of irrigation equipment this was changed.

On the night of Friday the 9th of June 2001, disaster struck. A thief, or thieves, broke into the scheme and stole ten six-sprinkler lateral lines. In theory, the theft affected twenty out of fifty irrigators. However, in reality all irrigators in the scheme were equally affected. A delay in the replacement of the six-sprinkler lateral by a single irrigator would affect the rest of the irrigators. The IMC chairman declared that the theft was a “whole scheme disaster”. All irrigators were therefore asked to contribute towards the replacement of the stolen laterals. To ensure no such disaster occurred in future, the irrigators resorted to over-night guarding of the irrigation equipment. In this case irrespective of sex, all registered irrigators, would take turns to guard at night. Only the eight members of the WC were exempted, because they were already involved in the operation and maintenance of the irrigation system. The first IMC chairperson commented:

“We demanded that the registered member in person would guard, since we did not trust friends, relatives or employees. Even women irrigators were expected to carry out this duty that was traditionally a men’s duty. We divided ourselves into nine groups of five irrigators.”

Overnight guarding by women was however only practiced for less than six months. Problems arose when husbands working in towns refused to have their wives spending the night guarding the irrigation equipment in the company of another man. It was soon resolved that women would not engage in over-night guarding in person, but that they would have to negotiate with their male relatives to be overnight guard in their place. The theft of laterals strained the relations between the irrigation agency staff and the IMC at Musarurwa irrigation scheme and cemented the IMC’s resolve to take over the responsibility of repairing and replacement of all irrigation equipment at the scheme. In 2003, the first secretary of the IMC

explained how the theft consolidated the irrigators' resolve to take over the irrigation scheme from government:

"When our ten laterals were stolen, we reported the matter to the DAEO at Murombedzi. He quickly came to see for himself. He promised us that he would take the matter up with Provincial Agricultural and Extension Officer (PAEO). The PAEO sent two young Irrigation Specialists to assess the situation here at the scheme. The two Irrigation Specialists promised us that government would replace the stolen pipes for us. However when they came back with their senior specialist, we were told that the government was not going to assist us because our scheme was not one of the irrigation schemes earmarked for repairs and maintenance under the 2001 operation and maintenance budget.⁶⁵ The senior specialist told us that as a matter of fact the two year government assistance period to us had expired at the end of 2000. When we complained to him of the delays caused, he simply apologised saying that the irrigation specialists were new recruits who were not aware of the way government budgets operated. To us this was irresponsible behaviour because our crops were suffering. If the irrigation specialists had been open to us we would not have wasted time. After this we bought our own replacement equipment through a credit facility that we negotiated with a private irrigation company Siyagasi Water Engineering. Siyagasi did not take time to deliver the equipment. However a number of the valve control elbows had some problems. We had paid only two thirds of the cost of the equipment to Siyagasi. When we asked Siyagasi to replace the leaking valve control elbows, Siyagasi did not come. Although we did not pay the remaining third, we still think we were ripped off."

Once the irrigators managed to replace the stolen infield irrigation equipment without government assistance, their reliance on government for operation and maintenance was greatly reduced. The ownership pattern changed, also because the irrigation equipment was replaced by the irrigation scheme as whole and not the individual irrigators. According to Mr Mang'ohzo (pers. comm. 2002):

"All irrigation equipment now belongs to the irrigation scheme. However, irrigators have user rights and are obliged to keep the irrigation equipment at their plots in good working order. If the IMC finds out that a pair of irrigators has failed to maintain irrigation equipment, the IMC will ask the WC to repair the equipment and charge the cost of doing so on the pair. We also decided to transfer ownership of plot level equipment to the IMC so that in the event of evictions from the irrigation scheme, all irrigation equipment remains at the plot. Also irrigation equipment can not be said to belong to government, when government is not willing to replace its stolen equipment. As far as we are concerned now government owns nothing here."

Struggle with ZINWA and confrontation with upstream irrigators

In July of the year 2002, the river flow could not satisfy the water level required for pumping. First, the IMC confronted the AGRITEX Irrigation Specialist accusing him of having refused to site the pump on the pool of their choice. The Irrigation Specialist explained to them that they depended on water releases from the upstream Darwandale dam and that they needed to liaise with ZINWA offices in Harare. The IMC tasked the chairperson of the WC, Mr. Chifura, to contact the ZINWA offices in Harare. However Mr. Chifura did not bring good news: ZINWA was accusing the Musarurwa irrigation scheme of having been stealing its

⁶⁵ Because the procedures were not written down in any document, the PAEO, although head of all divisions of AGRITEX at provincial level, was not very sure what the Irrigation Division of AGRITEX had put in place. The irrigation specialist was on study leave and the new irrigation specialists were not aware of the procedures either.

water for three years since its very start. Mr Chifura told the IMC that ZINWA was only going to release water to them after they had paid the outstanding water bills amounting to Zim \$99,000 (US \$1,707).

The IMC contacted the AGRITEX Irrigation Specialist for financial assistance. The Irrigation Specialist again informed the IMC that government had no budget for water bills for Musarurwa irrigation scheme. The IMC whose own savings were now running low, had no option but to ask the irrigators to fork-out Zim \$1,980 (US \$34.14) each, a lot of cash in 2002. The irrigators struggled to pay the money in addition to the levies they were already paying for electricity bills and operation and maintenance. Asked in 2002 how they coped with the financial demand, the 80 year old Mrs Maud Mang'ohzo said:

“A lot of us could not afford this money because we were preparing for the second term school fees for our grand children and also for the purchase of inputs for the summer crops. Many irrigators had to approach relatives working in towns for support. Well the relatives in towns will always support because they also come and get beans, vegetables and maize from us for no pay. This relationship is good for both of us. However with the government failing to support us this time, we realised that the irrigation scheme was ours and it was us who would make it successful. The Irrigation Specialist was very clear to us and we understand him very well. He simply told us that his interest was to finish off Chemutamba irrigation scheme.⁶⁶ He said that if we continued to demand assistance from government then no progress would be made in providing other irrigators with irrigation. Now we are fully aware that this irrigation scheme is our baby and we will look after it. All that irrigators needed was openness from government. If they lie to us we will be angry with them.”

After paying the water bills to ZINWA, the chairperson of the WC, Mr Chifura, personally observed the ZINWA water bailiff at Darwandale Dam open up the gates for water to flow into the Manyame River on its long and tortuous trip to Musarurwa. Still, three days elapsed before the water arrived at Musarurwa pump station. The IMC reported the matter to AGRITEX Zvimba district offices. The AGRITEX SAES carried the secretary of the IMC on his Yamaha motor bike and visited the water bailiff at Darwandale Dam for explanations. At the dam the water bailiff expressed surprise that they had not received the water, because he never closed the gates, a thing the SAES and the IMC secretary could observe for themselves. Satisfied that ZINWA had done their part, the IMC guided by the AGRITEX SAES Mr. Sithole raided upstream irrigators with diversion structures in the Manyame River.

For the first time in their history, the Musarurwa communal people had heated stand-offs with white commercial farmer irrigators, threatening to destroy their pumping stations. One of the white commercial irrigators though told the Musarurwa irrigators that the released water was on its way to their pumping station. He explained to them that before the released water could get to their scheme the water would first of all replenish the huge empty pools along the way. A day after the raids ululations were heard at Musarurwa when joyful women danced and sang as the released water surged into their pumping pool. However the planting of their green maize crop had been delayed by ten days. To them it meant a fifteen day delay in marketing their green maize crop and a dull Christmas Holiday due to a disturbance in their cash inflows.

⁶⁶ Chemutamba irrigation scheme was being constructed in 2001 as one of the six blocks to be constructed under the Lower Manyame Irrigation Project of which Musarurwa irrigation scheme was part.

Fixing the short stabilising batten

The irrigators had problems with the sprinkler risers falling over during irrigation. Mr Chaya said that the problem started even before IRRICON, the contractor who constructed the scheme, had completed its one year maintenance period. They asked the contractor to fix the problem, but he refused citing that he had supplied what the irrigation specialist had ordered. The stabilising batten on the 50 mm six meter aluminium pipe was designed for a one-meter riser. So whenever a two-meter riser was used to irrigate maize during the later stages of growth the risers fell over. To cope with this, two irrigators cooperated to lengthen the stabilising battens, a process perceived by many to be too expensive (see Photo 5). According to the irrigators, a bigger stabilising batten made the lateral heavier and causing problems when moving it from one position to another. The majority of the irrigators therefore preferred to buttress the stabilising batten with stones that were readily available in the scheme. This was not recommended by AGRITEX, whose SAES always barked at irrigators using the stone method as being too rough with irrigation equipment (see Photo 6).

Struggling with the riser pipes

The sprinkler riser pipe at Musarurwa was made up of two one-meter lengths that can be coupled and uncoupled into two-meter and one-meter riser pipes respectively, depending on the height of irrigated crop. According to the design, for short crops like sugar beans and groundnuts, the short riser pipe was more convenient to reduce strain during lateral movement from one lateral position to another. For tall standing crops, like maize, the higher two meter riser was ideal to ensure undisturbed water spray above the crop canopy. However because the one meter riser extension pipe supplied by IRRICON was made of high density polyethylene (HDPE) material while the lower one-meter section of the riser was made up of aluminium pipe with a galvanised iron (GI) socket problems arose with fitting the sprinkler or the HDPE riser extension (see Figure 4.1 for the couplings). The HDPE couplings presented problems when frequently coupled and uncoupled. A slight cross thread at coupling resulted in stripping of the HDPE thread and damage to the riser extension. Because two irrigators were sharing irrigation equipment at plot level, a cross thread at coupling by one farmer was sometimes only visible at uncoupling by another farmer. This resulted in many squabbles between two irrigators sharing a lateral. To avoid this problem, most irrigators resorted to irrigating with the two meter riser although this presented problems of another kind to the irrigators.

Figure 4.1: The Musarurwa riser extension and sprinkler couplings



Struggling to supply water for nurseries and spraying of vegetables

Musarurwa irrigation scheme was designed to replenish crop water requirements in the root zone. However, there were other water use requirements at the scheme that did not necessarily require the pump to be started. These were specific to the individual plot needs. Water was required for filling gaps in the crop stand created by pests in a bid to maintain the required plant populations especially in vegetable crops. It was also required for the (chemical) spraying of crops, which practices AEW claimed, were better carried out in between irrigation cycles to improve the effect of the chemicals applied. Asked in 2003 to comment on the main problems presented by the irrigation system, the 60 year old Mrs Flora Musarurwa said:

“Our irrigation system is very good. Once set it irrigates while I proceed with weeding. However when I have to water the nursery or I want to spray vegetables, I experience problems. We never all want to spray or water our nurseries at the same time, because we do not grow the same vegetable crops. So we can not ask the WC to start the pump to do cultural practices that require very small amounts of water. For these tasks, each irrigator devises own methods for individually storing water for use when the pump is off. This is why you see all these drums full of water at the edge of each plot. The SAES Mr. Sithole is not very happy with these drums though. He says that the drums and containers are good mosquito breeding places, but there is nothing we can do because we need the water.”

Photos 7, 8 and 9 illustrate some of the methods crafted by irrigators to cope with storing water for nurseries and spraying of vegetables.

Coping with maintenance of the pump station

Problems with pumping equipment on an irrigation scheme contribute to the loss of production. Efficient crop production at an irrigation scheme depends on trouble free pumping. Keeping pumping equipment in good working order saves on time and energy costs. This section looks at how the Musarurwa irrigation scheme irrigators organised themselves to ensure that their pumping equipment remained in good working order.

The maintenance of the pump station was delegated to the WC. In fact the task was delegated to Royce Chaya. For routine maintenance, the WC never had difficulties. They simply bought spare parts and materials and with the expertise of Mr Chaya and Mr Chifura they did the routine maintenance without outside help. However where major repairs were concerned the WC faced some problems. In 2004 Royce Chaya narrated the problems they faced when it came to major repair or breakdowns:

“Our system is problematic because the design is such that we have only one pump and electric motor. If the pump was designed to operate with two smaller pumps maintenance could easily be scheduled. The system would then have three pumps of the same size with two of them operating at any one time. The third one would then operate as a standby pump in case of a sudden breakdown. With our situation, the only option is to have a 24 hour breakdown service arrangement with an irrigation repair service providing company. We tried this with Siyagasi but it never worked. We were to blame as much as Siyagasi. Siyagasi gave us faulty equipment on credit that they refused to replace with better equipment. Instead of returning the faulty equipment to Siyagasi we decided we would not pay the outstanding payment. As a result the service contract collapsed. Because we have no service contract with any company, if we have a problem our crops go without irrigation until the problem is fixed. Now irrigation companies charge a lot of money for just coming out to diagnose the problem. They also take their time to come out, because they are overwhelmed

by pump breakdowns in the Fast Track Resettlement farms that are still being assisted by government in terms of mediation and actual payment of the bills.”

The irrigators at Musarurwa nearly lost a very good sugar bean crop in April 2004 due to a sudden major pump breakdown. To the Musarurwa irrigators the winter bean crop is one of their major cash earners. The sugar bean crop was at flowering stage when the problem started. A correct soil moisture regime at this stage is very important to ensure good flower setting and pod formation and filling. Mr Chaya says that on the 8th of April 2004 in the morning, Mr Ripsisai Chitsuro his partner whose shift it was to turn the pump on came to his plot where he was weeding his potatoes. Mr Chitsuro told him that he, (Mr Chitsuro) was having problems starting the pump. He requested Mr Chaya's assistance. Mr Chaya detailed what happened:

“Mr Chitsuro and I went back to the pump house to diagnose the problem. When I switched on the starter switch, the pump would run for only twenty minutes and then trip off. My immediate suspicion was the overload switch was faulty. However after checking it I found out that it was functioning well. I then decided to consult the WC chairperson Mr Chifura who was our expert on electrical problems. Mr Chifura was a former employee of the ZESA. After two hours of trial and error, we decided to inform the IMC of the problem. The IMC chairperson informed the AREX extension worker who informed the SAES at Murombedzi. The SAES arrived the following day and decided to take the matter up with the provincial office. However it turned out that AREX were not involved in irrigation repairs any more. Irrigation repairs were now the responsibility of DoI. So the SAES was asked to inform DoI of the problem. When the DoI irrigation engineers arrived, they failed to give advice on the problem. The DoI engineer told us that they were going to consult with their Chief Irrigation Engineer for a way forward. After two days, the SAES came back to us with the news that DoI had no budget for the maintenance of our irrigation scheme. He said that what resources DoI had were for those irrigators growing wheat. We did not qualify for that funding because we had refused to grow wheat. It would not be viable to grow wheat on our small plots. Cursing ourselves for wasting time with chasing government funding, I crossed the Manyame River and cycled to Banket town with the intention of hiring the services of IRRICON. However IRRICON had given up irrigation services and were now engaged in a new business (flour milling). None the less they directed me to their former electrician who had started his own electrical repair workshop. He however did not have any transport to come to our scheme. From my description of the problem, he told me to go back to Musarurwa and bring the starter box. I brought the box the following day and he stripped the starter in front of me. With sandpaper, he cleaned the contact breaker points and then put the starter together and asked me to go and start irrigating. He gave me a Zim \$ 900,000 (US \$145) invoice for the IMC with a verbal warning that if the IMC did not pay in five days he would come and collect the starter and only give it back to us after full payment including Zim \$ 100,000 (US \$16) transport charges.”

What had started off as a fine day and proceeded nicely with the repair of the starter box soon developed into a terrible day to be remembered by Mr Chaya for a long time to come. That day Mr Chaya spent the night in police custody at Banket police station. While he was waiting for a bus to take him to Chinhoyi, a police car stopped by and picked him up for questioning. The police accused him of vandalising irrigation equipment in fast track resettlement farms. They would not listen to Mr Chaya's assertions that he was not a thief, but a respected pump minder at Musarurwa irrigation scheme who had come to have the irrigation scheme's pump repaired. Mr Chaya gave the police the piece of paper that the former IRRICON electrician had given him as invoice for the repairs. The police dismissed the invoice as fake and asked

him to provide better evidence. Mr Chaya says in the morning he asked the police to contact the AREX SAES at Murombedzi for confirmation that the starter box belonged to Musarurwa. They contacted him and he brought a letter signed by the DAEO AREX Zvimba district testifying that the irrigation equipment indeed belonged to Musarurwa and that Mr Chaya had been authorised to take the equipment for repairs. Only then Mr Chaya was released. True to the electrician's words, after reconnection the pump worked without any problems.

"I slept in police cells and for that, no electrician will ever touch this pump again. Not when I am still alive. The electrician in Banket mistook me for some one who would never understand what he was doing. I did not ask any questions, nor did I write anything down, I kept my eyes open and committed every step to my memory. I locked everything there and now I can strip this starter apart. My advice to DoI though is that if they are going to hand over irrigation schemes to irrigators, they have to give the irrigators a certificate of handover as proof of ownership of irrigation equipment. I should be the last person to sleep in police custody because of carrying equipment that was not formally handed over to smallholder irrigators by government."

To raise the money for the Banket electrician, the IMC called a general meeting of all irrigators. The advertisement on the notice board at the main entrance to the irrigation scheme described the meeting as very important to be attended by all irrigators without fail. Failure to attend attracted a fine of Zim \$5,000 (US \$0.81) and late arrival to the meeting carried a fine of Zim \$2,500 (US \$0.40). The agenda of the meeting was also written on the notice board highlighting two issues: firstly, to 'discuss how to raise cash for the payment of the March 2004 electricity bill Zim \$ 500,000 (US \$81) and ways of reducing future bills through strict water use control'.⁶⁷ Secondly, to discuss the modalities for the payment of the Zim \$ 900,000 (US \$ 145.16) starter switch repair bill that was due in four days time.

The meeting was attended by all irrigators. It was a very heated meeting with most irrigators blaming the IMC of being reactive and not proactive. They accused the IMC of failing to read the changing economic conditions in the country that resulted in them charging unrealistically low levies. At the meeting they called for a change of leadership accusing the IMC of having outlived its usefulness. Mr. Chifura the WC chairperson was particularly vocal at the meeting. In an outburst he summed up his disappointment with the IMC:

"The problem is that the chairperson is not doing his work. He has surrendered his duties to the secretary who is now literally running this scheme on his own. I suggest we have a change of leadership. Your committee Mr. chairperson is not functioning. The ideas of other members of the committee are not taken into account. We have very capable people here who are sacrificing for this scheme but their ideas are trodden upon by the secretary whom you have given too much power. Because of your incompetence the whole scheme could not grow potatoes. Yet people gave you money in time for you to look for potato seed that you failed to secure. Now you tell us to raise Zim \$50,000 (US \$8.06) in four days. I propose a change of leadership."

⁶⁷ The electricity bill was meteorically rising from month to month from about Zim \$78,000 (US \$92) in September 2003 to about Zim \$500,000 (US \$81) in March 2004 not because of the irrigators' increased power consumption, but because of the ever rising ZESA tariff regimes. Although in US \$ terms, the ZESA tariffs were going down, because of the controlled agricultural producer prices that always trailed behind the exchange rate changes, the tariff rises were significant to the irrigators

Mr. Chifura was seconded by many who stood up to voice their concerns. The chairperson succumbed to the irrigators' demands. He asked the meeting to decide a date when the election of new leadership could be held. The election date was set and the meeting was concluded with an agreement that each irrigator would somehow raise the required Zim \$ 50,000 within four days. All the bills, including the ZESA and the starter switch repair bill were paid on time. Asked how they managed to do that, the 84-year old Mrs. Mang'ohzo said:

“My son this irrigation scheme has assisted many people not only in Musarurwa but as far away as Chirawu, Norton, Chinhoyi, Chegutu and even Harare. Do you think all these people would like to see this scheme collapse? We shook this tree and that tree and the money was found. This scheme is a cow whose milk feeds not only its calf but young and old human beings as well. Even dogs and cats are fed from the whey of the cow's milk. Not only is its milk important, its dung as well is important. The huts are polished with it, food is cooked with it by some and also in these trying times the cow's dung is good nutrients for crops. Like the cow this irrigation scheme has become part of our daily livelihood, not only to us, the irrigators, but other families surrounding us, transport operators, traders at open markets and even you AREX and DoI employees. Were it not for this scheme some of us would have long left this earth. This scheme is like a friend. When you are in despair a walk from home to the scheme and a stroll around your plot to watch these plants grow gives you a lot of satisfaction and the reason to live on. To people of my age, without the scheme, winters would be a long yawning empty period that corrodes the soul and the mind. So who would watch and see the cow die?”

4.4 The struggle with crop production

Irrigation technology is mobilised by people to abstract, convey and apply water to the root zone for the purpose of growing crops that are required for home consumption or marketed by irrigators in the interest of enhancing their livelihoods. However it is not only water that crops require to grow. They also require other inputs like seed, fertiliser, workforce and technical know-how for them to grow and produce the required consumable products. This section presents the struggles the irrigators had with crop production. The struggle for inputs is presented first, followed by the struggle for labour.

Accessing crop inputs

The implementers of the Musarurwa scheme had a completely farmer managed smallholder irrigation scheme in their mind. To start the irrigators off, the planners bought all the required inputs for the first season crop. In an interview in 2002, the CAEO for Mashonaland West argued that the policy of providing free inputs to all irrigators served two purposes:

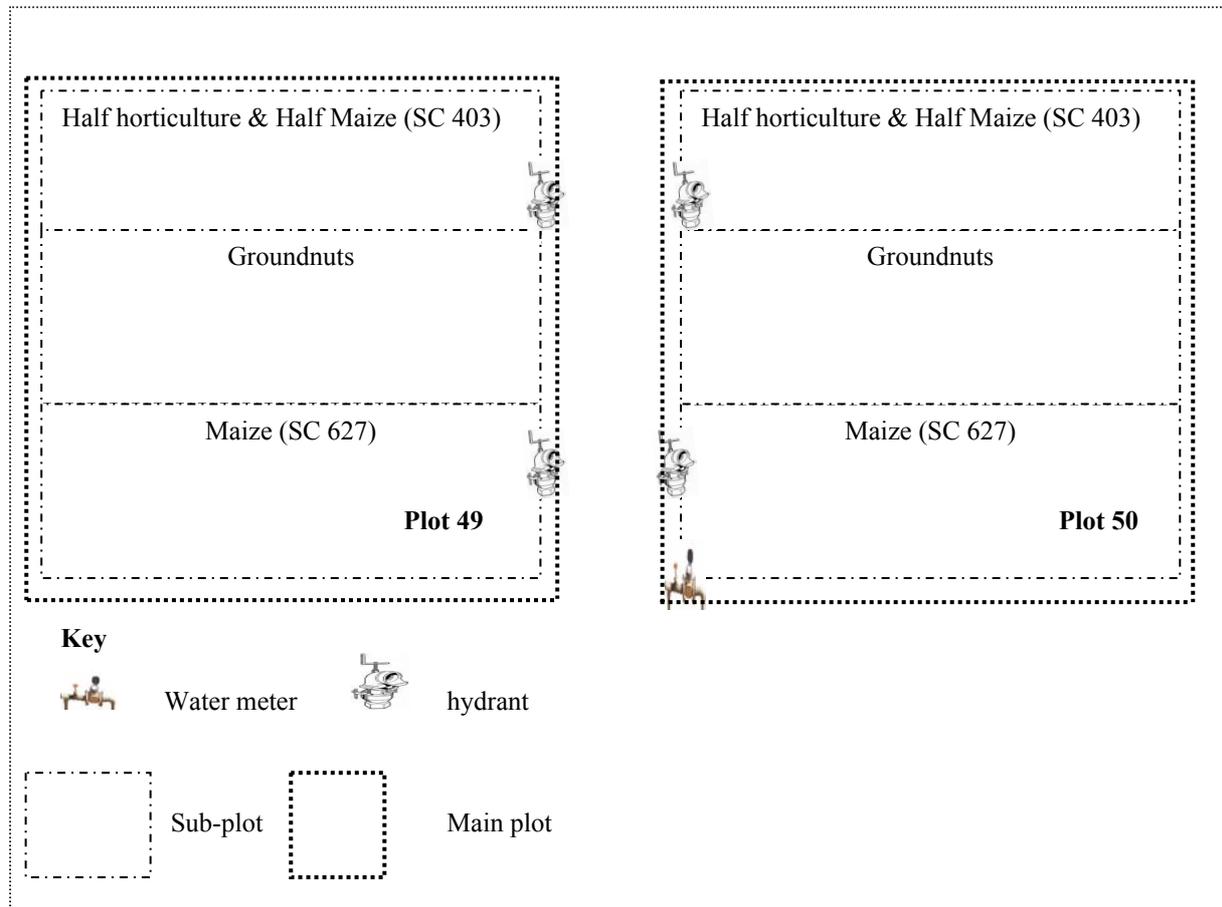
“Firstly, you are putting all the new irrigators on the same footing. Since all have adequate inputs the irrigators should have a uniform crop. Once the irrigators get the expected high yields in the first season it will be much easier for them to maintain high levels of production. Also since the irrigation system is still being tested, using government inputs ensure that the new irrigators are not put in any jeopardy in the event of problems resulting from construction defects.”

AGRITEX provides the irrigators with the initial inputs

With the wisdom of the CAEO, the irrigators were provided with all inputs for the summer crop of 1999 their first cropping season as irrigators. At the direction of an Agricultural Extension Worker (AEW) specifically assigned to them, the new irrigators divided their 0.5

hectare plots into three equal portions (see Figure 4.2) in order for them to grow three crops per season in rotation. The planned cropping pattern was such that each of the 50 irrigators grew 0.17 hectares of green maize (variety SC 627), 0.17 hectares of groundnuts (variety natal common), 0.085 hectares of green maize (variety SC403) and 0.085 hectares of any vegetables of their choice.

Figure 4.2: Summer crops in two Musarurwa irrigation plots sharing one lateral



In 1999, at the start of the season, government provided each with inputs for the growing of these crops. The local AEW at the scheme supervised the planting of these crops. Not surprisingly, in its first year of operation Musarurwa was judged the best smallholder irrigation scheme in Mashonaland West and secured the seventeenth place at national level in the Ministry of Agriculture Permanent Secretary's smallholder irrigation annual competition.⁶⁸ The main reason for the irrigation scheme's poor performance at national level was its lack of an operation and maintenance revolving account and its poor organizational arrangements for the marketing of crops, aspects in which the older irrigation schemes excelled on. After the competition, the SAES, the AEW and the IMC vowed that they would

⁶⁸ This competition was sponsored by the Ministry of Land Agriculture and Rural Resettlement as a way of encouraging smallholder irrigators to meet, discuss, and learn from each other and in the process encourage each other to take up the notion of user operation and management of smallholder irrigation schemes that the government was promoting. This competition was however discontinued after the demise of AGRITEX in 2002.

win the competition in the year 2000. Asked why they had done so well in the competition when they were so new in the game, the IMC chairperson said:

“The judges were very pleased with our cropping pattern that they praised as very well thought out. The maize varieties were tolerant to maize streak virus, a disease that was whipping maize in many smallholder irrigation schemes in the country. One (SC 403) was a short season variety that would mature early, fourteen days before the other variety (SC 627) a medium season variety. SC 403, although early maturing, had a smaller cob. This did not matter much at marketing because the crop would mature when the market was short of green maize. The variety SC 627, although maturing later, had the advantage of a much bigger cob. By combining the two varieties at the scheme, it was possible to extend the marketing period for green maize without necessarily changing the selling price of the green maize cob. The groundnuts crop was praised for two reasons; mainly soil stabilisation and human nutritional benefits and so were the vegetables. However to us the vegetables were more important because not only were they important for our own nutrition but they were our main payment means for hired labour. Instead of paying hired labour in cash, we paid them using vegetables. To us this competition was won by AGRITEX staff that was assigned to our scheme. They helped us formulate the sound cropping pattern, they provided the inputs, they paid the operation costs and they were directing everything at the scheme. We learnt a lot from the competition, and we also got the prices, but all the irrigators at this scheme resolved to win the competition ourselves and not the AGRITEX staff. This competition earned the AGRITEX local extension staff great respect from not only all irrigators at this scheme but their bosses as well.”

The irrigators of the Musarurwa irrigation scheme were very successful in their first cropping year. In 2000 they were also very successful in both their winter crop that included 0.17 hectares of sugar bean, 0.17 hectares of green maize (SC 627) and 0.17 hectares of a cocktail of vegetables. The irrigators procured the inputs for these crops from the sales of the first cropping. In 2000 Musarurwa irrigation scheme won the smallholder irrigation annual competition. This time they excelled in all sections of the competition: so impressive was their operation and maintenance revolving account and their organisational arrangements for crop marketing. However again, the IMC still attributed part of their success somehow to AGRITEX. The IMC secretary summed it up:

“Our good performance in the operation and maintenance revolving account was boosted by the fact that, while we were collecting operation and maintenance levies from irrigators, AGRITEX was paying all the operation and maintenance bills for us under our irrigation scheme management handover contract. As for marketing arrangements, we are a very fortunate irrigation scheme in that we are surrounded by close urban centres. We also have a very good network of roads. This is not the case with most irrigation schemes that we visited. The result is that we do not have to transport our produce to market. Wholesalers come here to the scheme to buy the produce for resale to markets in the urban areas. All we do is go to them and inform them of what products are ready at the scheme and they will come and collect.”

Musarurwa IMC fall victim to a conman

In June 2001, the IMC collected cash from a majority of the irrigators for the purposes of buying maize seed from Seed Co. However the IMC's good intentions were thrown into disarray when they became a victim to a conman. When I discussed the issue with the forty-four year old woman irrigator Mrs. Eustance Sihlangu in 2002, she said that in her opinion the IMC did a stupid thing:

“The problem was that the IMC members were basking in false triumph, not aware that they were riding on the back of the AGRITEX AEW who was achieving everything for them by arranging all the meetings with seed and fertiliser companies on their behalf. So when the AEW went away on a study a leave, they got seriously exposed. How could they trust someone whose seed company they had never heard of? The irrigators gave them money enough to buy the correct seed from Seed co. Why did they want to save money that did not belong to them?”⁶⁹ By their silly actions, they jeopardized the whole scheme’s maize crop and irrigators’ earnings when maize streak virus walloped the whole maize crop in the Musarurwa area including our rain-fed crop. I did not pay money to them because I bought my own seed. It was only those that had relatives in towns who supplied them with the seed who escaped the ordeal. Because of their silly mistake, they will have to work pretty hard for them to regain the trust of the people. Their actions will have far reaching effects on the future smooth functioning of the irrigation scheme. From now on very few people will want to contribute cash for bulk purchase of inputs and when this happens it might result in staggered plantings for each crop when some irrigators fail to get inputs on time.”

The first chairperson of the IMC claims that a day before the IMC were to go to Harare to pay Seed co for the purchase of the streak tolerant maize varieties SC 403 and SC 627, the then secretary was approached by a lady who told him that she was a representative of a new seed company that was marketing maize seed imported from South Africa. He also alleges that the lady told him that her company’s seed products were even better in terms of tolerance to streak virus than the Seed co varieties and were priced at less than half the Seed co prices. He alleges that the secretary bought the seed from the woman who wanted only cash in her transactions.

The SAES later told the irrigators that they had been conned claiming that to his knowledge no new seed company had started operations in Zimbabwe. However the irrigators still planted the seed they had bought from the lady. Problems only surfaced after germination when the crop started to succumb to maize steak virus. Tests on the seed leftovers revealed that the IMC had bought ordinary commercial maize mixed with a red oxide. Although the IMC had a receipt for the seed they had bought, the company from where they bought the seed could not be traced. Most irrigators harvested nothing from the crop. To use Mr. Jubert’s words (see chapter 7) the IMC paid school fees for learning the tricks of the irrigated farming game. The AGRITEX Zvimba DAEO responded by assigning another AEW to the irrigation scheme to assist the irrigators with input procurement and use. Because of this incident an AGRITEX AEW is well respected at Musarurwa irrigation scheme. However to some this respect of the AEW by the Musarurwa irrigators has developed into a dependency syndrome or over reliance of AREX when it comes to acquisition of crop inputs.

Utilizing the SAES’s indulgency to cope with rising costs and shortages of inputs

According to Cecilia Musarurwa, the third Chairperson of the IMC, the 2000 Third Chimurenga, brought with it turbulence when it came to the availability of crop inputs in the

⁶⁹ Mr Royce Chaya made the calculations for me in 2002: *“The price of a 50 Kg pack of SC403 had risen from Zim \$2,400 (US \$63) in 1999 to Zim \$5,200 (US \$136) in 2000. Although this was more than double the cost of maize seed to us, it was not at all difficult to raise the money. At a seeding rate of 25 kilograms per hectare, a single farmer required only seven kilograms of seed. Therefore seven of us were sharing a 50 kilogram bag of seed. For this each one of us was required to pay only Zim \$742.86 (US \$19.37). With the selling price of a cob of green maize set at Zim \$3 this was equivalent to only about 250 cobs of maize. To all irrigators this was nothing.”*

country. This soon proved the biggest threat to the success of smallholder irrigated agriculture in Zimbabwe. To her electricity, water, operation and maintenance bills were not an issue at Musarurwa. She also claimed that it was not the availability of money to purchase the inputs that worried the irrigators at Musarurwa but the shortage of inputs in the market.

All irrigators were full of praise of the SAES, Mr. W. Sithole. The IMC treasurer Mrs. Kesiwe Muzuva claimed that over the years the irrigators at Musarurwa had managed to discover and use to their advantage the negotiating powers, skills and networks of the SAES. At the scheme the SAES was popularly nicknamed Mr. “*Kubayabaya*”, a Shona word that translates to “Mr. Probing”, because of his all-encompassing, persistent, aggressive attitude to life and his frequent use of the word *Kubayabaya* in reference to probing for solutions to problems. The young men at the scheme have also nicknamed him “Mr. Twinkle” in reference to the flash like responses the SAES gave to their requests for assistance and the speed with which he came up with solutions to their problems. Mr. Sithole was a well connected man in the Zimbabwean farming arena. He was regarded as one of the most experienced agricultural extension cadres in Mashonaland West province. Mr. Sithole started his extension work in 1959 after training as an Agricultural Demonstrator at Domboshava training centre. He rose through the ranks over the years to become SAES in 1995 when the post was introduced to coordinate both training of extension staff and irrigators (see Box 4.3 for a story of his career).

Box 4.3: The story of the AGRITEX SAES Mr. Sithole

“Agricultural demonstrators trained at Domboshava were a bit different from these young guys. In 1956 I was picked to go for training as an agricultural demonstrator by the headmaster of Marshal Hartley primary school of the Moleli Methodist Mission near Kutama Mission in Zvimba communal areas because of my intelligence. I had passed Standard six with distinctions. Those people selected for the Domboshava course were picked because of their intelligence. They were the best at their schools. The headmaster Mr. Josiah Chinamano⁷⁰ was a very intelligent man who wanted perfection from his school children. He also insisted on smartness and this is one virtue that I acquired from him. This is why I am conspicuous with my clean suits and well polished shoes among the crowd. His motto was a smart soul is always housed in a smart body and an evil soul or dirty mind accompanies a dirty body.

At Domboshava our lecturers were Mr. Alvord, who taught farm practice; Mr. Haw who taught soil conservation and livestock; and the Principal was Mr. Hampton. These white men were strict on discipline. They like Chinamano also emphasised smartness. Alvord in particular emphasised on the capacity to be exemplary in society. He always told us that our job was to demonstrate to irrigators how to be responsible and progressive African people. Alvord told us that to pass his course, we needed to display to him a visionary mind, capacity to plan, honest and truthful attitude, ability to understand people, capacity to use money wisely and above all capacity to demonstrate to others the knowledge in our heads. I did very well at Domboshava and I was chosen to assist in the establishment of Mlezu Agricultural College near Kwekwe. I then joined the extension service a year later, in 1959. In 1966 I joined the Department of Research and Specialist Services as a

⁷⁰ Josiah Chinamano was a Wadilove Methodist Mission trained agriculturist and school teacher who was one time farm manager of Epworth Mission farm. Josiah Chinamano later founded Highfield Community Secondary School in Harare (one of the first African community schools). He was also the Vice President of the Zimbabwe African People’s Union (ZAPU) until his death after independence. He was a cool headed and powerful negotiator. He is said to have been the brains behind the famous ZAPU and ZANU PF 22nd December 1987 Unity accord that brought together the two main liberation movements (Michel 1998).

technician in poultry research. In 1978 I joined the newly established Department of Agricultural Development. In 1986 I was promoted to the post of Agricultural Extension Supervisor (AES) and to the post of SAES for Zvimba district responsible for irrigation training and farmer co-ordination in 1990.

In 1992 I went on a study course on post harvest technology for horticulture crops in Belgium. This course emphasised gender awareness in choosing technologies for irrigators. During the same year, I also bought my own small-scale commercial farm in Musengezi Small-scale Commercial farming area using my own savings. It is with this background that I have worked with the Musarurwa irrigators. Also important to note is that I have my own special obligation to see these irrigators succeed because my mother was one of the Musarurwa daughters. I have assisted these irrigators in sourcing inputs and for this they have nicknamed me “Kubayabaya” because when inputs are seemingly not available in the country I have my contacts dotted in the different agricultural input supply companies. With these I negotiate for special favours on their behalf. The trick that I have used effectively that I learnt from Alvord is that at gatherings and meetings arranged by our department with these companies I make my self conspicuous, even if it means standing up to say a stupid joke. What is important is to make people whisper to neighbours about me at such gatherings. I speak out my mind and I probe them until they get to know my ideas. I ask for a phone number and phone them, even for the purpose of just saying good morning to them and reminding them of our encounters. This is what Alvord referred to as networking. One cannot survive in Zimbabwe today without networks. However a good net-worker is humble, respects people, for who they are, always has something to offer to others in the network and sticks to the truth. The Musarurwa irrigators have been very strong in that they accept advice from extension staff. They have also been very good at maintaining their irrigation infrastructure and saving money. Their weakness though has been laxness when it comes to negotiating contracts. They easily lose concentration and attention to detail and in so doing, very easily lending themselves to comen. The greatest advice that I gave them was for them to reserve one plot at the scheme for the extension officer’s demonstrations. This demonstration plot has helped the irrigators a lot. Not only do they get their lessons at this plot, the proceeds from the demonstration plot have assisted them to make money for the general up keep of the irrigation scheme.”

Accessing inputs from GMB

In 2003 the Musarurwa irrigators were castigating the government sponsored farm input support programme. They claimed that the said programme, whereby government bought all inputs from the manufacturers for distribution to irrigators through the GMB, had disastrous effects on irrigators like themselves. Because they were producing crops that were not marketed through GMB, GMB were not keen to give those inputs. Effectively therefore, it meant that inputs were no longer available in the formal market outlets, but only on the black market where prices were exorbitantly high. Mr. Chaya says that were it not of the negotiating skills of the SAES, Mr. Kubayabaya, it would have been very difficult to find inputs in 2003:

“One Friday afternoon, May 2003, after an irrigators’ meeting called to discuss the looming input crisis, the SAES carried me on his motor to the GMB Murombedzi depot. The mission was to discuss with the Murombedzi GMB depot manager what the modalities were of access to the GMB inputs credit facility by Musarurwa irrigators. Mr. Kubayabaya asked me to prepare a parcel for the manager. I packed three large cabbages, two kilograms of tomatoes, five kilograms of sweet potatoes and four large butternuts. We arrived at two o’clock sharp at the manager’s office. Mr. Kubayabaya quickly introduced me to the GMB deport manager as the Chairperson of the MC at Musarurwa irrigation scheme. After the introductions Mr. Kubayabaya asked me to explain to the GMB what we were growing at the irrigation scheme using the samples that we had packed. I concluded with a narration of the problems we were having in finding inputs and how the GMB could be of assistance. The

GMB manager admitted that if the samples we had brought were truly representative of the Musarurwa irrigation products then we were doing very well. He however said that the GMB could not assist with inputs because the crops we were growing were not products that could be marketed though GMB. He emphasized that the inputs available were for maize and wheat. This is when Mr. Kubayabaya came in to assist. He told the GMB depot manager that statistics from AGRITEX were proving that all the inputs GMB had distributed to the rain-fed cultivators in 2001 had yielded nothing because of drought. The rain-fed cultivators they had assisted with inputs were now relying on buying the potatoes, sweet potatoes, green maize and vegetables from the Musarurwa irrigation scheme, the same crops he was refusing to support with inputs. He told him that if he was sure that it was GMB policy not to assist smallholder irrigators, he was going to appeal to the local MP and Principal Director (PD) of AREX for a policy change.⁷¹ He told him that it was very easy for him to contact the AREX PD since she was his boss. The GMB manager then simply asked me to prepare a list of the fertilisers that the scheme required. He however demanded that for us to access the inputs we needed to deliver some grain to the GMB. At the end of the meeting we gave the samples of our products to the GMB depot manager.”

Thus access to GMB inputs was mediated. To meet the GMB requirement for access to inputs, the irrigators resolved that all the sugar beans and maize from the demonstration plot would be sold to GMB. To ensure that a sizable amount of produce was sold to the GMB, each irrigator was asked to pay part of their irrigation levy in the form of two hundred kilograms of maize to the IMC. How the individual irrigator got the maize, the IMC did not want to know. These arrangements enabled the IMC to raise about fifteen tonnes of produce for the GMB. However this arrangement did not always yield all the required inputs. Fertiliser ammonium nitrate (AN) was always in short supply at GMB. Maize streak virus tolerant varieties were also mostly unavailable. To access these inputs, the IMC got involved in other deals.

Using other people’s fertiliser cash accounts

Historically, the structure of fertiliser demand differed between large scale and small scale irrigators because of different land holding sizes, soils, rainfall patterns and availability of credit. While in the past, demand by smallholders was low because most small scale irrigators were located in low rainfall areas where fertiliser use was risky, the situation changed with the Third Chimurenga that saw the resettlement of smallholders in better performing rainfall areas. The fertiliser availability problems thus started and were compounded by accessibility constraints facing the industry. A key problem was that huge demands from the GMB and related public and private sector input distribution schemes had diverted inputs from established agro-dealers, leading to shortages. Late ordering and logistical problems with the GMB system also led to late deliveries to irrigators. The ability to acquire fertiliser by non-irrigators at low, government controlled prices also led to the development of a thriving black market, where prices were as high as twice the official price, further reducing access to inputs.

Most white commercial farmers in Zimbabwe operated what was termed a fertiliser cash account with manufacturers Windmill or Zimbabwe Fertiliser Company (ZFC). In this credit scheme, fertiliser companies manufactured and reserved orders for individual account holders upon placement of an order. Once manufacturing of an order was completed, the individual farmer was expected to pay cash and collect his order. If the order was not collected or cash

⁷¹ Both the local MP and the AREX PD were sisters of the State President.

was not paid, interest was charged on a monthly basis. However such accounts were available to large irrigators or fertiliser outlets that were able to acquire huge orders of not less than one hundred tonnes. Smallholder irrigation schemes like Musarurwa did not qualify because they were not constituted as legal corporate bodies that could be sued for breach of contract. Small-scale commercial farmers and most A2 farmers, who might have had collateral security to qualify for such credit facility, did not have the cash to order large amounts of fertiliser. So when the Musarurwa irrigators ran short of ammonium nitrate fertiliser in 2003, Mr. Kubayabaya networked with A2 and other small-scale commercial irrigators, failing to meet the one hundred tonne order limit, and arranged for a joint order with the Musarurwa irrigators.

Other forms of accessing inputs

Buying inputs from GMB and manufacturers was not always possible. When these two failed to yield fruit, the individual irrigators were left to fend for themselves. The major form of accessing inputs by individual irrigators was through purchases by family members working in towns and the Diaspora. Urban based relatives were given grain, green maize, vegetables, potatoes, sweet potatoes and other products for their own consumption and or resale to others in towns in exchange for inputs bought from the black market. The Diaspora relatives either imported fertiliser or sent cash to contacts in town that would buy the inputs from the black market and bring them to the scheme. In some other cases rain-fed cultivators with access to the GMB credit input support programme especially those from the fast track resettlement areas, exchanged inputs for grain and vegetables with the irrigators at Musarurwa. Also merchants at open markets engaged in direct barter trading where inputs were exchanged for marketable products. An old woman, Liana Maringane, summarised in March 2005:

“My son, the crow survives through hopping from one spot to another. When one strategy fails you try another. Irrigated agriculture in these trying economic times is a game of wits. We are past that stage when we used to argue with the store keepers on why they did not keep this or that fertiliser in stock. Now every one of us is a “dealer”, old or young; if not one cannot survive. The only consolation for us is that the produce that we are using to exchange for inputs is surely not stolen. We only pray that the inputs that we get are not stolen. If one was to stick to Christian values or even to the law or became too inquisitive and asked too many questions then one would never farm in this country today.”

To cope with input shortages most irrigators, particularly those with cattle, have resorted to use of cattle manure instead of fertiliser. Those who do not have cattle use compost manure. Whereas most irrigators used to burn crop residues, they soon started using them as compost.

Accessing labour

Only nineteen out of the fifty irrigators at Musarurwa were below the age of fifty at the start of the research (2001). At the same time most of the irrigators had less than three adult members of the household living with them at Musarurwa. The result was that most irrigators depended on hired labour. Hired labour was however not a problem for the irrigators throughout the research period thanks to the Third Chimurenga. The latter resulted in many farm workers being forced out of employment as their employers lost their farms to A1 and A2 farmers who did not immediately engage into full scale farming requiring hired labour. Also to the advantage of the Musarurwa irrigators was that during the period of research, Zvimba communal areas experienced below normal rainfall that had adverse effects on the rain-fed crop production. Most rain-fed crops, particularly in the Chirawu area, were a right

off, resulting in most of the farmers seeking employment at Musarurwa irrigation scheme for their food.

Labour was hired on a task basis (*maricho* in Shona). Each worker was given a number of lines to weed. Planting, application of fertiliser and spraying were not contracted out in most cases. Payment was never in cash, but always in the form of agricultural produce depending on what was available at the time of employment. Vegetables and sweet potatoes were grown all year round for the purposes of labour payment. Asked why planting, fertiliser application and spraying were not contracted out, Elizabeth Chiguta, a 58 year old woman irrigator said:

“These operations are the base of one’s crop. If you fail to get the required germination or if your fertiliser is not properly applied, then you do not get the required yield. After all these operations are not very difficult, they can easily be done in a very short space of time but they have to be done properly.”

According to the IMC chairperson, Mrs. Cecilia Musarurwa, sickness has become a major problem at Musarurwa irrigation scheme. She says that it is not only a threat to the individual irrigators and their families but to the entire scheme. According to her, it’s not only the sickness of the irrigator that poses a threat to the scheme but even that of other members of the family who may not even be at the scheme. She says the illness of a relative like children working in towns is more devastating, because in such instances irrigators are forced to go to these towns to be with the ill, while the crop in the irrigation scheme is left unattended. During the summer cropping season of 2005 five irrigators were forced to go to attend to relatives in towns for a month while their plots had no one to take care of. When this happens, irrigators lose a whole season’s crop and as a result irrigators may fail to pay their levies. In March 2005, I asked the 60 year old Mrs. Flora Musarurwa, whom I knew to be a very neat farmer, why her plot had so many weeds (see Photo 10):

“God’s plans are not predictable. You remember my daughter in law that I used to stay with? Her husband (my son) is not feeling well. He has been in and out of hospital for the past three years. At the end of January however he became serious, so his wife had to go and look after him in Harare. We had just planted the bean crop and I still had to plant the potato crop. Soon after I had finished planting the potatoes I was asked to come to Harare, because my son was getting worse. I employed a young boy to look after my home and the irrigation plot. He was only able to weed the sugar bean crop but not the potato. When I went to Harare I did not want to stay there long. However what I saw there made me stay there for a month. My son is not feeling well. I came back after a month and this is what has happened to my potato crop. If I was here my crop would be as good as that plot there. However I will work day and night until the plot is clean. Although I will not get the same yield as that crop there, I am sure I will get something. The only problem is I can not hire workers to assist me because I used most of my savings in Harare. Food is expensive there and I had to assist my son who is no longer working.”

4.5 Conclusions

In this chapter I have discussed how the irrigators at Musarurwa irrigation scheme struggled with irrigated agriculture in a communal area context under the AGRITEX smallholder irrigation management reform experiment. What is clear from this chapter is that the AGRITEX policy of involving the users in the design; construction; selection of irrigators; and the development of an organisational framework to run the irrigation scheme resulted in

the creation of a clan-based irrigation scheme revolving around the Musarurwa dynasty. This concluding section discusses implementation process and outcomes of the WUA model by identifying the opportunities and contests emanating from the detailed events and encounters with actors at Musarurwa irrigation scheme. It also discusses how the implementation and modifications to the model affected the power relations and accountability practices and control over inputs and markets. The requirements for use of the irrigation infrastructure are also discussed. Finally the outcomes of the model are presented.

The opportunities and contests

The model employed by AGRITEX in the creation of Musarurwa irrigation scheme it seems has resulted in the empowerment of farmers. The clan-base irrigation scheme has its own opportunities and constraints both to the irrigators and the government irrigation agency. In farmer selection, to the irrigators, they were able to join the irrigation scheme without being subjected to the AGRITEX seemingly rigorous screening process. The local community leaders (Sabhukus) retained their power of allocating land to their subjects as is rarely the case in most smallholder irrigation schemes in Zimbabwe where government or Rural District council staff are in the forefront. In the process the Sabhukus were able to accommodate all their subjects into the irrigation scheme. They were able to do so by ensuring that AGRITEX engineers did not dictate the plot size allocated to the individual irrigator as is the case in most smallholder irrigation schemes. To AGRITEX and government, delegating farmer selection to the Sabhukus was advantageous to them in that it saved them the trouble of indulging in village politics (which can sometimes be a nasty task) in deciding who to include or exclude from the scheme. They were also able to pluck themselves out of the process solving the issue of compensation of people whose land lay where the irrigation was to be developed. This became an issue for the Sabhukus and the local politicians. In this way the irrigators' opportunities were the AGRITEX engineers' constraints and vice versa. So it became a win-win contest. However the organisational framework created was not legally constituted as is the case with most Irrigation management Committee in Zimbabwe. As a result dealing with internal discipline of members using the crafted constitution alone was a dicey process. As was demonstrated by the sugar bean case, it was very much dependent on other institutions and organisations like the local village courts, the local chief and police.

In choosing the scheme leadership, the farmers were given the opportunity to choose the leaders they thought would best lead them. Initially the Sabhukus were able to maintain their power over their subjects in that they were elected into top leadership positions. However this opportunity soon became a constraint in that the first chairmen became a liability to irrigators when he proved to be passive and was overshadowed by his secretary resulting in poor service by the IMC to the farmers. In the first election, to AGRITEX this proved to be a disadvantage in that the gender-balance and literacy outlook that they so cherished in their IMC was only in their eyes a window dressing affair. However in the second and third elections, the farmers were driven by the need for progressive leadership in their choice of leaders. Leaders were chosen for a particular purpose (either to achieve high production as was in the second election or to effectively apply the constitution as was the case in the third election). To AGRITEX who did not want to indulge in hot local politics during the period, the fact that the farmers could choose leadership that could deal with internal disputes was great relief to them. The woman chairperson was able to tap into the wisdom and experience of the affluent members of the Musarurwa dynasty like Elisha Mushayakarara (who had once been at the

helm of government) in crafting solutions for solving internal disputes as can be seen in the sugar bean case presented in this chapter. Leadership at the scheme was also informed or succumbed to village politics, traditional customs like Chisi, rituals like witch hunts that were invoked by natural calamities like hailstorm and lightning.

Power relation and management accountability practices

It was clearly demonstrated that crafted irrigation management organisations do not function in a vacuum, but that they will encounter or even will depend on existing organisations and institutions for them to assert their power. Therefore, crafted constitutions, operational rules and regulations, while they are essential and should be thoroughly constituted and rigorously implemented, they alone are not enough. They will depend a lot on other existing organisations, their rules and regulations and operational realities. It was shown that not all created organisations are given their opportunity to function and that creating too many irrigation organisations may lead to friction among the organisations as they wrestle or struggle for power. It was also shown that it's not always the accountability between users and the agency that is important but also the accountability of the farmers to their own elected organisations and to the political and local governance structures that matter. Unprecedented and unexpected natural and deliberate human interventions like lightning, hail storms and witch hunts shaped the course of people-to-people relations at the scheme, in an unimagined way throwing logical planning out of the way. The political upheavals rocking the country at the start of the new millennium did not spare the Musarurwa farmers and their organisational framework. The high inflationary conditions resulted in ever escalating costs of running the irrigation scheme. The scheme leadership found it difficult to accurately predict operational costs and therefore accurate budgets. The result was too many incidental meetings at which irrigators were asked to fork out more cash to finance operation and maintenance. The result was loss of confidence in the leadership of the irrigation scheme as evidenced by the quick changes to leadership at the irrigation scheme.

The detailed discussion on the functioning of the created organisational framework at Musarurwa revealed that there were a lot of internal squabbles that could easily have scuffed the irrigation scheme if not checked. Their traditional and cultural beliefs like witch craft were proved to be important in deciding the destiny of the irrigation scheme. The discussions in this chapter have shown that the crafted organisations although on paper they had clearly defined functions, in reality their functions were intertwined and were also mediated by other organisations and individuals. For example although it was the function of the MC to look for markets, the IMC chairperson took it upon himself to look for the sugar bean market. The IMC also took it upon itself to settle disputes at the irrigation scheme a function that should have been handled by the DC. When the DC finally got the opportunity to settle a dispute, although they used the scheme's constitution to suspend the chairperson and the secretary in the sugar bean scandal, the DC's recommendations needed bracing from the local Chief and the Zimbabwe Republic Policy for them to be binding. These organisations were not even referred to as important organisations in the AGRITEX feasibility report. AGRITEX, the organisation that was given prominence as the organisation that would assist the IMC, in this case could not help the irrigators at a time when the irrigators need it most.

The Musarurwa case has demonstrated that farmers were aware of the Government's weak financial and human resource base and were prepared to provide resources to operate and

maintain their irrigation scheme to the best of their ability if only government were transparent in their interaction with them. The farmers were able to introduce two main changes to the AGRITEX template of organisational framework for smallholder irrigation management that made it possible for them to operate the irrigation scheme without dependency on government agencies. They created a Water Committee (WC) and the post of production manager. These creations were necessitated by the withdrawal of the AGRITEX AEW from the day-to-day operation of the irrigation infrastructure. These positions were filled by capable farmers with experience in the running of sprinkler irrigation schemes and contacts and networks gained from their previous employment (the case of Royce Chaya discussed in this chapter). This stance taken by the farmers weakened their dependence on the waning support from the government agencies.

Outcomes of the model in terms of irrigated agricultural performance

The narrative on the struggles faced by irrigators in coping with the technology showed that AGRITEX did not train the irrigators for eventual take over of the operation and maintenance of the irrigation scheme. It was shown that the Musarurwa irrigators were able to operate and maintain the irrigation scheme because they were fortunate to have amidst themselves the two irrigators with some previous experience in operating electricity driven pumps. The two were themselves performing the duties on behalf of the other irrigators because of fear of being expelled from the scheme and their homes by the Sabhukus who allocated them residential stands in the Musarurwa area. It also emerges from this discussion that the irrigation technology demands for care like guarding and operation shaped the rights of irrigators to irrigation infrastructure. Because of the demands by the irrigation system that two irrigators share a six sprinkler lateral and the fact that the entire twenty-five lateral should be operated simultaneously, the IMC took over the ownership of the infield equipment that was initially designed by the Irrigation Specialist to be owned by individual irrigators. The resolve by the Musarurwa irrigators to take over full responsibility for the operation and maintenance of the irrigation infrastructure was bolstered by the ailing pocket of the Irrigation Department who did not have the budget to bail out the irrigators in times of disasters.

Finally provision of inputs for crop production is proving to be the major weakness of the irrigation scheme. Lack of agricultural inputs in the formal market outlets is now forcing the irrigators to engage in deals that they would never have dreamt of. However, irrigators are showing wisdom of care and good sense in the activities they do themselves in crop production. Despite “growing pains” of vulnerability to conmen, and witchcraft and social naivety, the irrigation scheme has shown a remarkable evolution close to policy ideals without the conventional training. The problem of inputs is a national problem emanating from a much bigger political and land reform the Third “Chimurenga” that was started by government in 2000. This shows that irrigation management reforms cannot be looked at in isolation from the wider economic performance and trends of the country. It shows that their success or failure is mediated by other forces. The AIDS virus here referred to as sickness is also taking its toll as resources meant to be used for irrigated agriculture, labour, time and cash are spent tending the sick. Therefore policy models can best be understood by visiting the points of interface.



Photo 7: Use of two hundred-litre drums



Photo 10: Failing to weed (cash used on ill son)



Photo 8: Use of plastic covered ponds



Photo 11: A well weeded crop



Photo 9: Use of plastic & metal cans



Photo 12: Little fertiliser: the greatest undoing



Photo 13: Negomo irrigation scheme pressure balancing reservoir
Source: picture Zawe 2005

5 CRAFTING A CO-OPERATIVE COMPANY AT NEGOMO

The 357 hectare Negomo irrigation scheme was established in 1996, being one of the younger and larger smallholder schemes in the country. The scheme derives its water from the newly constructed Negomo dam, and has a total membership of 296 irrigators, each with an irrigated area of 1.2 hectares, comprised of two separate plots. One plot (0.5 hectare) is for the production of seasonal food crops, while the second plot (0.7 hectare) is for the production of a perennial citrus crop. Negomo is divided into twenty-three separate irrigation blocks. Of these, eleven are reserved for citrus (C blocks), while the remaining twelve are reserved for food crops (F blocks). Each block has a membership of about twenty-three farmers. The farmer organisation is however based on the F blocks. Irrigators in each F block elected a block committee for the day-to-day regulation of their irrigation activities. The chairman of the block committee automatically became a member of the Negomo Irrigation Management Committee (NMC), which guides the operations of the whole scheme. This chapter tracks the route followed by irrigation development agencies in the establishment of the company model of irrigation management reform at Negomo exposing how the different agencies and individual actors shoved, jostled and created space for their ideas and intentions to prevail.

When one approaches the Negomo Irrigation Scheme, even when one is still some ten or so kilometres away, one is greeted by a towering structure (see Photo 13). To some, like my wife, it resembles a “Net One or Econet”⁷² mobile telephone booster mast. To others, like my nine year old son, who notice how the towering structure bulges instead of tapers at the top as is the norm with mobile telephone booster masts, the towering structure resembles a domestic water supply distribution station. In a way the towering structure offers services that closely resemble both imaginations. Indeed the towering structure is the control centre of the Negomo state-of-the-art irrigation scheme. It communicates water use messages from the individual irrigator’s plot to the pumping station for it to automatically adjust the pumping discharges thus resembling a mobile telephone booster mast. It also ensures each irrigator can have access to water as and when s/he likes it, irrespective of other users’ actions, just like domestic water supply systems.

The story of the Negomo irrigation scheme is a story of rational irrigation management theory in practice. In this scheme the basic concept at play is state of the art sprinkler irrigation technology that can ensure on-demand water delivery to irrigators by an irrigation service provider directly accountable to the users by means of the payment mechanism. This is also a story of the day-to-day acrobatics by international development agencies and private sector companies engaged in the North-South transfer of modern technology. In this case both modern technical and modern management options were transferred from the corridors of Hamburg in Germany via Harare to settler farmers in Chiweshe communal area of Zimbabwe. The options that were crafted were inspired by the rational thinking that abounds in irrigation management discourse. It is also a story of policy formulation and articulation that is informed by the politics and socio-economic realities of the day as well as the ambitions and imaginations of individuals and international aid agencies, and development presumptions and discourse. The story however will show that smallholder irrigation development and management in practice is not as logical as some think it is. The lay-out of this chapter is as

⁷² Net One and Econet are two mobile telephone providers in Zimbabwe.

follows. First (5.1) the location of the scheme is presented. A narration of the establishment of the irrigation scheme then follows in section 5.2. Next (5.3) the resulting irrigation system and irrigation management organisation is described. The conclusion (5.4) sets the scene for the unfolding realities of modern technological and management interventions at the scheme (chapter 6).

5.1 The setting: settlements, markets, climate and politics

To get to Negomo Irrigation Scheme from the capital, Harare, takes an hour or so by car through the Mazowe valley, one of the finest valleys of Africa. The scheme is situated some 90-km north of the Harare. Travelling along the main road from Harare to the North, one winds down the mountains past one of the first major dams (the Mazowe Dam) to be constructed in the country into a flat plain with beautiful citrus orchards, the largest in the country. Soon one is greeted by a very large dish-like structure situated some 100 or so metres to the East of the road. This is the Mazowe Earth satellite, the nerve centre for the main link between Zimbabwe and the global village. Fifteen or so kilometres down the road, one takes a left turn and is immediately greeted by the stench from the sewage treatment ponds of the small town of Glendale. Another few minutes drive takes you into Chiweshe communal area and immediately one notices a dramatic change of landscape. Cattle, goats, donkeys and dogs criss-cross the road lazily. Natural trees give way to very short grass, blue gum trees, mango trees and other tropical fruits. The roads are lined with closely packed houses of different styles each reflecting the relative poverty or wealth of its owner. A few minutes more takes you to Negomo irrigation scheme (see Map 5.1).

Table 5.1: Mashonaland Central province communal area population densities by district

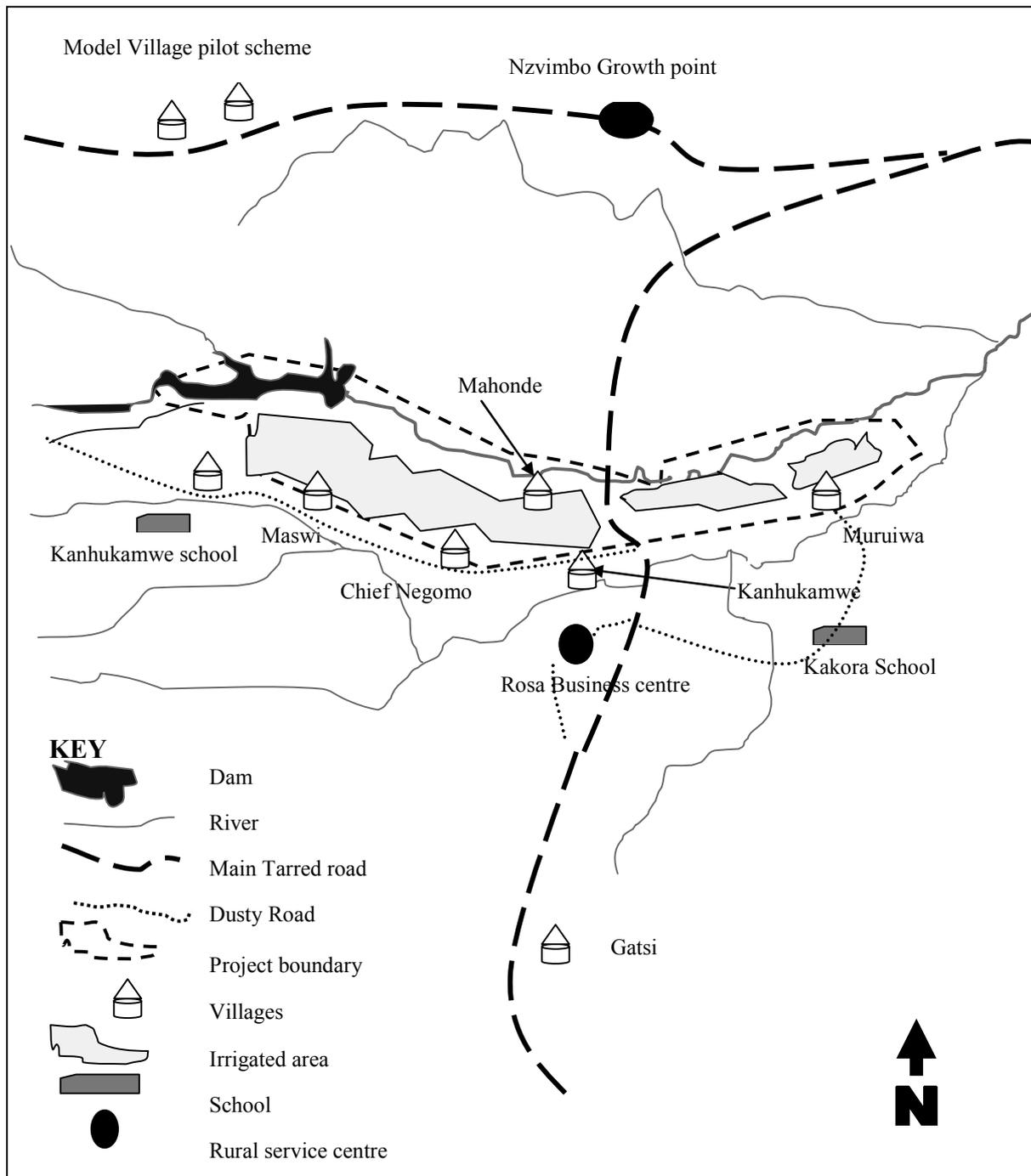
Administrative District	Council Area	Population	Area (km²)	(Persons / Km²)
Shamva	Chaminuka	41,318	640	65
Mazowe	Chiweshe	62,753	862	73
Guruve	Guruve	80,627	5,572	14
Bindura	Kubatana – Bindura	31,593	568	56
Centenary	Muzarabani	16,888	2,774	6
Darwin	Pfura	90,821	2,860	32
Rushinga	Rushinga	52,610	2,260	23
Province		376,610	15,536	24

Source: Based on GoZ and Salzgitter Consult (1991).

Settlement and market patterns

Chiweshe communal area is located in Mazowe District of Mashonaland Central Province. Chiweshe is one of the oldest and most densely populated communal areas of Zimbabwe. In 1991 it had a population density of 73 persons per square kilometre compared to a provincial average of 24. The Zambezi valley communal areas of Muzarabani, Guruve and Rushinga had mere 6, 14 and 23 persons per square kilometre respectively (see Table 5.1).

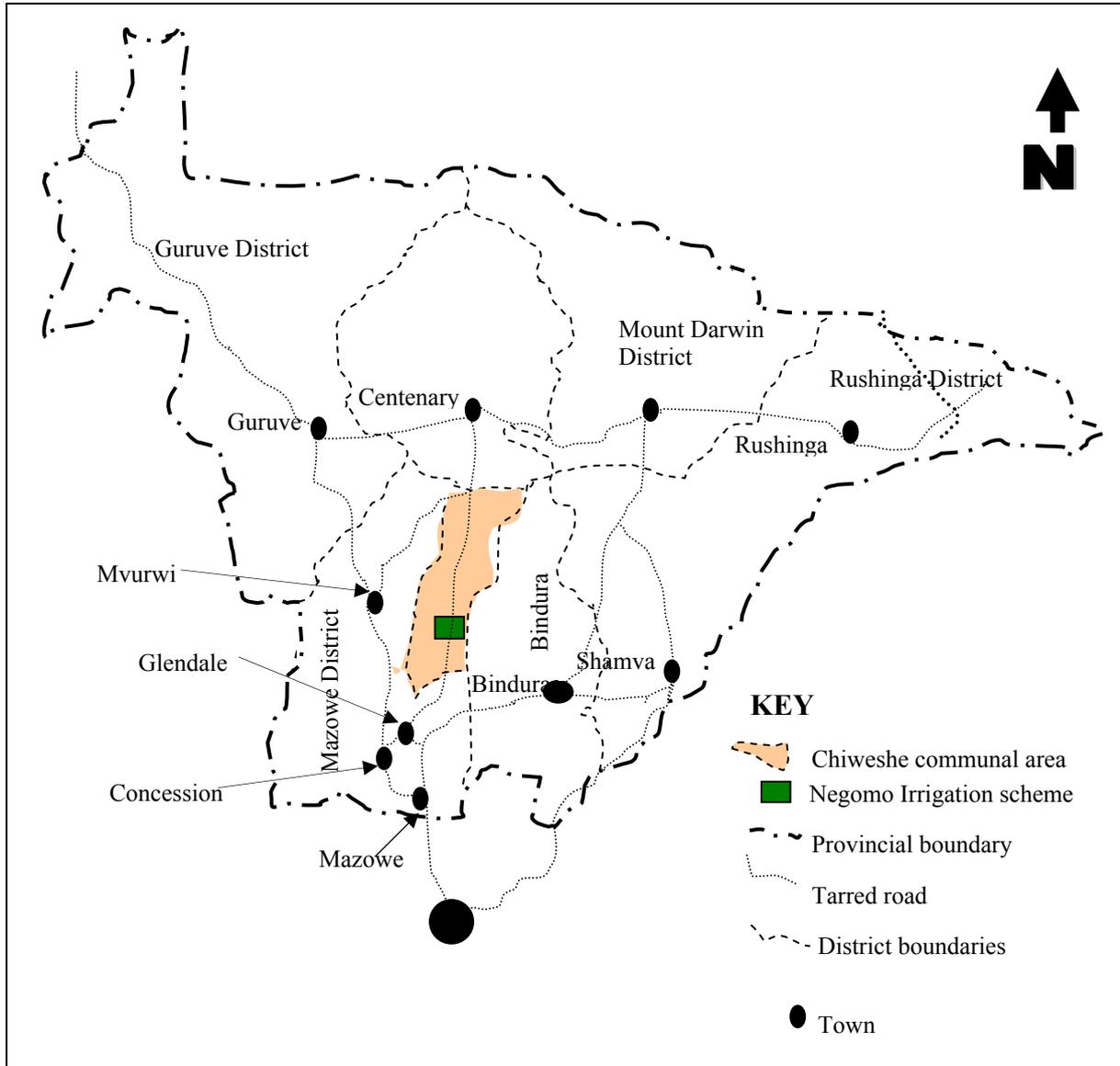
Map 5.1: The location of Negomo irrigation scheme within Chiweshe communal area



Negomo irrigation farmers were selected mainly from five villages (Nyakudya, Maswi, Mahonde, Kanhukamwe and Muruiwa), whose arable land was engulfed by the scheme. The settlement pattern in the five villages reflects the effects of the Land Apportionment Act of the 1950s that resulted in a distinct separation of arable lands, grazing areas and settlement areas in communal areas. The settlement areas were located mainly along the roads. The effect of the brutal liberation war also left an imprint on the settlement pattern with concentrations of housing surrounding the former ‘protected villages’ at Maswi and Rosa

Business Centre (BC). After independence semi urban populations mushroomed at Nzvimbo Rural Growth Point and Rosa BC reflecting rural urbanisation policies.

Map 5.2: Negomo irrigation scheme and possible markets



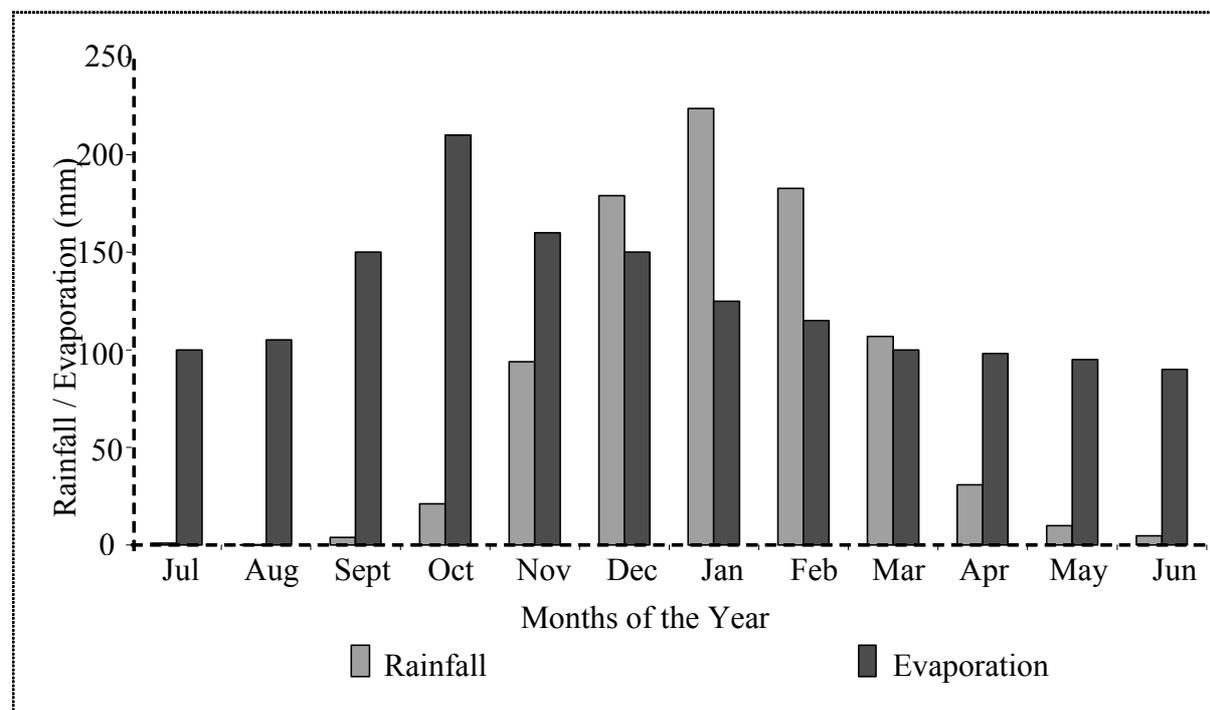
The scheme is bisected into two by a tarred highway from the capital Harare in the South to the small town of Centenary in the North. This makes the irrigation scheme one of the most opportune irrigation schemes in the country in terms of road links to markets. The scheme is easily accessible by many wishing to buy agricultural produce from all corners of the province. There are also many urban markets in the vicinity: Glendale (22 km South), Concession (32 km South West), Mazowe (40 km South), Bindura (52 km South East), Mvurwi (25 km West) and Centenary (42 km North). The scheme is also well positioned to offer food relief to some remote Zambezi valley communal areas, like Dande, Guruve, Muzarabani and Mukumbura, that are perennially short of food (see maps 5.1 and 5.2). Chiweshe communal area itself also provides a major market for the scheme with its growth

points and rural service centres. Most of the centres have electricity and telephone facilities and offer services like welding, and motor and mechanical repairs. Thus Negomo is a privileged smallholder irrigation scheme when compared to many in the country.

Climatic setting

Chiweshe communal area is situated in agro-ecological region II A, receiving an annual average rainfall of 857.7 mm according to the Rhodesia Rainfall Handbook Supplement number 8 (GoR 1977).⁷³ Data on evaporation indicate ranges of average monthly evaporation of 90 mm in June and 210 mm in October. Moisture deficits occur in the period April to November, during which supplements from irrigation are required (Graph 5.1). Although the average annual rainfall would be adequate for most field crops, it is concentrated (approximately 80%) in the period December to March. This period is occasionally too short for some of the high yielding, but long season, varieties of maize and groundnuts. Moreover, irrigation is required in the month of January to even out dry spells. For wheat⁷⁴ irrigation is inevitable since the cool months of May to July are moisture deficit months.

Graph 5.1: Average monthly rainfall and evaporation at Negomo irrigation scheme



Source: Government of Rhodesia (1977).

Even though irrigation is essential for high yields, farmers in Chiweshe can easily grow most of their field crops from rainfall only. As a result the overall cost of irrigating crops at Negomo irrigation scheme is expected to be much lower when compared with schemes in the arid agro-ecological regions (III to V).

⁷³ This Hand Book is now out of print and no recent records are available.

⁷⁴ Wheat requires cool temperatures for prolific tiller development.

Political setting

With regards to political positioning, Chiweshe is vibrant, being the home of some colourful political figures like the Vice President Mr Msika, who was also Chairman of ZAPU during the liberation struggle; Border Gezi⁷⁵ who was the national political commissar of ZANU PF (from 2000 to his death in April 2001) and provincial governor of the Mashonaland Central Province (1995 to 2000); Mr. Chenhamo Chimutengwende, who was the local MP for Chiweshe and the vocal Minister of Information Post and Tele-Communications from 1995 to 2000. Chiweshe was one of the hottest areas during the liberation struggle of the 1970s. Protected villages, popularly known as “keeps”, were developed in 1974 to house all the people in Chiweshe in order to “protect them from the terrorists”, whilst at the same time alienating the terrorists from the vital support of the rural masses. The war experience was a big investment in social capital amongst the Chiweshe communities. Although some authors suggest that the liberation war resulted in divisions among villagers (Kriger 1988, Ranger 1985), in Chiweshe the war resulted in the creation of a culture of protecting thy neighbour as villagers tended to group against a common intrusion. The villagers vividly remember the sour grapes of division brought about by the war and to date they hate any intruders wishing to divide them. The liberation struggle cultivated amongst them some survival strategies based on comradeship. They know when to group up against intrusion and how to cover up for each other, as will be discussed in chapter 6.

5.2 Experts mould Negomo irrigation scheme

The scheme was established in 1996 by an international development co-operation project involving the Government of Zimbabwe (GoZ) and the Federal Republic of Germany (FRoG). It depends for its water supply on the Negomo Dam, containing 5 million m³, that was constructed on the Ruya River by the same project. Mainly private sector consultant companies developed the scheme. This was a distinct departure from the traditional smallholder irrigation development approach in which the government irrigation agency (AGRITEX) was at the centre stage of the development process. Three private consultant companies, *viz.* Salzgitter Consult GmbH of Germany (leading partner), Stewart Scott and PTA Consulting Services of Zimbabwe, were responsible for the designs, the feasibility report and the development of the leading concepts of the irrigation project. Four other private companies were involved in the actual construction of the irrigation infrastructure and the development of the Irrigation Management model: C & M Plant Hire (Negomo dam construction), Balaton Enterprises trading as Irrig 8 (irrigation system construction), and Price Waterhouse (creation and registration of the Irrigation Management model).

The intention to establish an irrigation scheme at Negomo dates back to 1974. This section chronologically presents the evolution of the irrigation scheme. The efforts of the Tribal Trust

⁷⁵ Border Gezi’s meetings were characterised by song and dance reminiscent of the war of liberation *pungwes*. He was famous for his deep booming voice and long bushy beard that made him so terrifying to the people. He was clear and emphatic in his speech and was somewhat too direct and open in his speeches, especially on issues of patriotism, unity and corruption, making him a feared young man by many in the ZANU PF rank and file, let alone rural peasants. He died in a car accident in April 2001 on his way to attend a ZANU PF restructuring meeting in Masvingo. As I write (2005), two Government mechanics are in court for having deliberately fitted a faulty tire on Border Gezi’s government supplied Mercedes Benz car.

Land Development Corporation (TILCOR) are presented first. After this the inclusion of the Negomo Irrigation Scheme into the First Five-Year National development plan is discussed. Lastly the feasibility studies for establishing the irrigation scheme and the management model crafted by an international development co-operation agreement are presented.

Negomo is proposed as an irrigation growth point TILCOR project (1974-80)

The Rhodesian government intended to develop the scheme based on the Tribal Trust Land Development Corporation (TILCOR) model. TILCOR was intended to help the government to entrench its policy of segregated development between the black and white communities (Rukuni and Makadho 1994). TILCOR espoused a wide range of development objectives. In 1971 the TILCOR Board adopted the Growth Point policy of rural development based on irrigation schemes. A growth point was conceived as a fairly large service centre that would be able to support a full range of activities and services. It would stimulate and become the hub of economic development in the region and so help urbanise the rural areas. It was under this growth point policy that the Negomo irrigation project was first conceived in 1974. It is disputed though, why TILCOR ultimately did not establish the irrigation scheme. Chief Negomo commented as follows (2004):

“The idea of establishing the irrigation growth point was shelved due to the intensification of the brutal war of liberation. You know, Chiweshe was a very hot area during the war. The war resulted in the people of the Chiweshe communal area being sent to concentration camps. This effectively halted any meaningful subsistence agricultural activities in the communal area let alone huge projects like dam construction and irrigation development”.

Jurien Bass⁷⁶ pointed at another cause for the project to be shelved (July 2002):

“You see this Negomo irrigation scheme is not a recent innovation. TILCOR wanted to develop this scheme as an irrigation growth point in 1974 was it not for the problems presented by Headman Kanhukamwe who flatly rejected the project”.

The latter is confirmed by Headman Kanhukamwe (2004), who remembers the events of 1974:

“I was still very young then, but I know exactly what took place. The Land Development Officer (LDO) had many meetings with my father who was headman then. He flatly refused the idea of the irrigation growth point. He did not like his subjects to be displaced by this irrigation project. Also ZAPU leadership drove from Harare and asked him not to accept”.

Mr Gatsi, an old man in the village who is a holder of a master farmer certificate, observed:

*“Headman Kanhukamwe was not very intelligent. He was too argumentative for nothing. Even though he refused, the irrigation scheme was still established at Muzarabani and during the droughts of 1982 and 1992 we survived through buying maize from Muzarabani”.*⁷⁷

⁷⁶ Jurien Bass Balaton and Mr Stevenson were then senior water engineers in Mashonaland provinces. They are now the directors of the commercial irrigation company Balaton Enterprises (T/A IRRIG 8), responsible for constructing Negomo irrigation scheme. In his capacity as senior water engineer in government service Mr Bass put up an irrigation master plan for the two provinces detailing all possible dam sites and irrigation areas in 1977.

⁷⁷ In Shona: ‘Sadunhu Kanhukamwe vakanga vasingazivi zvavayiita. Vaingova nenharo dzisingabatsire. Nyangwe vakaramba Irrigation yacho yakangozovakwa kuMuzarabani zvokuti pakauya nzara ya1982 na1992 takatopona nekutenga chibage kwaMuzarabani’

Mr Murungweni, the director of projects at ARDA, who was then a technician with the planning branch of the Department of Water Development headquarters reflected in 2004:

“Yes, Headman Kanhukamwe refused and at the same time the war was intensifying, but if I remember well TILCOR had two options, Muzarabani or Chiweshe. Consultations were taking place on the two options. TILCOR opted for Muzarabani because it did not displace any formally settled people because then Muzarabani was very sparsely populated”.

This sounds like a plausible reason considering the population densities already discussed above. However even the Muzarabani option was not developed during the colonial times. Also the fact that the people of Chiweshe were already in protected villages, should have made the TILCOR’ endeavours to establish the irrigation scheme much easier. Another explanation can be surmised from the funding of TILCOR itself. TILCOR was funded by private sources and not from central government coffers. With UDI in place and the escalating war, TILCOR became under capitalised and was therefore no longer in a position to develop new projects.

Negomo is pencilled into the First Five Year National Development Plan (1980-86)

Following Independence in 1980 the government adopted a development approach termed ‘growth with equity’. This stemmed from the government’s socio-economic goal to ‘establish and develop a democratic, egalitarian and socialist society’ (GoZ 1986). The broad objectives of the policy were:

- the transformation and control of the economy and economic expansion by the state;
- land redistribution and efficient utilisation of land;
- raising the standard of living of the entire population, in particular the peasant population; enlargement of employment opportunities and manpower development;
- development of science and technology, and;
- maintenance of a correct balance between the environment and development (GoZ 1986).

To concretise the above and bolstered by the devastating national droughts of 1982 and 1985, the ZANU PF national congress proposed two important resolutions with regards to agriculture and rural development that were included in its election campaign programme of 1985:

(1) ‘the development of at least a single medium sized dam and irrigation scheme for every District in order to liberate Zimbabwe from the threats of drought and hunger and to ensure food self-sufficiency for the country’ (ZANU (PF) Central Committee 1985, 21).

(2) ‘the consolidation of organs of popular power and participation. The government will consolidate the established structures headed by provincial governors. The most important basic unit of the structures is the Village Development Committee (VIDCO), followed by the Ward Development Committee (WADCO), then the District (DDC) and provincial (PDC) Development Committees. At these levels, formulation of the Five-Year National Development Plan will see the increased participation of these organs of popular power from village to the national levels’ (ZANU (PF) Central Committee 1985, 17).

Thus the Negomo irrigation scheme (then proposed as Kanhukamwe dam and irrigation project) was included in Mashonaland Central’s first Five-Year National Development Plan of 1986-1990, as one of the many irrigation projects in the Mazowe District. Yet the scheme

remained on the drawing board for most of the development plan period because of a lack of development funds. It was only after the GoZ/FRoG 'one dam per district' feasibility study was concluded in 1989 that the scheme's development started. Asked whether the local people were consulted when the scheme was included in the five year national development plan, Headman Kanhukamwe responded (2002):

"That time traditional leaders like me were not consulted. We were not very good friends of ZANU PF. These were the days of the Village and Ward Development Committees (VIDCOs and WADCOs). Those were the 'I know what my people want' guys who did not consult anybody. It's not surprising the government had problems introducing the scheme to the people. I am not sure whether the VIDCOs or WADCOs were consulted either. I am very sure it was the District Administrator who put the scheme in the development plan without consulting anyone".

In 2004, an engineer from the department of irrigation, who was then Agricultural Extension Officer (AEO) responsible for soil and water conservation, observed:

"The DA knew nothing about irrigation. The projects were proposed by the Agriculture and Conservation Sub-Committee of the District Development Committee (DDC). As a matter of fact it was the chairman of the sub-committee who put all the irrigation projects on the development plan. You know yourself Mr. Zawe that the chairman of that committee was the AGRITEX District Agricultural Extension Officer (DAEO). The plan was wanted like yesterday. So there was no time to go out and ask anybody or carry out any technical designs or reconnaissance. We went straight into the Rhodesian files in our office. Those guys⁷⁸ had done all the work. We just fished out the list of dams for Mazowe district and submitted it to the DAEO for presentation to the DDC."

So that is how Negomo irrigation scheme was proposed.

An international development co-operation agreement is signed (1987-90)

On the 27th of September 1988 the Government of Zimbabwe (GoZ) and the Federal Republic of Germany (FRoG) signed a financial co-operation agreement. Included in the agreement was the Study and Expert Fund IV that could be utilised for conducting project feasibility studies. In 1989, GoZ through the Ministry of Energy and Water Resources Development (MEWRD) submitted a formal request to the FRoG to institute a study of potential medium size dams for Mashonaland Central province, the last of the eight provincial studies⁷⁹. The request was accepted and the MEWRD prepared the terms of reference (ToR) for the study. These were agreed to by the Kreditanstalt für Wiederaufbau (KfW) representing the FRoG. By 29 March 1989, KfW had invited several German consulting companies to submit technical and commercial proposals to the MEWRD. 'Following an evaluation of the offers, a Joint Venture consisting of Salzgitter Consult (GmbH); PTA Consulting Services, Harare; and Stewart Scott NCL, Harare, was awarded the contract for the execution of the study services under the programme' (GoZ and Salzgitter Consult 1991). Some 200 potential sites were identified after a pre-screening based on the simple criteria outlined below (GoZ and Salzgitter Consult 1991):

- a dam storage capacity of at least 3-million m³;
- potential yield of catchment area to supply irrigation water;

⁷⁸ By 'those guys' he meant the former white Land Development Officers (LDOs).

⁷⁹ Mashonaland Central Province was funded last because government gave priority to the drier provinces of Masvingo, Midlands, Manicaland and Matabeleland North and South.

- prospect of finding at least 50 hectares of irrigable land in the vicinity;
- accessible site, i.e. close to Harare, with well developed roads, and telephone and electricity;
- favourable storage volume / embankment ratio;
- existence of a water demand for irrigation, domestic use and livestock;
- the dam and its foundation spillway and freeboard requirements (solid rock in place);
- appurtenant structure and access roads;
- irrigation and drainage facilities, conveyance canals, pumping stations, pipelines and;
- applicable irrigation methods, e.g. sprinkler, surface or drip.

On the basis of these criteria the possible irrigation sites were screened down to nine. The nine were then subjected to a sociological evaluation based on the following criteria: number of households directly affected by the project implementation, land utilisation for agricultural production, community experience in self help projects, community attitude towards the project, infrastructure and distance from Harare and inundation of significant areas by the project (GoZ and Salzgitter Consult 1991). This evaluation resulted in the identification of the three most promising sites, viz. Kanhukamwe (now Negomo) 300 hectares, Mupfure 170 hectares and Guruve 1,200 hectares (see Map 5.2). Kanhukamwe and Guruve projects were then subjected to a feasibility study in April 1990 by the same consulting companies using the following evaluation criteria:

- developing alternative technical designs of dam and irrigation system for easy of operation and maintenance;
- expected benefits from the project based on economic returns (cost benefit ratio, Net Present Value (NPV) and Internal Rate of Return (IRR));
- assessment of the environmental impacts (impacts of dam on the downstream users, of irrigation on ground water, of the upstream users on the life of the dam);
- estimation of investment & annual operation costs (the capacity of the cropping programmes to meet the operation and maintenance cost and the food requirements of the users);
- socio-economic feasibility analyses (the effects of the project on human settlement, health, nutrition and socio-political acceptability);
- the formulation of project implementation schedules (involvement of all relevant government ministries and departments, local political leaders, the beneficiaries themselves and the private sector);
- an adequate organisational structure capable of ensuring that the farmers will be able to operate the irrigation scheme through a service provider who was accountable to the users and with minimal government involvement;
- potential crops (annual/perennial) that would ensure food security and cash income, generate local employment and provide foreign currency;
- availability of marketing outlets and agro-industrial development to link with both local and foreign markets and;
- settlement planning to cater for the displaced villagers in respect of arable land and residential land affected by the dam and irrigation scheme (GoZ and Salzgitter Consult 1991).

It is from this feasibility assessment that the project idea and guiding principles of the irrigation management model evolved. These were however contested and reshaped during construction and subsequent operation of the irrigation scheme. A supplementary study was then commissioned through the project (CES PTAC SSN 1992) to look into horticultural marketing, crop processing, management and the implementation of the Kanhukamwe and Guruve projects. At this stage it was decided that Kanhukamwe project would be implemented as a pilot project ahead of the bigger Guruve project (Negomo Final Report 2001).

The feasibility studies (1990-91)

The feasibility studies were carried out in three phases.

Phase one

The first phase concentrated on a situational analysis, from which it was concluded that:

- Negomo was located in an area of good rainfall for successful rain-fed cropping;
- Most farmers were able to meet their subsistence requirements from rain-fed cropping;
- Irrigation benefits would accrue only if irrigation water was used to cover deficits caused by erratic rainfall in the rainy season or dry seasons;
- As a result, the proposed irrigated farming programme was to concentrate on high value cash including export crops (tobacco, tomatoes and citrus) in addition to food crops to satisfy the farm family's own needs;
- The scheme is strategically placed and readily accessible to many major urban centres like Harare, Bindura, Mvurwi and Glendale;
- The establishment of the irrigation scheme was not in conflict with the development plans of the district. However, the land to be irrigated was currently allocated to communal farmers as their rain-fed cropping land and,
- Also some 35 households would lose all their agricultural land, as the dam would inundate it (KfW/GoZ 2001a).

The project qualified for the second phase of assessment. Asked in 2002 whether the farmers were in agreement with the project at that time, one woman had this to say:

“Even if we did not want the project, we had no choice did we? Who would dare challenge Border Gezi with this booming voice and especially in the mood he was that afternoon. I remember this day at a meeting, at Kanhukamwe primary school very well. He did not mince his words: ‘Parents I do not want to hear that there are some among you who do not want this irrigation scheme. What the people of Guruve⁸⁰ did in refusing irrigation development in their area was very embarrassing to me and I don’t want to see that again. You people want irrigation that is al.⁸¹”

So the irrigation project was accepted unanimously by all including those whose land would be taken up by the irrigation project. The farmers did not have the time to ask some of the pressing questions that they would have wanted to ask in a one to one situation with the

⁸⁰ The people of Guruve had told the consultant team in no uncertain terms that they were not interested in irrigation development in their area and that they would fight by all means anyone trying to force irrigation on them. This incident was widely covered in the local papers.

⁸¹ ‘Vabereki handidi kunzwa nyaya dzekuti panevamwe venyu vanoti havid irrigation iyi. Zvakaitwa nevanhu veGuruve zvakandinyadzisa. Handidi kuzviona zvakare. Imi munada irrigation zvapera’.

governor. Being a huge meeting organised in the mould of a political rally, it was difficult for the farmers to say their mind. The first chairman of the irrigation scheme said that on their way home after this meeting, many people were saying that a further meeting was required to clarify issues like who was allowed to join, compensation for loss of land and what would happen to those who would lose their land but did not wish to join the scheme. He said that although the governor referred such questions to AGRITEX, it would have been a good thing to discuss the issues with the governor at a proper meeting and not at a political rally.

Phase two

The second phase concentrated on the development and consideration of technical alternatives for the proposed irrigation system. From the analysis, it was concluded that:

- The irrigation scheme would get its water from an earth fill dam with a storage capacity of 3.6 million m³ constructed across the perennial Ruya River;
- The stored water, with allowances for other uses could irrigate 300 hectares of agricultural land;
- Based on the slope, soil type and irrigation efficiencies required, the irrigation system would be sprinkler, where water would be elevated from source for about 20 meters into the irrigation area by means of pumping and through pipelines, drag hoses and sprinklers;
- For the irrigation to be self sustaining the beneficiaries would have to be responsible for all operation and maintenance costs through a system of levies;
- The system would be designed to afford irrigation water access to beneficiaries on demand so as to ensure that farmers were flexible to grow high value crops of their choice thus avoiding the flooding of markets;
- Water charges would be based on the volumes of water used by the irrigators, and;
- High-tech modern irrigation gadgets were deemed necessary to ensure the system could deliver the services (Negomo Final Report 2001).

Thus the irrigation system, its constituent parts and agro-ecological as well as socio-economic context were designed as an integrated whole inculcating a strict logic. The basic ideas informing this logic were closely in line with the dominant discourse on financial viability, user benefits, management and ideas on modernisation of agriculture through a combination of commercialisation of agricultural production and transfer of high-tech irrigation systems.

Phase three

The third phase concentrated on the mobilisation of farmers and the preparation of final designs. In the final analysis it was concluded that:

- Farmers would need an efficient organisation of agricultural support services to take care of the envisaged new irrigated production programme;
- a legally constituted farmer organisation was required to ensure farmers could benefit from available market opportunities, like contract and export marketing.
- the above calls for the build up of an institutional and organisational model which incorporates qualified manpower, training and facilities and;
- the organisational set up would ensure that services were provided to farmers by a service provider that was accountable to the farmers and that the farmers would pay for the services rendered (Negomo Final Report 2001).

The general conclusion was that it was feasible to establish the irrigation scheme. If the irrigation scheme was to have any meaningful impact it had to improve the cropping intensities, indulge in high value cash and export crops for it to be lucrative to the farmers who already were fully self-subsistent without irrigation. The scheme was therefore envisaged to be a fully commercial venture bringing meaningful returns to the farmers. Also the irrigation system had to be able to provide individual farmers with irrigation water as and when they required it (on demand). As a result the farmers were to be organised into some kind of a legal entity capable of engaging in contractual agreements. These conclusions reflect very much the commercial nature of the organisations entrusted with the feasibility study.

The above shows that the consultants coined the irrigation scheme on the pursuit of commercial and open market objectives. This was to be expected from the consultants whose livelihoods are based on commercial thinking. Full participation of the users and minimum government participation in the management of the irrigation scheme became a key objective (Negomo Quarterly Progress Report No. 15, January-March 2000). This kind of reasoning fits in very well with international irrigation management discourse discussed earlier on. It also fits in well with an expert based approach to irrigation management (Plusquellec *et al.* 1994). The above recommendations had important implications in the development of the project. The recommendations carved a difficult terrain for the government irrigation development agencies and a more familiar one for the private sector. In the end the implementation process and setup indeed reflected a high degree of private sector involvement: a distinct departure from the norm in which smallholder irrigation development had become the mandate of the government irrigation agencies.

5.3 Experts implement Negomo (face to face with a lion in its den)

The project implementation process ruffled the feathers of the government agency for smallholder irrigation development, the Irrigation Division of AGRITEX, who regarded smallholder irrigation development as their exclusive domain. However with Negomo things took a 'strange' twist. Instead of the director of AGRITEX chairing the consultation meetings on the project at national level, an economist with the Policy and Planning Division of the Ministry of Lands Agriculture and Rural Resettlement (MoLARR), Mr Mfote,⁸² chaired the meetings. In 2003 Mr Chitsiko⁸³ had this to say of the implementation model:

"The implementation model puzzled us by creating a bureaucratic implementation structure that was not necessary. We never minced our words but of course the ministry had its own position. Everybody knew we were mandated to develop smallholder irrigation in this country. We had developed strategies that we thought worked. They probably needed perfection here and there of course, I agree. Our argument was that the German consultants should have assisted us to implement the project".

The implementation model

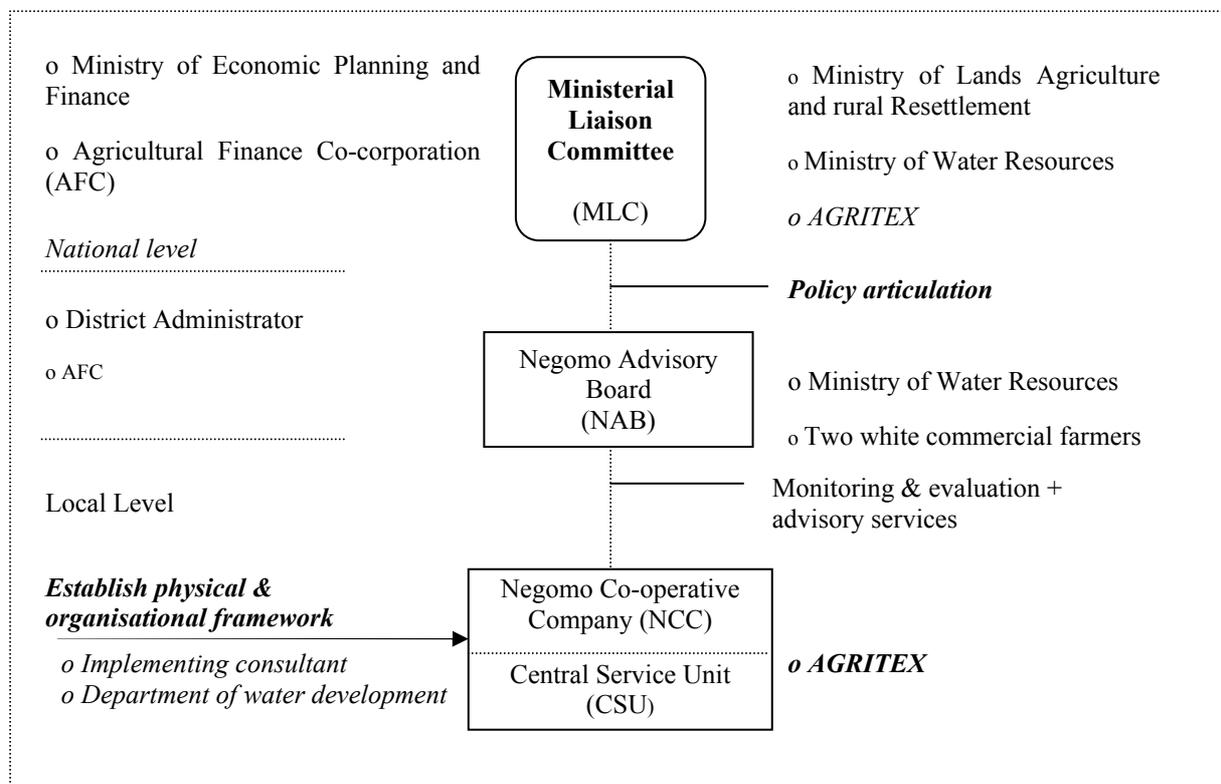
Figure 5.1 presents the organisational framework adopted for the implementation of the project. The framework reflects a rational project implementation process. In practice it produced a lot of problems. AGRITEX felt sidelined at all levels in this project. This problem

⁸² Mfote was the Chief Agricultural Economist in charge of irrigation development.

⁸³ Mr Chitsiko was the Deputy Director responsible for irrigation development in the department of AGRITEX.

was to be perpetuated during the operational stage as will be discussed in chapter 6. AGRITEX was replaced by a consortium of consultant companies. At district level AGRITEX's role was relegated to that of the chairman of the Negomo Advisory Board (NAB), mainly concerned with a monitoring and evaluation role. Even at national level AGRITEX felt cheated as it lost its monopoly on controlling irrigation development funds. All the project funds were in this case channelled through the consulting companies. Going through a copy of the feasibility report that I got from the then deputy director of AGRITEX responsible for irrigation, one can not help but notice the animosity exuded by the chapter on the project operation and implementation model. The pages are defaced with many comments such as "Where is AGRITEX? Have they done this before?" and "AGRITEX can not be likened to a private organisation" in a way vividly implying the anger that beset the man on sight of the implementation model.

Figure 5.1: The organisational model for the implementation of Negomo



Source: GoZ and Salzgitter Consult (1991).

Commenting on the reactions of AGRITEX and the implementation model, Mr Mfote said:

“AGRITEX can be excused for feeling that way. What they failed to appreciate though was that at ministry we were taking Negomo as a policy development programme for the involvement of the private sector in smallholder irrigation development. With regards to the Ministerial Liaison Committee (MLC) in particular, we felt this was an important forum especially where the private sector co-operates with the government in development projects. To us it was a useful forum to discuss and approve strategic issues of project development and to ensure that the project strategy complied with the national policy model and priorities. It was also used to highlight irrigation sector policy problems and to illustrate them based on the Negomo experience. However for practical on the ground project steering that AGRITEX were focused on, it definitely was too far away from the field.”

It of course slowed down the decision making process and sometimes created confusion between strategic decision making responsibility and implementation responsibility”.

This is echoed in the Negomo feasibility report (GoZ and Salzgitter Consult 1991). In the end the implementation model revolved around three organisational levels, the national level, the district level and the local level specifically crafted for the implementation of the Negomo irrigation scheme. Below I will present the different levels of the implementation model and discuss the effectiveness and problems besetting each of the constituent parts.

The Ministerial Liaison Committee (MLC): a failed learning experiment

Like is the case with all large development projects in Zimbabwe, sector ministries and departments at national level meet from time to time, as required, to review progress of the project in which they have some input and concern. The main functions of this committee were to provide policy and financial directions. The committee was therefore of importance mainly during the design of the infrastructure and definition of the leading concepts of the organisation and management. The committee exerted very little influence on the day-to-day happenings at the scheme during the construction phase. However, the policy guidelines negotiated at meetings held by the MLC and KfW legitimised the irrigation implementation model and processes.

The MLC appointed an irrigation engineer to supervise on its behalf the day-to-day construction progress of the irrigation infrastructure, a function traditionally performed by the director of AGRITEX. This post of resident irrigation engineer was advertised in the press even though the required respondents were expected to be engineers already employed by AGRITEX. The engineer was given a ‘yellow number plated’ site vehicle, a departure from the norm in which no vehicle or at least a stringently controlled white number plated vehicle⁸⁴ is given to site engineers. The post was offered with many other privileges absent in the standard Zimbabwe civil service package. This made the post look a lot more prestigious and important compared to resident engineers for other irrigation development projects going on in the country. The initial site engineer came straight from an MSc course in England. After a year the engineer resigned to join a newly formed commercial irrigation construction company as a co-director. Today this company is amongst the best black owned irrigation companies in the country. He was replaced by another young engineer who resigned soon after the scheme was commissioned to join the IFAD and DANIDA funded Smallholder Irrigation Support Programme as deputy national programme officer. On the collapse of that programme in 2003, the engineer joined Price Waterhouse, the consultant responsible for crafting the Negomo Co-operative Company.

Commenting on their role in the development of the irrigation scheme, the latter engineer said:

‘The job of the AGRITEX site engineer was just to make sure that irrigation equipment delivered to site was not defective and to ensure that the payments made to contractors were according to government regulations. As for development of the irrigation management structure, that was not at all part of the site engineers’ duty. That was all wholly handled by Price Waterhouse.’

⁸⁴ Yellow plates are reserved for privately owned cars while white plates are reserved for government vehicles.

The site engineer enjoyed above civil service conditions, according to Mr Mfote because:

“This was a project package and we thought it was justified since the engineer was working with private sector colleagues, it made him look more comfortable. Like I said before the ministry was using Negomo as a policy development programme. If raising the status of the site engineer helped improve work output, then it was to be adopted as policy for all site engineers.”

In theory the MLC played a critical role in the project implementation model. However in practice it was beset with problems. It was supposed to meet five times a year. This was never achieved. It only managed to meet four times in four years. The reasons given were: “failure to achieve the necessary quorum (main cause) and no pressing agenda for meeting” (Negomo Final Report 2001). The failure to achieve a quorum was to be expected considering the multitude of high level stakeholders incorporated in the MLC. The stakeholders had too diverse interests and commitments. There was also a lack of commitment from AGRITEX who always sent junior officers. In most cases the provincial level staff did not attend. Asked why he was always reported as absent in the minutes of the meetings, the then Provincial AGRITEX Irrigation Specialist for Mashonaland Central, Mr Mazango, said (2004):

“I had no business there. As far as AGRITEX Mashonaland Central Province was concerned, Negomo irrigation scheme was a Head Office project and not a provincial project. There was a fully-fledged irrigation specialist seconded to the project by head office who had even better facilities to travel to these meeting than me. I thought it was him who was supposed to attend. I tell you we had no idea what was going on at Negomo. Even farmer development was not in our hands. I was not the only one who was not happy with the situation, even the Chief Agricultural Extension officer (CAEO) was not happy.”

The Negomo Advisory Board (NAB): an illusion

In any project, constant monitoring and evaluation is essential to provide the management with information on progress so as to enable timely corrective action and even redesign and reorientation of the irrigation system and development process respectively. The latter was the responsibility of the Negomo Advisory Board (NAB). It was commissioned by the Minister of Lands, Agriculture and Rural Resettlement at a colourful ceremony, well covered by the local press including the only television broadcasting station, to signify a new era in irrigation development. Its purpose during implementation was basically to monitor the progress made by the implementing consultant companies. The NAB was expected to request audit and quarterly progress reports from the implementing consultants and to advise both the Government of Zimbabwe (GoZ) and farmers on the way forward. In the long term, it was conceived as an entity for assuring permanent support to the farmer organisation through a group of experts (resource persons), especially in matters of production and marketing (GoZ and CES Consulting Engineers Salzgitter 2001). However, in practice, its planned role was not consistent with the day-to-day reality. The first chairman of the board, Mr Masango, then AGRITEX’s DAEO for Mazowe district, died in a car accident, when he failed to notice an approaching train at a railroad level crossing point on his way from Harare. The result was that the board had no chairman for two years before a substantive DAEO was appointed to replace him. The board therefore rarely met during the implementation stage. The acting DAEO and later chairman of the board took time to comprehend what was going on.

The advisory board was destined for the dust bin right from the beginning anyway. The board was expected to provide their advice without a salary except for specific allowances paid

(GoZ and Salzgitter Consult 1991). In 2002, one member of board, one of the two commercial farmers, Mr Forester said:

“I am a commercial farmer. To get information one needs money, also time is money. I get my living from my commercial instincts. To think that I will spend my time advising other farmers for nothing, is an illusion to say the least. I pay a lot of money to consultant companies like Price Waterhouse. Why they are paying Price Waterhouse and not us makes this thing a fuss to me. Mr Zawe why do you pay school fees for the education of your children or don't you? There is no free education in real terms, even in primary school education some one is paying the teacher. Even experience is paid for by costly mistakes. They say we must assist the communal farmers. We will if we get paid”.

Asked why NAB failed to meet regularly, the one time NAB chairperson, Mr Chirapa, said:

“It is mind boggling for one to comprehend why the NAB was formulated based on the irrigation development agencies AGRITEX and DWD. In the first place, the engagement of the private sector in the development of the Negomo Irrigation scheme was justified by suggesting that the government agencies had no capacity in terms of technical competency and available manpower capable of developing the kind of irrigation system coined for Negomo. It was argued that agencies were not familiar with the complexity and size as well as the expected management style and crop production programmes intended for the scheme. One wonders then how the same poorly capacitated agencies were expected to assume monitoring and evaluation tasks for a development process that they were not familiar with. What monitoring would they do short of rubber stamping and authenticating the process including certifying the payment claims by the private sector companies. Also a highly motivated irrigation engineer was employed by government as a site engineer to do almost similar work. Although we were expected to demand reports from this engineer, he was more qualified than us and was better remunerated than us. Most members of the NAB decided not to attend the meetings because it did not make sense. They were also expected to use their own resources to come to the meetings. That was a non-starter for the commercial farmers.”

The discussion above shows that there was some misconception by most stakeholders of the functions of the NAB. The NAB was created to perform a purely advisory role, a role traditionally performed for smallholders by AGRITEX. To AGRITEX therefore the NAB was violating their “territorial integrity”. In discussion with Mr Mfote, and as is stated in the project feasibility report, it transpired that the NAB was not created to replace or take over the role of AGRITEX. Instead it was created to complement the efforts of AGRITEX. ‘The training of farmers and provision of extension services is the duty of AGRITEX. It is recommended that AGRITEX will provide 3 Extension Workers who will be specifically attached to the scheme. The DAEO would, as is customary, direct the operations of the extension officers who would work directly with the farmers’ (GoZ and Salzgitter Consult 1991, 5.8). It was AGRITEX staff on behalf of the farmers who were expected to enlist the services of the NAB if they required assistance on technical issues, scheme operation, and management and to carryout periodic reviews of the project progress. NAB however never did the reviews in a systematic way.

The local level: oversights and miscalculations

The game of constructing the scheme on the ground and developing the irrigation management model was left to the implementing consortium of consultants (CES Consulting Engineers Salzgitter, PTA Consulting Services and Stewart Scott Zimbabwe) supervised by the AGRITEX and DWD site engineers. To implement the project they decided to involve the

beneficiaries, local government staff and the local political leadership. However in the process some oversights and miscalculations were made that impacted negatively on the project. These oversights and miscalculations will briefly be highlighted in this section. Irrigation construction was contracted to Balaton Enterprises, trading as Irrig 8, employer to two very experienced former water engineers for the Mashonaland provinces. Farmer mobilisation was left to local level staff of AGRITEX and the Ministry of Local Government, Rural and Urban Development (MoLGRUD) using their own budgetary resources. Development of the irrigation management model and training was contracted out to Price Waterhouse. This set up was beset with problems.

Farmer mobilisation by AGRITEX and MoLGRUD

The implementing consultant made some mistakes from the start. The consultant expected local government departments to cooperate as if the project was part and parcel of their normal duties, using their own resources. The consultant however failed to inform them of this before the launching ceremony. Farmer mobilisation started with a colourful launching ceremony spearheaded by the politically affluent Provincial Governor, Madzibaba Border Gezi, at a public meeting at Kanhukamwe primary school in June 1993. By means of such a high profile launch, the implementing consultants thought they had mobilised the vital “political support” for the smooth implementation of the project, a vital condition for successful irrigation management reforms (Vermillion and Sagardoy 1999). In reality though, the farmers raised eye brows. Why the Governor was so interested in this irrigation scheme puzzled some, including the first chairman of the Negomo irrigation scheme:

“Mr Zawe, the man was hauled into this mobilisation process to ensure that we did not ask any questions about the project implementation process. At the meeting he intimidated us into silence.”

Instead of taking the farmers’ wishes to central government, the farmers’ concerns were thwarted by threats from the governor. Local AGRITEX and MoLGRUD staff believed they were taken for a ride by the governor. At the launching ceremony, they were made to understand that funds for farmer mobilisation would be provided by the Negomo project. This was contrary to the project implementation model that specified that the process of farmer mobilisation was part of the GoZ’s contribution to the implementation of the project. This was not clearly explained to the local level government agencies.⁸⁵ The Mazowe Rural District Council (MRDC) and the local AGRITEX staff were of the opinion that their travel and subsistence allowances (T & S) during the mobilisation process were to be met by the Negomo project funds. However to their dismay they were told that they were to send their claims through the normal channels. This meant that their claims would take more than six months to be processed with the risk that they would never be paid at all, as was the norm with AGRITEX then. With support from the CAEO and the PA, the officers stopped the mobilisation process, because this activity was not covered in the 1993 budget of both organisations. The MLC therefore advised AGRITEX to include Negomo irrigation scheme in their 2004 irrigation investigations project budget.⁸⁶ Farmer mobilisation therefore only

⁸⁵ Government staff members seconded to pilot projects normally expect to be paid their travel and subsistence claims from project funds. This way the government staff members are more motivated to work as their travel and subsistence claims are reimbursed faster. The luxurious remuneration package enjoyed by the AGRITEX site engineer created expectations amongst local government staff that they would receive similar treatment.

⁸⁶ Although the Irrigation Investigations Project Budget was funded by GoZ, claims made against this budget line were treated like project funded claims. The claims were paid through an AGRITEX Head Office

commenced in June 1994. As a consequence the dissemination of information among project beneficiaries were delayed (GoZ and CES Consulting Engineers Salzgitter 2001). According to the implementing consultant, this led to diminished awareness among the prospective irrigators on the implications of participating in the irrigation project (*Ibid.* 2001).

When farmer mobilisation finally started, it revolved around the selection of settler farmers, whose lands were affected by the irrigation scheme. AGRITEX formed five village mobilisation committees based on the villages whose arable land would be engulfed by the irrigation scheme. The village headman was made the chairman of the mobilisation committee. Three other members were elected by the affected farmers to assist the village headman. Armed with the dam and irrigation design maps, the five village mobilisation committees, AGRITEX and the MRDC staff members pegged out all the arable lands affected by the dam and irrigation scheme. After the pegging, the mobilisation committees were asked to come up with a list of all households whose lands and homesteads were going to be affected by the dam and irrigation scheme. The committees were also asked to identify all the graves that were going to be submerged by the dam. Asked why AGRITEX appointed the village head as chairman of the mobilisation committee, one of the extension workers said:

“We were dealing with land here. Land in communal areas was allocated to people by the village head. People can talk of VIDCOs or the Rural District Council being the local development leaders, but the man who knows who is the owner of which piece of land is the village headman. We also realised that people were complaining of graves that were going to be flooded by the dam. This was a matter that the traditional leaders would best handle.”

Armed with this information AGRITEX and the MRDC staff members held meetings at each of the five villages where the village head reported back to the people what their findings were. Thus all the affected people and graves were recorded and a report handed over to the MRDC. Thereafter farmer selection was initiated. AGRITEX and the village mobilisation committees jointly developed criteria for selecting beneficiaries to the irrigation scheme. The criteria largely resembled the traditional AGRITEX selection criteria borrowed from the DERUDE irrigation policy document of 1983 (see chapter 4).

However, like in the Musarurwa case, the criteria had to be compromised since the irrigation scheme incorporated land that had previously been used as rain-fed arable land. Three important conditions were compromised with profound effect on the future operation of the scheme. In the end for as long as a farmer's land was engulfed by the scheme he/she became an automatic member of the irrigation scheme. Also government failed to acquire land for the resettlement of 19 households who had opted out of the scheme and 18 who had considered themselves too old to participate or to move to resettlement areas (Mr. Gatsi⁸⁷ pers. comm. 2002).

“Impress Account” sidestepping central payments office. This was arranged to speed up irrigation feasibility studies.

⁸⁷ Mr Gatsi is a 72 year old man who had opted out of the scheme citing old age. Still he ended up being allocated a plot, because the government could not find alternative arable land for him in the vicinity of the scheme. Mr Gatsi thought that not all graves were removed from the dam basin and that this could have been the reason why the dam wall breached on 1st August 1997, way after the rainy season. In total 100 graves were removed from the dam basin: *“These engineers are little wizards, I fail to grasp where they get courage to order the removal of so many graves, and I found it difficult to argue with them when they asked me to take up the land. I have done quite well after all. I do not have any debts at all like these young colleagues of mine*

Compensation for land: A case of political intimidation by central government

The compensation of those farmers who lost land to the irrigation scheme was compromised during the mobilisation phase. Those whose land was affected by the scheme and wanted to join were asked to give up their original holdings in exchange for an irrigation plot. As a result no farmer was actually displaced and no compensation was paid. The fact that the farmers had to give up their rain-fed plots for them to become members of the scheme created bottle necks during the subsequent operation of the scheme (see chapter 6). It made the farmers feel that it is their natural right to hold onto a plot within the scheme, irrespective of their performance. The fact that Negomo irrigation scheme is located in a communal area, held in communal tenure,⁸⁸ further twisted the case in the farmer's favour. Asked why the farmers accepted to give up their land to the irrigation scheme without compensation, one farmer who refused to be named had this to say:

"First the drought of 1992 forced one not to be left out of the scheme. Second and most important, who would dare say no to what Madzibaba Border Gezi and MP Chenhamo Chimutengwende said? If you tried that funny game then you would live to regret the day. Thirdly, the two promised that land would be allocated to those who were displaced once resettlement land was available. It took some time though for the land to be made available and we have since forgotten about the issue."

During the mobilisation process, 10 farmers opted out of the scheme. For these farmers it was arranged that they would swap rain-fed land with those joining the irrigation scheme whose land was not engulfed by the scheme. However to date no swapping has taken place. One of these farmers commented:

"We can only say that God will solve the problem for us one day for God is seeing all this."

Some of these farmers, particularly the very old, now depend on leasing land from friends or use land vacated by those who headed the call for the "Third Chimurenga", who are now settled in the former white commercial farming areas.

Skirmish over the project name: mobilisation of the institution of the traditional chief

During farmer mobilisation, it became obvious that farmers strongly objected to the project name. Kanhukamwe was the name of one of the five village heads that constituted the irrigation scheme. The name Kanhukamwe originated from the DAEO who copied it from the files of the colonial Land Development Officer (LDO). He had not consulted the local people resulting in trouble. After heated negotiations amongst the five village mobilisation committees and consultations with Chief Negomo, staff of the Mazowe RDC and AGRITEX, a compromise name was adopted almost by consensus. The scheme was renamed Negomo after the local chief presiding over the five villages. The then acting Chief Negomo was the main instigator of the change. He remarked in 2001:

"How could they glorify only one of my subjects like that? Were they trying to overthrow me in broad daylight? Also most of the people did not fully appreciate the need for an irrigation scheme that was taking up their agricultural land. They wanted me to object to the creation of the irrigation scheme like my father had done in 1974 to the Smith Government."

have. It's hard but it pays." Mr Gatsi is now leasing two more plots and two of his sons, who were not allocated plots, are also leasing plots at the scheme and are doing fine.

⁸⁸ The communal land tenure system dates back to the colonial era. Land rights were defined for groups of people on the basis of traditions and customs. This tenure system does not contain regulations providing a legal basis for the eviction of people from the land, in case they are not performing.

The acting Chief Negomo though says that he decided he would not risk his life by opposing Border Gezi's wishes of establishing the irrigation scheme. This change in name though brought a lot of confusion at the scheme in that the Price Waterhouse the consultant company responsible for the creation of the irrigation management model had already registered the irrigation management organisation as Kanhukamwe Co-operative Company (KCC) with the registrar of companies. This confusion is evident in this chapter as well. This is why the management organisation is referred to as Kanhukamwe Co-operative Company and not Negomo Co-operative Company.

More than 100 corpses are exhumed from their graves and reburied

Another problem that surfaced during the farmer mobilisation process was the issue of graves that were going to be flooded by the dam. Over 100 graves were affected with that of the late headman Kanhukamwe amongst them. When the AGRITEX and MoLGRUD local staff members discussed the affected lands with the farmers, a row erupted when it became apparent that the cemetery of the villagers was going to be flooded. The villagers vehemently opposed the project if the dam was going to flood their cemetery. However the situation was resolved by the acting Chief Negomo:

"I visited the governor at his office in Bindura and clearly told him that the dam would not be constructed if the graves were going to be flooded. I did not trust him so I informed him that I was going to take the matter up with Chief Mangwende⁸⁹ if they did not take my concerns seriously. The governor was very quick to see that I was not joking. He then instructed one of the drivers at his office to drive me back to Chiweshe after reassuring me that he was personally going to look into the matter. After a week the governor, the Provincial Administrator (PA), the DA, and officials from AGRITEX and the Ministry of Water came to Negomo and we agreed that the graves would be opened up and the remains reburied outside the dam basin at the expense of government. The government would provide labour and coffins for the reburial. It would also provide for all the requirements for the traditional rituals that go with the reburial of the dead. The ceremony was held peacefully and the graves were removed from the dam basin".

AGRITEX creates the farmers organisation

In the feasibility report, it was suggested that the irrigation scheme was going to be divided into two production blocks: a food crops block "F" and a citrus block "C". Each irrigator was going to be allocated a plot in each of the blocks: 0.4 hectares in the "F" block and 0.7 hectares in the "C" block. However the "F" and the "C" blocks were themselves divided into 12 blocks and 11 blocks respectively. The original project concept envisaged that the irrigators would eventually be responsible for the overall management of the scheme with the assistance of a professional management unit engaged by the Co-operative Company. Irrigators were going to pay for water used by volume. In the original design, water was going to be pumped from the Negomo dam into a night storage reservoir from where it was to be

⁸⁹ Chief Mangwende was then president of the Zimbabwe Council of Chiefs, a national organisation that looked after the welfare of traditional leaders and the preservation of traditional culture. Its power and strength depends on the whims of the ruling party. This organisation is known to have been used and abused by the successive governments of the country to their advantage. At independence, the institution of the traditional chief was vigorously fought by the ruling ZANU PF party who perceived this institution as supportive of the colonial government. However, soon after the constitutional referendum defeat of the government in 2000, ZANU PF decided to elevate the institution of the chief and to give them very lucrative packs in a bid to get the chiefs to mobilise the rural voters to their advantage.

gravitated to the 23 blocks by canals. At each of the blocks, the water would then be pumped by a block pumping station to pressurise it into the sprinkler system. With this in mind, AGRITEX staff initially decided to organise the farmers into “C” and “F” groups based on the 23 blocks. Thus each irrigator belonged to two different groups because there were less “C” blocks than “F” blocks. As a result the irrigators grouped in a “C” were not necessarily grouped in the same “F” group. Asked about this, the AEO Mr Madzudzo responded (2003):

“It was not a simple process. The plots were not of the same soil type, slope and cleanliness. To avoid accusations of favouritism in plot allocation, a random plot allocation method in which the farmer is asked to pick a single piece of paper with a plot number marked on it was used for the “F” and “C” blocks. So although the plot allocation was completely random and the farmers were happy with it, it presented problems at group formation based on the blocks.”

So initially farmers were organised into twenty-three groups. This was however changed when the technical design was finalised during construction. The final design eliminated the block level pumping stations and the conveyance canals in favour of a single pumping station for all blocks and a closed pipe conveyance system. This meant that the irrigators were now going to pay a single pumping bill for both “C” and “F” blocks. Although the system still maintained individual block water meters, AGRITEX argued that it was no longer necessary for a single farmer to belong to two groups “F” and “C”. Thus in December 1995, on completion of plot allocation, the irrigators were organised into twelve irrigation blocks based on the “F” blocks. Each group formed its own block committee led by a chairman. Each of the block chairmen automatically became a member of the Negomo Irrigation Farmers Association, the umbrella body representing all irrigators. This arrangement however produced some complications. Since farmers in the “F” block are not necessarily in the same “C” block, it was difficult for farmers to communicate with a group different from their block committee, in case there was a problem in the “C” block (GoZ and CES Consulting Engineers Salzgitter 2001).

Moreover, the desire to turn the farmer organisation into a legal management unit further complicated its functioning. For example, Price Waterhouse concentrated on training the elected members of the umbrella body, with specific emphasis on knowledge of management related topics. These management trainings went on intermittently from the start till the end of Price Waterhouse’s involvement in 2001. The members of the management committee gradually improved their capacity to handle management issues (*Ibid.* 2001). There was very little if any training of the irrigators in general. The block committees got no training at all. As a result the level of awareness was variable and inconsistent, resulting in most irrigators being unaware of the need to shoulder the responsibilities associated with the introduction of the scheme. The focus on apex organs resulted in the creation of a top-heavy management structure. Consequently the scheme suffered from a diminished sense of ownership amongst the scheme’s beneficiaries with a lot of irrigators perceiving it as a donor’s project (*Ibid.* 2001). Most irrigators failed to understand why training was concentrated on the management committee. Mr Gatsi said (2002):

“They are getting so much attention, they are already different from us. Their efforts are bent on getting us out of the scheme, yet when we elected them we hoped they would fight for our needs. They now talk of charging farmers leasing plots from friends. This training is poisoning them. They now forget that this land is ours and the donor begged to put their irrigation scheme on our land.”

Crafting of the irrigation management model

Traditionally it was the mandate of AGRITEX to craft irrigation management organisation and institutions that would take over operation and maintenance. As discussed in chapter 2, AGRITEX was shifting from top down to bottom up (participatory development) approaches⁹⁰ from 1990 onwards. All smallholder irrigation schemes were to be developed for eventual hand over to the farmers. As a result during construction, farmers were to be made aware of how government or the funding agents would withdraw from the project. AGRITEX was developing an irrigation economics department that would develop a viable irrigation management strategy at all smallholder irrigation schemes. At Negomo though, the job of crafting a user-based irrigation management organisation was entrusted into the hands of a consultant company, to the amazement of AGRITEX staff that were eagerly waiting for project funds to start crafting new irrigation management institutions themselves. The then principal Irrigation Specialist with the Irrigation Economics Unit of AGRITEX commented:

“The appointment of Price Waterhouse to develop the management framework at Negomo was a crazy idea. I admit we were still a very young unit then, but it was not called for. A private company was employed to create an irrigation management structure that would be used by a farmer organisation created by AGRITEX extension staff. We concluded it would not work”.

The local AGRITEX extension supervisor commented:

“We asked the provincial Chief Agricultural Extension Officer what was happening, but he also was not very sure. So he asked us to work with the consultant and to attend the consultant’s training and consultation sessions to keep ourselves informed”.

The engagement of Price Waterhouse

The engagement of Price Waterhouse as the contractor responsible for the formation of the irrigation management model at Negomo raises a few eyebrows. Price Waterhouse was involved in the preparation of the Negomo feasibility report and setting of the terms of reference and tender documents for the recruitment of the consultant that would be contracted to do institutional development at the scheme. At the close of tender on 27th April 1994, only one company, Tech Top⁹¹ had filed its papers with the government tender board. Unfortunately the offer was judged to be unsuitable for the required services. So did Price Waterhouse prepare terms of reference that were inhibitive for the local market capacities? The MLC decided to engage Price Waterhouse themselves to do the job after lengthy discussions with the government tender board (GoZ and CES Consulting Engineers Salzgitter 2001):

“They had prepared the terms of reference and therefore they could do the job.” (Mfote pers. comm. 2002)

The question is what private deals went on behind the scenes for Price Waterhouse to pull this off. That may never be known. What is known however, whether important or not, is that Mr. Musindo the man in charge of the Negomo project at Price Waterhouse had just left the Ministry of Lands, Agriculture and Water Development for greener pastures at Price Waterhouse. How much this helped the company to clinch the contract remains unknown.

⁹⁰ As a matter of fact the development of such approaches was assisted by funding provided by the FRoG. The AGRITEX GTZ funded Participatory Extension Approaches project (1991-98) in Gutu district is an example.

⁹¹ Tech Top was a company made up of well-known agricultural lecturers from the University of Zimbabwe, and researchers in horticulture, including the Chief of Crops of AGRITEX.

Crafting the irrigation management model at Negomo

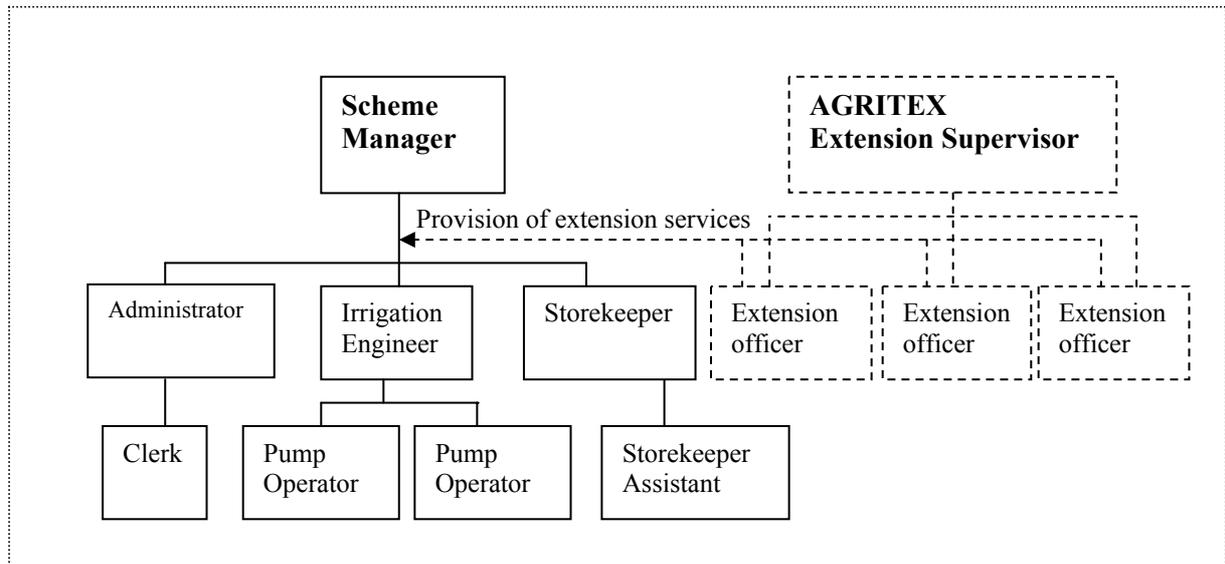
The creation of the management institutions was beset with bureaucratic procedures. Although the contract to engage Price Waterhouse was signed in April 1995, protracted contract negotiations ensued between government and Price Waterhouse. These were only concluded in July 1996 (GoZ and CES Consulting Engineers Salzgitter 2001). The agreed contract gave Price Waterhouse the powers to recruit staff for the Central Service Unit (CSU), train them, assist in the formation of the irrigation management organisation, assist in registering the management institutions as legal entities, train farmers in agriculture and management related subjects, train AGRITEX staff, undertake production planning, order fruit trees, organise inputs, provide credit for tillage and transport, and monitor progress and operation and maintenance of infrastructure. The following were guiding concepts for Price Waterhouse in the execution of their duties:

- The final goal was to provide for an institutional model that allowed for irrigators to assume the functions of scheme management;
- There was to be a legal body allowing irrigators to share a number of services, like entering into contracts with other commercial cooperate organisations;
- There was to be a binding constitution stating the rights and obligations of each individual belonging to the scheme and;
- There was to be a legal basis for the eviction of non performers.

Price Waterhouse conducted several meetings with the farmer mobilisation committees and AGRITEX local staff to sort out the details of the institutional development process and discuss the proposed institutional set-up in the feasibility reports. However, the final model that was developed deviated slightly from the one proposed in the feasibility report (see Figures 5.2 and 5.3). In the initial proposal, the staff of the Central Service Unit (CSU) did not include extension officers. Instead three extension officers were to be seconded from AGRITEX to carry out all irrigation extension. However, after negotiations with the MLC, Price Waterhouse decided to include three agricultural extension workers as staff of the CSU (GoZ and CES Consulting Engineers Salzgitter 2001). They recruited the staff of the CSU and established the first irrigation management organisation. It was agreed that the consultant would perform the duties and functions of the CSU during the first two years of operation. For the first three years of operation all the operation, maintenance and administrative costs, including the salaries and wages of the CSU, were covered by project funds administered by Price Waterhouse. However, the irrigators were still expected to pay the full irrigation service provision levy. This money was earmarked for the creation of an operation and maintenance insurance fund to act as a cushion for future adverse conditions, like droughts, sudden pump breakdowns or power tariff increases after the withdrawal of project funds (GoZ and Salzgitter Consult 1991).

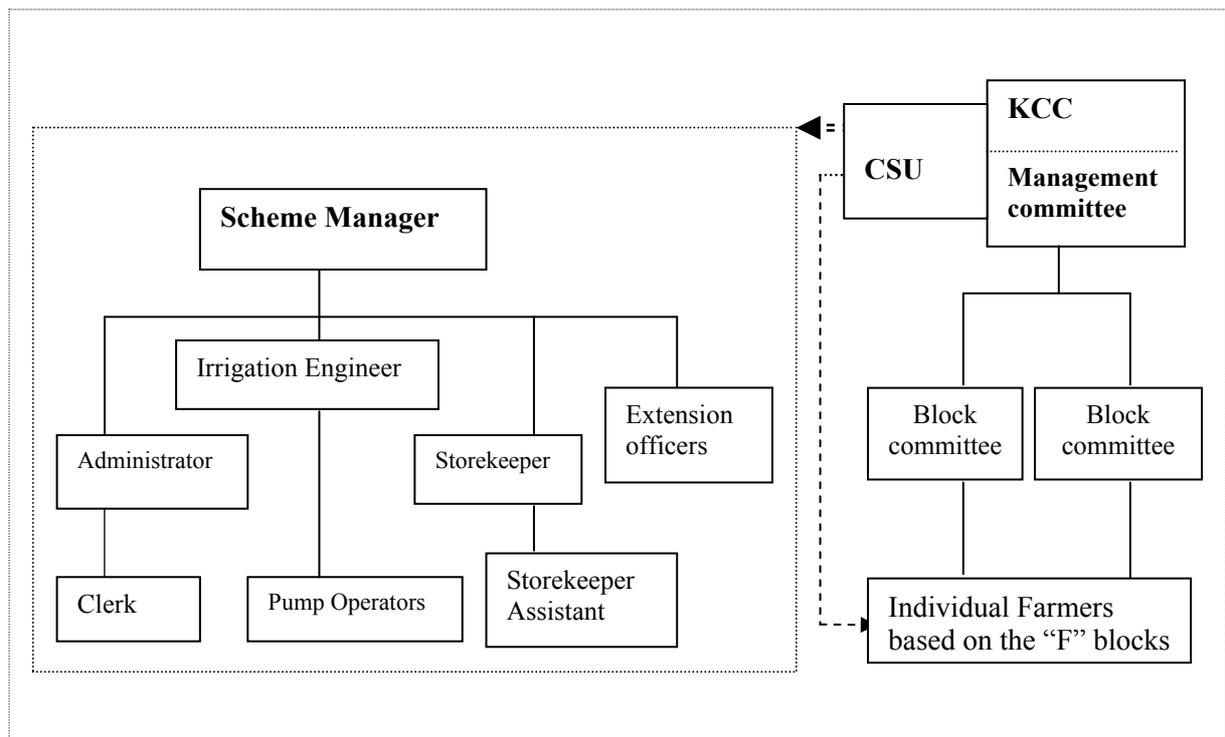
The established model was explained to the irrigators by the consultant in a series of meetings. The consultant finally created and registered the management organisation as Kanhukamwe Co-operative Company (KCC) on behalf of the irrigators. The KCC was formed in 1996 and listed at the register of companies on 1 October 1996 under the Companies Act of Zimbabwe (Chapter 190) as a limited company. The process of establishing the Kanhukamwe Co-operative Company was never completed and beset with problems right from the beginning. Price Waterhouse treated the Negomo case like the rest of the cases they had handled for registering as a private company.

Figure 5.2: The proposed staff establishment of the CSU and AGRITEX in the feasibility report



Source: Negomo Feasibility Report (1991).

Figure 5.3: The staffing of the CSU created by Price Waterhouse



When asked what he would have done differently with the benefit of hindsight, Mr Musindo, the main in charge of Negomo at Price Waterhouse, replied.

“You get a request from the proprietors and you prepare the articles of association fill in the forms and send them to the register of companies. We assumed the farmers had formed the company and we were registering it, yet we were supposed to take the farmers step by step in forming the company. We did not do this.”

Despite the irrigators having a certificate of incorporation, the company never fully operated, since several elements were never put in place. For example, a board of directors and shareholders (i.e. plot holders who hold shares) was never instituted. ‘The structures currently in place (i.e. the Management Committee and Block Committees) did not coincide with the provisions of the Company Act, which requires that a board of directors be set up to lead the company as opposed to a Management Committee’ (Negomo End of Mission Report 2001). Furthermore the constitution was never approved by a general assembly of irrigators, partly due to confusion over whether and how it could be harmonised with the requirements of a company (the Scheme Administrator pers. comm. 2000). Most irrigators I interviewed said that they did not know about the company let alone understand it. They would rather opt for a simpler organisational set up and a clearly defined constitution, which they considered to be the ultimate lever for dealing with cases of in-discipline that went unchecked at the irrigation scheme (*Ibid.* 2000). There were no clear procedures like a contract between the irrigators and the Government detailing the hand-over process from the implementing agencies to the user organisation. As a result, irrigators had a different perception of the implementing organisations.

The farmers viewed the conglomerate of implementing agencies as an imposition on them and also as the final organisational set up. As a result they continued to feel dependent on them four years after the commissioning of the scheme (KfW/GoZ 2001a, 2001b). There was no in-built mechanism for handing the scheme over to the farmers. ‘At present there seems to be a lack of clarity concerning responsibilities for entering into negotiations with the farmers, clarifying the conditions of handing over responsibilities to the farmers. It is generally agreed that if AGRITEX, the Government agency usually responsible for supporting smallholder irrigation projects, was centrally involved in the process, the situation could have been better’ (*Ibid.* 2001). A syndrome of “creating opportunities for oneself” at the expense of the irrigators seemed to have affected some individuals involved in the Negomo project. For example, the first irrigation scheme manager was a holder of a BSc degree in Agriculture majoring in agronomy. He quickly established relations with horticultural processing companies. The relations created were so good that the Horticultural Promotion Council of Zimbabwe whisked him away from the scheme. He was later to engage the Negomo farmers in horticulture production contracts for his new masters. Price Waterhouse though attributed the high staff turn over at Negomo to the shortage of qualified people in the country that had relevant experience to manage schemes of the nature of Negomo.

What has emerged from the above discussion is that a completely new irrigation management structure was foisted on the farmers at Negomo irrigation scheme. This had a huge bearing on the implementation strategies and functions of the different agencies involved in the development of the irrigation scheme. The management model adopted for the Negomo irrigation scheme necessitated the use of private sector consultants to develop and register the management organisation as a co-operative company. This has provided a legal model and a legal outlook to the farmer or user organisation absent in most smallholder irrigation schemes in Zimbabwe. However, the implementation process suffered from a number of obvious shortcomings which could have been avoided.

- The concept of a company in communal areas of Zimbabwe, where land ownership is disputed (sometimes violently) between government and farmers, was overly

ambitious. An association would have been better and easier for the farmers to comprehend;

- The idea of development agencies crafting new management organisations on behalf of farmers, like in the case of the Kanhukamwe Co-operative Company, without full involvement of the farmers themselves was an almost obvious recipe for failure. Giving the farmers a leading role in the shaping of their own management entities, with the development agencies taking a facilitation role could have been a better option and;
- The roles and functions of the created organs, the separation of permanent and non-permanent organs and their roles was not clearly spelt out. A clearly documented irrigation management hand-over contract negotiated between all parties involved could have served this purpose.

Crafting the irrigation technology

The final designs for the dam and irrigation scheme were reviewed by DWD and AGRITEX. After this review, the dam site was shifted to an upstream position that offered better spillway foundation facilities for the dam. This shift also reduced irrigation pumping head. Initially this upstream site had been disqualified on the basis of a poorer reservoir storage to embankment ratio (S/E ratio). The cost of the water stored in a dam is mainly influenced by the ratio of the volume of storage capacity divided by the volume of excavated earth. The volume of stored water is increased by using excavated soil to form a surrounding bank to contain water above the original ground level. Sites with a naturally occurring depression produce a good S/E ratio. Gently sloping ground from 1 to 4 percent will give better S/E ratios than flat ground. The shift upstream resulted in a 40% increase in stored water from 3.6 million cubic meters to 5 million cubic meters, facilitating a rise in the irrigated area from the initial 300 to 357 hectares. This rise in irrigated area also allowed for an increase in the number of beneficiaries from 250 to 296. The conveyance system was also changed from a mix of pressurised and gravity sections, to a completely closed and pressurised system, that was considered much easier to manage, although calling for higher investment costs.

The draft design and tender documents were submitted in January 1994. However because the DWD needed time to seek clarification and authority from the Ministry of Finance on issues relating to foreign currency and import duties, the tender could only be floated in August 1994 (GoZ and CES Consulting Engineers Salzgitter 2001). The tender for the irrigation infrastructure was won by Balaton Enterprises (Irrig 8). One condition in the tender stipulated that sprinklers with application uniformity (CU) of 85% were required. Asked why the consultant demanded such a high CU, Mr Bass said:

“I can only speculate that since the consultant was so keen on horticultural crops for the export market, they wanted an irrigation system that would ensure crops of uniform quality.”

However none of the impact sprinklers available in Zimbabwe then could satisfy this condition. The result was that Irrig 8 had to import the Nelson sprinkler from South Africa for the project, thus creating a niche market for themselves. The irrigation system was expected to provide irrigation water to the individual farmers on demand. This necessitated the construction of a raised pressure balancing reservoir (Photo 13) into which water was to be pumped and then gravitated to the individual irrigator's plot. The raised reservoir thus

extricated the irrigator's field water delivery from a direct reliance on the pump. In this way irrigators did not have to irrigate simultaneously when the pump is running, as is the case in most smallholder sprinkler irrigation schemes in Zimbabwe. From the Negomo dam water is pumped by 5 five centrifugal pumps connected in parallel and driven by 75 horse power electric motors that either pump the water direct to the sprinklers or to the raised reservoir, depending on the number of people irrigating and the level of water in the raised reservoir. The irrigation scheme is divided into 25 irrigation blocks of different sizes. At each block a water meter is fitted to measure the water that enters the block. The intention was to record the water used by the irrigators in the block on a monthly basis. Once the amount of water used by each block was known, each individual irrigator could be volumetrically charged by dividing the block meter reading by the number of irrigators in the block. It was hoped that this would motivate irrigators to use water efficiently.

From the block meter, water is then delivered through buried lateral pipes, drag-hose pipes and applied to the field by sprinklers. Each irrigator was allocated a set of in-field irrigation equipment consisting of 8 sprinklers, 8 tripod stands and 8 hose pipes 36 meters long. This type of sprinkler system is known in Zimbabwe as the "drag-hose" sprinkler irrigation system (see Figure 3.3). AGRITEX developed it with the assistance of FAO technical counterparts. The drag-hose system was specifically developed to ensure that each individual farmer could be allocated their own field irrigation equipment to enable accountability in farmer managed schemes (see Makadho 1990). Operation and maintenance of the irrigation system at main system level was the responsibility of the CSU. Irrigators were only expected to pay a service fee to the CSU. At field level however, operation and maintenance was the responsibility of the irrigator. The CSU would keep spares in stock for the irrigators to purchase on credit.

Choice of crops

The cropping programme was designed by Price Waterhouse guided by the feasibility report that suggested a pattern of commercial export crops mixed with food crops. The first cropping programme suggested the planting of 0.7 hectare of citrus in three phases over a period of three years. Each irrigator would plant 0.2 hectare in the first year, 0.2 hectare in the second and 0.3 hectare in the final year. On the 0.5 hectare food plot each irrigator would grow 0.3 hectare of grain maize, 0.1 hectare of groundnuts and 0.1 hectare of green maize in summer. In winter, each irrigator was expected to grow 0.3 hectare of sugar bean and 0.2 hectare of vegetables of their choice. During the first two years of establishing the citrus crop, the portion still not planted to citrus was to be used to grow horticultural crops for export in winter. These crops included baby corn, peas, sweet corn, and tomatoes. In summer irrigators could choose to grow cotton, burly tobacco or granadillas depending on preference. To foster successful crop production, the CSU was going to assist irrigators in a number of ways:

- offer credit facilities for the purchase of all inputs;
- train the irrigators in the growing of all crops;
- initially, while the CSU was gaining experience, Price Waterhouse would hire consultants to train the irrigators in the growing of difficult crops;
- advised by Price Waterhouse, the CSU would arrange for the marketing of all crops;
- offer tillage services on credit;
- operate a store for pest and disease control chemicals, also supplied on credit;
- offer cold room facilities on credit for perishable products like baby corn, and;

- it was the responsibility of the CSU to keep a record of the amounts borrowed by each individual irrigator and from time to time advise the irrigator of his or her debt.

So Negomo was set to go places.

5.4 Conclusion: a radical donor-pushed experiment

In this chapter I have traced the establishment of Negomo from the drawing board to the construction of a modern on-demand sprinkler irrigation scheme capable of affording individual irrigators access to irrigation water as and when they required it, irrespective of the actions of other irrigators at the scheme. In this concluding section I discuss the process of developing the policy model and the irrigation scheme. I start by discussing the identified main drivers inspiring the co-operative company policy model. This is followed by a presentation of the main actors involved in the construction of the scheme and the negotiations and adaptations that occurred during the construction process. Finally the type of crafted technology is presented and the involvement of the users in the design and construction of the model is discussed.

The main drivers of the model

Negomo irrigation scheme was developed by international and local companies wishing to establish a modern irrigation scheme, run by a private company that was capable of providing irrigators with irrigation water on demand. They also wished to introduce efficient intensive production and marketing of high value crops so as to ensure sustainable operation and maintenance of the irrigation system over and above the goal of improving the living standards of the communal people and modernising smallholder irrigation by mainstreaming it into the rewarding agricultural export sector.

It is however important to note that the genesis of the Negomo scheme predates the German funded initiative. The origins of Negomo were quite different from the ultimate IMR model that was adopted. Initially, the scheme was to be part of a TILCOR estate that eclipsed attempts by the Rhodesian government to practise segregated development of the country with help of private funding. This first attempt failed because of a lack of capital, local resistance by the traditional leadership and the prohibitive circumstances of the Second Chimurenga. Yet the very existence of plans for establishing the scheme at Negomo enabled it to resurface after Independence, becoming part of the first Five Year Development Plan. The scheme became part of a developmental, one Party, State that wished to deliver development to its supporters. The post-Independence 'popular' planning procedures allowed the project's propagators to sideline local resistance by the traditional leadership. However, the paucity of government funds to realise the Plan's targets, meant that the scheme remained on the shelf until such time that the German funded 'one dam and one irrigation scheme per district' programme put the scheme back in the limelight.

However, by that time (late 1980s) the days of the developmental state and donor support for government managed irrigation schemes were over. Inspired by the emerging international discourse on the inefficient management and rent-seeking behaviour of irrigation bureaucracies (Repetto 1986, Wade 1982) and the benefits of both farmer management (IIMI

1987, Huppert and Walker 1989, Uphoff 1986) and the application of market principles in irrigation (Small 1989), the Germans launched a radical experiment in Negomo for which the time seemed ripe. The drivers for the adopted Co-operative Company model in Negomo originated from both international and local shifts in discourse on irrigation management.

A number of interlocking drivers for the company model were inspired by the shift in international discourse on irrigation management. In particular, the funder (KfW) was influenced by two German publications on the management of smallholder irrigation. One study, jointly funded by the German Agency for Technical Cooperation (GTZ) and KfW, took its inspiration from modern organisation and management science (Huppert and Walker 1989, 9), whilst the other study provided a critical review of Zimbabwe's smallholder irrigation sector, noting its low productivity and fragile sustainability under government management (GKW Consult 1985).

Both studies emphasised the need for instituting *full cost recovery* on operation and maintenance activities paid by the users themselves. In order to facilitate such cost recovery, whilst at the same time improving livelihoods, it was deemed essential to produce *high-value crops for export markets*. This in turn required the constitution of a 'Water Authority' that was capable of providing the required *expert services* (operation, maintenance, volumetric water charges, crop production and processing) to the users. Especially in the case of a system that employed *modern technology*, that was capable of saving on the amount of water used or provided water on-demand, charged per volume consumed, a professional organisation was required that operated the system on behalf of the water users organisation. To realise such a scheme it was deemed necessary to by-pass the state and work with the *private sector* instead. The private sector was considered more capable of providing professional, expert-based services than the existing government agencies. Yet, the latter agencies were deemed essential in the phased implementation of the new approach. Close co-operation with the responsible government agencies would secure the necessary political support as well as allow for a learning process to embed the new approach in national policy.

Zimbabwe espoused its own drivers that created political and institutional room for the experiment, mainly as a result of the newly (1990) adopted Economic Structural Adjustment Programme. ESAP emphasized the need to streamline the government budget, cutting down on subsidies, fostering private investment, increasing the output from export agriculture, and promoting public-private partnerships. In the smallholder irrigation sector this led to a renewed emphasis on *cost recovery*, which was perceived in AGRITEX circles as the litmus test for farmer management. The paucity of public funds meant that Zimbabwe depended on *outside investment* to realise its developmental plans. German funding for the politically charged 'one dam and irrigation scheme per district' programme came in timely, particularly in the face of the 1992 drought. The Negomo project also befitted AGRITEX's persistent commitment to *commercialise and modernise* the smallholder irrigation sector.

The high costs of the pilot project in Negomo were legitimised by presenting the project as a precursor to the much larger Guruve project. The project was designed in such a way that lessons learnt in Negomo could be applied more cost-effectively in the bigger Guruve project later.

The main actors and implementation trajectory

From its very start the Negomo experiment was distinctive for its rather elaborate implementation strategy and structures, co-opting all possible public and private actors involved in the irrigation sector in two advisory bodies at national and district level (the MLC and NAB). By means of this strategy an attempt was made to embed the project and its revolutionary approach in the responsible government agencies and facilitate a learning process. At the same time the necessary political support for the project's execution could be generated. However, in practice the strategy didn't quite work as envisaged. In the end only a limited number of actors proved instrumental in crafting the IMR model on the ground: Price Waterhouse, AGRITEX and to some extent the Governor. Conspicuously absent in the whole implementation structure were the smallholder farmers themselves.

The project's implementation structure at national and district levels didn't perform the roles accorded to it. The MLC hardly met and failed to create commitment from the involved line departments to see the project as a learning experience for future use. The NAB failed to meet and its proceedings were characterised by a lack of appreciation by its members of their auditing and coordinating role. In fact all participants were jealous of the beneficial packages that were enjoyed by the project staff and consultants. Contrary to expectations and experiences with other donor supported projects, insufficient financial incentives had been provided by the project, to the dismay and disgust of all co-opted public and private members. The white commercial farmers left and the government agencies at best sent junior staff members to the meetings.

AGRITEX in particular felt cheated. The project's choice to work with private consultants was legitimised by an assumption that it would be hard to change established ways of working on the part of government agencies and that the project needed a type of expertise which was hard to find in government circles. AGRITEX had been disqualified as lead partner in the project, because of:

“the limited capacities of AGRITEX, at the time of the project's inception, to steer the project, which was considerably larger and technically more ambitious than the projects commonly implemented by AGRITEX. Negomo also pursued an organisational philosophy (the business-oriented cooperative company) which was considered contrary to the AGRITEX philosophy.” (GoZ and CES Consulting Engineers Salzgitter 2001, 16)

As a result, the AGRITEX irrigation and field branch felt by-passed and ignored in their own endeavours to design and develop farmer managed irrigation schemes. Facing an increasing squeeze on operational budgets inspired by ESAP, they felt hard hit by the lack of financial incentives provided by the project, certainly in the face of the rich package that was sealed for one of their former colleagues who was hired as the project's site engineer. Yet, AGRITEX field staff was expected to undertake the crucial task of farmer mobilisation. The lack of financial incentives and budgetary planning resulted in a delay in the farmer mobilisation efforts of AGRITEX. Later they did manage, however, to negotiate for the inclusion of three of their local staff in the CSU.

It was surprising that the task of farmer mobilisation had been accorded to AGRITEX in the first place, and not been included in the Terms of Reference of the contract for the institutional development component of the project. Price Waterhouse drafted these terms of reference, and ultimately clinched the contract, after a local contender had been disqualified.

Thus Price Waterhouse concentrated on the expert part, whilst leaving the crucial part of farmer mobilisation to the very partner that the project had wanted to avoid for reasons of incompetence. Yet the sloppy job that Price Waterhouse did in terms of registration of the Khanukamwe Co-operative Company proved that it was them that were out of touch with reality in Chiweshe communal area. A crucial omission on the part of Price Waterhouse was that they didn't realise that they were working in communal land, whose tenure made it impossible to evict non-performers. Another effect of the division of tasks between Price Waterhouse and AGRITEX was that the beneficiaries were unaware of the existence of the Co-operative Company, let alone of its implications. Partly this was caused by the fact that Price Waterhouse did not complete the constitution of the Company (i.e. no Board of Directors appointed, no shares issued).

Finally it can be observed that whilst the Governor was instrumental in securing government support for the project, this happened at the expense of a meaningful input in the project by the beneficiaries. The latter were more or less coaxed into submission by the Governor's fearsome reputation as a party stalwart and autocratic policy implementer.

The chosen technology and user involvement

The net result of the implementation process was that the active involvement of the beneficiaries in this bold experiment was marginalised from the start, with the exception of the selection process of beneficiaries and the issue of the submerged graves. In both these instances the traditional leaders played a pivotal role. However, the compensation for those that lost their rain-fed land to the scheme, either because they became part of it or because they opted out, was never arranged for. The issue was subsequently forgotten and lost in the noise of getting the project going.

To the irrigators the emergence of the whole project must have produced the same effect had they witnessed the docking of the Titanic. Suddenly they were confronted with a large modern vessel in their waters, which could only have been the work of 'wizards' (experts). The fact that all crucial decisions on the project were taken by experts and private companies operating from their offices in Harare, whilst all the operation and maintenance decisions and activities would be executed by professional staff employed by a CSU, did not help to foster a sense of ownership amongst the beneficiaries. Rather the Negomo irrigators perceived the scheme from the start as a donor project, a luxurious vessel that would provide them with a leisurely cruise towards wealth.

During the construction process a number of changes were lodged in the ultimate technical design of the Negomo scheme. The change of location of the dam further upstream allowed for an expansion in the command area and number of beneficiaries. It also helped to reduce the pumping head thus saving on operation costs. However, the change also increased the total construction cost, maximising benefits to the private contractors. Another major change involved the decision to go for one main, fully automated, pumping station with balancing reservoir, allowing for the institution of a total on-demand water supply system. This change necessitated the installation of a high-tech pumping station, for which spare parts are not locally available. The aim to institute volumetric water charging to individual users was never translated into a fitting technical design. At first the construction of block based pumps was considered. After this option had been deleted, block based water meters were installed. Both

are not capable of linking individual water consumption to individual water charges. Thus the aim of achieving efficient water use was impaired from the start, except for the choice for highly efficient sprinklers.

The requirements-for-use of the installed irrigation technology were perceived by the project's initiators in terms of the need for a CSU of experts, since high-value crop growing and processing as well as the operation of a high-tech system was perceived to be beyond the capacity of the average communal area smallholder farmer. The preference for high-value export crops like citrus and baby corn was probably, as much informed by the high operation and maintenance costs of the chosen technology as by the aim of modernising Zimbabwe's smallholder irrigation sector by carving out a niche for it in the mainstream export economy. These choices produced a number of inter-connected implications for the project's set-up and future operation. Firstly the Negomo project was characterised by a strong emphasis on legal and formal accountability structures at the expense of the beneficiaries' awareness, capacity development and even involvement in O&M tasks. Secondly the project implementers espoused a strong reliance on imported technology for which spare parts were not locally available. Finally, the beneficiaries were more or less forced to grow export crops in order to be able to finance the whole operation. The end result in Negomo was a top-heavy management structure, engaged in a high-risk and highly capitalised farming operation that required a constant injection of operating funds. The next chapter will trace the maiden voyage of the Negomo Titanic and its attempts to navigate a multitude of icebergs on the way.



Photo 14: Citrus intercropped with sweet potatoes
Source: picture Zawe 2004



Photo 15: Citrus intercropped with maize
Source: picture Zawe 2004

6 PRACTICE AND OUTCOMES OF THE NEGOMO COMPANY MODEL

Negomo irrigation scheme was established as a pilot scheme to pave the way for the establishment of the Guruve irrigated valley (1,200 hectares in extent). This chapter reveals how the regional irrigation vision and the expected foreign currency revenues were impaired by the political upheavals that swamped Zimbabwe during the implementation of the irrigation scheme. The chapter shows how the users and project implementers engaged in a struggle to craft and recursively shape a functional user organisation that would be fully in control of the operation, management and maintenance of the irrigation scheme.

Three successive phases of organisational reform can be observed between 1996 and 2005, which are presented in succeeding sections (6.1 to 6.3). In the first phase (1996-2000) Price Waterhouse was supposed to oversee the formation and hand-over of the Negomo Co-operative Company to the users, slowly phasing out donor support for the operation of the scheme (6.1). A project review by the German funder led to a termination of the contract with Price Waterhouse, inaugurating the second phase (2000-2002) during which a new farmer organisation (a Co-operative Association) was provided with five years of further donor support before the final hand-over of the scheme to the users (6.2). However, this period was cut short in 2002, when the German funder abruptly pulled out, and the project was more or less dumped on the users (third phase, 2002-2005). The struggles the irrigators faced to acquire crop inputs and deal with the export crops, which were new to them are the subject of section 6.4. It is shown how in the process the designed anchor crop, citrus, was overtaken by sweet potatoes. Section 6.5 presents the irrigators' struggles with the technology, in particular their attempts to keep the pumping station operational, secure sufficient water to the intake, and adjust the infield equipment. The final section (6.6) presents conclusions on the transformation of the management model and the merits of the modern technology that was employed at Negomo.

6.1 Phase 1: Price Waterhouse and the Company (1996-2000)

During this phase the consortium of contracted companies (CES Consulting Engineers Salzgitter, PTA Consulting Services and Stewart Scott of Zimbabwe) responsible for the establishment of the user-managed Negomo irrigation scheme, sub-contracted Price Waterhouse to progressively hand over the irrigation scheme from implementers to the irrigators. This hand-over process was financed by KfW on behalf of the FROG, who contributed two thirds of the funds, and the GoZ, who contributed the remaining one third.

An inauspicious beginning: the dam breach

The scheme started operating in October 1996. Almost a year later (August 1997) the Negomo dam wall breached, washing away the pump station and leaving the users stranded.⁹²

⁹² The construction of the Negomo dam on the Ruya River commenced in December 1995. The dam did not fill during the 1995/96 rainy season as the rains were well below average. The reservoir only filled up during the following season when rainfall was about 20% above average. The dam started to spill for the first time on the 12th of February 1997. Seepage inflow into the excavation of the pump house, which had been noticed during

In a swift attempt to save the crops, an emergency tractor driven pump unit with a discharge output of 80 m³ (equivalent to only seven per cent of original pump design capacity) was installed by the contractor (Balaton Enterprises). Although greatly appreciated by the irrigators, the pump proved to be grossly inadequate. However after twenty-one days, a bigger electricity driven pump unit was installed, delivering 250 m³ (equivalent to a third of the original pumping capacity). This pump unit remained in use, whilst the reconstruction of the pump station was completed. The first chairperson of the KCC, Mr. Tangai Dingo, said although the dam repairs were concluded in 1997, the reconstruction of the pump station was completed in December 1998, where upon normal irrigation resumed. Most irrigators claimed that the inadequate water supply during the first three weeks after the breaching of the dam wall had an adverse impact on the performance of the vegetable crop, in particular the mange tout peas crop that was destined for the export market. They claim that because of this, many irrigators' production capacity was dented, never to recover. Subsequent losses were minimized due to a flexible cropping programme. Although the electricity pump unit installed was only one third the capacity of the original pump unit, it was still adequate because the crop water demand for the citrus crop, that was envisaged to occupy about 60% of the irrigated land, was still very small, because only a small proportion of the crop had been planted (KfW/GoZ 2001a, 11).

The formation and practice of the Kanhukamwe Co-operative Company

Price Waterhouse was bound by contract to establish a legally⁹³ constituted user organisation trained to fully take control of all functions at Negomo irrigation scheme. Price Waterhouse responded by creating the Kanhukamwe Co-operative Company (KCC, discussed in chapter 5). Why exactly Price Waterhouse chose a company as the user-organisation to run the affairs of the Negomo irrigation scheme can only be speculated upon. There were many other common law organisational forms, an association for example that they could have opted for. According to KfW/GoZ (2001a) the only logical explanation for choosing the company mode was that Price Waterhouse was blindly following the demands of the Negomo project proposal documents:

“The project documents state as one of the responsibilities of the management consultant that it should see to the conversion of the users association into a registered organisation. This and the fact that a common law association is not appropriate for the conduct of business must explain the registration in 1996 of the Kanhukamwe Co-operative Company Private Limited governed by the Companies Act [Chapter 24: 03].” (KfW/GoZ 2001b, 13)

the construction phase in 1995, increased suddenly in March 1997. This discharge was measured at 103 litres per second and was stable for four months. It was assumed that the flow was structurally controlled and there was no immediate danger to the embankment. However on the 1st of August 1997 the embankment breached within hours from what appeared to be progressive internal erosion. The breach developed high up on the right abutment and was about 50 meters wide and carved a 9-metre deep gully into the dam foundation. The pump station was washed away and completely destroyed by the severe flooding, which also affected the rest of the river course. Fortunately no lives were lost due to the quick reaction of the CSU staff who alerted the Civil Defence Unit to raise the alarm in areas downstream of the dam. The approach embankments of the Ruya River Bridge, located some three kilometres downstream of the Negomo dam, were badly damaged by the flood (GoZ and CES Consulting Engineers Salzgitter 2001, 7).

⁹³ The idea of a corporate structure or utility model (a big departure from the norm in the smallholder irrigation sector) was inspired by ESAP proponents who fostered export production and foreign currency earnings. Export agricultural production invariably involved contract farming. For contracts to be binding, corporate organisational structures were a must.

The KCC was established as the main user organisation responsible for providing irrigation and agricultural services to individual Negomo irrigators. The KCC was headed by a Management Committee (MC) that was made up of irrigator representatives from the twelve F-blocks as discussed in chapter 5. To offer the services, the MC employed a Central Service Unit (CSU) that consisted of professionals in irrigated agriculture and business management. The overall implementation was to be monitored and supervised by the Negomo Advisory Board (NAB). It was presumed that Price Waterhouse and the NAB would, when the need arose, liaise with the AGRITEX Irrigation Division to ensure smooth implementation of the hand-over process. This section discusses what happened in practice showing how the KCC, the CSU and the NAB functioned and how they evolved into new organisations fundamentally different from the original organisations.

The Management Committee

The KCC constitution appointed an executive committee elected from the 12 block committees. In hindsight it was observed that it was unnecessary to register this farmer body as a company:

“An organisation of this nature, which is organised around a constitution adopted by the members is a body recognised at common law as a legal entity without necessarily being registered with the registrar of companies under the Companies Act [Chapter 24: 03].”
(KfW/GoZ 2001b: 13)

However, because the KCC was registered under the Companies Act, it was required by law to have adopted as its main objective the co-operative production and or marketing of agricultural produce or livestock or the sale of goods to its members at a profit. Moreover:

“As a public company the KCC was also required to appoint auditors, to file certified copies of its balance sheet, auditors and directors’ reports with the register of companies. It was also expected to comply with the provisions relating to appointment of directors, maintain a register of the directors, file with the registrar of companies a return containing particulars of directors and their consent to act as such and ensure that all business letters stated the full names of the directors. It was also expected to appoint a representative known as a public officer who would be responsible for the annual submission to the commissioner of taxes, returns of the income of the company. Meetings of the members were to be held as prescribed in the Companies Act. Proper books of accounts were also expected to be kept by the directors for them to be able to lay the profit and loss account at an annual general meeting.” (KfW/GoZ 2001b, 13)

The KCC never fulfilled any one of the above mentioned requirements in any one year during its five years of existence. According to the legal advisor to the KCC management committee, Ms Madzonga,⁹⁴ a number of steps required in the registration of a company were never fulfilled. Firstly, the MC was never transformed into a board of governors of the company and as a result no directors were ever notified to the registrar of companies, required by law. Secondly, the KCC never allotted any of its shares to the members apart from the two shares taken by the subscribers to the memorandum and articles of association of the company at the time of registration, which shares should have been transferred to the substantive members since the subscribers were not members of the Negomo irrigation scheme. Ms Madzonga asserted that irrigators had difficulties appreciating the role of the company in the conduct of

⁹⁴ Ms Madzonga was appointed in 2001 to prepare Negomo for hand-over after the exit of Price Waterhouse and demise of the Company.

their affairs: there was a gap between the fact of the existence of the company and what was happening on the ground. Despite all this, a loan for the benefit of the irrigators was granted to the company and the company was said to have owned some assets at the scheme. According to her,

“Co-operative companies are sophisticated entities and they have largely been operated within the large-scale commercial agricultural sector. A less elaborate co-operative intending to operate on a smaller scale like the Negomo irrigation scheme is, should register as a co-operative society under the co-operative societies act [Chapter 24: 05]”.

During KCC's existence (1996 to 2000), the MC provided a range of services to the irrigators under the auspices of the CSU that was still under the mentorship of Price Waterhouse. According to the AREX Extension Worker (EW) stationed at Negomo, Mr Andrew Madzudzo,⁹⁵ the company offered a variety of services, like crop input loans for fertilisers, seeds and chemicals; irrigation operation and maintenance services; recording of all individual irrigators' debts to the company; tractor tillage and haulage services; agricultural extension services and pack shade and cold room facilities for perishable agricultural produce. The CSU was also the custodian and enforcer of the irrigation scheme's constitution.

Over and above the above cited services, the MC was also mandated with ensuring discipline among its members and collecting levies and recovering debts owed to the company by its members. Whilst the MC was under training from Price Waterhouse, the latter was performing some of the functions of the MC, like employment and management of the CSU staff and the planning and organising of markets for export crops. In the discussion on the functioning of the CSU to come it will be shown that the MC had difficulties in providing these services. The following were cited as weaknesses of the KCC in its organisational performance:

“The main problem in the scheme is not so much the absence of a definition of the rights and obligations of the farmers but rather a general lack of clarity. On the part of the irrigators, there is a lack of will to fulfil their obligations compounded by the absence of an effective enforcement process. Discussions with the farmers revealed that they have a clear understanding of their obligations. They are well aware of their obligations to pay levies or to make conditions for the purpose of liquidating debts with AGRIBANK, but they simply neglect to do what is expected of them.” (KfW/GoZ 2001a, 27)

According to Mr. Mujoro the CSU administrator at the time, there was a misunderstanding of roles among the CSU, the NAB and the MC when it came to disciplining those irrigators violating the constitution of the KCC. He claimed that in accordance with the KCC constitution the power and authority to enforce rules and regulations rested with the management committee (MC), but because of lack of clarity regarding the extent of their powers, the MC transferred this function to CSU and the NAB.

However, the first chairperson of the MC, Mr. Tangai Dingo, blamed the lack of discipline among irrigators on the fact that *'too many cooks were responsible for a single pot'*. According to him, the problem was not with the MC, but with the government who was experimenting with the irrigators. He argued that when they visited other smallholder irrigation schemes (Hama in Mvuma district, Ngezi in Mhondoro and Insukamini in Lower

⁹⁵ Mr Andrew Madzudzo was recruited in December 1999 by Price Waterhouse as an Extension Worker employed by the KCC.

Gweru) it was clear who was in control there, it was the IMC only. No Price Waterhouse, NAB nor CSU were involved in the day-to-day operations of those schemes. He lamented:

“Here they wanted us to discipline people who were failing to pay back loans extended to them by the CSU. The CSU was well advised by the NAB, backstopping personnel from Germany consultants and Price Waterhouse. These were well trained people who collected their salaries with hats. They said we were in charge, while at the same time they said we were still under training. If we were still under training, how could we have been in charge? Tell me, how can a school child be in charge of a class when the teacher is there sitting on the chair in front of the class? I say if they honestly thought that we were now capable of being in charge of the irrigation scheme, government should have stopped paying Price Waterhouse and the NAB. If they had any money to assist us they should have directed it to us. If they had no money they should have just come open about it and handed over the scheme to us like they have done with other irrigation schemes.”

The German agency (GFA Terra Systems) reviewing the project in 2001 thought the main reason for lack of enforcement of rules was that the farmers had never been really forced to pay for the cost of water (KfW/GoZ 2001a, 27). Moreover, the prevailing land tenure system did not allow land to be transferred into collateral or a guarantee to force farmers to pay their levies and to observe the rules. GFA Terra Systems suggested that the only logical way to ensure rules were enforced was to convert the power vested in the MC into peer pressure by all irrigators on their counterparts. In other words they suggested decentralisation of power from the MC to the block committees, where it was expected that the individual irrigators within a block would force each other to comply with the rules.

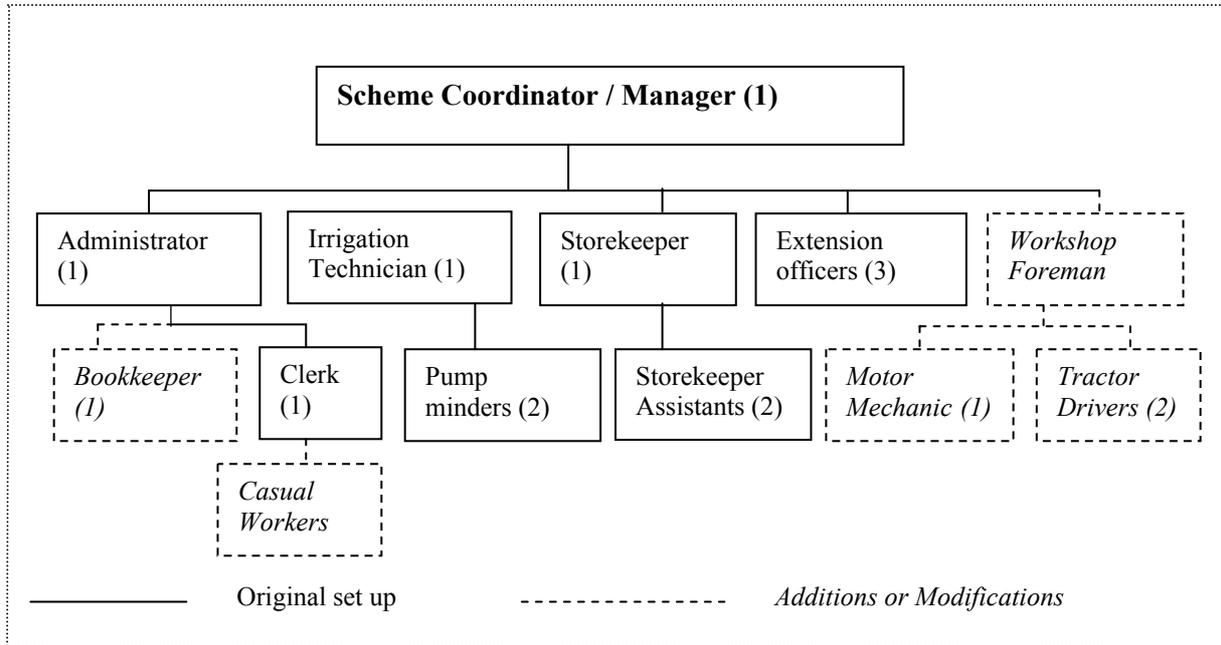
The Central Service Unit

At the start of the project the composition of the CSU was quickly modified by Price Waterhouse (see Figure 6.1). The modifications included the introduction of the workshop section with a foreman, a motor mechanic and two tractor drivers. It also included the introduction of a bookkeeper and a varied number of casuals. According to the first scheme administrator of the CSU, these changes were made to ensure that the CSU would be in a position to fully execute the varied functions piled on it by Price Waterhouse. The CSU combined three roles in the execution of its duties. These included an advisory role to the MC in the organisation of operation and maintenance, day-to-day irrigation scheme management, and irrigated agriculture service provision (tractor services, extension, input supply, crop marketing and informal credit) (KfW/GoZ 2001a, 18).

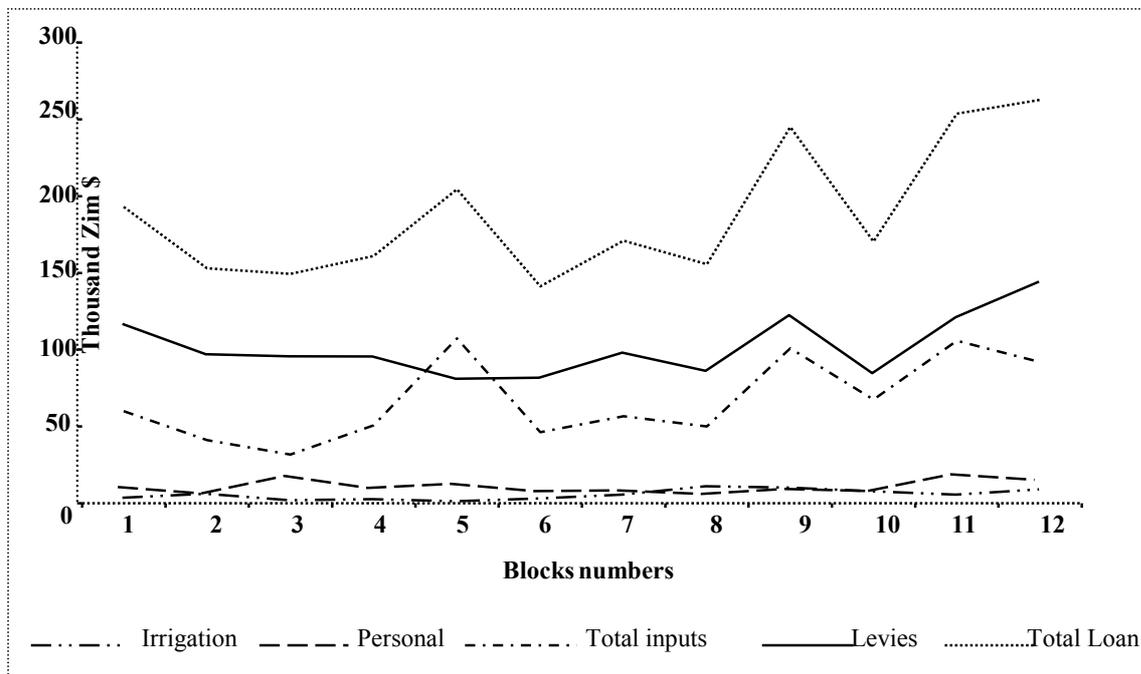
Other changes concerned the signing of the employment contracts for CSU personnel. In the original plan the contracts were supposed to be signed by the NAB. However in reality the contracts were signed by Price Waterhouse. According to Mr Musindo, the man in charge of Negomo at Price Waterhouse, this departure was dictated by two main reasons. Firstly when they stated in their job advertisement that the applicants would be employed by the KCC, they got no response. He claims that it was probably logical, because the KCC was an unknown co-operative company in the remote Chiweshe communal area that very few highly qualified personnel would not want to associate with. When they re-advertised the posts as vacancies within Price Waterhouse, they managed to attract highly qualified people applying for the posts. Secondly, Price Waterhouse was going to supervise and pay the salaries of CSU personnel, while the MC was still under training. He argued that it was illogical to have contracts of personnel that were supervised by Price Waterhouse signed by another

organisation. According to him, the NAB was a voluntary organisation that could not be entrusted with such responsibilities.

Figure 6.1: The composition and additions to the CSU at the start of the first phase



Graph 6.1: Summary of debts owed to the CSU by blocks as at January 2002



Source: Based on CSU records at Negomo.

During its period of operation the CSU found itself sinking in debts (see Graph 6.1). The first CSU Coordinator, Mr. Thomas Yuba, castigated the diverse services that the CSU was expected to deliver on behalf of the MC. The CSU was expected to perform efficiently and

effectively in a wide range of areas completely unfamiliar to most of the personnel recruited. According to Yuba, the CSU as a new organisation first had to become cohesive before it could deliver its expected services. Citing provision of credit facilities, he said they were expected to perform miracles in a field where highly specialised institutions like the AGRIBANK, Commercial Banks and the Cotton Company of Zimbabwe were frequently facing difficulties. Mr. Yuba said that in 1998, the CSU handled more than five thousand individual transactions, involving fertiliser, pesticides and tractor services for irrigators, on a credit basis. In addition to this the CSU provided extension services to individual irrigators as well as organisational advice to the MC.

According to the last chairperson of the NAB, Mr. Chirapa, the CSU was not focused, offering too many services. As a result most of the services it offered to the irrigators were not well executed. From his assessment, the biggest undoing of the CSU was in debt recovery on extended credit. The CSU also failed to collect levies from the irrigators. As a result they resorted to taking a loan from AGRIBANK to finance agricultural operations of individual irrigators at the expense of the KCC. Mr. Chirapa asserted that the CSU was over indulged in the individual irrigator's financial well being. According to him there was no need for the CSU to offer personal loans to the irrigators. He also castigated the move by the CSU to borrow cash from AFC on behalf of irrigators. According to him individual irrigators could form their own informal groups and still access such funds from AFC without the involvement of the CSU. As a matter of fact most of the farmers were already accessing loans from AFC for their rain-fed crops. At the end of the Price Waterhouse mediated transitional phase in 2000, the CSU still owed AFC Zim \$570,989 (US \$11,420) of the Zim \$1,403,000 (US \$28,060) it had borrowed to finance its seasonal credit facility to the Negomo irrigators. Mr. Chirapa was highly critical of the conditions negotiated by the CSU in securing the AFC loan. Even with this indulgence, cropping intensities at the irrigation scheme were not indicative of the efforts and ingenuity of the CSU in securing credit for the irrigators (Table 6.1). Whereas cropping intensities of 200% had been provisioned (see 6.4), the actual intensity fell far short, varying from 88% to 173%.

Mr. Chirapa also asserted that the CSU failed on one of its major functions: extension and training of irrigators on irrigated agriculture. According to him the CSU-provided training of irrigators was not adequate at field level. Moreover, the CSU failed to coordinate fully with AGRITEX who had years of experience in smallholder agricultural extension. This view was shared by the CAEO for Mashonaland Central who in 2003 castigated the CSU's affinity for private consultants⁹⁶ in training irrigators as the major reason why the CSU's training programme was not as effective as it could have been. According to the CAEO, a lot of money was spent on capacity building of CSU staff themselves in the 1996 season. Extension workers attended field days convened at Cargill, Seed-Coop, Mullingar farm, ZFC and a

⁹⁶ Between 1996 and 2000, the CSU engaged four different consultant companies to assist with farmer training. In 1997 the CSU engaged Mr. Lutz Horn from GFA Agrar of Germany to develop a training programme for the irrigators. According to the CAEO, this task could have been better performed by AGRITEX. In 1998, CSU contracted a non-governmental organisation, Silveira House, to train both CSU personnel and irrigators on training for transformation, a course meant to empower the irrigators by introducing the concept of self-reliance. In 1999 the CSU engaged the Horticultural Promotion Council (HPC) to train farmers on various aspects of financial management, leadership training, and project management. The course was sponsored by USAID. In the same year the CSU also contracted another NGO, ENDA Zimbabwe, to train irrigators on leadership and management.

number of burley tobacco commercial farms. They also attended a citrus pest and disease scouting course organised by large-scale commercial farmers. The CAEO said that on these courses and field days, the CSU should have been accompanied by members of the MC and BC. This would have helped to integrate the CSU into the overall farmer organisation and increased the effectiveness of the CSU's training programmes.

Table 6.1: Cropping pattern at Negomo irrigation scheme (1996-2001)

Crop	Area planted in hectares									
	1996/97		1997/98		1998/99		1999/2000		2000/2001	
	Area	%	Area	%	Area	%	Area	%	Area	%
Baby corn	42	11.76	97	27.17	22.9	6.41	37	10.36	10.8	3.03
Baby Marrow	0	0.00	0	0.00	0.1	0.03	0.1	0.03	0.1	0.03
Bird's eye chillies	0	0.00	0	0.00	0	0.00	0.9	0.25	0	0.00
Burley Tobacco	0	0.00	0	0.00	0.3	0.08	0	0.00	0.7	0.20
Carrots	0	0.00	0	0.00	0	0.00	1.62	0.45	0	0.00
Citrus	42	11.76	56.9	15.94	92.26	25.84	103.88	29.10	103.88	29.10
Maize Grain	224	62.75	78.1	21.88	130.22	36.48	169.89	47.59	89	24.93
Cotton	0	0.00	2.4	0.67	22.4	6.27	14	3.92	18.2	5.10
Sugar Beans	9.9	2.77	6.8	1.90	6.4	1.79	60	16.81	3.9	1.09
Granadilla	26.8	7.51	26.8	7.51	21	5.88	19.6	5.49	19.4	5.43
Green Maize	0	0.00	0	0.00	8.4	2.35	72.7	20.36	8.4	2.35
Groundnuts	0	0.00	0	0.00	0	0.00	8.8	2.46	2.9	0.81
Irish potatoes	0	0.00	0	0.00	0.2	0.06	4.8	1.34	3.55	0.99
Mange tout	34.8	9.75	9.9	2.77	8.1	2.27	9.21	2.58	2	0.56
Melons	0	0.00	0	0.00	0	0.00	0.1	0.03	0	0.00
Paprika	27.7	7.76	13.2	3.70	9.4	2.63	2.15	0.60	1.2	0.34
Okra	0	0.00	0	0.00	0	0.00	4.62	1.29	0.8	0.22
Soyabean	0	0.00	0	0.00	0	0.00	2.6	0.73	0.3	0.08
Sweet corn	0	0.00	21.5	6.02	0	0.00	0.2	0.06	0	0.00
Sweet potatoes	0	0.00	0	0.00	58.5	16.39	68.9	19.30	39.7	11.12
Tomatoes	0	0.00	0	0.00	0	0.00	4.75	1.33	7.75	2.17
Leaf vegetables	0	0.00	0	0.00	20.5	5.74	29.9	8.38	4.06	1.14
Virginia tobacco	0	0.00	0.8	0.22	1	0.28	1.5	0.42	1	0.28
Total	407.2	114.06	313.4	87.79	401.68	112.52	617.22	172.89	317.64	88.97

Source: Based CSU records Negomo irrigation scheme.

He also castigated the demonstration plot introduced by the CSU in 1997. According to the CSU monthly reports, the purposes of the demonstration plot were two pronged. Firstly it was meant to enable the extension workers to demonstrate all cultural practices recommended for particular crops to the irrigators. With the skills gained from the demonstration and crop inputs supplied by the CSU on credit, it was hoped that irrigators would be able to grow the crop and reap big harvests. Secondly, the demonstration plot would afford the extension workers to observe and familiarise themselves with new crops prior to recommending their adoption by the irrigator community. However, to the CAEO and the irrigators at Negomo, the location of the demonstration plot provided a big problem limiting the impact of the demonstrations. One woman irrigator from Muruyiwa village (see Map 5.1) said that the demonstration plot was never in the interest of the irrigators. To her it was meant to impress visitors to Negomo irrigation scheme:

“Our failure to attend the demonstrations by the EWs was not because we did not want to but because the demonstration plot was too far away. This was interpreted by the EWs to mean that we did not want their advice. As a result very rarely did we see the EWs here. When you saw them here, they were coming to ask us to contribute money for a field day.”

According to her if extension workers wanted to demonstrate anything to irrigators, it was better for them to look for a vacant plot in each of the 12 blocks and use it as a demonstration plot. She claimed that there were many plots that were not being utilised in all blocks. All the extension workers needed to do was to ask the block chairperson to prepare the demonstration plots for them. All irrigators in the block would then assist and attend the demonstrations by the EWs.

The Negomo Advisory Board

The NAB was conceived as an entity for ensuring long-term support to the KCC. It was a group of experts (resource persons), especially in issues relating to crop production and marketing. From the way the NAB operated, its functions were however never clearly understood by NAB itself, CSU and the MC. According to the terms of reference cited in the Negomo irrigation feasibility report, it was AGRITEX or the MC who were supposed to enlist the services of the NAB as and when they felt the need arose. Its functions were purely advisory, though in reality somehow, the NAB gradually ended up assuming executive functions, like negotiating pending issues with the MC (e.g. concerning the demand of the farmer representatives to receive sitting allowances) or signing the contracts for new staff members of the CSU (KfW/GoZ 2001a, 17). According to the chairperson of the NAB at that time though, it depended on which document one picked up as reference. According to him, the Negomo/Kanhukamwe Irrigation Scheme Task Force Review Report of May 1998 clearly stated that all CSU staff contracts were to be signed by the chairperson of the NAB. He said that using this report the MLC delegated the signing of staff contracts to the chairperson of the NAB. So he asserted that the chairperson of the NAB was never the problem since he was only following instructions from the MLC. He claims that amongst the twenty or so available documents (Negomo feasibility and study reports), there could be one that suggested that Price Waterhouse were responsible for signing the staff contracts, that he may not have read. According to him, the matter was a stupid technicality:

“What Price Waterhouse failed to grasp was that the chairperson of the NAB was a civil servant and that the chairperson of the MLC was a senior position in the line of command. When the chairperson of the NAB got instructions from the chairperson of the MLC, he/she had no option but follow the instruction without question, particularly so when the instruction was given in writing. What Price Waterhouse also failed to appreciate was that at the end of the contract, they were going to go away, while the chairperson of the NAB by virtue of him/her being the AGRITEX DAEO would sooner than later be at the centre of things with the farmers. As far as I am concerned, this confusion arose for two main reasons. Firstly, the NAB remained for a long period without a chairperson following the death of its first Chairperson (Mr Masango) in a car accident. As a result there was no one to sign the contracts of the personnel of the CSU at its inception resulting in Price Waterhouse signing the contracts. Now Price Waterhouse wanted to make it their traditional function. Secondly the personnel of the CSU themselves found it more prestigious and better for their curriculum vitae (CV) to have their contracts signed by Price Waterhouse and not by an informal NAB. I bear with them but unfortunately procedures had to be followed.”

According to the Negomo final report on the Price Waterhouse Management Assistance programme, since its inception, the NAB was never fully functional (GoZ and CES Consulting Engineers Salzgitter 2001). The report suggested that at first this was so because the members chosen were far removed from the project level. “Most of them occupied senior positions in various companies and organisations based in Harare” (GoZ and CES Consulting Engineers Salzgitter 2001, 12). The following were cited as the NABs major weaknesses:

- ‘The board was not accountable to any independent higher authority, even though on paper it was meant to report to AGRITEX;
- The role of the NAB was advisory and therefore it would only convene a meeting when requested to do so by the CSU; and
- There were no formal linkages between the NAB, the KCC’s MC and the CSU’ (GoZ and CES Consulting Engineers Salzgitter 2001, 13).

User perception of the process and exit of Price Waterhouse

According to Mr. Dingo, the first chairperson of the Negomo MC, from its very start in 1996 to the year 2001, the irrigation scheme was run by Price Waterhouse in an arrangement that almost none of irrigators understood. Chronicling the history of the functioning of the organizational framework at Negomo in 2003, he said that at the start of the irrigation scheme there were too many organizations involved. The most powerful of them all was Price Waterhouse. The function of the NAB with all its governmental members was ill understood by the irrigators. He said that ZINWA was responsible for domestic water supply and maintenance of the dam, while AGRITEX helped them with pegging of contours for soil and water conservation works. The Ministry of Legal and Parliamentary Affairs (MoLPA) seconded Mrs. Madzonga as a legal advisor to the irrigators, while the Ministry of Youth, Gender and Employment Creation (MoYGEC) joined the foray as the agency that helped them with registering the scheme as a Co-operative Association after the collapse of KCC.

The CSU concept was never appreciated nor understood by the irrigators. Mr Dingo blamed the failure on the part of Price Waterhouse to integrate the CSU into the overall organisational framework at Negomo, that included organisations created by irrigators themselves. According to most irrigators, the CSU and its functions were never clearly explained to them. They claimed that Price Waterhouse spent too much time training the MC and never extended its training to the rest of the irrigators. As far as they were concerned, the CSU was never an organisation that they created, unlike the BC and the MC. They also argued that the fact that the personnel of the CSU were all employed without their consent was a clear testimony that the CSU was not their creation. In the eyes of the irrigators, the CSU was a government or donor funded unit employed to offer irrigation services to them. The irrigators themselves never contributed anything towards the salaries and wages of CSU personnel. One irrigator, Mr. Muruyiwa, said (2003):

“How could we be expected to do that? You know very well that even during Ian Smith’s rule agricultural demonstrators and Land Development Officer (LDO) were employed by government and not by farmers. So no one cared about them, for as far as we were concerned, these were government employees.”

Following continued requests for subsidies from government and KfW by the Negomo irrigators, in March 2000, a German consultant (GFA Terra Systems) was contracted to review the situation at the scheme and to propose a way forward. The conclusions made by the consultant were that the irrigators were progressively adapting to irrigated-farming and some of them were already reaping rewards from it. It however cited organisational problems at the irrigation scheme that needed attention. The report suggested to terminate the contract with Price Waterhouse and to change the organisational framework at the irrigation scheme. The following section details what happened.

6.2 Phase 2: The Negomo Co-operative Association (2000-2002)

The Negomo Co-operative Association (NCA) was established as a second attempt by the project to handover the irrigation management tasks at Negomo to the irrigators. Following a review study of the Negomo irrigation scheme financed by KfW and carried out by GFA Terra Systems recommendations were made to develop a new user organisation that would be simpler and easier to deal with by the users. GFA Terra Systems proposed a five-year irrigation management handover programme. The programme revolved around termination of the KCC along with the creation of NCA, the dissolution of both the CSU and the NAB, and the creation of a facilitation team (FT) to implement the programme. In justifying the changes, GFA Terra Systems wrote:

“The current institutional arrangement for Negomo irrigation scheme is both unclear and unsatisfactory. Members of the irrigation scheme have not honoured their obligations (e.g. payment of levies and credit) to the detriment of the irrigation scheme as a whole. There is lack of communication between farmers and their representatives. The enforcement of rules and regulations is hardly feasible at present. The positive developments noticed at the scheme to day could not have been possible without the subsidies from the project funds to finance the operation and maintenance costs of the irrigation scheme. Farmers have never been firmly forced to make a significant contribution to those costs, nor has it been investigated whether the farmers can shoulder the costs from their net income, and how the payments should be enforced. The project has for reasons difficult to understand fully in the aftermath, created a parallel irrigation management framework (the project financed Central Service Unit) and haphazardly, a “Co-operative Company (KCC) to the effect of managing irrigation plus a full range of agricultural services, (extension, input supply, marketing, informal credit), on a profit-oriented basis. This concept was developed in the offices without farmers. It has proven impracticable: the co-operative company will most likely never make profit, and farmers cannot and do not want to carry the burden of managing such a company because of all the legal and administrative tasks involved. Most importantly, however, the Central Management Unit does not contain in itself a mechanism for handing over management responsibilities to the farmers.” (KfW/GoZ 2001a, 68)

The handover programme

The establishment of the NCA was meant to simplify the organisational framework and to ensure a systematic handover of irrigation management responsibilities to the users that had failed to materialise in the first attempt. The NCA was created by GFA Terra Systems in consultation with the government of Zimbabwe. GFA Terra Systems proposed a phased approach to establish the NCA and hand over of the management functions to it in a five year handover project (see timeframe, Table 6.2). The project basically focused on the offloading of irrigation management responsibilities to a user organisation that would be able to enforce the rules and regulations prescribed in a constitution developed by the users. The project revolved around a facilitation team (FT) that was expected to guide the users in crafting a functional user organisation, train the user organisation, and progressively offload irrigation management duties. At the end of the five-year period, the FT was expected to disband itself, leaving the users in total control of all aspects of the irrigation scheme.

Comments from Ministry of Lands, Agriculture and Rural Resettlement (MoALRR) on the draft project proposal were sceptical:

“It seems the concept and strategy proposed for cost recovery is that of a government-managed project with farmers paying a certain amount to government as maintenance fee.

This strategy will still leave the irrigators with a dependency syndrome. Our experience on other government-managed irrigation schemes is that the maintenance fees are never fully ploughed back into the irrigation schemes from where they were collected. Our proposed strategy would be to hand over the irrigation scheme to the irrigators gradually. The strategy should involve the shedding off of operation and maintenance (O&M) responsibilities by government to irrigators over a certain period of time (the transition period). As a starting point irrigators may be asked to contribute say a third of the O&M costs during the first year. The contribution will then be increased annually until it reaches one hundred per cent. After the complete handover, the government can only come in with assistance during periods of difficulties.” (KfW/GoZ 2001b, 4)

Table 6.2: Negomo irrigation scheme handover project (2000-2005) scheduled activities

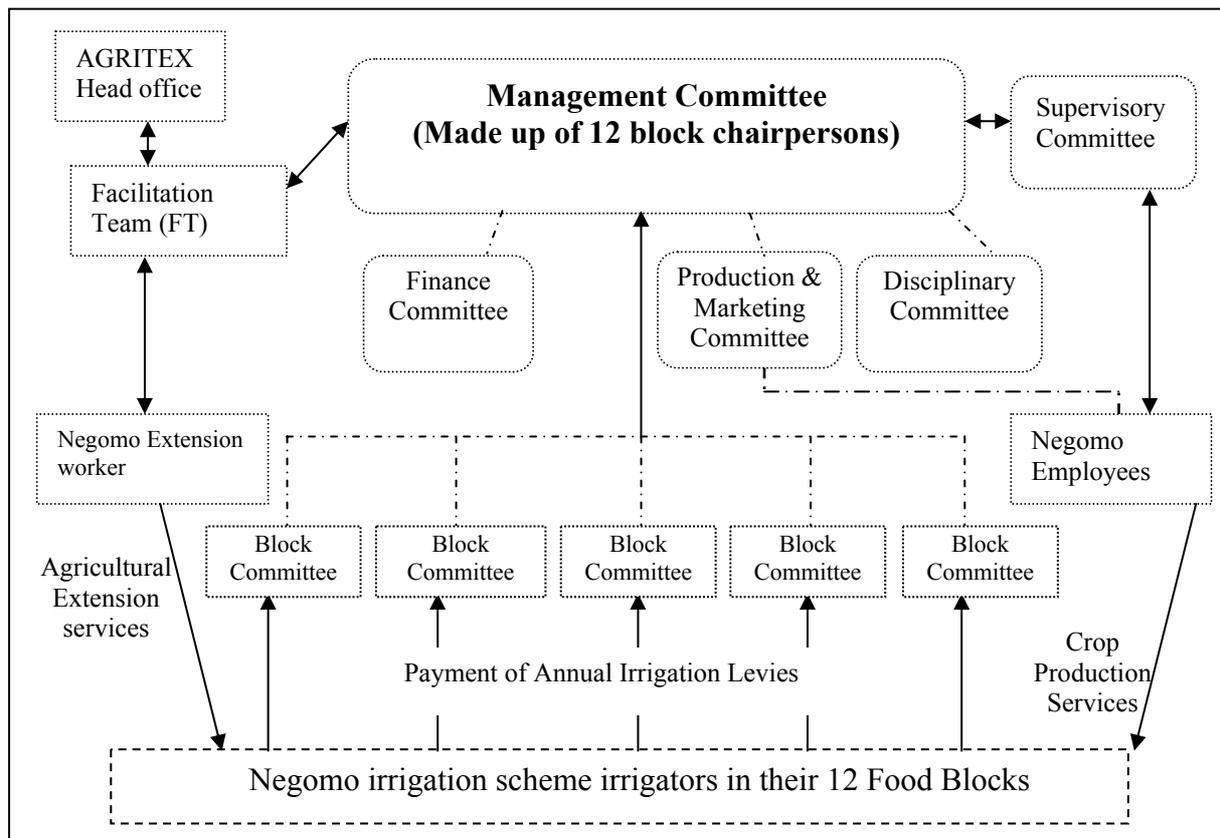
Target Activity	Timing
Facilitation team starts operations	September 2000
The KCC constitution revised to bring it in line with the requirements of the NCA	December 2000
The revised constitution is approved by all irrigators and representatives are elected	February 2001
Contract signed between the user organisation NCA and the Government of Zimbabwe	April 2001
Dissolution of the CSU and handover of responsibility to the user organisation NCA	July 2001
Annual check on fulfilment of conditions defined in the contract	June 2002; 2003; 2004
Decisions on project continuation	June 2002; 2003; 2004
End of project (external financing and subsidies)	December 2005

Source: (KfW/GoZ 2001a, 85).

The organisational framework

At the apex of the NCA was the Management Committee (MC) leading a number of sub-committees introduced to foster rigorous enforcement of the constitution. Like in the KCC, all irrigators were members of the NCA forming the lowest tier of the organisation. The next level comprised the Block Committee that was made up of seven elected members. The block committees remained based on the twelve food blocks (F blocks). Above the block committee was the Management Committee (MC).

The MC was made up of chairpersons of the twelve block committees, who elected from amongst their midst a chairperson, vice chairperson, secretary, vice secretary and treasurer. They would also elect three sub-committees, i.e. the finance committee (FC), production and marketing committee (P/MC), and a disciplinary committee (DC). A fourth committee, the supervisory committee (SC), elected by the irrigators at a general meeting, would ensure total control over the management of the Negomo irrigation scheme by the irrigators themselves. The constitution of the NCA allowed it to employ workers and to own assets that were under the control of the MC. During the handover programme, the implementers decided to create one temporary (implementation) organisation and permanent organisations that would remain after the handover programme. Figure 6.2 presents the envisaged organisations in the implementation of the programme. The one temporary organisation directly involved in the handover programme, was the facilitation team (FT). This section discusses the functioning of these newly crafted organisations, starting with the facilitation team (FT).

Figure 6.2: The organisational framework of the Negomo Co-operative Association

Source: Based on the monthly Management Committee meeting minutes of Negomo Co-operative Association.

Functions and recruitment of the facilitation team

The facilitation team was established to replace three implementation organisations that were present in the initial hand over phase: the NAB, the CSU and the consultant Price Waterhouse. It was constituted as a much leaner and sharper organisation. A highly qualified and experienced AGRITEX irrigation specialist was appointed as scheme coordinator, heading a team consisting of the DAEO Mazowe, a GFA Terra Systems Consultant (Dr Susanna Pecher) and the three Extension Workers previously employed by the CSU. According to KfW/GoZ (2001a) the facilitation team was a temporary organisation created only to facilitate the smooth take over of irrigation operation and management roles by the irrigators. It would dissolve at the end of the five year implementation programme. It was also meant to ensure a smooth integration of Negomo scheme into the overall national smallholder irrigation framework of AGRITEX:

“It is therefore an appropriate solution to place the Facilitation Team within the AGRITEX line of command for technical supervision while also connecting it to the IMC for purposes of inter-ministerial coordination.” (KfW/GoZ 2001a, 72)

Although the three EWs were part of the FT, they were adopted by AGRITEX Mazowe District at the dissolution of the CSU. In other words, they became fulltime employees of AGRITEX. At the end of the implementation period the EWs were expected to remain at Negomo irrigation scheme as AGRITEX personnel responsible for irrigation extension, like is the case at most smallholder irrigation schemes in Zimbabwe. The scheme coordinator on the other hand would be relocated to other projects.

The terms of reference of the FT included the following:

“(a) Support the elaboration of the revised constitution, support the organisation of a general assembly and arbitrate both processes; (b) Arbitrate the decision about the type of organisation to be created by the irrigators; (c) Negotiate the contract between the farmer organisation and the government; (d) Manage project funds according to the contract between the irrigator organisation and the government; (e) Provide day-to-day organisational advice to the irrigator organisation; (f) Provide extension and marketing advice to individual irrigators; and (g) Assist the irrigator organisation to make annual reports, work plans and budgets.” (KfW/GoZ 2001a, 72)

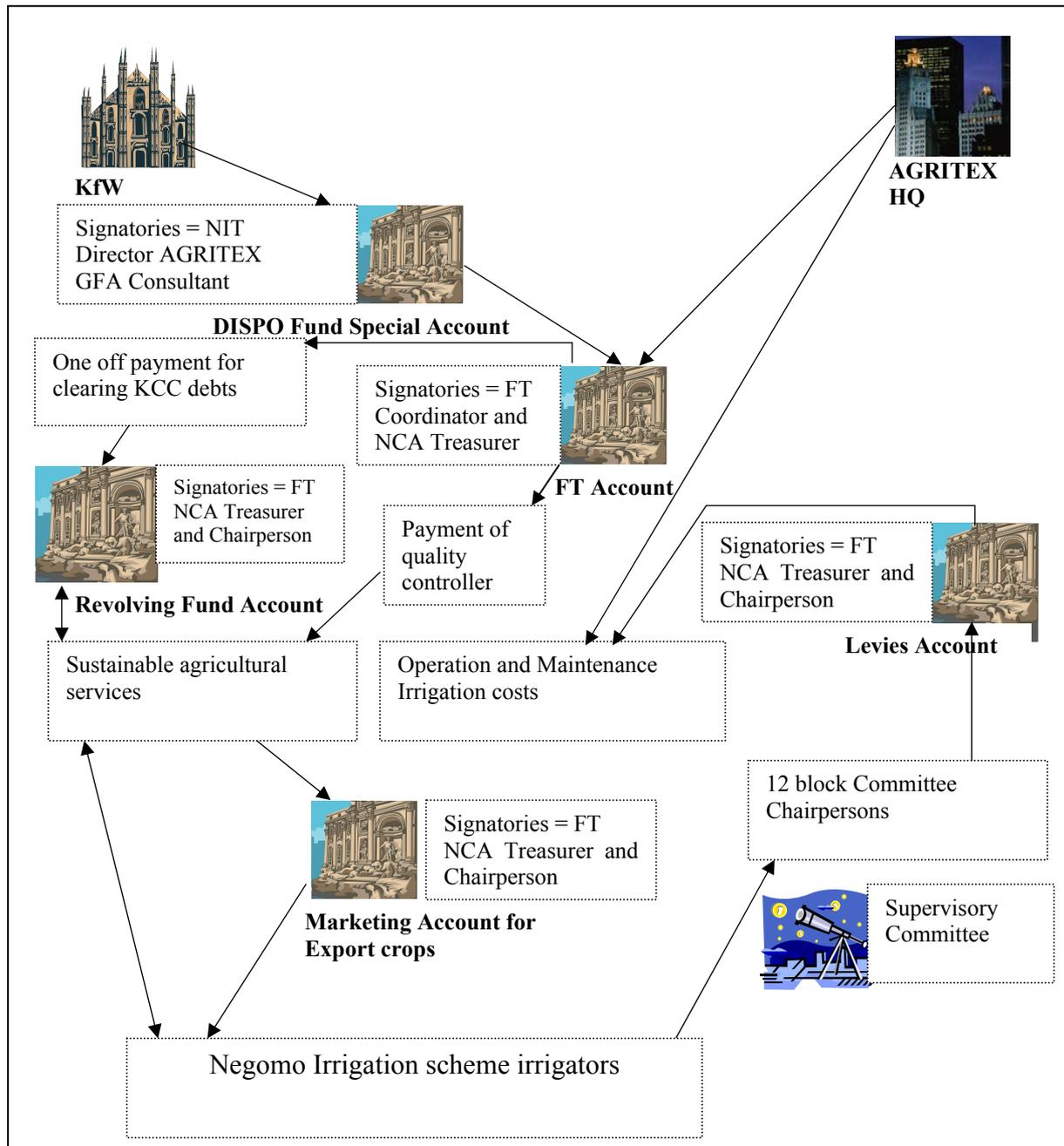
The recruitment of the scheme coordinator was a prestige process. The post was advertised in the national press and interested irrigation specialists within AGRITEX were invited to apply for the post. The post included a number of perks, not normally offered by the Public Service commission, such as a three bed roomed house with free water, free electricity, a car, and settling allowances that included uniforms for children. It was advertised as a five year contract. Despite seemingly attractive perks, very few irrigation specialists applied for the post. As a matter of fact AGRITEX was at the time losing irrigation specialists to donor assisted programmes like the IFAD sponsored Smallholder Irrigation Support Programme, USAID sponsored drip kit programme, mushrooming indigenous irrigation companies and the Agriculture and Rural Development Authority (ARDA) who were offering even better remuneration and employment packages. As a result AGRITEX had no choice but to appoint a very experienced irrigation officer to the post, instead of an irrigation specialist. The irrigation officer had been in charge of the operation and maintenance of the 700-hectare Bonde irrigation scheme in Manicaland. According to the AGRITEX Deputy Director Engineering at that time, the Irrigation Officer was therefore experienced enough to handle the smaller Negomo irrigation scheme. The German consultant, Dr Pecher, had been the agronomist in the GFA Terra Systems team that crafted the irrigation handover programme.

FT Implements the handover programme.

Initially, GFA Terra Systems proposed to engage a consultant to manage NCA finances during project implementation as had been the case with Price Waterhouse in the KCC times. This was vehemently rejected by the MoALRR team reviewing the draft project proposal:

“The suggestion that the irrigation scheme should engage another institution to manage the finances will be difficult to implement. In addition, the consultant suggests “...it is estimated that the cost should not be more than 5% of annual turnover...”. On what basis is this estimation made when none of the potential institutions have been assessed. Are there any organisations willing to offer such services? This question is pertinent given the problems encountered in identifying firms willing to offer management services at the project inception. Who will be responsible for the management of the block funds? There is need to consider the implementation complexity of handling lending/borrowing transactions. Are the farmers equipped to manage the cash flows required to generate the income for the purpose of financing the requirements of the consultant? The transfer of responsibility to farmers has financial implications that should be captured and provided for. Who pays for performing the O&M activities? It is worth noting that in the past farmers appointed to the Management Committee, have demanded a “sitting allowance” to compensate them for the time dedicated to performing those functions. Who will supervise the workers engaged to carry out the O&M and how will they be remunerated for performing those functions. Who will supervise the transactions made by the Management Committee and then subsequently to offer audit services at a reasonable fee?” (KfW/GoZ 2001b, 12.8)

Figure 6.3: Negomo Co-operative Association flow-chart of collection and distribution of funds



Source: Based on the NCA Management Committee meeting of 8 January 2002.

As a result of these concerns, the idea of a consultant was dropped. This function was therefore given to the FT. After many meetings between the FT and AGRITEX, the final flow chart for the collection and distribution of funds was adopted by the FT (see Figure 6.3). The FT assisted the NCA to open four bank accounts based on the source and use of the collected funds. GoZ and KfW would provide funds for the operation and maintenance of the scheme. The GoZ were paying part of the electricity and water charges through AGRITEX. KfW on the other hand were paying for farmer training and salaries and wages of workers employed by the management committee of the NCA. This money was deposited into the *facilitation*

team account. To ensure transparency the signatories to the account were the coordinator of the FT and the treasurer of the NCA. AGRITEX, however, in most cases paid direct to ZINWA for the water charges and to ZESA for the electricity charges. It was only when AGRITEX were using their own Agricultural Revolving Account that a cheque was deposited in the FT account.

Other accounts included, firstly the *revolving fund account* that was used to finance the trials and demonstrations conducted by the extension staff at the demonstration plots. These were funded with proceeds from the demonstration plots, the irrigators, the FT and proceeds from services offered by the NCA to the irrigators and the surrounding community, like tractor services, cold room facilities and pack shade facilities. The account was also used for the repair and maintenance of NCA assets, like buildings and vehicles and for the payment of the salaries of the NCA's workers. Secondly, there was a *levies account* where all levies collected from the irrigators were deposited. The account was used to pay for operation and maintenance costs of the irrigation scheme, including water charges. The signatories of the account were the treasurer and the chairperson of the NCA. Thirdly there was the *export crops account*, which was used by agro-export companies, like Selby Enterprises to deposit proceeds from the export crops marketed. The signatories to this account were the chairperson and treasurer of the NCA. The operation of all these accounts was scrutinised by the three member Supervisory Committee, elected by all irrigators from amongst the twelve members of the Management Committee of the NCA.

The FT had adopted a bi-monthly meeting of the MC to review progress on targets set for financial mobilisation and use, over and above the annual budget meeting. It also created a sub-committee of the MC that were responsible for the management of each budget line. They were expected to report on progress and problems in their budget line. Any problems were reported and solutions to the problems were developed by the MC with assistance from the FT. Using this approach, the payment of levies on time by irrigators was raised from only 40% in 2000 to 85% at the end of the 2002. The FT also assisted the irrigators in developing a framework for preparing their annual work plan in the form of a matrix that elaborated on the activities and tasks to be carried out, the decision makers and executors of the activities and tasks (see Table 6.3 for an extract of the 2002 matrix). However because of the increased number of meetings, MC members soon realised that they were losing a lot of their productive time. They soon demanded sitting allowances to compensate for lost time. The general assembly of irrigators agreed that the MC would use 5% of the collected levies to pay for their sitting allowances. To the FT, this was a good move. Because the MC was paid a percentage of the collected levy, it would be in their interest to collect all levies from the irrigators. The leader of the FT, Mr Martin Zvareva, said that they capitalised on the MC's demands for a sitting allowances for attending meetings and workshops. In their negotiations with them they agreed that they could only be paid from levies collected.

The performance of the management committee and its sub-committees

The FT was keen to ensure that the users organisation was fully consolidated from the MC down to the irrigator on his/her plot. Therefore the block committees were given the task of collecting all levies from irrigators in their blocks for submission to the MC. However the block committees found it difficult to handle large sums of cash. Instead it was agreed that the individual irrigators would pay their levies direct to the Negomo irrigation clerk who would

issue a receipt upon payment. The irrigator would then bring the receipt to the block chairperson to attain permission to irrigate. The irrigators had the option to pay levies in advance or on a monthly basis. Every two months both the block chairperson of each of the twelve blocks and the irrigation scheme clerk would give a financial statement to the finance committee, who would themselves prepare a financial statement for the whole scheme, that they would present to the bi-monthly meeting of the MC along with an expenditure report. The finance committee was also expected to give a report on projected financial requirements and propositions on how to finance the requirements. However because of hyperinflation during the years 2001 to 2002, the Finance Committee was forced to make several upward adjustments of the levy to keep abreast with the rise in cost of services. This made the job of the FC very difficult. To cushion irrigators, the FC had to think of ways of raising the additional funds without necessarily raising the levies.

Table 6.3: Negomo irrigation scheme areas of responsibility matrix 2002

Task	Irrigation		Tractor		Pack house		Demo Plots		Workshop		
	EXE	DM	EXE	DM	EXE	DM	EXE	DM	EXE	DM	
Cash flow management	ADM	FTL, FTA, FC									
Purchase of spares or inputs	EXCO	FTL, FTA, FC, ADM									
Maintenance & repairs	EXCO	FTL, FTA, FC & ADM									
Carryout & supervise daily operations	EXCO	EXCO									
Control & Management of Profit & loss	ADM	ADM									
Decide on departmental services	EXCO	FTA, FTL, FC									
Security & discipline	EXCO & DC		DC & WC								
Revenue collection	CB /DC	MC with FT Advice									
Water Management	EXCO	BC and EXCO									

Key

- | | |
|---|-------------------------------------|
| ADM: Administration | EXCO: Extension Co-ordinator |
| FTM: Facilitation Team Marketing | DC: Disciplinary Committee |
| FTA: Facilitation Team Advisor | WC: Workers Council |
| FTL: Facilitation Team Leader | EXE: Executor |
| FC: Finance Committee | DM: Decision maker |
| CB: Chairman of block | FT: Facilitation Team |

Source: The Negomo irrigation scheme Work Plan Development Workshop Meeting (January 2002)

One useful innovation by the FC to increase its revenue base was the introduction of the “gogoi fee” (knock-knock fee) charged on all irrigators leasing irrigated land at the scheme. The chairperson of the finance committee, Mr. Garwe, said that the gogoi fee was a royalty charge on all plot leasers for using the scheme level irrigation infrastructure. This was a levy charged to the tenant by the MC over and above the leasing levies negotiated between the

tenant and the individual plot holder. To prompt the gogoi fee, the block committee was asked to furnish the MC with a list of all people leasing land in their block. The FC would then hold a meeting with all the people leasing land and demand payment from them. The gogoi fee was paid on a half yearly basis. According to the FC this was advantageous to both parties. To the tenant, it meant that he/she would only be charged for the period he/she was effectively using the land since for most annual crops, six months was enough to grow and harvest the crop. Paying for a year would be unfair to those who for some reason saw their contracts terminated by their landlords after only growing a single crop. To the Negomo irrigation scheme, it was an opportunity to raise the gogoi fees in tandem with the inflationary conditions prevailing in the country at the time. The gogoi fee was initially set at a flat rate of Zim \$5,000 (US \$100) irrespective of the size of land leased. However because of inflation, by 2002 it was Zim \$36,000 (US \$621) This levy was a great relief, especially considering the fact that 45 % of the land under crops at Negomo was cropped by leasing tenants. The production committee, supervisory committee and disciplinary committee were not very active during the period 2000 to 2002. According to Mr. Bernard Chipiro, the chairperson of the SC at that time, their work was still overshadowed by the FT.

6.3 Phase 3: Exit government and donor, things fall apart (2003-2005)

The handover project was abruptly terminated in 2002 when KfW withdrew funding and the GFA Terra Systems consultant attached to the FT, Dr Susanne Pecher pulled out of the project in response to the deteriorating national political situation following the disputed Zimbabwe Presidential elections of 9-11 March 2002. This withdrawal coincided with another reform process in Harare, the reorganisation of AGRITEX that dealt a big blow to the Negomo irrigators. Irrigators and local extension personnel claim that someone at the irrigation scheme kept the tail of a small squirrel called “*Nyongo*” in Shona. A Shona legend has it that if someone wagged the tail of a *Nyongo* at a gathering of people, pandemonium would break out whereby even the best of friends would start fighting each other for no apparent reason. Indeed all hell broke loose at Negomo after the withdrawal of donor funding.

According to Mr. A. Munyepari things had gone well for the two years from September 2000 to September 2002. He asserted that Doctor Pecher was a very good advisor to them and that her departure was very painful to both them and her: she cried when she came to bid farewell in May 2002. He claimed that the good thing about Doctor Pecher was that, with her, all finances were made open to them. She involved them in the budget and utilisation of the released funds:

“With her departure and withdrawal of KfW funds it’s no longer the same here at Negomo. Also we are now not getting any financial support from AGRITEX. There is confusion there. AGRITEX was split into many small departments. We are now at a loss which department is responsible for us. So things have just crumbled and we have no choice but to go it alone now. We have problems here with EWs at this irrigation scheme. We are failing to get any services from them. We all hope that this confusion will soon be sorted out”.

On Thursday 30 October 2002 the NCA management committee held a meeting to prepare the 2003 budget. Invited to the meeting were ZINWA and the Department of Co-operatives in the MoYGEC. AGRITEX was not represented at the meeting. This caused a stir because the MC

could not complete its budget when they were not sure how much government was going to contribute to the irrigation operation and maintenance budget for 2003.

In January 2003 the FT coordinator, Mr. Zvareva, explained the AGRITEX stance, which was both confusing and embarrassing to him. AGRITEX had splintered into a number of departments. He claimed that some three new departments that still had some interest in smallholder irrigation development, operation and maintenance had emerged from the split. However on the ground, it was still not very clear to which department the Negomo AGRITEX personnel belonged. It was also not yet clear through which department the smallholder irrigation development budget was going to be channelled. As a result it was not possible to inform the farmers correctly. In the end it turned out that all the extension personnel would belong to the new department of AREX, while the FT coordinator belonged to the new department of Agricultural Engineering (DoAE). The smallholder irrigation development budget, however, was channelled through the new Department of Irrigation (DoI) that was housed in a different ministry altogether (Ministry of Water and Rural Resources Development (MWRRD)). The mandate of the new DoI though did not have anything to do with smallholder irrigation management. Its mandate cantered on smallholder irrigation construction. The mandate of the DoAE on the other hand cantered on rehabilitation of the vandalized former commercial farm irrigation schemes in the “Third Chimurenga” resettlement areas. As a result there was no budget for the Negomo irrigation scheme. The FT coordinator claims that in the end his stay at the irrigation scheme became irrelevant. As a matter of fact he was recalled to the provincial office in Bindura to assist with the processing the “Third Chimurenga” irrigation rehabilitation requests under the Winter Wheat Irrigation Rehabilitation Programme.

So without warning, the NCA had to fully shoulder the operation and maintenance responsibilities without any subsidy from government or donors. To cope with the new realities, the MC adopted a number of strategies, summarised as follows by Mr. Dingo (2003):

“An election was held on the 17th of December 2002 by members of the MC to elect a new leadership to guide the irrigation scheme at this dark our. To me trouble started with the appointment of the substantive Chief Negomo back in 1999. Before the appointment of the substantive Chief Negomo, I was the acting Chief following the death of my farther in 1995. So all irrigators respected me as chairperson of the MC. The substantive Negomo Chief is not a member of the irrigation scheme. He lives far away from this place at Gweshe village about seven kilometres along the tarred road towards Harare. Because I was no longer Chief, my respect within the MC immediately subsided. Most of the members of the MC are my uncles, who were only respecting me because I was their Chief. Now they felt that I had to respect them instead, because I was only their cousin. So it was unanimously agreed that it was necessary to change the leadership of the MC so as to ensure strict adherence to set targets by all irrigators. It was important to do so, because the irrigation scheme needed to promptly collect the levies. It was also necessary to sharply hike the levies following not only the withdrawal of government and donor funds but also the hyperinflation that was prevailing in the country. So when the election was held my oldest uncle in the MC was elected chairperson. The new MC leadership sharply hiked the levies paid by registered members of NCA from the project estimate of Zim \$20,000 (US \$345) to Zim \$286,000 (US \$4,931). They hiked the rental fees for those unregistered irrigators who were leasing plots in the scheme from Zim \$36,000 (US \$621) per six months to Zim \$250,000. (US \$4,510) among many other sweeping changes that would ensure that the MC would have a wide base for revenue collection.”

The MC also claimed ownership over all infrastructure materials and equipment at Negomo. Having assumed ownership of all Negomo irrigation scheme assets they redefined their use. The use of buildings at the scheme including staff houses was redefined with different staff members being shifted from house to house. They also decided to lease out all vacant staff houses and to charge rent to sitting tenants including government employees. This produced conflicts between the MC and government staff.

Relations between the MC and extension staff turn sour

The three EWs at Negomo had been part of the FT, but after the pull-out they became mere employees of AREX. During their time with the FT, they had enjoyed some project funded privileges, like free housing, free domestic water and free electricity. Previously during the Price Waterhouse era, the same Extension personnel were said to be directly employed by the irrigators. DoAE later on decided that they would continue to pay the electricity bill for Negomo, while the irrigators would pay for the rest of the costs. DoAE recovered three vehicles from the Negomo irrigation scheme and allocated them to irrigation specialists at their head office. The hand-over report, prepared by MRRWD in 2000, stated that supporting infrastructure and equipment was transferred from the MRRWD to the MLARR together with the irrigation infrastructure. These project assets comprised an office complex, a workshop, public ablution, a training hall, 2 cold rooms plus shed, 13 staff houses, 2 pick-up trucks, 5 motor bikes, 1 grader, and 3 tractors with trailers. It is claimed by AGRITEX personnel that this supporting infrastructure and equipment was unilaterally taken over by the MC after the German donor pulled out. This became the cause of animosity between the MC and the extension workers.

The animosity was sparked off by the MC's decision to charge rent on the extension workers for staying in what the MC believed were their houses. When the FT was dissolved in May 2002, three F21 houses previously used by the German consultant, the FT team leader and the irrigation scheme administrator were left vacant. The MC asked the three Extension Workers to vacate their small F14 houses and occupy these much bigger houses. The EWs obliged without hesitation. What they thought was a gesture of goodwill from the MC soon turned out to be a deceitful deal for the EWs. The MC soon demanded rent from the EWs for using the houses, as well as payment for domestic water and electricity use. Their move to bigger houses, meant that they were going to pay much higher rent charges. The MC also decided to charge the EWs irrigation levies for using the irrigated gardens in front of their houses. The EWs refused to pay the levies. The electricity bill for the three EWs' houses that had not been paid since the withdrawal of donor and government funding to Negomo had accumulated to Zim \$13,000,000 (US \$2,097). The main reason why the EWs were refusing to pay for the electricity bill was because the EWs did not agree with the MC's method of calculating their electricity bill. The electricity bill for the EWs' houses was bulked together with the irrigation pumping station bill. The MC decided to charge the EWs 30 % of the total irrigation electricity bill. The resultant bill far outstripped the average domestic electricity bill for houses around the area and even in Harare. On average each EW was expected to pay a monthly bill of Zim \$1,900,000 (US \$306). As a result the electricity connection to the houses was cut off.

The problem spilled into the EWs' work place at the scheme. One of the EWs, Mr Madzudzo, was in charge of the one hectare demonstration plot, discussed earlier. The MC repossessed the demonstration plot and allocated it to a new irrigator. All this was done by the MC to widen its revenue base in order to fill the sudden financial void left by the withdrawal of government and donor funds. The EWs however did not take the MC's demands lying down. They appealed to their employer, the DAEO Mazowe for assistance. The DAEO took the matter up with the PAEO who in turn informed the Director of ARES. The latter informed the Director of Irrigation who responded that his department could not assist. The deputy director irrigation observed (2003):

"This is funny. The Ministry of Lands, Agriculture and Rural Resettlement is now saying that we should intervene in the wrangles at Negomo irrigation scheme when in 2001 they took over all irrigation assets at all irrigation schemes (houses and vehicles). How can we do that? The EWs are not part of our staff establishment. As a matter of fact our own Chief Irrigation Engineer in Mashonaland Central province has no house to stay in. If we are to intervene at Negomo we can only do so for our own staff members. We also do not have a budget to assist in the operation of Negomo irrigation scheme anyway."

According to Mr. Madzudzo, this "mêlée" occurred because no proper handover of assets had been done by the MoLARR to the MC. He claims that the problem was with government authorities responsible for the scheme, dating back to the GFA Terra Systems mediated handover programme, where it was never made clear to the irrigators what infrastructure, materials and equipment belonged to the irrigators and what belonged to the state. According to him the unfinished irrigation handover process was the real reason for the problems at the scheme.

The wide revenue base fails to meet rising operational costs

The efforts to expand the revenue base failed to meet the ever rising irrigation operation costs, especially for electricity and water. In April 2004, the MC approached their local Member of Parliament (MP), Comrade Chenhamo Chimutengwende, to help them to convince government that it was still necessary for government to subsidise the Negomo irrigators in the payment of electricity bills. After consultations with the relevant government departments, Comrade Chimutengwende informed the irrigators that no government department had a budget to assist them. He however donated Zim \$6,000,000 (US \$968) for the payment of electricity bills. He emphasised to the irrigators that the scheme was theirs henceforth, because the government had too much to chew on its plate when it came to irrigation development. As a result the irrigators at Negomo were now fully responsible for the operation and maintenance of their scheme. However despite the assertions by their MP in January 2005, the Negomo irrigators soon incurred further arrears, to the tune of Zim \$28,000,000 (US \$4,516). The MC approached the MP again for assistance. This time they wanted him to assist them with negotiating a loan from AGRIBANK for both irrigation operation and maintenance costs and crop inputs. AGRIBANK failed to offer the MC a loan citing shortage of finance. The MC then decided to auction furniture from the Negomo guest house, which had been used to house visitors, particularly German consultants. The furniture was auctioned without consultation with any government official. Asked to comment on this auction, the deputy director irrigation sounded shocked that irrigators would do such a thing. The Chief Irrigation Engineer for Mashonaland West also professed ignorance of the event. In tandem with the auction, the MC also raised the rates for all their services, from rentals for their houses to tractor services, by 90%.

6.4 Struggling with high value crops

Traditionally agricultural production in Chiweshe communal area was based on rain-fed crops and livestock. With the establishment of the irrigation scheme and the subsequent allocation of irrigation plots to the households, farmers had to quickly adapt to irrigated agriculture, involving new cropping patterns and practices. The cropping patterns prescribed by the architects of the irrigation scheme produced significant implications on the irrigators' access to labour, cash flow management, capacity to access markets, and capacity to provide crop inputs and transport if success was to be attained. How the irrigators coped with the prescribed cropping pattern is the subject of this section.

The prescribed cropping pattern

The architects of the irrigation scheme assumed that the inclusion of high value crops (particularly citrus) would ensure its economic and financial viability. As a result, the establishment of citrus was a very important component of the project and was done by the irrigators using funds borrowed from the AFC (now AGRIBANK). The architects of the project also assumed that a rapid increase in income would occur from the cultivation of annual crops. This rapid accumulation of income in turn would limit the provision of short term credit to a period of maximum three years:

“However in reality an unstable macro-economic environment and rapid increase in interest rates over the years has been experienced to the extent that most irrigators have been unable to meet their debt servicing obligations. This scenario has been exacerbated by the inability of most irrigators to adopt cultural practices compatible with irrigated commercial crop production.” (KfW/GoZ 2001a, 16)

Graph 6.1 clearly illustrates the resulting debts accrued for crop inputs as at 2000. This section discusses what modifications to the cropping pattern were instituted by the irrigators to cope with the rising debt problem.

Citrus loses its envisaged status as export crop

“I feel that it is important to note that we are presently in a precarious political situation here in Zimbabwe. Success of this citrus project would not only be dependent on the availability of funds and training of personnel, but also the continuation of the commercial citrus industry and goodwill of its members towards small-scale communal farmers. Land tenure would also make a very large positive impact on a project of this type. It would drive those dedicated farmers along commercial principles rather than those subsistence practices followed by many till now.” (Waters 2000, 5 in KfW/GoZ 2001b)

The above were the concluding remarks made by Mr Ian Waters, a consultant entomologist contracted by GFA Terra Systems to review the prospects of citrus production at Negomo. In the envisaged cropping pattern, 58% of the land was going to be planted to citrus, leaving only 42% of the scheme for the cultivation of other annual crops. However between 1996 and 2000, using a staggered establishment approach, only about 103.88 hectares (29%) had been planted to the crop. This was equivalent to an average of 0.35 hectares of citrus per irrigator instead of the planned 0.7 hectares. By then the irrigators were already picking fruit from the first citrus plantings. However, further planting of citrus at Negomo was discontinued in 2000 on the advice of experts in the trade.

Two separate studies, carried out by experts (an entomologist and a commercial farmer), concluded that it would be very difficult for Negomo irrigators to make any money out of citrus, for a variety of reasons. Firstly, the irrigation scheme layout and plot allocation to individual irrigators had resulted in 296 different citrus plots scattered around the irrigation scheme. According to the experts this presented a lot of management problems that precluded the attainment of export quality citrus. Obviously it would be difficult to achieve synchronised cultural management practices by all the irrigators. Secondly, at Negomo each irrigator was given a set of three different varieties of citrus. According to the experts, having a few rows of three different varieties of citrus side by side at any irrigator's plot posed the biggest threat to achieving the required export quality. According to them this situation resulted in enormous problems of transfer of pests and diseases from one variety to another due to the different chemical spray regimes, irrigation scheduling and picking times for each variety. Finally, vegetables and other crops were not only grown close to the citrus crop, but they were intercropped with citrus trees (see Photos 14 and 15). The experts claimed that this precluded the successful application of Integrated Pest Management (IPM) systems that commercial citrus producers were promoting. Spray drifts from adjacent crops could easily lead to fruits being rejected for export marketing, because of chemicals on the fruit harvested. According to the experts, the only advantage gained by the Negomo setup was that:

“every one of the irrigators gets a fair piece of the pie to begin with. What happens after this is due to the individual and his/her know-how, financial resources and motivation. They can crop all their land allocated and have water. However they sacrifice the yield of one crop (Citrus) in order to grow other more short-term profitable crops like vegetables.” (Waters 2000, 4 in KfW/GoZ 2001b)

To remedy the situation the experts recommended a number of radical changes in the layout of the scheme. They recommended the establishment of three citrus blocks, each with one of the three citrus varieties that were in use at Negomo. The process involved uprooting two varieties of citrus from a designated block and replanting it with trees of the same variety. Once established, the experts suggested separating the varieties by a single windbreak to cut down on wind scarring on the fruit and spray drift of chemicals from adjacent crops. It was also suggested to install micro jets and drip irrigation, to ensure good control of irrigation water application, and a radical stop to intercropping of citrus with other crops. To the architects of the Negomo irrigation scheme, these recommendations were tantamount to a complete overhaul. Instead of completing that targeted area for citrus, they decided to stop any further planting of citrus trees, thus reducing the anchor crop's coverage to only 29% of the scheme. Asked to comment on the citrus crop at Negomo in 2004, one old farmer blamed Mr Evans for making a premature judgment on the viability of their citrus crop. He argued that the oranges were still very young and they were producing very few fruits at the time Mr Evans made his assessment. He also blamed Price Waterhouse for insisting on export marketing of the crop that called for stringent requirements. He claimed that the irrigators were now wishing they had planted the 0.7 hectares to citrus.

So although the citrus crop is no longer grown for export, the crop is still making money for the irrigators. This was only made possible by the destruction of many citrus orchards during the Third Chimurenga. The citrus crop however lost its export market value.

Other crops at Negomo

The other crops grown at Negomo can be split into four types or categories. According to the originators of the irrigation scheme, category one crops were those crops that required low inputs and posed low risk to the irrigators. These crops could be grown for subsistence purposes with any excess produce sold on the local market. Crops in this category included maize, green mealies, sweet potatoes, rapeseed and groundnuts. These were traditionally grown in Chiweshe communal area as rain-fed crops or as irrigated crops in small gardens in wetlands, also known as *matoros* or *dambos*. These crops are planted twice or even three times a year by irrigators at Negomo. Because of their familiarity with these crops, almost all irrigators grow them and attain reasonably high yields. The crops are also very flexible when it comes to harvesting time. Maize for example can be marketed as green mealies or as grain. If storage is a problem it can remain in the field for many months. The same can be said for sweet potatoes that can also be kept in the field for long periods after ripening without spoiling. These crops therefore allow irrigators to manage them according to their labour capacity and their cash requirements.

Category two crops are those that have been named labour intensive, capital intensive and high risk crops grown for the local markets. These include tomatoes, Irish potatoes, okra, and field beans and, to some extent, wheat. These crops were produced by both commercial farmers and smallholders under rain-fed conditions in Chiweshe. At Negomo these crops are produced as cash crops for the local market. However the cultivation of these crops requires relatively high investment capital, labour, plant protection and fertiliser. The crops are fairly prone to pests and diseases, whilst harvesting is labour intensive. They are also highly perishable, except for field beans and wheat. However for these latter two timing of harvesting is important. Field beans are prone to seed splitting, while wheat has to be harvested before the onset of the main rainfall season. Bottlenecks with these crops included market availability and transport.

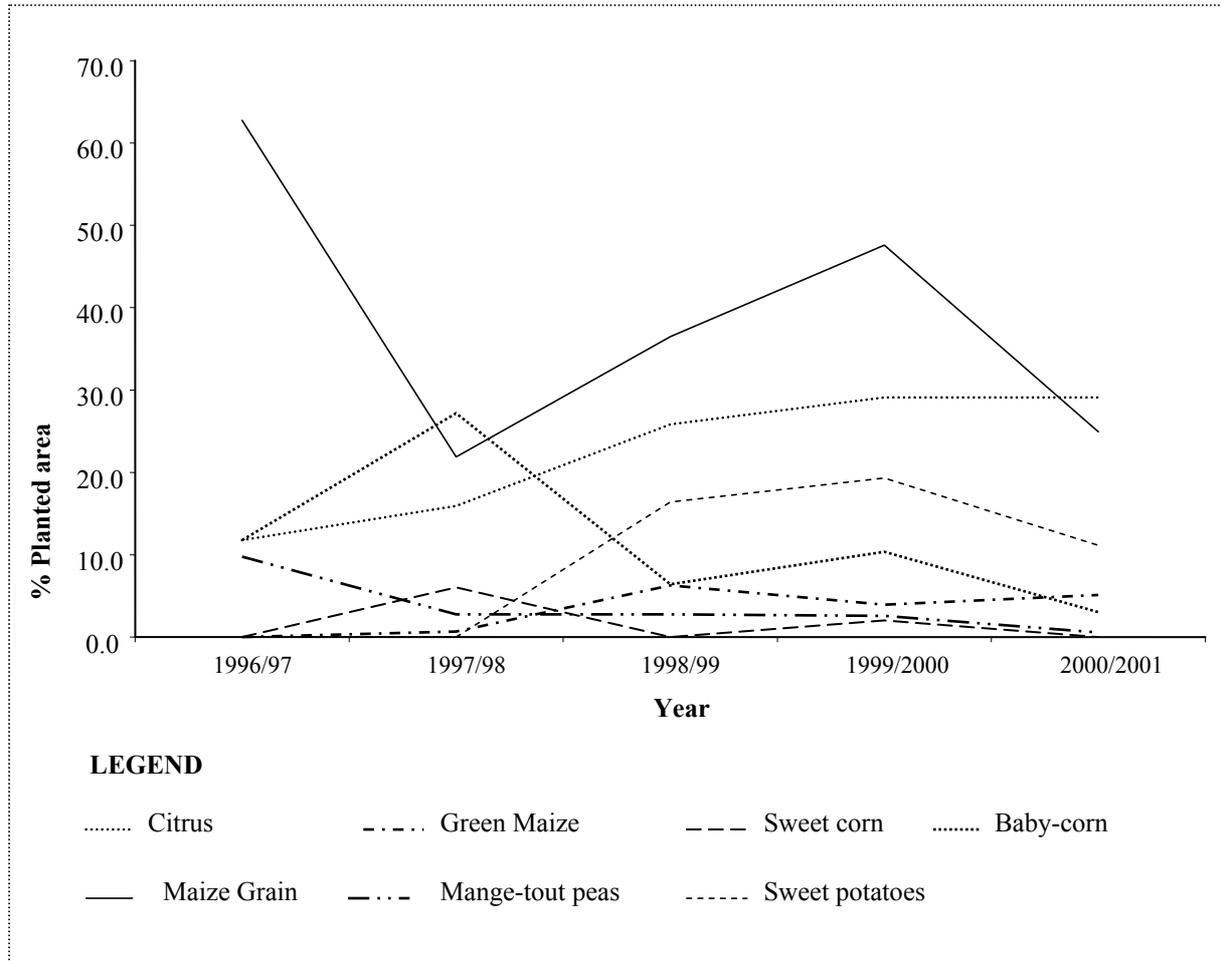
Category three crops were considered labour and capital intensive, though low on risk. Cotton was the main crop in this category. Cotton harvesting and packing are very labour intensive operations. Although cotton requires intensive care in pest and disease control, the risk of yield failure and post harvest losses are much lower compared to the category one and two crops. Also cotton was well supported in terms of credit in comparison to any other crop in Zimbabwe.

Category four crops were known at Negomo as labour intensive, capital intensive and high risk crops that were grown for the export market. These were crops like baby corn, granadillas and mange tout peas. Category three and four crops were generally not used for home consumption, but grown primarily as cash crops. These crops were regarded by the projects originators as high value crops. However because of their reliance on the export market, crops in category four had fluctuating rewards to irrigators depending on how strict the government were in control of the open foreign currency, popularly known as the black market in Zimbabwe. Whenever foreign currency controls were tight, irrigators did not make money from these crops.

Graph 6.2 reveals the irrigators' preferences of crops from the start of the irrigation scheme in 1996 to the year 2001. The steady rise of sweet potato from 0 % area planted on the first two

seasons to 19 % in the fourth season is evident. Also noticeable is the decline in percentage area planted to export crops like baby-corn, sweet-corn and mange-tout peas. Thus the originators dream of a Negomo irrigation scheme based on high value export crop started to fade away. As a matter of fact by March 2005 when the research was terminated, sweet potato was occupying slightly more than 50 % of the planted crops at any one time.

Graph 6.2: The Negomo Irrigation Scheme crop combinations over years



Sweet potato becomes the anchor crop at Negomo

As discussed above the CSU used to provide the irrigators with all inputs requirements on loan (fertiliser, seed, chemicals, etc.). This loan facility and stocking of crop inputs at the scheme was terminated at the end of the Price Waterhouse contract. Mr Madzudo said that from mid 1999, there was a hive of activities taking place in the country as the land reform program gathered momentum and spiralled into the hurricane or “tsunami” that decimated the social, political and economic state of affairs of Zimbabwe. With this hurricane pounding Zimbabwe, he said, the country’s agricultural industry like all other sectors of production was hit by inputs shortages, high inflation regimes and unexpected price hikes. Also hammered by the hurricane, he said, was the export and local market for most of the crops that the Negomo irrigators were cultivating. The export market suffered, because of the souring international relations between the country and European countries that were the main destination for the

export crops. The local market suffered from the erosion of local people's buying power. As a result, the irrigators had no choice but to change their cropping programme to suit to the situation at hand. They shifted to category one crops that required lower input levels. Mr Madzudzo said that it was under these circumstances that sweet potatoes rose to prominence at the scheme.

Mr Madzudzo claimed that the introduction of the crop started with a visit to the Marondera Horticulture Research Centre in 1997 by EWs from Negomo. He said that sweet potato was one of the major crops that the Horticulture Research Centre was experimenting on, along with low-chill apple varieties, peaches and paprika. The EWs were impressed by three fibreless, high yielding and short season varieties of sweet potatoes that the research centre claimed would revolutionise the sweet potato growing industry. The Negomo EWs were given sweet potato planting materials of these three varieties to establish a sweet potato nursery for distribution to Negomo irrigators. In no time almost all irrigators were growing sweet potatoes as a major crop.

According to the irrigators sweet potato's major advantage is its capacity to be established by vegetative means without the need for seed. Other crops like maize, they said were now becoming a risk because of shortage of hybrid seed on the market. Irrigators also claimed that the other advantage of sweet potato was that it had a ready market that they were failing to satisfy. Although there was some competition from rain-fed producers in Dewedzo (Rusape), Chihota and Murewha, the Negomo producers always beat them on quality and constant availability of the product, since at Negomo sweet potato is available all year round.

Mr Chemusora⁹⁷, a one handed irrigator at Negomo, narrated how he got addicted to the crop. In 2001 his wife brought him three ninety-kilogram bags of sweet potatoes to sell in Mvurwi, where he was operating as a tailor. That year there was an acute shortage of bread in Zimbabwe, following the land reform programme. Three commercial farmers who were growing sweet potatoes for sale in Mvurwi town were caught up in the Third Chimurenga land grab. As a result there were no sweet potatoes in Mvurwi. His market stall was flooded with people looking for sweet potatoes and within a day the sweet potatoes were sold out. He was thus forced to retrace his wife's foot steps back home at Negomo. She was surprised to see him arrive only a day after she had left him with three bags of sweet potatoes to sell. When he told her that he had sold them all she thought that he had just given away the sweet potatoes. But when he told her that he had in fact doubled the price of a bucket of the sweet potatoes, she was all over the hut jumping with joy. Chemusora claims that their lives changed from that day on. For two days they dug the sweet potatoes and packed them in bags. For the first time since the loss of his left hand, Mr Chemusora picked up a hoe and helped his

⁹⁷ Mr Chemusora said that he broke his left arm when he was working at a mine in Concession in 1995. He was sent to the Jairos Jiri rehabilitation centre in Bulawayo by the mining company. At Jairos Jiri, he was trained in tailoring. The mining company bought a sawing machine for him as a retirement package. He rented a market stall in Mvurwi where he used to sell his products. He decided not to pursue tailoring and switched to be a fulltime farmer in the scheme following the successes scored by his wife from growing sweet potatoes. In July 2004 when the interview was made, 0.3 hectare of his food plot was planted to sweet potatoes. While in the citrus block, 0.4 hectares of sweet potatoes were ready for marketing and he was planting more sweet potatoes on the remaining 0.3 hectare. According to him, his wife and he had stopped growing baby corn because it did not pay as much as sweet potatoes. They were not satisfied with the many deductions from baby corn sales.

wife at the irrigation plot. On this day while his wife was digging and packing sweet potatoes he was planting more sweet potatoes in the Citrus block using the vines from where his wife was harvesting. After two days he was back at his market stall with a hired pick up truck full of sweet potatoes. He claimed that his sweet potatoes earned a new name from his customer: they were nicknamed '*Mugabe wanyara*' (translating to: shame on you Mugabe). Thus his customers were telling the State President that although he had made bread unavailable they had now found a substitute to it, sweet potatoes. This became the new name for sweet potatoes at Negomo as well. Chemusora later gave up sewing to take up full time irrigation.

The testimony of Mr. Chemusora was echoed by many irrigators. A lot of the irrigators asserted that sweet potatoes were gaining prominence because the crop was easy to grow and that vegetative parts of the crop were useful cattle fodder that they used to feed their livestock, who equally loved it (see Photo 17).

6.5 Struggling with pumps, parts and upstream irrigators

Negomo irrigation scheme was designed to ensure on-demand water delivery to irrigators, allowing each irrigator to take water as and when s/he pleased. The irrigators were still expected to pool together operational and maintenance resources at scheme level to ensure that the water would flow to each individual irrigator's plot. To ensure efficient use of water the scheme's originators proposed volumetric water charges to each individual user. This section presents what happened in practice. It will show that the irrigation design had a huge bearing on the organisational forms that emerged at Negomo.

Flexible, on demand water-delivery to smallholder irrigators made possible

On-demand flexible water delivery to irrigators is the wish of many designers, irrigation system managers and especially the irrigators. However making it possible in smallholder sprinkler irrigation schemes and worse so in a tremulous political and macro economic environment that was haunting Zimbabwe from as early as 1998 proved to be easier said than done. This section describes the Negomo irrigation scheme flexible on demand pumping system. The pump station consisted of a brick structure, under an asbestos cement roof, that sat on a reinforced concrete slab. The pump house was fitted with two doors to enhance its security. There was a small door that was used on day-to-day basis by the pump minders and guards. A much bigger double leaf door, usually kept locked, could be used to remove the pumps for major repairs. To facilitate easy removal and mounting of the pump-set, a channel iron beam fitted with a gear trolley, type F chain hoist was mounted above the pump-sets, protruding about two meters out of the pump house door to facilitate lifting and loading on a repair truck (see Figure 6.4).

The pumping unit was composed of five centrifugal pumps (CEN 150-400) coupled to 75 kW, 4 pole electric motors by FENNER F 120 flexible couplings, mounted on base frames fabricated from 150mm channel iron. The five pumps were connected to a single inlet manifold. Each pump was fitted with a 250 mm wafer pattern, lever operated, butterfly valve for suction isolation. The discharge side of each pump was fitted with a BERMARD 200 mm 743 BXQ pump control valve. Fitted in front of each pump control valve was another 250 mm wafer pattern butterfly valve for discharge isolation. The five pumps discharged into single

outlet manifold that was fitted with a non return valve for power surge protection. Pressure measurements were taken on the suction manifold where it enters the pump house, on the BERMARD control valve circuits upstream of the valve, and on the discharge pipe as it leaves the pump house. At full discharge four out of the five parallel connected pumps would be operational, while the fifth pump remained idle as a standby pump to ensure pump service and maintenance were effected without unnecessary interference in the irrigation cycles.

Figure 6.4: Gate valves and hoist in use at the Negomo pumping station



The switch gear for the pumping station was housed in a free-standing cubicle, positioned over the cable inlet duct. This cable contained an incomer section with an isolator, a Programmable Logic Controller (PLC) control system, five automatic star-delta starters (ASDS, each fitted with a door mounted isolator), borehole pump starter, automatic power factor correction (PFC) unit, digital tank level indicator, distribution section for small power and lighting, flow meter chart recorder, totaliser head, system fail indicator lights and siren. Motors were connected to the starters via PVC cable ducts under the flow. The control cable for the BERMARD valves was also routed via these ducts. It was the BERMARD control valves that got messages from the pressure sensing module planted near the floor of the 150 m³ header tank, mounted at twenty-eight meter height (see Photo 13). The transmitted messages made the PLC switch the pumps on or off depending on demand fluctuations from the discharge pipe. This way automation of the pumping system was effected. There was also a manual operation provision, for use as backup in times of an automatic system failure (cf. Makotore 2002).

Operational realities of the pump station (1996-2000): project bonanza

From 1996 to 2000 operation and maintenance of the pump was not the irrigators' concern. The pumps were managed by CSU personnel. Price Waterhouse had told the irrigators that all that the MC needed to do was to pay the CSU personnel and irrigation water would be available to them as and when they required it. They were never really asked to pay for the pumping costs. This was also echoed by Mr Chirapa who was the chairperson of the NAB during this period. He said that the pump station was never designed for operation by smallholder irrigators. According to him this was why the crafters of the irrigation scheme

decided to have a CSU to manage the scheme, while the MC collected levies from the irrigators to pay the CSU personnel. He claims that the training records of the scheme showed that the MC and irrigators were never trained on the operation and maintenance of the pump. Instead it was the irrigation technicians, who were trained. The irrigators and the MC were trained on methods of creating a stable financial base for the payment of the CSU. He claimed that Price Waterhouse set the irrigation levy at a very low level that was never going to cater for even the electricity bill, let alone the salaries and wages of the personnel of the CSU. Thus the irrigators had never been prepared for the eventual full operation and maintenance of the pump station during the Price Waterhouse phase.

Table 6.4: Negomo electricity bills for the year 2000-2001

Month	Scheme total bill Zim \$	Scheme total bill US \$	Calculated Individual Irrigator bill (Zim \$)	Calculated Individual Irrigator bill (US \$)
August 2000	224728.51	4,494.57	759.22	15.18
September 2000	230884.29	4,617.69	780.01	15.60
October 2000	237040.06	4,740.80	800.81	16.02
November 2000	184962.28	3,699.25	624.87	12.50
December 2000	151832.52	3,036.65	512.95	10.26
January 2000	178514.71	3,570.29	603.09	12.06
February 2000	15077.61	301.55	50.94	1.02
March 2000	17072.1	341.44	57.68	1.15
April 2000	217715.31	4,354.31	735.52	14.71
May 2000	247289.07	4,945.78	835.44	16.71
June 2000	251522.02	5,030.44	849.74	16.99
July 2000	255754.97	5,115.10	864.04	17.28
	2,212,393.45	44,247.87	7,474.30	149.49

Source: Based on Negomo irrigation scheme electricity bills file.

Mr Chirapa's sentiments were confirmed by most members of the MC and irrigators at Negomo. Indeed a review of the training files at Negomo and the monthly progress reports by Price Waterhouse themselves shows that it was the personnel of the CSU that were trained on pump station operation. The irrigators claimed that the irrigation technicians who were responsible for the pumps had told them that operating the pumps was a specialised job that could not be performed by ordinary irrigators at Negomo. The same reports show that the set levies were way below operation and maintenance cost recovery. By 2000 all the operation and maintenance costs of the pump station were still met by project funds that were channelled through Price Waterhouse to the CSU (KfW/GoZ 2001a, 28). A comparison between the calculated total annual individual irrigator electricity bill and the annual individual irrigator irrigation levy reveals that the irrigators were only paying 6.7% of the electricity bill (see Table 6.4).

When Mr. Yuba, the first manager of the CSU, was employed by Price Waterhouse, they agreed that it would not be viable to fund the CSU from levies paid by irrigators. Rather they decided that the CSU would have to generate cash for the irrigators through the provision of numerous services, not only to the Negomo irrigators but to the surrounding community as well. The inputs store, the tillage service, the cold room services, packing shade services and the informal credit services were introduced to generate working capital for the operation and maintenance of the irrigation system. So during this period, although the irrigation scheme pumping station functioned well without noticeable problems, the irrigators were not part to

the pump operation and maintenance game of the automated on demand flexible pumping system.

Shared pump operation and maintenance at Negomo (2000-2002)

When GFA Terra systems gave the MC the full mandate over operation of the pumping station, they were trained on pump operation and maintenance. It was agreed that the financing for pump operation and maintenance would be gradually offloaded from government and donors onto the irrigators, over a five year period of staggered irrigation subsidies starting with 100 % in 2000, dropping to 0% in 2005 (see Table 6.5). The programme assumed that individual irrigation levies were going to be paid as a uniform flat rate per hectare, independent of water consumption.

Table 6.5: Negomo irrigation scheme handover programme pump O & M subsidy scheduling

Year	Subsidy %	KfW & GoZ (Zim \$)	KfW & GoZ (US\$)	Irrigators (Zim \$)	Irrigators (US\$)	Individual bill (Zim \$)	Individual bill (US \$)
2000	1	8,800,000.00	176,000.00	0.00	0.00	0.00	0.00
2001	0.8	7,040,000.00	140,800.00	1,760,000.00	35,200.00	5,945.95	118.92
2002	0.6	5,280,000.00	105,600.00	3,520,000.00	70,400.00	11,891.89	237.84
2003	0.4	3,520,000.00	70,400.00	5,280,000.00	105,600.00	17,837.84	356.76
2004	0.2	1,760,000.00	35,200.00	7,040,000.00	140,800.00	23,783.78	475.68
2005	0	0.00	0.00	8,800,000.00	176,000.00	29,729.73	594.59

Source: KfW/GoZ 2001a.

The O and M bill presented in Table 6.5 though did not include periodic replacement of pump components. It was assumed that this would be negotiated by the MC and GoZ as and when the replacements were necessary. The irrigator contribution was supposed to be made a year in advance. For an example the 2001 contribution was collected from the irrigators in the year 2000. Although this advance collection of levies was expected to ensure that the irrigation scheme did not fall into arrears, collecting and storing cash meant nothing in the hyper inflationary conditions dogging Zimbabwe at the time.

In 2003 the FT coordinator Mr Zvareva said that the levies set were regarded by many irrigators as being too high. According to him, the levies were not too high especially for those that were able to get the required inputs to put all the 1.2 hectares allocated to them under crop at least twice a year. In the eyes of many irrigators though, a rise of the annual levy twelve fold from Zim \$500 (US \$10) to about Zim \$6,000 (US \$120) was intimidating. As a result by the end of the year 2000, despite improvements since the previous season, only 70 % of the irrigators had fully paid their levies. The main reason why most irrigators were not able to pay the levies was that they were not fully utilising their 1.2 hectares of land. To ensure full utilisation of the land, those irrigators were asked to lease out part of their land either to other Negomo irrigators or to outsiders. However it was agreed that although it was the responsibility of the individual irrigator to find a lessee of his/her land, at the conclusion of the lease agreement, the names of the lessees were to be submitted to the MC for royalty charges. Through this strategy, in 2001, the percentage of irrigators that had fully paid their levies rose to 80%. However, because of inflation, the levies collected in 2001 for use in 2002 failed to cover the costs. As a result the DoAE was forced to pay the outstanding balance, in violation of the agreed schedule of phasing out subsidies. Whilst there was steady improvement and schedules were being met, disaster struck when the programme was

terminated. The deteriorating political situation in Zimbabwe compounded matters. Although the pumping station was fully functional at the end of 2002, the situation quickly deteriorated in 2003, because of poor maintenance.

Irrigators and GoZ struggle to keep the pumps running (2003-2005)

After the departure of KfW, the GoZ through the DoAE and the MC negotiated an operation and maintenance assistance programme for Negomo. At first GoZ had simply pulled out of Negomo altogether because it did not have a budget to finance the obligations of KfW. However, after the power supply had been disconnected in October 2003, an agreement was reached between the irrigators and the DoAE. It was agreed that the irrigators would pay for all repairs required at the pumping station, while DoAE would pay for all the outstanding electricity bills. ZESA reconnected the electricity but a lot of the irrigators' vegetable crops and baby corn had already suffered water stress.

In April 2004, the pressure sensing module planted near the floor of the mounted 150 m³ tank failed to function. As a result the tank started to overflow, at times resulting in high water losses through spillage. To replace the sensor, the MC approached Balaton Enterprises, the original constructors. Balaton Enterprises informed the MC that the sensor could only be imported from South Africa. Balaton Enterprises included the sensor on an order list of irrigation equipment they intended to purchase from South Africa. However for the purchases to be made Balaton Enterprises had to bid for foreign currency on the newly introduced weekly foreign currency auction of the RBZ. Five months down the line, in September 2004, the company had still not been able to secure the foreign currency but they were still hopeful. Jurien Bass said his company was keen to assist the Negomo irrigators since the scheme was their baby but they were failing to access foreign currency. So the sensor was never replaced and the MC instructed the pump minder to resort to manual operation of the pumping plant. It took them time to master the trick of knowing when to switch on and off how many pumps. However soon enough they became experts in this game.

In February 2004, the State President announced a government reshuffle. The Ministry of Lands Agriculture and Rural Resettlement was split into two ministries, the Ministry of Lands, Land Reform and Resettlement and the Ministry of Agriculture and Rural Resettlement (MARR). This seemingly unrelated event to the operations at Negomo had in fact far reaching consequences for the irrigation scheme. In line with the new mandates of the reshuffled ministries, the Department of Irrigation (DoI) was moved from the MWRRD to the new MARR. With this move all irrigation development functions were concentrated in the DoI. The functions that were handled by the DoAE were therefore transferred to the DoI and so were all the DoAE personnel responsible for irrigation development. With this move the commitment by DoAE to pay electricity bills for Negomo was terminated, and DoI had no budget for it. As a result overnight the Negomo irrigation scheme had no choice but to pay all the costs for operating and maintaining the pump station. This precipitated the drastic revenue widening strategies of the MC, described above.

With government funding evaporating, the situation became bleak. Two of the five pump sets at the scheme broke down in July 2004. The MC decided they would not waste time contacting government departments for assistance in the repair of the pumps. Instead they deferred the repairs until they had accumulated enough funds to repair the pumps. They were

confronted with a dilemma. Two of their tractors had also broken down and were in need of repairs. The MC decided to repair the tractors first, since they were approaching the peak ploughing period for rain-fed farmers. Also their dam was drying out and they were not sure that there would be enough water for irrigation. As a result they used the money they had in their account to repair the tractors. They hoped to generate enough money from contract ploughing for rain-fed farmers for them to pay for the repair of the pumps. However, according to the chairperson of the MC, diesel shortages and its high price on the black market resulted in very poor earnings from contract ploughing. In March 2005 (end of research), the two pumps were still not repaired.

Struggling with the unreliable water source

Water shortages at Negomo started surfacing in 2003 following a poor 2002 rainfall season, but the situation became more pronounced in 2004. Other issues also compounded the situation. Firstly in good times, when their dam was full, Negomo irrigators had been refusing to pay water bills to ZINWA. According to the irrigators Negomo had been exempted from paying for water, because Chief Negomo was given a free water right by the State President in recognition of the immense contribution by his subjects to the liberation struggle of the 1970s. They claim that only two chiefs in Zimbabwe were granted this free water right, Chief Negomo and Chief Rekayi Tangwena of Gairezi in Manicaland. This claim was disputed by ZINWA officials who asked the irrigators to provide documents to prove their claim. The irrigators though claimed that this offer was made to the Chief at a rally by the President. The substantive Chief Negomo said that he did not remember the rally but promised to take it up with the Chief's council. Also militating against them was that, some villagers around Negomo irrigation scheme were being accused of stock theft by white commercial farmers upstream of their dam, especially at Forester farm. Lastly they were accused of harassing the Government employees, both AREX and ZINWA, at the irrigation scheme. The MC was confronted with these allegations at a meeting which took place at Hariana farm on the 19th of August 2004. The following stakeholders were present at that meeting; the District Administrator, the councillor (Nyangoni), ZINWA officials, and the fast track resettlement settlers of Machere and Hariana farms. The subject of the meeting was to find a way of assisting the Negomo irrigators whose dam was drying out. This section narrates events that led to this meeting and the discussions that took place.

On the 29th of July 2004, the irrigators at Negomo stopped irrigating their plots because the pump was no longer providing water. The dam water level had sunk so low that the pump was pumping air. The MC had no choice but to look for rescue from ZINWA. At first ZINWA did not want to assist the irrigators. But when the irrigators suggested that if ZINWA were not prepared to assist them, they would proceed to seek for assistance from the vice President comrade Msika, a fellow Chiweshe inhabitant, ZINWA officials in Harare decided to comply, but only after the Negomo irrigators had paid for all outstanding water bills. The meeting was held in a bid to release water from dams upstream of the Negomo dam on the Ruya River and its tributaries. Although the meeting agreed that water would be released from the upstream dams, more than a month passed before any water flowed into the Ruya River.

So on the 1st of October 2004 I joined the MC and two ZINWA employees on their mission to Lucknow dam, about 30 kilometre upstream of the scheme, on a fast track resettlement farm. Upon arrival, the ZINWA officials looked for the newly appointed resettlement village

Sabhuku Mr. Banga. After explaining who they were and what their mission was, the *Sabhuku* granted them permission to open the gate valve at the dam to let the water out. Lucknow dam was a syndicate dam which was used by settlers of Hariana and Lucknow. After opening the gate valve we proceeded to Dhora farm (Stormont Estate) to open the gate valve of the Stormont dam which was also full of water. On our arrival at Stormont Estate, we were greeted by angry fast track settlers. They told us that the tributary on which their dam was did not lead into the Ruya River. As a result the team from Negomo decided to follow the river to verify. After confirming that the tributary flowed into the Ruya River and informing the settlers that they had the blessing of vice President Msika, ZINWA officials opened the valve which was covered by a pool of water. However despite these assurances, we were soon accused of being members of the opposition party MDC, on patrol. We were asked to accompany the village chairperson to Mr. Dhawha of Hariana farm. Mr Dhawha was the ZANU PF district chairperson for Hariana, Stormont and Lucknow fast track resettlement farms. After introducing ourselves and our mission to Mr. Dhawha, he took down our names and allowed us to go. He warned us that he was going to confirm what we had told him, particularly the vice President's involvement in the issue, with the ZANU PF's national political commissar Mr Eliot Manyika.

On the second day we went to Machere farm and opened the gate valve at Machere dam. We then proceeded to Forester farm to negotiate for permission to use the main canal at Forester farm to covey water from Machere farm into the Ruya River. The commercial farmer was not at the farm, but the farm guards did not object. On the third day, we went back to Machere farm because water was no longer flowing into the Ruya River. We found the gate valve closed. We were told that the gate valve had been closed by the fast track resettlement farmers who were accusing us of opening the gate valve without their permission. The settlers claimed that they closed the gate valve because they had assumed that fish mongers had opened the gate valve in order to catch fish. On the fourth day, water was still not flowing into the Ruya River. We went back to Forester farm, but this time the farm guards were very angry with us. They told us that their boss, a white commercial farmer, had informed them that what we were doing was illegal. We approached the manager at Forester farm who accused us of using their canal without permission. Whilst we were talking to the farm manager, the farm owner arrived but he refused to negotiate with us. He instead called the police to facilitate proper discussion on how best to share the Ruya waters. The police could not come because they had no transport. As a result we drove to Chombira Police Station at Zvimbo Growth Point. The Officer in Charge (O.I.C) told us to call a meeting that would include the Chief, the M.P, the Police, the District Administrator (DA) and the affected farmers. He informed us that the police would be there to ensure peaceful negotiations only. At this juncture, I left the MC to organise the meeting. However the next day the ZINWA officials told the MC not to follow the OIC's advice, but instead to force the commercial farmers who by now had recruited the fast track resettlement farmers into a negotiated settlement.

The Mazowe Catchment manager decided to spearhead the negotiations. He first met the white settler and the fast track resettlement farmers. After convincing them that it was ZINWA that was now in charge of all water in Zimbabwe, the farmers agreed to the meeting. The meeting was then held and concessions were made. It was agreed that water would be released into the Ruya River, not through Mr Forester's canal, but through the longer route along the natural course of the river. It was also agreed that Mr Forester's cattle would be

allowed to drink from the released river flow and that the commercial farmers and the resettlement farmers would monitor the dam levels and call for a meeting to re-adjust the flows if the need arose. The whole deal was made subservient to the payment of water bills to ZINWA by Negomo irrigators. If they failed to pay, water releases from the dams would be stopped forthwith. Finally it was settled that the Negomo irrigators would henceforth contribute to the security of the dams by paying two of the six security guards employed to guard the dams.

Struggling with infield equipment

According to the Negomo irrigators, infield equipment was very easy to use. They however claim that it is the replacement of the cyclone sprinkler that was giving them problems. They claimed that the sprinkler was not available in Zimbabwe. However when I took the chairperson of the MC to Balaton Enterprises' premises in Harare, there were piles of the sprinkler there. Mr Jurien Bass told us that these sprinklers were ordered specifically for Negomo, but somehow they had failed to buy them. As a matter of fact the sprinklers were cheaper than the ordinary rotary impact sprinklers that the irrigators were clamouring for. Asked why they were cheaper, Mr Bass said that the sprinklers were old stock. He said that because there was no other scheme in Zimbabwe using the type of sprinklers, they would remain in stock, unless the Negomo irrigators bought them. The chairperson of the MC though informed me on our way back that even if they were cheaper, no irrigator would waste his time coming all the way to Masasa (East of Harare) to buy a sprinkler. As a result most irrigators preferred rotary impact sprinklers that were available at flea markets and the main Mbare market, where irrigators could buy them immediately after selling their vegetables. Although hosepipes gave them problems, most of the irrigators were managing to replace them.

6.6 Conclusions: the sinking of the Titanic

In this chapter I have discussed how the irrigators at Negomo struggled with a modern organizational framework and an on-demand and high-tech irrigation technology that was crafted and thrust upon them by international and national consultant companies who had bundled the two into an innovative co-operative company irrigation management reform model. This concluding section discusses the implementation process and outcomes of this radical experiment by identifying the opportunities and contests emanating from the detailed events and encounters with actors at Negomo irrigation scheme. It also discusses how the implementation and modifications to the model affected the power relations and accountability practices and control over inputs and markets. The requirements for use of the irrigation infrastructure are also discussed. Finally the outcomes of the model are presented.

The opportunities and contests

The cooperative company model employed by the international and national consultant companies in the creation of Negomo irrigation scheme created some opportunities for sustained irrigated agriculture for the Negomo smallholder farmers. The organisational framework created (the KCC with its CSU) ensured a legally constituted, irrigation management institution that entered into contractual agreements with other corporate bodies, opened up contractual marketing opportunities for the smallholder farmers and afforded them

the opportunity to indulge in high value export cash crops (Huppert and Urban 1998). The smallholder farmers were therefore offered an opportunity to fully participate in the development of the Zimbabwean economy without any hidden impediments. By introducing the CSU in the organisational framework, almost all irrigated agriculture services were offered to the smallholder farmers under one roof.

However the actions of Price Waterhouse during the implementation of the model had a big bearing in the final outcome of the model. Price Waterhouse failed to implement the model in a number of ways. They bungled the creation and registration of the KCC. They did not carry the irrigators with them in the creation and registration of the company. As a result at the end of the five-year implementation process the company was not at all in place. Also Price Waterhouse failed to fully integrate the various organs of the KCC like the MC, the CSU and the individual irrigators into a harmonious single organisation that was clear of its obligation. Price Waterhouse also failed to devolve the financial obligations for operation and maintenance of the irrigation scheme to the irrigators. Instead Price Waterhouse tried to develop business enterprises that would make profit for the KCC for it to use to finance the operation and maintenance of the irrigation scheme. Because of these failures, the crafters of Negomo irrigation scheme ended up abandoning the use of private companies in the implementation of the model opting instead for an implementation organisational framework that was well linked to the government irrigation agency AGRITEX organisational hierarchy. This case clearly demonstrated the importance of including politics into the irrigation management reform equation (Ferguson 1994, Espeland 1998) i.e. the influence of the political and administrative control of the wider existing institutional and markets networks. It was evident from the case that transforming the operations of the irrigation agency (AGRITEX) and related agencies involved in the water sector were not an easy process. It proved to be difficult for the implementing consultant Price Waterhouse to let go a high yielding contract. Also the irrigators at Negomo found it taxing to pay for CSU provided services like extension that were previously provided at no cost by government especially when other smallholder irrigators were not paying for such services.

Power relations and management accountability practices

The detailed discussion on the functioning of the created organisation at Negomo revealed that people are human agents or actors who have knowledge and particular interests, and actively use strategies, *tactics and tricks of the game* in pursuit of these interests (Giddens 1984, Long 1989). It showed that not all created organisations functioned as they were expected to function. As was discussed for example the NAB never functioned. When it tried to function, clashes occurred between the NAB and Price Waterhouse. The clashes were as a matter of fact caused to some extent by personnel of the CSU who found it more prestigious to have their employment contracts signed by a well established consultant company Price Waterhouse and not by a makeshift organisation the NAB. The CSU personnel were worried about their curriculum vitae (CV). The relationship between the irrigators and the CSU was never that of employee employer relationship as was intended. This was because the KCC management committee that was expected to control the activities of the CSU was never developed to the level where it was able to take up those functions. The Price Waterhouse remained in control of the CSU. To the irrigators this was a welcome move because what ever debts were incurred by the CSU on behalf of the irrigators like the loan from AGRIBANK and uncollected levies from the irrigators remained the responsibility of the CSU and Price

Waterhouse. As a result the cooperative company remained powerless. Like in the Musarurwa case, the crafted organisations although on paper they had clearly defined functions, in reality their functions were intertwined and are also mediated by other organisations and individuals.

It was also evident that other man-made and natural events shaped the implementation of the policy model. The political upheavals that rocked the country with the turn of the new millennium turned out to be the main driving force in shaping the pathway that the model followed to its final destination. It was the political upheaval that drove KfW out of Negomo three years before the end of the implementation programme and therefore the premature handover of the irrigation management responsibilities to the farmers. The disintegration of AGRITEX and the creation of new several government agencies responsible for irrigation created problems at the scheme. The unclear responsibilities of AREX in smallholder irrigation schemes resulted in squabbles between the irrigators and AREX staff. This case shows that it is not always the government agency personnel that have power over irrigators. In this case the government agency personnel were at the receiving end. Natural calamities like drought resulted in shortage of water in the Negomo dam. With the shortages, the irrigators were forced to seek the assistance of ZINWA. The result was that the irrigators were forced into paying for the water bills that they were previously refusing to pay. The water shortage problem helped to consolidate the irrigation management committee's resolve to take control of the day-to-day obligation of ensuring that irrigation water was available to the users, there by steering the model back towards its intended destiny of a user managed irrigation scheme. This incident also helped ZINWA the national water management authority to stamp its authority over not only the Negomo irrigators but the fast track resettled farmers and the commercial farmers upstream of the Negomo dam as well.

The irrigation technology in place encompassing the flexible on demand irrigation water supply system, the plot sizes, the crop choice and the drag hosepipe and cyclone sprinklers in place at Negomo also had impacts on the pace and direction of the reform model. The flexible on demand irrigation water supply system at Negomo resulted in irrigators using varying amounts of water necessitating the need for volumetric water charging to individual irrigators. However the irrigation water meters in place that are only available at block level, made it impossible for volumetric water charging. In the end the implementers of the Negomo irrigation scheme resorted to the easier flat rate per plot charging irrespective of the area actually irrigated. This simplified the individual water use monitoring system. The large plots allocated to individual irrigators made it possible for irrigators who could not fully provide for crop inputs to lease out irrigated land to others and still return a sizable plot of their own. The overall result was that the target cropping intensities and levy payments rates intended by the crafters of the irrigation scheme were boosted not necessarily because the initial irrigators were reaping benefits from the irrigation scheme but that the irrigators were spreading out the irrigation operational demands to other irrigators. The leasing out of irrigated land therefore helped to keep the reform model in place. Because each irrigator had his/her own field level irrigation equipment and because they could irrigate as and when they liked without affecting the other irrigators, and because the hosepipe could easily be transported from the market, it was easy to hand over the field level irrigation equipment to the irrigators. This could not be said for the huge automated pump station. It took a dumping by AGRITEX and the donors before the irrigators could accept the obligations of caring for it.

Outcomes of the model in terms of irrigated agricultural performance

Staying with the Negomo farmers, attending their meetings, observing their actions and travelling with them to markets and on missions to negotiate for the release of water with other users, in short confronting the model at the point of implementation helped me understand the realities of this irrigation management reform process. The Shona saying “Chakafukidza dzimba matenga” (What keeps the dirt inside people’s houses from being seen is the roof), compels one to want to go inside the house to see what is hidden or covered by the roof.

An observation of the struggles faced by irrigators in coping with the technology in place encompassing the flexible, on-demand irrigation, the water source and the prescribed crops showed how these impacted on the pace and direction of the reform model. The flexible, on-demand irrigation water supply system at Negomo resulted in irrigators using varying amounts of water necessitating the need for volumetric water charging to individual irrigators. However the irrigation water meters in place that are only available at block level, made it impossible for volumetric water charging. In the end the implementers of the Negomo irrigation scheme resorted to the easier flat rate per plot charging irrespective of the area actually irrigated. This simplified the individual water use monitoring system. Because each irrigator had his/her own field level irrigation equipment and because they could irrigate as and when they liked without affecting the other irrigators, and because the hosepipe could easily be transported from the market, it was easy to hand over the field level irrigation equipment to the irrigators. This could not be said for the huge automated pump station. It took a dumping by AGRITEX and the donors before the irrigators could accept the obligations of caring for it. The large plots allocated to individual irrigators made it possible for irrigators who could not fully provide for crop inputs to lease out irrigated land to others and still return a sizable plot of their own. The overall result was that the target cropping intensities and levy payments rates intended by the crafters of the irrigation scheme were boosted not necessarily because the initial irrigators were reaping benefits from the irrigation scheme but that the irrigators were spreading out the irrigation operational demands to other irrigators. The leasing out of irrigated land therefore helped to keep the reform model in place.

The crop production process was also affected by the political upheavals in the country. It was also the political upheaval that shut off the export market for the horticulture and citrus crops and thus upsetting the cropping patterns at the irrigation scheme. It was the political instability that resulted in the destruction of commercial agriculture in the country and the creation of shortages of such crops as wheat and citrus. The wheat shortage that resulted in the shortage of bread resulted in sweet potatoes gaining prominence at Negomo irrigation as the demand for sweet potatoes shot up over night as a substitute to bread. The ailing citrus crop was towards the end of the research period recovering not as an export crop but as a local cash crop. The failure by the fast track resettled farmers to maintain commercial citrus production levels resulted in a huge shortage of the crop for the local juice industry. Also as discussed in chapter 4 the political upheavals resulted in an acute shortage of agricultural inputs. At Negomo this resulted in farmers opting for the low input crops like sweet potato at the expense of high value and high input crops like fine beans, baby-corn and peas.



Photo 16: A thriving sweet potato crop
Source: picture Zawe 2004



Photo 17: Sweet potato waste good food for cattle
Source: picture Zawe 2004



Photo 18: The centre pivot at Elmly Park
Source: picture Zawe 2006

7 THE EVOLUTION OF USER MANAGED IRRIGATION SCHEMES AT TWO INVADED FARMS

This chapter describes how two smallholder irrigation schemes (Chifundi and Elmly Park) were established on former commercial farm properties during the “Third Chimurenga”. The two schemes are located in the Makonde district of Mashonaland West Province. The chapter presents a case of political patronage, violent contests, lobbying, intercession and scheming for survival in the context of the Fast Track Resettlement Programme. In chapter two I highlighted how the Third Chimurenga resulted in smallholder irrigation schemes mushrooming overnight. Smallholder farmers and new black commercial farmers inherited some state of the art irrigation technologies from white commercial farmers. Thus suddenly irrigation technologies previously regarded as a preserve for large scale white commercial farmers became available to the smallholder farmers. The white commercial farmers were dependant on private sector companies for the design and construction of their irrigation schemes. In some cases the commercial farmers designed the irrigation schemes on their own to suit their individual labour availability, crops (usually a single crop on a very large area) and farm machinery in use. Therefore the incoming farmers were mesmerised by the irrigation schemes. Even the government irrigation agency staff was humbled by the technologies they encountered in the wake of the Third Chimurenga. These staff members were more at home with the drag hose sprinkler systems that they had developed and prescribed to smallholder irrigators since 1987, than with the centre pivots and high-tech sprinkler outfits they found on the commercial farms.

The restructuring of AGRITEX, discussed in chapter two, further incapacitated the government to advise the incoming farmers on operation and maintenance of the irrigation schemes. The government irrigation agencies were fragmented and kept losing staff members through resignations inspired by a search for greener pastures. Some were also lost due to promotions to head the mushrooming agricultural service departments. As a result the departments were poorly represented at farm level. The situation was further compounded by the absence of a clear irrigation policy in black and white, despite an abundance of policy discourse. This chapter describes the emergence of a new IMR model, labelled the settler-farmer partnership model, that came about not as a result of premeditated donor or government supported reform policies, but as a result of the actions and drivers of local actors on the ground. By closely scrutinising the dynamics espoused by former commercial farmers and new A1 settlers in their joint search for a viable mode of irrigated production at the two invaded farms, the emerging opportunities and weakness are exposed that can help inform the process of consolidating irrigation policy in Zimbabwe.

First a brief description of the setting of the two irrigation schemes is provided (7.1). Next a detailed description of the invasion of Mr. Eden’s (a white commercial farmer) three properties⁹⁸ is given (7.2). In section 7.3 the process of acquiring Mr Eden’s irrigation equipment is discussed, highlighting critical dimensions of the dynamics of the establishment of smallholder irrigation schemes on farm properties acquired during the Third Chimurenga. Section 7.4 gives a brief description of the emergent process of crafting management

⁹⁸ The two irrigation schemes were established after the invasion of Mr Eden’s properties and the subsequent purchase of his irrigation equipment during the Third Chimurenga.

frameworks at the two irrigation schemes. Finally (7.5), some concluding remarks are made on the conditions of possibility for operation of the two irrigation schemes as scripted by the struggles to establish them.

7.1 The Setting of Chifundi and Elmly Park Irrigation Schemes

The Chifundi and Elmly Park irrigation schemes evolved as a result of the one-sided⁹⁹ “battles” of the “Third Chimurenga”. The irrigation schemes are located on two of the farms formerly owned by a commercial farmer, Mr John Eden. His three farms are located in one of Zimbabwe’s prime farming areas: the Lions Den Intensive Conservation Area (ICA) of Makonde district. The Lions Den ICA was renowned for the large scale commercial production of soyabean, wheat, tobacco and maize. Other crops like coffee, citrus, flowers and potatoes were gaining prominence when the “Third Chimurenga” started in 2000. In terms of access roads, the main tarred road from the Lions Den to the old mining town of Mhangura divides Mr Eden’s three farms into two sections (Godonia on the East and Chifundi and Elmly Park on the West). As a result, the two schemes are highly accesible in comparison to other smallholder irrigation schemes in Zimbabwe.

To get to the irrigation schemes from the capital Harare, one has to take the Lomagundi Road. This road is the main outlet from Harare to the Northern Chirundu border post with neighbouring Zambia. The road also leads to some of the finest holiday resorts of the country such as the fascinating Chinhoyi Caves and the mighty Kariba Dam. Along this road one passes through the hills, where the first battle of the Second Chimurenga was fought in 1967 (known as the Chinhoyi battle). In this clash the first seven guerrillas of the Second Chimurenga perished at the hands of the settler army in a protracted 3 day shoot-out. The Mashonaland West Heroes Acre lies in these hills. Five kilometres to the North along a strip of tarred road lay the Head Quarters of Hunyani farm. The farm belonged to one of the most prominent commercial farmers in Mashonaland West province, Mr Vernon Nicole¹⁰⁰. Hunyani Head Quarters became the main base of the “Third Chimurenga” land invaders for Zvimba district.

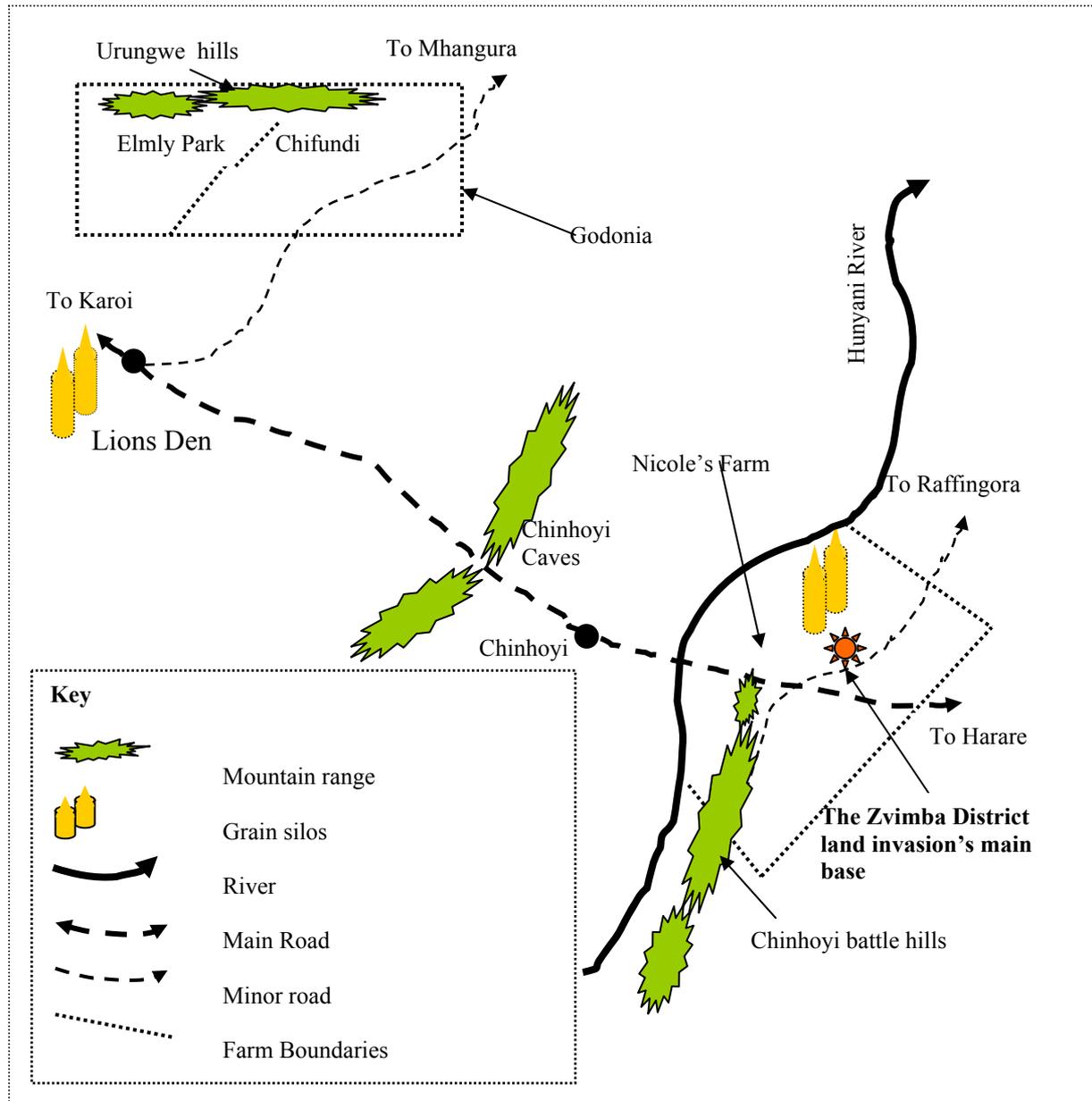
Towering about 300 meters to the West of the land invaders’ base are huge grain silos and a fertiliser factory that Mr. Nicole had just finished constructing in 1999, barely a year before the start of the “Third Chimurenga”. In May 2005 these structures laid disused as the government and Mr Nicole were involved in protracted negotiations on the way forward. From Harare by car, cruising at 115 km per hour, one reaches the Mashonaland West Provincial capital Chinhoyi in an hour’s time. Driving at the same casual speed, in 10

⁹⁹ I say one sided, because the outgoing farmer quickly gave in to the demands of invading ‘warriors’ without fighting back.

¹⁰⁰ Before the onset of the “Third Chimurenga” Mr Nicole irrigated up to 2,500 hectares of land on his two properties, Yomba Pamwechete farm near Raffingora and Hunyani farm near Chinhoyi. Mr Nicole lost both properties and others during the “Third Chimurenga”. According to the Department of Irrigation (DoI) Mashonaland West provincial files, by 2005 all the movable irrigation infrastructure at these farms (pumps, 10*150 hectare centre pivots, 4*80 hectare centre pivots and 680 hectares worth of semi-portable aluminium irrigation equipment) had been removed. The two irrigation schemes were included in the proposed Zimbabwe-Iran Irrigation Development Cooperation programme under the Iran Credit facility support to Zimbabwe.

minutes, one is greeted by huge grain silos announcing ones' arrival at Lions Den. Were it not for these silos, one could easily pass the turn off to the right that leads to Chifundi and Elmly Park irrigation schemes. It is only another 10 minutes drive before one gets to the main entrance gate (Map 7.1).

Map 7.1: Physical location of Chifundi and Elmly Park irrigation scheme



In terms of climate, the two schemes lie in the same climatic zone as the Musarurwa irrigation scheme (see chapter 3). Most field crops can easily be grown without irrigation, yet irrigation is critical for wheat in the winter season and for offsetting the stubborn mid-season droughts during the summer season. It is also necessary to lengthen the wet season if one wants to grow high yielding, but long seasoned, crop varieties of maize. The schemes are located on some of

the best soils in the country, red sandy clay loams.¹⁰¹ Although there is no surface water, the schemes are sitting on top of a high yielding underground water aquifer. Both irrigation schemes are reliant on borehole pumps for their water.

The irrigation schemes were incorporated in the fast track resettlement programme. At the end of the research in May 2005, the fast track resettlement areas were still highly insecure farming areas. Settlers were living under constant threat from politicians, who were keen to either reap some personal benefits from the programme or see the “Third Chimurenga” garnering overnight rewards for the country so they could shame their perceived detractors. Governance in these fast track resettlement areas was as a result still very fluid although the government had solicited traditional leaders to swiftly establish their authority over these areas. However the “Third Chimurenga” war heroes were still to be subdued. The Makonde parliamentary constituency was home to some of the political big wigs of ZANU PF, like the late Aristone Chambati, former minister of finance and member of parliament for the constituency from 1995 to 1997; Dr Nathan Shamhuyarira, secretary of Information and Publicity in the ZANU PF’s Politburo; Dr Ignatius Chombo, the Minister of Local Government and National Housing; the late Dr Swithan Mombeshora, MP for the area between 1997 to 2004 who was Minister of Higher Education at the time of his death in 2004; and Mr Leo Mugabe, the current MP and nephew to the State President. Also the provincial chairman and the secretary of the Zimbabwe National Liberation War Veterans Association (ZNLWVA) originated from this constituency. The constituency had suffered two deaths of sitting MPs thus subjecting the people of Makonde to sustained political campaigns. The irrigation schemes were ‘blessed’ by the availability of an abundance of labour from a pool of unemployed and/or still to be resettled former commercial farm workers.

7.2 The invasion of Mr Eden’s farms

In this section I will discuss the invasion of John Eden’s farms and its ramifications. First the history of the Eden family and the development of the farms is presented. Thereafter the farm invasions are discussed as perceived by the outgoing farmer, an AREX officer, and an A1 settler.

John Eden and the history of his farms

Mr John Eden was one of the highly successful commercial farmers in the Lions Den ICA at the start of the “Third Chimurenga”. In 1930 John Eden’s father left Zambia for South Africa. Mr Eden says his father left Zambia because of “some problems”. His father never told him exactly what those problems were. John Eden was born in South Africa in 1950, twenty years after his father had left Zambia. In 1963 they migrated to Rhodesia, now Zimbabwe. His father bought Sholiver farm near Banket where they settled until 1973. Eden says life at Sholiver was a struggle because the farm had no water. By the time of the invasions, he owned three farms accumulated by the family between 1973 and 2001. In 1973, Mr John Eden’s father purchased the 824 hectare Chifundi farm. At the time of purchase the farm was a simple rain-fed cropping farm producing soyabean and maize grain. He claims that the farm was not in good shape when his father bought it:

¹⁰¹ However on these two irrigation schemes, ‘*the new settlers have to watch sodium*’ said the outgoing commercial farmer, Mr Eden in 2002.

“The farm was pretty run down when my father bought it. Luckily I was coming from the University of Natal in South Africa,¹⁰² otherwise my father would have lost his money. First I advised him to work on the soils. If you look at these soils, Mr Zawe, you will realise that sodium is a problem. We quickly corrected the sodium problem by heavily applying gypsum to the soyabean. Once the sodium problem was corrected we then worked on the rest of the nutrients. We started getting the yields and the bank balance started looking good. The bank manager started to respect my father.”

In 1977 John Eden was appointed farm manager of the Chifundi farm, thus becoming an apprentice farmer. The decision was made because his father had bought the neighbouring Godonia farm. Like Chifundi not much development had been done on that farm. The outgoing farmer's main farming venture was beef cattle. The only meaningful developments on the farm were three paddocks and a dip tank. John Eden's father decided he was going to turn it into a dairy farm. To him, the farm was too small for beef cattle. John Eden explained:

“The idea was that Chifundi farm would grow all the grain required for the Godonia dairy farm. All the maize and some soyabean produced by Chifundi farm would be sold to Godonia farm as stock feed. This worked very well, because Chifundi farm was to sell maize to Godonia farm at a higher price than GMB was offering and Godonia farm was getting its stock feeds at a fairly lower price than from the commercial markets.”

In 1978 John Eden's father secured a loan to drill five boreholes for irrigation development on the two farms. In the same year a private irrigation company, Dore & Pit, was contracted to develop the first 80 hectares of a semi-portable sprinkler irrigation system at Chifundi. In 1979 his father expanded the irrigated area at Chifundi by 50 hectares and also put 40 hectares under irrigation at Godonia farm. Ten of the 50 hectares developed at Chifundi were irrigated using equipment from the Godonia farm. However his father did not enjoy the fruits of the irrigation development thus started. In September 1979 the Lancaster House Conference, in London, resolved to end the 15 years guerrilla war between the settler government of Ian Smith and the African Nationalist movements ZAPU and ZANU PF, paving the way for the independence of the country. John's father decided he was going to quit farming, feeling insecure about the future. Many meetings were held by the commercial farmers of Lions Den and Mhangura on what action to take. Mr Eden says it was in this year that he took over the farms from his father:

“I suggested to my father that he could go to Harare, while I took over the management of the two farms. I was convinced Muzorewa¹⁰³ would win the elections and that we were going to be allowed to continue farming. So my father went to Harare. The election results were however not good. As you know Robert Mugabe won the elections. Mugabe though invited us to stay on, but my father would not be persuaded. So in 1982 and again in 1984 he offered the farms to the government. To his shock and mine too, the government's reply was always that it did not have the intention to purchase the farms.”

So John Eden stayed on, to do what he knew best: to farm at the two properties. He became a very successful soyabean and dairy farmer, crowned soyabean grower of the year four times

¹⁰² John Eden did National Service from January 1970 to December 1971. Thereafter, he spent two years (January 1972 to December 1973) at the University of Natal pursuing a Bachelor of Agricultural Management degree. In 1973, he came back to work at the farms and managed them up until his father's death in 1992.

¹⁰³ Muzorewa was a moderate African Nationalist leader who was then Prime Minister of Zimbabwe Rhodesia. He was widely tipped by many whites and even the British Government to win the 1980 elections.

in a row from 1986 to 1989 and dairy man of the year in 1992.¹⁰⁴ In the same year a dairy field day was held at his Godonia farm and the State President, Comrade Robert Gabriel Mugabe, was the guest of honour. John says the President congratulated him and assured him that he would be allowed to continue to farm, come rain or thunder. Mr Eden's father passed away a happy man later the same year. With the encouragement from the President, who showered him with praises at the field day, and the declarations by the state that it had no intention to buy his farms, Eden decided to buy his neighbour's farm, Elmly Park, in September 1992.

Elmly Park covered 1,141 hectares. Like Godonia, the farm was mainly run as a cattle ranch. John Eden says he hired bulldozers and quickly cleared 200 hectares for cropping. The following year he drilled five boreholes and developed 100 hectares of irrigation: 80 hectares under centre pivot and 20 hectares under a semi portable irrigation system. During the same year he also developed a 40 hectare centre pivot irrigation scheme at Chifundi farm. At the time of the invasion he had made up his mind that he was going to change the semi-portable irrigation system at Chifundi to a centre pivot irrigation system. In the long term he intended to expand the irrigated area on the three farms by another 200 hectares. Underground water surveys had confirmed that there was enough water in the aquifer to do so. With tears in his eyes he told me at the close of the interview:

“Mr Zawe, I am a bitter man. I feel cheated by Robert Mugabe himself. I never borrowed a single cent to develop this farm after I took over the management of the farm from my father. I never invested my money anywhere. I ploughed everything back into this farm. Now I have to go away without compensation. One consolation though is that I am happy I am walking out of Zimbabwe with my life. One day I or my children will be compensated.”

The farm occupation in the eyes of the outgoing farmer

Mr John Eden's farms were invaded in 2000, soon after the parliamentary elections. He recalls the occupation day:

“I was coming from Chinhoyi where I had gone to attend a church service on this 27th day of August 2000. It was around 16:00 hours when I turned into the gate at my farm. At the church the priest had asked us to pray for peace to return to our country. He had asked us to ask God to grant wisdom to the political leaders of our country in our daily prayers. As I approached my mother's house I was greeted by the sound of drums and singing voices. Suddenly I was petrified and I wanted to make a u turn, but my mother asked me not to do so.”¹⁰⁵

Mr Eden drove on and parked his car at his mother's house without any problems. The leader of the drum beating group came forward and told him that he had nothing to fear and that they were only seeking for a peaceful co-existence with him. The group leader suggested that they were doing this only to register to government that they were interested in his farms and that it was up to government to negotiate with him the terms of the co-existence. True to their word, the invaders left his mother's house immediately after the address by their leader. Afterwards John Eden informed Mhangura police, who were very clear and calm in their reply:

¹⁰⁴ The dairy man of the year and the soyabean grower of the year competitions were national farming competitions organised by the Commercial Farmers Union (CFU) refereed by experts from a CFU funded research farm, the ART Farm. Commercial farmers competed in high production levels and efficiency of production.

¹⁰⁵ Mr Eden attended the Roman Catholic Church in Chinhoyi. This is a church that is open to all races in Zimbabwe. The church was then headed by a white priest assisted by a number of African nuns.

“But Mr Eden by now you should be aware that there is not much we can do with these invaders. This is a matter for the politicians.”

Eden informed his friends in and around the Lions Den. Their replies reflected the same worries he had. Most of them had received the same threat. Some of them had been informed through letters handed to them by their domestic workers. The farmers were suspicious:

“Do you think our workers are now recruited to this war, should we trust them?”

In the days that followed as many as twenty invaders had brought their belongings and put up makeshift houses along the roads on the three farms. The actual involvement of government started one month after the invaders had settled in. On the 27th of September 2000, the SAEO responsible for Soil and Water Conservation for Makonde district, Ms Betty Biri¹⁰⁶ arrived with a team of officers to peg out plots on the three farms for the official resettlement of the invaders. Mr Eden showed me the letter from the DAEO for Makonde district that Ms Biri had given him in September 2000. This was a standard letter that was used by AREX pegging teams during the “Third Chimurenga” (see Box 7.1). Mr Eden says that it took the planning team only five days to do their job. He was able to get more information about the occupation of his farms from Ms Betty Biri, who was very frank with him. She told him that he had lost his farms and that he could plead with the governor if he wished but it would not help. She thought the best he could do was to negotiate for the imposition of a maximum farm size.¹⁰⁷ Eden spent a lot of time thinking about it and working on the options. The only viable option that could work for him though proved unacceptable to the governor.

Eden proposed to take all the irrigated land amounting to 480 hectares, surrendering the rest of the arable land to the invaders. This was flatly rejected by the governor, who insisted that Mr Eden should settle for any one of his three farms. Asked why he did not adopt for the governor’s advice, Mr Eden remarked:

“This was not feasible, Mr Zawe, because to me the irrigation systems were one unit that I was not prepared to split. I therefore opted to let the farms go. The pegging team left and I continued with my farming operations as if nothing had happened.”

¹⁰⁶ Large scale commercial farmers depended on AREX for the annual design of their mechanical conservation works. This was the responsibility of the SAEO Soil and Water Conservation at district level, who as a result became the main link between the commercial farmers and AREX. These officers also attended the ICA meetings of the CFU on behalf of AREX. These meetings were held at the flashy country clubs where the farmers discussed all sorts of agricultural issues and even political strategies. The commercial farmers had high respect for these SAEOs who were professional in their job. Betty Biri was a very cheeky character though. She was a benefactor of the Chinhoyi Bus Disaster Fund, that had been created by ZANU PF Mashonaland West Province when 33 farmers from Chitomborwizi Small Scale Commercial Farming Area perished in a bus accident whilst on an agricultural tour of Mashonaland Central Province. Betty Biri’s father died in this accident and she was nominated by ZANU PF for a scholarship to study for a Diploma in Agriculture at Chibero College, paid for by the Disaster fund. So, while she was professional, she was also expected to deliver for ZANU PF. She had also developed a knack of being outspoken, direct and open in her talk. Thus Betty Biri became a politician in her own right. In 1995, she lost the ZANU PF primary elections to represent the party in one of the wards in Chinhoyi. She was also campaign manager for the winning ZANU PF representative Kindness Paradza in the 2004 Makonde by-election. In the run up to the 2005 parliamentary elections, she lost to Leo Mugabe in the ZANU PF primaries.

¹⁰⁷ The State President had always maintained that all people in Zimbabwe irrespective of colour were entitled to a single farm if they so wished. In 1997 the government had gazetted the maximum farm sizes for the different farming regions of the country. In the Lions Den ICA, the maximum farm size was set at 350 hectare net arable.

Box 7.1: The letter ARES staff members used to inform commercial farmers of their intentions

To Mr Eden
Chifundi, Godonia and Elmly Park farms,
Land Resettlement planning under the fast track programme

The above mentioned subject refers. The ARES officers in possession of this letter are on a government assignment to come up with a resettlement plan of your properties. This is not an official notification that your properties have been acquired for resettlement by government. I assure you that the activities of ARES will not affect in any way your farming operations. If the government is going to acquire your farms you will be informed through official procedures by the Minister of Lands Agriculture and Rural Resettlement. These procedures I am sure you are aware of. If the activities of ARES or their presence on your properties is a bother to you in any way, please contact the governor for Mashonaland West Province. To stop them from doing their work is an unacceptable behaviour. Thanks for your co-operation

Jinja
DAEO Makonde

Source: Field notes 2002

The official land acquisition procedures started in April 2001. First the three farms were advertised in the national newspaper, the Herald, as having been gazetted by the Minister of Lands, Agriculture and Rural Resettlement for compulsory acquisition. Three days later, Eden received the official notification letter, popularly referred to as “section five”, from the Chief Lands Officer in Chinhoyi. In July an ARES team of officers, this time assisted by the invaders, started demarcating plots on the three farms for allocation to the new settlers. Eden claims that the acquisition procedures had not yet been concluded: he was still to be served with the actual acquisition order, popularly referred to as “section eight”. Despite this, in September 2001 the invaders were officially resettled on the three farms. There were only twenty invaders living on the three farms, but on the allocation day more than 100 people pitched up to be allocated plots. Eden was surprised. Some interested settlers came in their own cars, but the majority of them were ferried in with government vehicles. He later learnt from the resettled farmers that the latter group came from as far as Gokwe and Kadoma. Most of the settlers had nothing with them, not even food to eat. Eden assisted them with food and offered his farm sheds to the new settlers, while they built their own huts. The new settlers stayed peacefully whilst settling in. Although they quickly started to prepare the lands for the first crop, most had no tillage equipment or draught oxen. As a result less than 10 % of the land was put to crops in the end. Mr Eden was surprised that amongst the new settlers were Ms Biri, a GMB officer responsible for inputs distribution, a personal aid to Vice President Muzenda, a ZBC news reporter and even a manager with the Chinhoyi branch of the Standard Chartered Bank. Yet not even a single of his farm workers were allocated a piece of land.

The farm occupation in the eyes the ARES leader of the pegging team

I had several discussions with Ms Biri over the acquisition of Eden’s and many other farms in Makonde district that had a state of the art irrigation system. Ms Biri confided:

“My brother,¹⁰⁸ you know very well that I am an ardent supporter of ZANU PF, but as you know I say what I want, irrespective of who are there and what they think of what I say. Even

¹⁰⁸ Biri refers to me as her brother, because we share the same totem, *Shoko*. She takes this very seriously and she is therefore prepared to confide with me in many issues.

the big wigs in ZANU PF know that. Yes, the party will gain popularity from the masses, but this is the worst error of judgment ever to be made by my party ZANU PF in its history. It will gain popularity in the short term, but in the long run it is going to lose support as people suffer food shortages.”

She took a swipe at the newly appointed Minister of Agriculture, who she described as not very professional. She said that the minister was not protecting agriculture, but fighting for blind land redistribution. In her opinion the minister should have assisted President Mugabe with agricultural solutions to the land reform programme. In her view, the two land resettlement models, A1¹⁰⁹ and A2, were not practical models that could be easily implemented on the ground. They were too simplistic to be uniformly applied to the existing farm situations. Some farms had irrigation and or tobacco barns in place, while others had green houses. For example on farms with irrigation earmarked for A1 resettlement, settlers on irrigated land still got the same area as settlers without irrigated land. Due to this uniform application of the resettlement model imbalances in agricultural potential were created amongst settlers. On tobacco farms on the other hand, 6 hectare plots would imply that settler farmers split their plots into 4 portions of 1.5 hectare each to implement the four year crop rotation required for tobacco. The recommended rotation in Zimbabwe is tobacco, followed by a maize crop, and two years of grass. This would mean that the resettled farmer would have only 1.5 hectares of maize crop for his/her food requirement and a 1.5 hectare tobacco crop annually. Rather than a standard resettlement model, an on-farm model of settlement was required, where each farm would be handled based on the opportunities it offered. Ms Biri noted it was sad that the “Third Chimurenga” chose to ignore the knowledge and experience that the commercial farmers had acquired and accumulated in their heads, passed on from generation to generation over their more than 100 years of occupying and using the land. As an agronomist she did not subscribe to the idea of sending the white commercial farmers away from the land, as was going to be the case in the “Third Chimurenga”.

With regards to the occupation of Mr Eden’s farms in particular, she said that she had known the man for more than ten years. She characterised Mr Eden as a hard worker who respected others very much, was soft spoken and above all a disabled man.¹¹⁰ Also Mr Eden had twice offered his farms for resettlement to government. The president had been to these farms to see the fine work that Mr Eden was doing. As a result the government should have looked at him positively. She also blamed Mr Eden as having been too arrogant. She says that Mr Eden was blind to the realities of the day. She says she had frankly discussed the matter with Mr Eden. In her view Mr Eden wanted to call the shots, even when he was on the losing side of the war. The best resettlement model for Mr Eden’s farms was a situation where Mr Eden retained one farm, all his farm machinery and movable irrigation equipment. Mr Eden would then provide mentorship (like some kind of a godfather) to the new resettlement farmers through hiring out irrigation and farm mechanisation services at a negotiated fee. According to her this would have ensured undisrupted agricultural production. She explained the reasons for becoming an A1 settler farmer on Mr Eden’s farms, as follows:

¹⁰⁹ In the A1 model settlers were individually allocated 6 hectares of arable land and 12 hectares each of communal grazing. A2 settlers were allocated land based on self contained farm units i.e. both the arable and grazing area was individually owned. The A2 farms were not fixed in size. In practice the farm size reflected not so much the potential of the farm, but rather the status accorded to the new settler.

¹¹⁰ One afternoon after finishing spraying his soyabean crop with a light aircraft, Mr Eden accidentally fell of the plane and broke one of his legs. As a result he was a one legged man.

“I saw these farms developing from very low potential farms to some of the best farms in the district. I would like to use my knowledge and influence to ensure that production remains as high as it was during Mr Eden’s time. I want to invite Mr Eden back here ten years down the line. I want him to be still proud of these farms. Also the government is not going back on land distribution, so if I do not settle myself on a good farm, who do you think is going to find a good farm for me? If I don’t get a farm now I will never get it.”

When Mr Eden left the farms, Ms Biri became the caretaker of Mr Eden’s main house at Chifundi, while late vice president Muzenda’s bodyguard became caretaker of Mr Eden’s mother’s house. In December 2004 I visited Ms Biri in her new found home. The lawns were well cut, but the swimming pool was covered by algae. On entering the living room I was greeted by this ammonia like stench. Ms Biri was quick to explain, “Budi there was a big snake terrorising my chickens in the hen house so I decided I would in the meantime have them here, while I find someone to mend my hen house.” As for Mr Eden’s mother’s house, three rooms were converted to mushroom factories.

The farm occupation in the eyes of one incoming settler

This section describes the path taken by one invader that ultimately led to his resettlement at one of Mr Eden’s farms. His story provides a lot more insight into the nitty-gritties of the “Third Chimurenga” and how it was executed. His name was Mr Mutizira.

Mutizira’s and his pre invader life

Mr Mutizira was born in 1962 in Magatse village of Chief Nhema’s area in Shurugwi in the Midlands province. He attended primary education at Chinorumba Primary School and secondary education at Tovani Secondary School from 1968 to 1976. He did not manage to complete secondary education, because Tovani Secondary School was closed on account of the Second Chimurenga war of liberation. In December 1979 he migrated to Kwekwe, Midlands’ second largest town, looking for employment. His intention was to join Renco Mine, but when he got to Kwekwe the vacancy had already been filled, thanks to the four days he spent in Magatse looking for money for the bus fare. He however later found employment with Roberts Construction as a production clerk where he worked from 1981 to 1987. After his retrenchment he enrolled for a Diploma course in Sales Management and Marketing in 1988. He completed the course in 1991 and got employed by Choice Bargains as a sales representative. In 1992 he left the company for the better paying Kwekwe Town Council, where he worked as a general hand. In 1993 Mr Mutizira migrated to Gokwe to be employed by Eduniburg Wholesalers as a salesman for better pay. In Gokwe he was impressed by the large sums of money that smallholder farmers were getting from cotton sales. He decided to abandon his Magatse village home and settle in Gokwe where he was given a place in a grazing area by the *sabhuku* (kraalhead). He was not so lucky though, because he had settled in land prone to wildlife invasions.¹¹¹ Thus his wishes of getting rich from farming were never fulfilled in Gokwe.

¹¹¹ Gokwe was becoming highly populated so that new settlers were forced to settle in grazing areas, often very close to the national parks and wildlife conservation areas, where they were harassed by marauding wildlife like elephants (for more detailed accounts see Nyambara 2001).

Mutizira becomes a hero of the “Third Chimurenga”

Mr Mutizira by coincidence attended a campaign rally addressed by state President, Mugabe, in 1999 at Gokwe growth point in preparation for the 2000 parliamentary elections. At this rally, the Gokwe District ZANU PF leadership raised three issues with the president, all related to agricultural production in the area:

- Many Gokwe farmers were being harassed by wild animals like elephants. The Department of National Parks and Wild Life were too slow or did not respond at all to requests by farmers to hunt down these animals, with the result that crops were lost;
- The roads in rural Gokwe were in a very bad shape leading to transporters refusing to ferry the farmers’ crops and;
- There were many farmers in need of resettlement in Gokwe, but they were not sure where they could be resettled since there were no nearby commercial farms available for that purpose.

Mr Mutizira claims that the President’s response to the resettlement problem was that:

“Land for resettlement was available in Kadoma district and that if anyone was interested in resettlement all that was needed was to go to Kadoma District.”

Through this rally Mr Mutizira decided to join the ranks of the land invaders planning a crusade to Kadoma. In November 1999, he joined the Gokwe land invasion crusade that crossed the Munyati River into Kadoma district, headed by a war veteran of the Second Chimurenga Cde Felix Dube. In Kadoma, they met with the Kadoma land invasion army headquartered at Chakari and led by a retired policeman called Mr Pembedza. However the teams failed to live together. The Kadoma invaders always referred to the Gokwe people as intruders from Midlands province. As a result, the invaders from Gokwe opened their own base at Georgia farm. Mr Mutizira was elected the secretary of the group. One of his duties was to collect money from the invaders to cover administration costs. Soon the base was inhabited by more than 300 people, both men and women. They stayed at this base till the 17th of June 2000, just a week before the election day of the 2000 parliamentary elections.

“We were asked to leave camp and head to the constituency in which each one of us was registered as voter. I was registered in the Gokwe central constituency so I went back to cast my vote.”

Back in Gokwe communal area, Movement for Democratic Change (MDC) youth who had heard of his position in the land invasion committee were after his skin. MDC youth harassed his wife and children. Mr Mutizira also claims that the situation was very tricky for him. ZANU PF youth leaders in Gokwe did not trust him either. For long he had not been seen in Gokwe and now he was appearing. They suspected that he had in fact joined the MDC so they beat him up, until he was rescued by some war veterans who knew him well. After the elections, they went back to their bases in Kadoma. However the mood from government had changed a bit. The government started going back on its word. Government officials started talking of orderly resettlement, infuriating the land invaders:

“They had won the election and they wanted resettlement to be done in an orderly manner.”

The split between the Gokwe and Kadoma land invaders worsened the situation. Some war veterans from Kadoma district did not want to allocate land to people from Gokwe claiming that there was not enough land in Kadoma to accommodate invaders from the Midlands

province. A land allocation committee was set up that did not include a member of the land invaders from Gokwe. The committee comprising war veterans, war collaborators and some civil servants from Kadoma was set up to conduct the land allocation process to the invaders and other applicants. This Committee arranged for the repatriation of the Gokwe invaders back to their homes in Gokwe:

“But this was not going to be acceptable to the invaders from Gokwe. People had lost time and they had also paid lots of money towards this programme, for example for the pegging of plots.”

In response, the Gokwe invaders sent an emissary to the National Chairman of the War Veterans Association, Cde Hunzvi, to argue their case. Cde Hunzvi told the invaders to stay where they were and not to be moved by anyone. He promised them that he was personally going to confront the State President with the issue at a meeting scheduled for ZNLWVA and the President to map out the land allocation strategy following the conclusion of the elections.

Meanwhile the District Administrator (DA) for Kadoma, chairing the Land Allocation Committee, resolved that the invaders from Gokwe would be resettled in Midlands Province. The DA called for a meeting of all invaders from Gokwe at their base at Georgia farm to finalise the issue. Mr Mutizira says that what surprised the invaders was that the DA was flanked by representatives of all the security organisations of the country: the Army, the Air Force, the Police and the Police Support Unit (black boots).

The DA started by thanking the invaders for being so patient with the slow pace the resettlement process had taken. He then went on to assert the government’s commitment to the orderly resettlement of all the people who needed land. He emphasised that no one was going to be denied the opportunity for resettlement, but the resettlement process had to be orderly carried out. The DA then announced that in light of this orderly resettlement approach, all people who were from Gokwe were to go back to Gokwe as they were going to be allocated land from Midlands province by the Midlands Provincial Land Allocation Committee. This did not go down well with the invaders as this was contrary to the President’s speech at the 1999 rally in Gokwe. Mr Mutizira says that he could not restrain himself:

“I stood up, greeted the invaders and the DA’s team by shouting out the ZANU PF slogan, and told the DA that the people from Gokwe were not going anywhere. Immediately after my few words, the rest of the invaders stood up and started marching towards the DA and his team of security officers.”

Sensing danger, the DA and his entourage quickly boarded their cars and fled to Kadoma town. Mr Mutizira says the invaders were so incensed that they pursued the DA’s team singing the songs of the Second Chimurenga. The invaders marched the 13 kilometres from Georgia to Kadoma town in hot pursuit of the DA and his team of security officers. Some farm invaders from Chakari mistaking the incident at Georgia to mean that the DA was evicting all invaders, even those from Kadoma, also marched to the DA’s offices in Kadoma. However on arrival at the DA’s office, police were ready to confront the invaders. They fired tear gas at them starting a war between the invaders and the police. In a bid to avert casualties, the invaders chose a four-man committee to negotiate a peaceful solution with the DA, but the DA was not in his office. Mr Mutizira recalls that at around 18 00 hrs the police were joined by the police support unit, a more ruthless force. They brought in more tear gas, dogs, and

guns with live ammunition and fired shots at the crowd. The invaders were beaten up with baton sticks and dogs were unleashed onto them, driving them out of Kadoma town. All the invaders slept in the bush that night.

The following morning they regrouped and held a meeting. They resolved that no one was going to return to Gokwe. So they decided to go back to Kadoma. On arrival at Kadoma teargas was fired at them again. Mr Mutizira (who himself was not a war veteran) and the two war veterans went to hide in Mr Peter's bakery. Mr Peter¹¹² even offered them a vehicle to use during the "war". Meanwhile the security forces went to the invaders' base at Georgia farm and burnt down their huts including all of their belongings. When news filtered into Kadoma town that the invaders' base had been burnt down, everyone decided to go back to Georgia. At Georgia farm, they were all rounded up and forced to board police and army vehicles for repatriation back to Gokwe. When the invaders asked for their (burnt) belongings, they were told to claim their goods from Chakari police station. Yet they were instructed not to set foot in the Kadoma district again. The battle for land did not end there though. As secretary of the committee Mr Mutizira took the matter up with the Gokwe Rural District Council on behalf of the invaders. He presented the case to a full council meeting, but nothing transpired. One councillor was in fact abusive:

"Those who can assist in cash or in kind, could you please donate to this young man so that he and his friends can start on a new life here in Gokwe."

All of this happened when the State President was out of the country. On his return he was met at the airport by a huge crowd chanting Second Chimurenga liberation war songs. In his address to the crowd he categorically emphasised that no invader was going to be forced out of the occupied farms. Two days later Mr Mutizira was informed by the DA for Gokwe District, (Mr Marongwe) that all the invaders from Gokwe who had invaded farms in Kadoma were to go back to their bases in Kadoma. So the invaders arranged for transport assisted by the DA, who helped them with two lorries. After buying fuel they were ferried back to Kadoma, where they stayed until January 2001.

In January 2001 a series of meetings were held to decide how the invaders were going to be settled. It was later resolved by the Kadoma District Land Allocation Committee that the invaders were to be resettled in four districts of Mashonaland West province (Makonde, Zvimba, Chegutu, and Kadoma). A committee was created by the Provincial Lands Allocation Committees for Midlands and Mashonaland West to liaise with the four selected districts for a speedy implementation of the resolution. To avoid biases in the allocation of districts, the liaison committee asked each invader to pick a single piece of paper from a raised hat. On each piece of paper was inscribed the name of the District where the invader would be resettled. Mr Mutizira picked Makonde district. He says that those who picked Chegutu and Kadoma districts were allocated their pieces of land right away. However those who picked Makonde and Zvimba experienced some problems:

"After seeing that nothing was being done for us to be allocated our land in Makonde, we phoned the Midlands Governor informing him of the situation in Kadoma. He in turn contacted the DA Gokwe and our member of parliament Comrade Flora Bhuka. This did not yield much and time lapsed before we were given our land, so we planted crops at the farms

¹¹² Mr Peter was a commercial farmer who had lost his farm in the Third Chimurenga. He quickly switched professions to become a baker in the comfort of Kadoma town.

that we had invaded in Kadoma. This didn't go down well with the white commercial farmers who owned the farms. They destroyed our crops and planted their own crops."

However at harvesting time in 2001 the invaders managed to claim compensation from the white farmers. Each invader was offered eighteen 50 kilogram bags of maize. At first, all the invaders refused the maize because they feared that it was poisoned. In the end though they decided to take the maize and sell it to GMB, instead of using it as food for themselves.

The invaders waited in vain for the committee to arrange for land allocation. Mr Mutizira and three others decided to approach the DA for Makonde district. The latter listened to their story but did not take a decision. He informed them that he would do all he could to assist. So they went back to Kadoma. In July 2001, Mr Mutizira and his three young brothers decided to pay the DA for Makonde a second visit. The DA simply told them that he knew of their situation and that he was ready to assist. He asked them to go back to Kadoma to collect the list of names of all the people who were supposed to be allocated land in Makonde. He asked them to come with a covering letter from the DA Kadoma. The news from the Makonde travellers pleased the invaders so much that they decided that they were not going to be represented by the liaison committee anymore. Instead they chose Mr Mutizira to be their new link person between them and the government authorities. But Mr Mutizira was afraid of the liaison committee, so he decided he would not by-pass the committee in any of his decisions.

He went to meet the DA for Kadoma who provided him with the names of the beneficiaries for both Makonde and Zvimba. Upon his return to the DA Makonde he was given a date when the invaders could come for land allocation. Of the 300 invaders who initially registered for land allocation in Makonde and Zvimba, only 275 agreed to travel to Chinhoyi. The other 25 decided Zvimba and Makonde districts were too far away from their relatives in Gokwe and went back home. The Chinhoyi bound invaders then organised their transport to Chinhoyi, where they were asked to stay at Kenami Estate and given food by the Zanu PF Mashonaland West provincial branch. Some white commercial farmers also chipped in with food. In September 2001, the land distribution exercise started:

"The first group was allocated land at Manhengazi farm. I was in this group but I refused to go for two reasons. First since I was the leader of the invaders, it would not be fair for me to be resettled first in case problems arose before everyone was settled. Secondly the Holy Spirit had told me to board the last lorry."

Mr Mutizira is resettled at Chifundi

Mr. Mutizira claims that while he was praying, the Holy Spirit told him to wait for the last lorry, which was going to take him to the land which was reserved for him by God. The last lorry then ferried him to Chifundi. When he arrived at Chifundi there was no doubt in his mind that this piece of land was a blessing from God. They were introduced to John Eden who offered them a farm warehouse to put their belongings:

*"At first we refused to use the warehouse he had offered us because we suspected he wanted to kill us while we were in his warehouse. We only agreed to use the warehouse when Mr Eden agreed to swear to God that he did not intend to do anything sinister to us."*¹¹³

¹¹³ "Takaramba kugara mushadi make tichitya kuti anokwanisa kutirongera akatiurayiramo. Takazomupikisa, akapika pamberi pevanhu kuti hahana chaaizoita kwatiri?"

After they got to know Mr Eden better they asked him to assist them with food as well. Mr. Eden first consulted the CFU office in Chinhoyi for advice. Although the CFU instructed him not to give them any food, Mr. Eden gave them the food anyway. Mr. Mutizira concluded by saying that they lived so well with Mr. Eden and they benefited so much from him in the few months they lived together. When Mr Eden left the farm for the last time it was a very emotional moment. Mutizira could not face him depart so he went to herd his cattle.

7.3 Establishment of Chifundi and Elmly Park irrigation schemes

The two irrigation schemes were established under the Winter Wheat Irrigation Rehabilitation Programme 2002 (WWIRP). The programme was developed following the adoption of the “command agriculture policy” by government in 2001 as discussed in chapter two. This section discusses how the irrigation schemes at Chifundi and Elmly Park were established under this programme. First the WWIRP and its planned implementation framework is discussed. After this the implementation of the programme in 2002 is presented, including the purchase of Mr Eden’s irrigation infrastructure.

The Winter Wheat Irrigation Rehabilitation Programme

This WWIRP was started in 2002 when it became obvious that the “Third Chimurenga” was coming to haunt its perpetrators. President Robert Mugabe was going into one of his toughest presidential elections challenged by Morgan Tsvangirai. The latter’s political party, the MDC, had reduced Mugabe’s ruling party’s parliamentary majority from 118 out of a total of 120 seats to only 62 seats in the 2000 parliamentary election. The MDC condemned the “Third Chimurenga” as a chaotic, poorly implemented programme that was going to result in widespread food shortages in the country. Indeed the country was headed for serious food shortages. The rainy season had been erratic resulting in the summer rain-fed crops being a write off in many areas. Shortages of inputs, like seed, fertiliser and crop chemicals due to the crumbling socio-economic and political image of the country compounded the situation. Lack of tillage equipment for the newly resettled farmers further complicated matters, since poor timing of all farming operations magnified the effects of the erratic rains. The government was so panicky that it started planning for the utilisation of the Triangle and the Chiredzi Low Veld sugarcane estates, to produce winter grain maize by taking advantage of the warmer winters in these areas.

The programme was basically a package programme aimed at assisting all settlers in the A1 and A2 resettlement farms to rehabilitate irrigation systems vandalised during the occupation process. The programme also assisted the settlers with inputs like tillage support, fertilisers, electricity, harvesting, transport and subsidies on irrigation operation and maintenance costs. The settlers would get all these services from a government sponsored credit facility. This was a big departure from the normal government way of doing business, in which the procedures of the State Procurement Board (SPB), formerly Government Tender Board, were followed. The credit facility was implemented through a complicated web of organisations that required a settler to visit several government offices and parastatal organisations before being assisted. Figure 7.1 summarises how settlers were envisaged to benefit from the credit facility web. The implementation process was expected to follow a number of stages.

In most cases the settlers were charged for the quotations made by the contractors. This practice comprised a reverse to what happened when government tender procedures were followed. In the latter case the contractors pay for the cost of the preparation of the tender documents. In the end the settler simply brought one contractor to the farm. Using the quote given by this one contractor, the settler would get two more companies to provide their quotations.

Stage 2

The AREX officials at District level assisted the settlers to complete the three application forms satisfying the conditions of the credit facility. These three application forms comprised the GMB crop inputs form, the ARDA or DDF tillage form and the DoAE irrigation rehabilitation form. On the GMB form, the settler filled in all the required inputs including seed, fertiliser, estimates of water and electricity costs and estimates of irrigation repairs. On the ARDA or DDF form the settler would fill the area to be put under wheat, specify the required tillage services (ploughing, harrowing, planting, fertiliser application, etc) and other farm mechanisation requirements (combine harvesting and chemical spraying). On the DoAE form, the settler would fill in the area to be irrigated, the irrigation equipment already in place, equipment required for the rehabilitation of the irrigation system and the available water. The three quotations from the irrigation companies would then be attached.

Stage 3

The settler would then submit the GMB application form to the nearest GMB depot. In most cases wheat seed was immediately issued to the settler. For the rest of the inputs though the settler was put on a waiting list. Allocation of these inputs would follow later as and when the GMB depot received the inputs from their head office in Harare. Next, the settler would submit the DDF or ARDA form to the DDF or ARDA provincial coordinator's office in Chinhoyi. In most cases the settlers were put on a very long waiting list. DDF and ARDA were short of tractors in Mashonaland West Province. The Provincial Winter Wheat task force had authorised ARDA and DDF to sub-contract the work they were given by some settlers to private contractors, but in most cases no private contractors were willing to provide services at ARDA or DDF rates. In the end only outgoing commercial farmers registered as sub-contractors to DDF and ARDA.

As for the DoAE form, the settler would personally submit it to the DoAE provincial office, where the settler would have a meeting with the Provincial Irrigation Specialist. If the Irrigation Specialist was satisfied that the irrigation rehabilitation requirements quoted for would result in a functioning irrigation scheme, the form was approved and the settler asked to proceed to DoAE head office in Harare. If the Irrigation Specialist found discrepancies on the form, the settler was referred to an Irrigation Engineer or Agricultural Extension Officer for further verification¹¹⁴ of the settler's requirements before the form was approved for

¹¹⁴ In most cases the verification process entailed a revisit to the settler's field by the engineer or the extension officer. During the year 2002 the DoAE spent up to 10% of the amount set aside for irrigation rehabilitation on hiring vehicles for the purpose of verification of settlers' application forms. In the year 2003, the DoAE lost almost all its irrigation engineers to the private sector and ARDA due to unresolved uncertainties as to the future role of the department in irrigation development. A new Department of Irrigation in the Ministry of Water Resources and Rural Development was aggressively asserting itself and luring all the experienced

further processing. This verification process entailed a lot of travelling on the part of Irrigation Engineers and Officers. Also the DoAE was so short of staff that verification became a very slow and stressful process, sometimes leading to scuffles between beneficiaries and engineers.¹¹⁵ At DoAE head office the form was checked for errors and then submitted to ARDA head office for payment. ARDA would scrutinise the application before they paid the 50% down payment. Because of this long process and the inflationary economic conditions ruling the country then, most quotations expired before actual funding was supplied. Although the above cited procedures were in themselves problematic, what happened on the ground was even more enthralling.

The Winter Wheat Irrigation Rehabilitation Programme in practice (2002)

The programme started with no clear implementation guidelines from central government departmental headquarters. Therefore people on the ground had to experiment with operational procedures. It was never clearly stated who would be the beneficiaries, whether A1 or A2 resettlement farmers, small-scale commercial farmers, smallholder irrigators in communal areas and earlier resettlement areas or white commercial farmers. The above outlined implementation framework was never issued to provincial offices in black and white. It was only emphasized at meetings how the programme was supposed to work. In Mashonaland West, the provincial task force for the programme interpreted this to mean that all farmer categories could benefit. However, there was no deliberate effort to explain the programme to all (settler) farmers. Several reasons are cited for this lack of publicity by different actors. For example most DAEOs in AREX blame the confusion brought about by the disintegration of the department of AGRITEX. The DAEO for Makonde summed it up as follows:

“We were not very sure what our role was in irrigation development.”

Others blamed the appointment of the war cabinet and the subsequent adoption of the command agriculture policy that stressed implementation through task forces as a source of confusion. DAEO Zvimba commented:

“You know, we were all waiting for the provincial task force to provide resources for the project. Transport was needed and this was never made available to us. When the national executive visits the Districts, they are travelling in these beautiful cars while we do not have even a motor cycle to do the job. Did they create the task forces for themselves to enjoy the good cars?”

The former Deputy Director of AGRITEX cited a lack of information about the source of funding and procedures of access to the funds. He lamented:

“In the end therefore it was not possible for any government development agency to take the programme to the farmers. Funding only came at the last minute and implementation was rushed to meet the wheat planting deadlines.”

irrigation engineers away from DoAE by offering them promotional posts as provincial Chief Irrigation Engineers.

¹¹⁵ The irrigation rehabilitation programme itself was very stressful and sometimes very harsh on engineers who found themselves in the way of political heavy weights. The irrigation specialist for Mashonaland Central province was a typical casualty. He was forced to resign following altercations with a very senior civil servant.

The funding of the Winter Wheat programme

The programme was launched in 2002 with government funding only, i.e. without any form of donor involvement. Traditional donors in smallholder irrigation development in Zimbabwe, like the FAO, UNDP and EU Micro Projects programme, although remaining in the country after the launch of the “Third Chimurenga”, never participated in the programme. They remained operating, at much smaller scale, in the communal and old resettlement areas. The funding of WWIRP in 2002 in fact shrivelled the “nobility”¹¹⁶ of the DoAE. One direct impact of the WWIRP was that the 2002 Public Sector Investment Programme (PSIP) for irrigation development projects in the Communal and Resettlement areas was suspended.¹¹⁷ The decision did not go down well with the staff members of the DoAE who were expected to explain the situation on the ground. For the DoAE staff members this entailed the cumbersome job of explaining to the affected farmers why their project would not receive funding. The then Chief Irrigation Officer summed it up at a meeting to inform the provincial Irrigation Specialists of the funding of the WWIRP in 2002:

“The farmers are going to label us liars, deceivers and cheats, an image that is going to be very difficult for us to cleanse, but that is the order from the top, so measure up guys.”

The DoAE also lost control over the actual disbursement of the funds to the parastatal ARDA,¹¹⁸ who were given the duty of paying the contractors engaged by the beneficiaries. Thus the DoAE went into this game in silent protest.

Implementation of the Winter Wheat programme

The start of the WWIRP attracted wide attention of both printed and electronic media. However, information on the procedures of how the facility was to be accessed by the farmers was scant. Farmers were simply asked to contact the nearest DoAE and ARDA offices for more information. The DoAE provincial office soon became the main arena for access to the funds. When farmers visited ARDA farms or ARDA and DoAE HQ offices in Harare they were referred to the DoAE provincial offices for further clarifications. Invariably such settler farmers arrived at provincial offices with red stickers, marked urgent, on their application forms. The Irrigation Specialists’ offices were soon swarming with all kinds of people wishing to be assisted. People ranging from civilians (smallholder A1 farmers and A2 farmers that were either rural based or urban based, employed and unemployed) to war veterans, uniformed forces in combat gear, politicians and business tycoons all thronged the Provincial Offices of the DoAE. Some came plainly looking for assistance, but in a number of cases people used their uniform, position, wealth and acquaintances to gain immediate and unquestioned attention. Ministers, MPs and even the State President’s office and name were used to get access to the programme. The funds were quickly exhausted, but applications still poured in. When funds ran out the staff members of the DoAE, AREX and ARDA were

¹¹⁶ Previously all irrigation development funds were channelled through the DoAE. The WWIRP funding was channelled through ARDA, effectively underplaying the status of the DoAE. The status of an agency manifests itself through the amount of money that it controls.

¹¹⁷ The justification given for this suspension was that the government could increase the area put to wheat in 2002 faster, if it embarked on the rehabilitation of A1 and A2 irrigation schemes that had already underground irrigation equipment in place as opposed to embarking on new projects that the PSIP programme was targeting.

¹¹⁸ The decision to use ARDA was taken to ensure that government (tax payers) funds could be loaned to individuals with some legitimacy and also to circumvent the rigorous tender procedures involving a multitude of government departments, thus speeding up the irrigation rehabilitation process.

strictly prohibited from telling the applicants that there were no more funds. In the end instead of applications coming from the district officers of AREX, applications started coming from the top echelons of government, some with red stickers marked “urgent” and signed by very high ranking officials of the different departments and ministries. At the end of the day it was mainly the A2 farmers who benefited from the programme because of their exposure to the media, their proximity to Harare, acquaintance with programme facilitators and private sector irrigation companies, and their mobility and status.

This resulted in a piecemeal approach to the implementation process, instead of a co-ordinated approach at farm level. Individual farmers were assisted with no regard for neighbours located on the same commercial farm. The benefits of having a particular farm’s requirements assessed as a unit¹¹⁹ for the various new settler farmers located on the property were lost. This was to be expected considering the settlement process, in which settlers arrived at the farms in dribs and drabs, and the variation in status of the settlers on a given farm.

Parallel to this programme were many coexisting arrangements between the outgoing commercial farmers and the incoming A1 or A2 farmers that bordered on exploitation and extortion of one kind or another. The new settlers gave the outgoing farmer a piece of land on his former farm in return for irrigation equipment, land preparation and crop care equipment and irrigation and crop management skills in some kind of a share cropping arrangement. In this way the irrigation technology remained in use after the land had been re-appropriated. Junction farm, Hunyani farm, Buwi farm, and Musengi farms are examples of A1 farms where such arrangements were made for the winter wheat crop of 2002. These arrangements were purely on-farm arrangements not at all negotiated or mediated by government and with no supporting legal documents in place. They were purely based on trust and verbal agreement amidst volatile circumstances. Most of these arrangements collapsed as soon as the commercial farmers pulled out of the arrangements describing them as extortionist. In most cases goal posts were shifted towards harvesting time. In most of these arrangements, commercial farmers were to receive payment after marketing of the crop. However at marketing, most new settler farmers did not honour the contracts. In the process some commercial farmers were not paid as per agreement or were not paid altogether for services rendered. Also most of the commercial farmers who had entered into these coexistence arrangements had their farms confiscated from them any way.

The purchase of Mr Eden’s Irrigation Equipment

The purchase of Mr Eden’s irrigation equipment and subsequent establishment of Chifundi and Elmly Park irrigation schemes were executed according to the modalities of the WWIRP. The equipment was bought from Mr Eden in the year 2002. This section briefly describes the events that led to the purchase of the irrigation equipment. The purchase process was kicked-off by the unlikely character of a casual worker employed as a sweeper at the AREX provincial offices where the single room provincial office of the DoAE was then housed. The sweeper appointed herself to the position of crowd controller in the corridor in which the office of the Provincial Irrigation Specialist was located. The sweeper was having problems

¹¹⁹ The benefits comprised shared assessment costs, redesigning of irrigation systems to suit the new farming community and planned use of existing irrigation infrastructure and water resources available.

with the many settler farmers who thronged the offices of the Irrigation Specialist. One morning she suggested to the Irrigation Specialist:

“We are failing to even sweep the offices because of these people coming to apply for irrigation rehabilitation. I will put a bench at the main entrance door for them. We can then stick a notice there telling them to sit on the bench until they are asked into your office. I can then always ask them to come into your office one by one.”

The matter was discussed with the provincial head of AREX who quickly agreed to the idea possibly because she herself was fed up with the noise coming from applicants queuing in the corridors. The bench and notice were quickly placed at the main entrance that morning. The sweeper quickly swept the offices and made sure she was ready for the applicants at the main entrance at the official starting time. There was order in the corridors from that day on. The DoAE quickly engaged another casual worker to replace her as she became fulltime crowd controller. The crowd controller asked the Irrigation Specialist the essentials required for applications to quickly pass through his office so that she could already pre-screen the applicants before they came into the Irrigation Specialist’s office. It was then that she asked the Irrigation Specialist¹²⁰ how she and the A1 settlers at Chifundi, where she was settled, could also benefit from the programme.

She was given an application form for her group to be submitted as quickly as possible since funds were about to be released. Thus the funding process for Chifundi and Elmly Park irrigation schemes was initiated. However when the application form was later submitted to the Irrigation Specialist, the form had only one quotation supplied by the former commercial farm owner, Mr John Eden. Upon arrival in the office the farmers were accompanied by the SAEO Soil and Water Conservation for Makonde, Ms Betty Biri. The Irrigation Specialist insisted on the provision of three quotations as was the procedure. Ms Biri argued that the three quotations were part of an academic exercise, since the irrigation equipment they were purchasing was second hand equipment priced at only 30% of the new price. The application was thus processed and the settlers took the form to Harare. In Harare, the form was rejected on the grounds that the second hand irrigation equipment would be difficult to guarantee, an issue that had eluded the Provincial Irrigation Specialist. To save face the Irrigation Specialist justified the quotation by citing the low price, the absence of transport costs since the equipment was already on the farm, lack of fitting costs, and the fact that the government would in the long run have to pay for the outgoing farmer’s equipment anyway. Moreover if the farmer was paid the settlers could immediately plant the wheat crop. The DoAE head office then passed the application form to ARDA for payment. However, ARDA refused to pay citing that a government authorised evaluator was required to authenticate the prices of second hand equipment. At this juncture, the case was referred to the governor for Mashonaland West Province for his intercession. The governor took it up with the Cabinet Committee on Irrigation and requested for a policy position to be taken. The cabinet committee endorsed that the application was to be paid and asked ARDA to engage a private evaluator to assess the prices offered by Mr Eden and to include all applications that dealt with similar situations.

ARDA engaged Paul Mukondo Pvt Ltd as the property evaluator to verify the prices offered by old irrigation equipment merchants including former commercial farmers like Mr Eden.

¹²⁰ The researcher was the Irrigation Specialist at the time.

The valuator would get 10% of the value of the sale as down payment for its services. The procedure was that a valuator's representative accompanied by the Provincial Irrigation Specialist of the DoAE and the ARDA Provincial Coordinator would visit the merchant or farmer to assess the irrigation equipment. The company representative would negotiate a price with the merchant or farmer in the presence of the Irrigation Specialist and the ARDA provincial Coordinator. Once a price was agreed upon, ARDA would then sign a contract with the seller to allow payment to be made. It was under such payment arrangements that Mr Eden's irrigation equipment was purchased.

When the Chifundi farmers brought their application form for the acquisition of Mr Eden's irrigation equipment, the Irrigation Specialist assumed that the irrigation equipment was at Mr Eden's farm. However it turned out that the equipment had already been removed from the farm to warehouses in Mount Hampden. When the evaluation team arrived at the farm, Mr Eden told them that he could only show them where the equipment was after he had been paid. He had taken this stance because many commercial farmers had lost their irrigation equipment to high-ranking government officials who forced them to give up their equipment without payment. The Irrigation Specialist had to plead with Mr Eden for him to agree to have his irrigation equipment valued. Mr Eden then consulted the warehouse in Mount Hampden. The warehouse manager had no problems with the valuers for as long as Mr Eden had no problems with the deal. There were many more farmers who kept equipment at Mount Hampden warehouses. Mr Eden then asked the team to give him at least a day to consult his friends. He offered to pay for all the transport costs incurred by the team for the second visit.

So the team left the farm empty handed and disappointed because of this mix up. Mr Eden called a meeting of the ten farmers who had their equipment stored at Mount Hampden. The equipment comprised a range of tillage equipment, including tractors, combine harvesters and irrigation pumps and pipes among others. The farmers suggested having a meeting with the Irrigation Specialist first before exposing their irrigation equipment to ARDA and the valuator. The meeting was held and the Irrigation Specialist assured the farmers that their irrigation equipment was not going to be confiscated by the marauding politicians and land invaders or government. After conclusion of that agreement the valuation was carried out. The other nine farmers also came to witness the purchase of Mr Eden's irrigation equipment. The process went on without problems. In the end Mr Eden and the valuator signed their deal. Satisfied with the deal, the other nine farmers went back to their farms to persuade the resettled farmers to apply for the purchase of their irrigation equipment. However they were not so lucky as the purchasing procedures were changed minutes after Mr Eden's deal was concluded. It turned out that the property valuator did not help government in any way. Instead of reducing the prices negotiated by the farmers, the valuator simply endorsed the prices. It was logical for the valuator to maintain the price or to even increase it a bit because it meant more money for the valuator (10% of a higher value).

Because of this greedy behaviour, government immediately terminated the contract since they were now paying more than the original contract and the new farmers (some of them ministers in the Cabinet Committee on Irrigation) were not interested in paying at the rate of the agreed valuation fee. This effectively ended the purchase of second hand equipment from out going commercial farmers. Some people say that the Minister of Lands Agriculture and Rural Resettlement had argued that such purchases were in violation of the Land Acquisition Act

and also creating a ready market for the commercial farmers. If government stopped buying the irrigation equipment from the commercial farmers, the price would go down, thereby reducing costs for those who wanted to buy the equipment using their own money. Mr Eden was paid, but not before several trips to Harare and a meeting with the highest authority at ARDA (the Chief Executive Officer). The cost of the irrigation equipment bought for the two schemes amounted to a total of Zim \$48,000,000 (US \$872,586).¹²¹

Table 7.1: The list of irrigation equipment purchased for Chifundi irrigation scheme

Description	No of Items	Unit Cost (Zim \$)	Unit cost o(US \$)	Total Cost (Zim \$)	Total cost o(US \$)	Total cost b(US \$)
4" * 6m pipes with risers	212	12,000.00	23.08	2,544,000.00	4,892.31	706.67
4" * 6m plain pipes	208	12,000.00	23.08	2,496,000.00	4,800.00	693.33
4" * 9m plain pipes	27	8,000.00	15.38	216,000.00	415.38	60.00
4mm Sprinklers	220	3,500.00	6.73	770,000.00	1,480.77	213.89
4" bends	8	8,000.00	15.38	64,000.00	123.08	17.78
4" end plugs	6	1,000.00	1.92	6,000.00	11.54	1.67
4" taps	7	8,000.00	15.38	56,000.00	107.69	15.56
3" * 6m pipes with risers	25	10,000.00	19.23	250,000.00	480.77	69.44
3" plain pipes	25	10,000.00	19.23	250,000.00	480.77	69.44
3.5 mm sprinklers	25	3,500.00	6.73	87,500.00	168.27	24.31
3* 4" * 9m plain	3	18,000.00	34.62	54,000.00	103.85	15.00
3" bends	1	5,000.00	9.62	5,000.00	9.62	1.39
4" - 3" reducers	1	5,000.00	9.62	5,000.00	9.62	1.39
3" end plug	2	1,000.00	1.92	2,000.00	3.85	0.56
BH pumps & motors	5	1,250,000.00	2,403.85	6,250,000.00	12,019.23	1736.11
125 HP Boosters & motors	1	1,500,000.00	2,884.62	1,500,000.00	2,884.62	416.67
TOTAL				14,555,500.00	27,991.35	4,043.19

o(US\$) refers to the official exchange rate, while b(US\$) refers to the black market exchange rate.

Source: DoAE files (2002a)

For Chifundi the equipment bought was a semi-portable sprinkler system capable of irrigating 90 hectares. While for Elmly Park the equipment comprised a centre pivot capable of irrigating 80 hectares and semi portable irrigation equipment for 20 hectares. Table 7.1 and 7.2 summarise the details of the equipment purchased for Chifundi and Elmly Park irrigation schemes. After payment, Mr Eden assisted the settlers of the three farms with putting the scheme back into operation. It took him two weeks with the assistance of Dore & Pit and his former workers to make the irrigation systems operational again (see chapter 8). On completion the settlers were overwhelmed by what had happened. The Elmly Park settlers were happy but also very afraid of the huge machine the government had bought on their behalf (see Photo 18). However after a demonstration of how the machine worked by Mr

¹²¹ Zim \$14,824,500 (US \$255,595) for Chifundi irrigation scheme, Zim \$22,361,500 (US \$385,543) for Elmly Park and Zim \$11,083,000 (US \$191,086) for Godonia farm.

Eden, the settlers' fears were alleviated a bit. All were fascinated by the encounter. The scheme chairman summed it up as follows:

"This is pure magic. Ichi ndicho chikwambo chaichozve, ndechipi chitukwani chingadarike ichochi. Mr Eden says we can even afford to go to the grinding mill or even to a beer party while the Pivot is irrigating. We don't have to come back and stop it because the machine can switch itself off."

The Chifundi farmers were equally taken aback. Operating the five BH 400 borehole pumps and the 125 Horse Power booster pump was a frightful image to the newly resettled farmers. Even the DoAE irrigation engineers developed a serious stage fright. To most the centre pivot and even the BH 400 borehole pumps provided a first life encounter with large scale irrigation. Luckily the launch was attended by members of the Provincial Irrigation Task Force who quickly appreciated that there was a need to give Mr Eden time to make the farmers aware of the intricacies of running the scheme. Mr Eden found an opportunity of ensuring that some of his faithfully serving workers were rewarded. In his discussions with the settlers and staff members of ARES and DoAE, he emphasised the need for the settlers to elicit the services of his farm manager (now the project manager of Chifundi irrigation scheme), the electrician, the pump minders, and the security foreman. He emphasised that these people's roles were of utmost importance in the smooth management of the scheme. They had an average working experience of 22 years at the farm and he was confident no problem would be insurmountable to them.

Table 7.2: The list of irrigation equipment purchased for Elmly Park irrigation scheme

Description	No of Items	Unit Cost (Zim \$)	Unit Cost o(US \$)	Total Cost (Zim \$)	Total cost o(US \$)	Total cost b(US \$)
4" Pipes with risers	60	12,000.00	23.08	720,000.00	1,384.62	200.00
4" Plain pipes	69	12,000.00	23.08	828,000.00	1,592.31	230.00
4mm Sprinklers	60	3,500.00	6.73	210,000.00	403.85	58.33
4" Bends	3	8,000.00	15.38	24,000.00	46.15	6.67
4" End plugs	3	1,000.00	1.92	3,000.00	5.77	0.83
4" Valve hydrant taps	3	8,000.00	15.38	24,000.00	46.15	6.67
BH 400 pumps & motors	5	1,250,000.00	2,403.85	6,250,000.00	12,019.23	1736.11
125 HP Booster & motor	1	702,500.00	1,350.96	702,500.00	1,350.96	195.14
80 hectare centre pivot 1		13,600,000.00	26,153.85	13,600,000.00	26,153.85	3777.78
TOTAL				22,361,500.00	43,002.88	6,211.53

Source: DoAE files (2002b).

The Chifundi settlers decided to take the former farm workers on as fully-fledged members of the irrigation scheme on condition that they were to continue performing their duties as before, but that they would not be paid for the duties. Their payment would be in the form of a piece of land in the resettlement scheme and the irrigation scheme. They would also be excused from other duties that the rest of the settlers would be expected to perform. The

former farm workers agreed since they were now being allocated some land that they previously did not have. This put paid to the hostilities that existed between the newly resettled farmers and the former commercial farm workers at Mr Eden's properties making it one of the most enviably integrated and exemplary "Third Chimurenga" resettlement farms.¹²²

7.4 Evolution of user management organisations

The organisational forms at the two irrigation schemes were a response to a number of issues. The process of crafting workable management arrangements and user organisations was emergent and contingent on a number of critical factors. The irrigation infrastructure that the settlers faced and the sheer size of the irrigation plot each settler would get, forced the users to adopt organisational arrangements that deviated sharply from those normally adopted in smallholder irrigation schemes in the country. Coupled with that the fear to fail to deliver also had a bearing on the evolving user organisations at these irrigation schemes. The reward for failure according to the political discourse then was eviction and replacement by capable A2 settlers. The personal dreams of the AREX Soil and Water Conservation Officer (fuelled by the views of the outgoing commercial farmer) also had a bearing on the evolution of the organisational setup at these irrigation schemes. Immediately after the purchase of Mr Eden's irrigation equipment and following discussions with Mr Eden, it became obvious that a well thought out and robust organisational structure was required to maintain high production levels to ensure high returns. The latter were essential to take care of the operation and maintenance demands of the irrigation system. Mr Eden commented:

"I was able to keep these numerous pumps running because I was achieving high yields. And to achieve high yields you need three things done precisely: have the right type and amounts for the crop, be on time, have the right decision-makers. If you are going to have your farmers growing whatever they want to grow as individuals like they are doing now, forget it. Look, there is bonongwe (weeds) there, there is cotton there, there is maize there, and there are groundnuts there, pumpkins. If this is how you intend to use this irrigation infrastructure, thank God if this equipment is going to last two years."

These three critical conditions provided serious homework for AREX and DoAE staff members. By sheer accident two outgoing and one remaining white commercial farmers were available at the time to offer agricultural and irrigation services to the settlers. The development of the user organisations involved a series of formal and informal meetings between the irrigation development agencies and the settlers. This section narrates the events and processes leading to the shaping of the user organisations and the irrigation management arrangements, scheme by scheme.

The Concept of Production Assurance Blocks at A1 farms is muted

According to Ms Biri, at the start of the project in 2002, the settlers and even AREX staff members were not sure what organisational forms the irrigation schemes would take. AREX

¹²² When a team of SADC parliamentarians visited the country to assess the effects of the Fast Track Resettlement Programme, the government of Zimbabwe took the team to this farm. The team was very impressed with the resettlement process praising it as taking care of all people needing land inclusive of former farm workers irrespective of country of origin, since even aliens of Malawian origin were resettled at Chifundi. However, the common practice on most invaded farms was to expel the former farm workers particularly when they were originating from outside Zimbabwe (see Rutherford 2001, Hammar *et al.* 2003).

staff were used to the organisational modes prevalent in communal irrigation schemes where each irrigator was allocated his/her own plot and in-field equipment. Thus whilst the pumping station was communal to all, forcing all to irrigate when the pump is running, each individual irrigator was doing his own thing on his/her plot. It was clear that this would not work here:

“Some of us also had vivid memories of the co-operatives of the early 1980s. We were convinced it was not the way to go. And yet, with the irrigation infrastructure in place there was no way each farmer could be allocated his own plot and irrigation equipment. This called for a redesigning of the irrigation system, a process that would take long and that would also render the pipes acquired from Mr Eden useless. So the system had to be operated as a single unit.” (Ms Biri 2003)

After careful consideration, Ms Biri decided to pursue a new concept for irrigating A1 farms: the concept of production assurance blocks based on irrigation. According to Ms Biri this was the only way production levels set by outgoing commercial farmers could be maintained. She wanted to demonstrate it using the Chifundi and Elmly Park farms. According to the new concept, settlers on an A1 farm would surrender part of their rain fed, arable land to a centrally run irrigated block of land. The size of land surrendered by each settler would vary depending on the available irrigation potential on each farm. The irrigated block would be run on a fully commercial basis with hired labour and cash or borrowed capital. After deducting all the running costs of the irrigated block, settlers would share the net profits equally. In this way at least all settlers were given an equal opportunity to benefit from the irrigation scheme. The proceeds earned and experiences gained would be ploughed back into the rain fed cropping area by the individual settlers. For more insights into the concept see Zawe and Biri (2004).

However she needed to convince the settlers that this was the way to go. She started by co-opting AREX staff members into her dream through casual and informal discussions at tea and lunch breaks. Soon the AREX provincial agronomist, Soil and Water Conservation Specialist, the Makonde District agronomist and other Agricultural Extension Officers subscribed to the concept. The DAEO did not buy into the idea, but fortunately for Ms Biri, he was pre-occupied with the demands of the Fast Track Resettlement Programme: he remained far away from the irrigation schemes. To co-opt the Provincial Irrigation Specialist, AREX Makonde district staff members organised a meeting, where Ms Biri explained her concept. The Irrigation Specialist was then asked to clarify the irrigation policy position on plot sizes at smallholder irrigation schemes. Ms Biri was of the opinion that it was policy that in communal area irrigation schemes, plot sizes ranged from 0.1 to 1.5 hectares. The Chifundi and Elmly Park schemes by far surpassed the 1.5 ha upper limit with an average holding of 3 hectares for Chifundi settlers and 4 hectares for Elmly Park settlers. Ms Biri wanted to use this plot size limit as a weapon to coax the settlers into accepting her concept. The logic was that she would simply tell the settlers that if they insisted on individual ownership of plots like in communal area irrigation schemes, the settlers were exposing themselves. If the authorities noticed that each settler had more than 1.5 hectares of an irrigated plot, then more settlers would be brought onto the scheme to ensure that each settler had 1.5 hectares only.

The Provincial Irrigation Specialist countered this argument by stating that there was no clear document in place that suggested these plot size limits. Irrigation policy in Zimbabwe was still fluid. It was not in black and white. It was in the air, only understood and therefore at the whims of the man on the ground, i.e. themselves. So plot sizes were no issue. The Irrigation

Specialist also highlighted that maximum irrigated plot sizes of 1.5 hectares were a Mashonaland West creation to deal with the irrigation schemes in the Musengezi Resettlement area where farmers were finding it difficult to concentrate on a 0.5 hectare irrigated plot at the expense of 4.5 hectares of rain fed cropping. AGRITEX Mashonaland West Province had decided to experiment with 1.5 hectare plots per irrigator for fulltime irrigation with no rain fed cropping. It was therefore not correct to say that 1.5 hectare plots were a policy limit. The Irrigation Specialist further explained that at Gowe smallholder irrigation scheme in Sanyati each farmer was allocated a 4 hectare plot. To Ms Biri this was not good news. She had found the plot size issue a useful tool to coax the settlers into accepting her production assurance block concept. She however used the plot size issue in her meetings with settlers. For pushing the idea of communal ownership of land, Ms Biri says she was hated by the settlers, especially those at Elmly Park.

Chifundi user organisation and management framework

The organisational development started with the problem of land preparation. After the launching of the irrigation scheme, the settlers were expected to plant wheat within two weeks since the wheat planting period was coming to a close. However not yet all the settlers had gotten access to irrigated plots. With only two weeks to go, the best option was to use tractors. The settlers approached the District Development Fund (DDF) for tractors, but DDF had none available. The government had enlisted the services of willing commercial farmers to assist with tillage equipment. Because DDF did not have enough tractors, the government asked DDF to subcontract the work to these commercial farmers. The idea was that the commercial farmers would sign a contract with DDF. In the contract, the commercial farmer would be obliged to provide tillage services to a resettled farmer, and DDF would pay the commercial farmer immediately after finishing the tillage work. DDF would then recover its money from GMB after the marketing of the crop. It is under such a contract that the land preparation for the first wheat crop at Chifundi was carried out. The land preparation was done by Mr Jubert and his brother in law Mr Botha in their capacity as sub-contractors to DDF. Mr Jubert and Mr Botha were among the few former commercial farmers who had somehow managed to hang on to their farm implements, despite losing their land under the fast track resettlement programme. These farmers had found a new lease of farming life, albeit in a different way. They were now offering all sorts of farming services to the “new farmers”. A brief account of Mr Jubert is given to provide the reader with an insight into the man.

Mr Jubert: a bare feet son, white son of the soil

Does it matter where we are born? Or put in another way, is the birthplace of an individual the decider of one's destiny? Mr Jubert, a former white commercial farmer in Zimbabwe, seems to suggest it does. His white commercial farmer colleagues knew him by the name Mr. “Bare-feet”, apparently because he enjoys walking with no shoes be it at home or at public gatherings. To the unfamiliar, hearing the name “Bare-feet” or meeting the man for the first time may easily lead to the deceptive perception of dealing with one of the not so well-to-do white commercial farmers, at least I was. He claims he was born in very humble circumstances:

“You won't believe it, in Mhondoro TTL at the back of a scotch cart and I am very proud of that, because that makes me a unique individual. There are not very many people of my colour who can boast of such a unique background. I am a man born of humble circumstances and that has taught me that humility is a rare virtue in the human race. But is it not true that Jesus Himself taught us to be humble in the “sermon on the mountain” if we

want to see God. Is it not better to humble oneself than to be humbled by death for who can be as humble as the dead?"

Mr Jubert was dispossessed of his commercial farm during the violent, uncoordinated "Third Chimurenga". In his loss, he decided to play it "cool":

"I asked myself a simple question: Is it land that I want or a living from the land? Do I have to own land, or is it that all I want is to do what I know best, to farm and make money from farming and feed the people of this earth? Mr Zawe the answer that always bounced into my mind was that what I need was to farm and get a living from the only thing that I know best: farming. If owning a piece of land meant parting with my humble life then owning the land was not what I wanted. What best thing to do than to follow your own conscience. Didn't Martin Luther say that not to follow one's conscience was unholy and unsafe? The decision was thus made. So the next thing I did was to pay a visit to the local MP Mr Mombeshora's office in Harare. I told him that I did not want to own any land anymore but that I wanted to assist in making the land reform a success. I told him that all I needed was to have my tillage equipment back and to be allowed to stay in my house at the farm. That done I was willing to use my tillage equipment to assist the newly resettled farmers reap some benefit from the resettlement programme. I was like this¹²³, Mr Zawe, when I visited the MP. I think I shook his nerves. He asked me whether I had been brutalised by the invaders or not. I told him I was not, but I believed in Zimbabwe and that there would be a future for the white commercial farmers even after they had been dispossessed by the "Third Chimurenga". I took advantage of his perplexed mood and knocked some sense into him. If he did not agree with my idea I told him the resettled farmers and the whole land reform programme in his constituency were doomed to fail. He swallowed my hook and he brought me back to the farm and asked the invaders to coexist with me. And here I am a much bigger farmer than when I owned my 750 hectare farm."

Such is the logic of a man they call Mr Bare feet. Mr Jubert claimed he was only picking on a legacy started by his father, a commercial farmer in Beatrice, half a century ago, in 1953. The reason for him being born at the back of a scotch cart in the heart of a TTL was because his mother and father were running an agricultural extension programme to assist communal farmers with the growing of hybrid maize varieties and to cross breed communal cattle with their high milk yielding, red pole bulls. His father had started this programme, because the Africans from neighbouring Mhondoro were coming to steal his cattle and maize. Instead of using the police to confront his neighbours, he chose to seek friendship with Chief Mashayamombe. He proposed to assist the communal farmers with fertiliser, hybrid seed and bull calves at cheap prices, if they stopped stealing from his farm. After agreeing with the Chief the thefts stopped altogether. When next Mr Jubert's father decided to grow tobacco, he never had any problems with labour during harvesting. The Chief made sure that young, strong men were sent to the farm to assist.

Even during the Second Chimurenga, his father's farm was never disturbed by the ZANLA forces. They lived so well Mr Jubert only sold the farm to come to Lions Den in 1987, after the death of his father. He sold the farm, because he did not like the grey sandy soils and the tobacco that comes with the soil:

"Sandy soils do not make you dirty enough and the smarter you are the poorer you are at least in spirit. Also tobacco is one crop I hate. I could not say no to my father so I stayed on."

¹²³ By like this he was referring to his bare feet, fading green shirt and a very short, fading kaki short that made him look miserable.

So when the opportunity arose, at the death of my father, I sold the farm and bought the red soils farm in Lions Den.”

When the invaders came to his farm, he decided to give in:

“You know I am a good gambler. A good gambler thrives on knowing when to quit or accept defeat. It is arrogance, fed by all kinds of greed that creates heroism. And it is heroes that die early in battle. I don’t want to be a hero of any war not even of the Third Chimurenga. So I quit. My father told me that it is greed that leads to arrogance and that blinds even the sharp minded. And it is this greed (especially greed for success in one’s ambitions) and arrogance that builds nations, unfortunately through lost opportunities that heroes fail to notice and stop the war.”

Jubert claimed the heroes of the Third Chimurenga were so blinded by greed and arrogance that they failed to notice the opportunities unwinding, because of the land invasions.¹²⁴ Mr Jubert says that the Third Chimurenga turned the commercial farmers into landless people just like the invaders had been. He claims that it was clear that government was not in control at the time. It could not ignore the calls of the invaders, for to do so would have meant eminent removal from power. The government was very clear that it treated the land invasions as a political problem that could not be solved by legal means. As a matter of fact there was no constitution to talk about, the Lancaster House Constitution was disputed, and the draft constitution was rejected. Time for dialogue was now ripe but it was never fully exploited.

“None of our leaders, CFU or the ZANU PF leadership, were able to note these unwinding opportunities that you and I at the ground quickly noticed. So I call the “Third Chimurenga” a war of lost opportunities by the greedy.”

This was the man who took up the DDF tillage contract for the Chifundi settlers. His huge tractors bellowed day and night for six days on the 90 hectare irrigated piece of land at Chifundi, performing ploughing, disking, applying fertiliser and planting, thus beating the wheat planting deadline by 8 days. The huge tractors knew no individual settler boundaries. So the settlers were forced to share the costs and the proceeds of the first wheat crop, coaxing them into organizing themselves as a cooperative. However, Mr Jubert and Mr Botha were never paid by DDF for the services they rendered to the settlers. Still, they did not abandon the settlers. The settlers had made some money out of the wheat crop. They paid the contractors themselves and vowed never to deal with DDF again. Thus Mr Jubert and Mr Botha became the tillage contractors for the Chifundi farmers.

The land ownership pattern

Only 27 settlers out of 34 had land that fell under the irrigable command area at Chifundi. However, when the irrigation equipment was procured, government officials, especially Ms Biri¹²⁵, had insisted the irrigation equipment was for all settlers at Chifundi, irrespective of

¹²⁴ Mr Jubert claims that before the Third Chimurenga the commercial farmers had no incentive to negotiate. They had everything going for them. They were protected by law, connections, property rights, the Lancaster House constitution and the economic power. They were also basking in the reconciliation promises by Comrade Mugabe. However with the Third Chimurenga, all this was upset. So farmer leaders should have taken the donor conference of 1998 more seriously and negotiated with government earnestly.

¹²⁵ Ms Biri claims that she wanted the farms to be operated as a block to capitalise on advantages of scale. She also wanted to use large farm machinery to ensure timely operations, gaining higher returns in the end. However it still boggles the mind how much incentive she got from the fact that her plot at Chifundi lay in a place that could not be irrigated. Ms Biri’s plot was located on a piece of land that was formerly irrigated by a

where their piece of land was. Some of the settlers with land under the irrigation scheme had planted cotton and it was still being harvested. Others had not planted anything and the weeds were so high that cattle could not be used for land preparation purposes. To plant wheat on schedule the settlers with cotton had to destroy their crop to pave the way for the wheat. They were however compensated for this loss by the other settlers.

Asked about the evolution of the settlers' organisational framework, Mr Mutizira commented:

“At the time we had no knowledge of how to run the irrigation scheme. For most of us it was our first time to practice irrigated farming. Following Mr Eden's advice we decided to allocate land to some of Mr Eden's farm workers before we started irrigating. This is how Mr Razau, the production manager, Mr Chigwada, the former security foreman, Mr Ayibeki, the electrician, and Mr Mwanza, the pump minder, who was now working in Mhangura were resettled here at Chifundi.”

The settlers decided to take shifts for the guarding of the irrigation equipment. They were split into 5 groups that rotated on daily bases. At the end of the first wheat crop, the settlers decided to employ four guards and eight general workers to work in the field (changing pipes). The settlers did this, since it had proven impossible to combine work in the irrigation scheme with the cultivation of their 3 hectares of rain fed crops. Thus the settlers made a decision to run the irrigation block as a commercial entity, employing its own workers and generating income for the members who had joined the irrigation scheme.

In the main, the user organisation evolved into a co-operative society, due to the combined effects of the irrigation infrastructure in place, the land ownership pattern and mechanisation demands. The irrigation infrastructure required specialist knowledge to be operated. However, the resulting farmer co-operative society differed from the co-operatives of the early 1980s, in which the members provided for all labour requirements. The production manager, Mr Razau, observed:

“We found it difficult to divide the irrigated area into equal plots for individual cropping with the irrigation system in place. So we reorganised our land ownership pattern. We relinquished half our arable land to the irrigated plot for communal ownership, remaining with the other half as individually owned for rain-fed cropping. We organised ourselves into a co-operative society. Now we irrigate a single crop per season strictly on commercial lines with communally hired labour and borrowed or cash bought inputs. After deducting all production costs, irrigation operation and maintenance costs, we then share the profits.”

Elmly Park user organisation and irrigation management framework

The organisational set up evolving at Elmly Park was informed by the irrigation technology in place just like in the Chifundi case. The centre pivot irrigation system at Elmly Park was an automated machine that minimised operational demands. The centre pivot was equipped with an automated irrigation management system (AIMS) panel. With this panel, the pivot can be started, stopped, reversed and speeds changed by a single operator unlike the irrigation system at Chifundi. Once mastered, any operator can easily run the pivot. The functions on the panel

40 hectare centre pivot. This centre pivot was not part of the irrigation equipment bought for the Chifundi farmers. Mr Eden had already sold the centre pivot to an undisclosed customer. In 2004 the settlers at Chifundi were frantically asking for a loan from government to buy a 40 hectare centre pivot to equip this remaining land.

are clearly explained in the operation manual supplied at purchase. Without the manual, the functions on the panel are Greek. This manual also clearly specifies those faults that the farmer can attend to and those that the farmer has to refer to the manufacturer's agents in the country. Because the centre pivot irrigates a circle the settlers at Elmly Park found it difficult to divide the irrigated command into 22 equally sized plots of a shape that would be convenient for conventional tillage machinery. Thus the settlers would be confronted with irrigated pies. Growing more than one crop simultaneously under the pivot was also nigh impossible.

Government staff of the irrigation department could not proficiently advise the users on the functioning of the pivot and the boreholes. The politics of the day did not spare the settlers either. According to the scheme chairman, they were confronted with an ominous slogan:

"You have to produce just like the former white Commercial Farmer used to do, or the land shall be repossessed and reallocated to A2 users."

In fact, the settlers were living with this constant threat uttered by either extension officers, politicians or war veterans in Makonde District. The national economic environment in the country posed another problem, in the form of shortages of inputs, fuel, cash, hyper inflation and delays in payment by GMB for crops delivered for sale. With the above in mind, the settlers soon devised means of coping with the demands posed by the centre pivot, the socio-economic and the political environment. They surrendered around four hectares of their six-hectare plots each for communal ownership, to grow a single crop at a time in the irrigation scheme. They adopted a commercial attitude to crop production based on communally borrowed inputs and hired labour. The farmers joined hands with their former adversary in the "Third Chimurenga", a white commercial farmer who was the proud owner of a 100 % centre pivot irrigated, 220 hectare farm, Mr Bosman. They contracted him to operate and maintain their irrigation system and to provide for tillage, harvesting and transport services. In return, the white commercial farmer gained a negotiated percentage of the crop produce and a political good image.

Mr Bosman and his deal with Kangai

Mr Bosman is a white commercial farmer who became an agricultural service provider to the resettled farmers at Elmly Park and other farms that were invaded under the Fast Track Resettlement Programme. His views on the "Third Chimurenga" were that:

"The land reform programme should have started early in the 1980s soon after the 1979 Lancaster House conference. This was after the declaration of the reconciliation between Blacks and Whites by the then Prime Minister. But opportunities were lost. There was some money then but I must say we, the Whites, had an attitude problem. We never really were proactive on this issue. If we had been proactive, by 1990 most of the resettlement would have been done under the 'willing buyer, willing seller' arrangement. The government too was to blame. The government was also offered farms by some farmers and they refused to buy the farms. The 1998 donor conference resolutions were also never implemented. If they had been implemented that time, the white commercial farmers could have acknowledged the Land Reform Programme. Now, with the way the Land Reform was done, no one is happy. Not even the resettled are happy. They have no tractors, no inputs and they do not even own the land. They live under a constant eviction threat from government. They have to perform or be evicted."

He claims the problem started soon after Independence when the Prime Minister appointed Mr Dennis Norman as the Agriculture Minister. According to Bosman, that was a ploy to keep the whites in the country:

“In hindsight, I say that Norman was not an open man. He was used by the government to guarantee that we, white farmers, would stay and develop this country. At first, there was fear among the white farmers, i.e. fear of being evicted. But with Norman there, as Minister of Agriculture, the white farmers started to invest on these farms. So this is why, when in the year 2000, when the land invasion started, white farmers were bitter with the government. It became clear that the President was not genuinely preaching reconciliation between the blacks and whites. This betrayal has instilled fear in all white farmers but the government or the country is going to pay for it. In my generation or my son’s generation, no whites are going to invest in agriculture in this country. So the government shall put billions of dollars towards the revival of agriculture industry in this country.”

Bosman’s father migrated from Zambia to Zimbabwe in 1958 and bought Chipata farm. In 1980, his father bought another farm, Norman farm, and Bosman started working for his father from that time. In 1985 Bosman bought the farm from his father. In order to buy the farm, his father acted as guarantor for his son to get a loan from the bank to purchase the farm. Bosman converted about 1,100 hectares of rain-fed land into a sprinkler irrigated command. To augment the water supply, he built a dam on the farm in 1996. A year later his farm was invaded by war veterans. When the invaders came, he conceived it as an opportunity to surrender his land to the government in exchange for a cordial relationship with the ruling party:

“I struck a deal with Minister Kangai. I would give up the invaded farm to government. The government would allow me to buy another farm and guarantee that I would not be disturbed on that farm by anybody in future. Minister Kangai agreed and my farm became the first farm to be gazetted for resettlement on 14th November 1997. The deal was concluded in 1999 and I was compensated in Zimbabwean dollars. I then bought Dundrenan farm in Lions Den, where I am today. It is much smaller but is fully irrigated.”

Mr Bosman becomes service provider and mentor to the Elmly Park settlers

After the invasion of his farm in 1997, he bought a much smaller farm, but held on to his farm equipment. Next he decided to start helping the new farmers by offering them tillage facilities. The settlers had no money, so he initially offered his services on *chikwereti* (credit). Mr Chikomba, leader of the land invaders in Makonde district, was one of the settlers on Mr Bosman’s former farm (Norman). He originates from Manicaland and only came to Norman farm after the start of the Third Chimurenga. He says of his experience with the new farmers,

“After I had played my part, the farmers failed to repay the credit for about two years. So I slowly cut down to those who were paying.”

He says in April 2002 Mr Jubert was subcontracted by DDF to offer the tillage, planting and harvesting services to the new farmers at Chifundi and Elmly Park. It was Mr Jubert who next asked him (Bosman) to assist him on his contract at Elmly Park to reduce the workload and to ensure that they would meet the wheat planting date deadline. So that is how he started working with Elmly Park irrigation scheme. However DDF did not pay Mr Jubert so in turn he was not paid by Mr Jubert. However, he was fascinated by the young farmers at Elmly and their zeal for success, so during the growing period of the first wheat crop he paid regular visits to their crop giving them advice. The following season, the Elmly Park settlers asked him to assist them with tillage facilities. This time he decided he would have a water tight

contract arrangement that would ensure that he was paid at the end of the day. Mr Bosman and the settlers agreed on a payments system that involved a percentage of crop harvested:

“We calculated the percentage that each input contributed to the cost of production of the crop. So the percentage contribution for tillage, planting, fertiliser, seed, weeding etc was calculated. The irrigation scheme farmers decided they could supply inputs like seed and fertilisers. However they could not secure the inputs from GMB. So we agreed that, for the use of their land the farmers would get 10% and, I get 90% because I had supplied everything.”

Mr Bosman says that the biggest advantage of their kind of a contract is that if the crop fails the service provider loses as well but if it succeeds the service provider prospers. Therefore it is in the interest of the service provider to make sure that the crop succeeds. He has to have the crop at heart to make sure that he achieves the highest yields always. Mr Bosman boasts that his mode of service provision is the only real successful programme in the province.

“I believe this is the only success programme in this province. Some contractors just come and plough then go, then come back again to harvest the crop without looking after it. That is no good. It’s reaping off others.” (Mr Bosman 2004)

More details on these management and evolving input contracts follow in the next chapter

7.5 Conclusion: the birth of a new IMR model in the garden of Eden

This chapter presented the establishment of two irrigation schemes under the fast track resettlement programme, financed by government through the WWIRP. In this concluding section the emergence of a new policy model and associated irrigation schemes is discussed. I start by discussing the identified main drivers inspiring the A1 settlers and white farmer partnership policy model. This is followed by a presentation of the main actors involved the construction of the scheme as well as the negotiations and adaptations that occurred during the construction process. After this the type of crafted technology is presented and the involvement of the users in the design and construction of the model is discussed.

The main drivers of the model

The Winter Wheat Irrigation Rehabilitation Programme that was used to establish the irrigation schemes was not an isolated programme. It was part and parcel of the government instituted Fast Track Resettlement programme which itself was part and parcel of the much bigger and chaotic Third Chimurenga land invasions that started sometime in 1997. The Third Chimurenga took on its own momentum, first as opposition from war vets to the government and later as part of a political survival strategy by the ruling ZANU (PF) party. Although the Third Chimurenga was regarded by the ruling ZANU (PF) as a completion of the unfinished business of the Second Chimurenga, it differed from the Second Chimurenga in the sense that it was not planned or orderly executed as part of an ordinary government policy or even (war) strategy: it was emergent, *ad hoc*, subject to fluxes in the political landscape, and responsive to events on the ground rather than subjected to planning from the top. This is clearly demonstrated by the trajectory that was followed by one invader, Mr. Mutizira, as representative of a group of land invaders from Gokwe.

A look at the history of the country as narrated in chapters 1 and 2 shows that the Third Chimurenga unfolding in the year 2000 and the execution of the land redress programme and the bureaucratic reforms that followed were not anticipated by any who knew the Zimbabwean modalities of governance. With political survival secured (after the 2000 and 2002 elections) the government tried to get back to business as usual and regain control over the driving seat. To do this, in 2002, it consolidated land invasions, started in earnest in 1999 as a spontaneous process by war veterans of the Second Chimurenga and the landless masses, into the Fast Track Resettlement programme. In the same year it launched the Winter Wheat Irrigation Rehabilitation Programme. Simultaneously a process of bureaucratic reform was gaining prominence, i.e. the dismantlement of AGRITEX, formation of AREX, DoAE and DoI, and upgrading and expansion of DDF and ARDA.

However the execution of these policies was negatively affected by the economic melt-down and collapse of the country's agro-industrial service sector, which were brought about by the Third Chimurenga. The two programmes aimed at giving land to the landless people and ensuring that the land was fully and efficiently utilized by intensifying agricultural production through irrigation. This was expected to be carried out through government agencies like AREX, DoAE, DoI, DDF and ARDA. However these agencies were not prepared in terms of manpower, financial or material resources to spearhead the programmes. Most of the agencies were still finding their footing and were reeling with staff shortages lost to the Diaspora, as the brain drain from the country gained momentum. As a result the intended services could not be offered by the state organizations, leaving farmers and actors on the ground to improvise. In the end former commercial farmers, victims of the Third Chimurenga, joined forces with the invaders to implement the programmes in many types of coexistence arrangements and sharecropping practices. The white commercial farmers wielded their farming experience, connections and networks, while the invaders wielded their newly acquired land and political power. This scenario shaped a new policy process, that was very different from the governance procedures and processes pertaining in Zimbabwe before the Third Chimurenga. It was born out of practical and political necessities of the actors on the ground rather than a result of concerted governmental planning, hence the talk of an emergent model of IMR.

In sum, the main drivers of this emergent policy model were:

- a government that was unable to deliver the promised services, due to the combined effects of economic melt-down, collapse of the agro-industry, bureaucratic chaos, and lack of resources to buy the necessary infrastructure and machinery for A1 settlers;
- some tenacious former commercial farmers that held on to their farm equipment and were eager to carve out a new, sustained role in the changed political and agrarian landscape;
- government departments and personnel on the ground that were perplexed by the new technology they found on the invaded farms, but who were at the same time interested in reviving their former productivity. Combined with the bureaucratic chaos of the day, this helped to open space for the re-entry of experienced former commercial farmers in the foray;
- and finally, a group of landless and destitute communal farmers and war veterans from Gokwe, who pursued an electoral promise of land by the State President with vigour.

The main actors in the implementation of the irrigation scheme

Whilst the Third Chimurenga indisputably produced a new political order, this new order was not cast in concrete but rather characterized by fluidity. Different actors desperately struggled to mobilise their social networks and relations, leveraging their way through and getting their needs attended to. The war veterans mobilised their national association, their MPs and the provincial governors to get settled, a complete departure from the norm where civil servants held fort. Even when the invaders thought they had it going, after assisting ZANU PF to win the elections, they still had to battle it out for them to be resettled. They had to resort to harassing the DA for them to achieve what they wanted, although in the process they were being settled in a district a lot further away from their original Gokwe homes.

Commercial farmers like Eden who thought he was safe, certainly after twice offering farms to government and after Mugabe's fiat on the acquisition of the third farm, still were slapped in the face when his farms were invaded. Strangely though with the slap in his face, he decided to act in a cooperative fashion offering the invaders food, equipment and services. Contrary to public allegations by the State President that commercial farmers were really British citizens, who never wanted to share their lives and lot with black Zimbabweans, the commercial farmers involved in Chifundi and Elmly Park considered themselves first and foremost Zimbabweans. Forfeiting their land, did not make them leave the country. Rather these former landlords looked for ways beyond ownership of the land, in the process carving out a living in Zimbabwe's reconstituted agro-political setting. Mr Eden even managed to negotiate for the inclusion of his former farm workers and their families in the A1 resettlement scheme. Thus critical experience and knowledge of the farm properties and its irrigation infrastructure were preserved for the multitude of inexperienced new settler farmers. This crucial intervention on the part of the former commercial farmer goes a long way in explaining the subsequent success of the Chifundi and Elmly Park A1 resettlement irrigation schemes in contrast to the majority of A1 and A2 resettlement farms, whose former owners and farm workers had been chased away. The sustained presence of white service providers and ex-farm workers even allowed Chifundi and Elmly Park to become show cases for the ZANU-PF government, eager to sustain its claim of successful land reforms for the outside world.

On the other hand, the government staff involved in the programme were confused by rag-tag solutions, political pressures, and threats from armed soldiers and political big wigs looking for land and irrigation equipment. The result was a spree of resignations and migrations into the Diaspora. Driven by the need to derive benefits from their land invasion efforts, the land invaders found themselves joining hands with their adversaries the former white commercial farmers and their farm workers, when the traditional government agencies failed to provide them with irrigation infrastructure operation and maintenance. The invaders and the former commercial farmers decided to accept the outcome of the Third Chimurenga and decided to share their spoils and work together. They however defied political pressure from their MPs, some government department personnel and even traditional leaders. The invaders decided to stick to leadership and organisational frameworks that ensured that the newly acquired land produced tangible benefits to them.

The type of technology and organisational framework crafted

One observation that strongly emerges from this chapter is the extent to which the institutional framework (both user organisation and management arrangements) is structured by the technology at hand. The emergent model of organisation and management is decisively shaped by a number of concurrent processes, some of which are outlined above under the heading the main actors in the implementation of the irrigation scheme. First there is the ready availability of former commercial farmers and farm workers who are knowledgeable and prepared to assist in the operation and maintenance of the irrigation equipment. For the three commercial farmers presented in this chapter their 'after invasion livelihood' is constituted around their new role as service providers. This not only provides them with a desperately needed source of income, but is also used to gain political capital in order to sustain or enable a future as a large scale commercial farmer.

Second there is the structuring role of the high-tech irrigation technology. A centre pivot, most certainly when it irrigates a circular shaped command area and is fully automated, almost dictates some of the institutional and operational modalities. In particular it 'demands' one central operator, it is indivisible (i.e. can not be split into individual plots) and it calls for a high input-high output use on account of its operating expenses. The fact that the smallholder irrigation management models readily available on the government agencies' shelf did not cater for any of the above pre-conditions necessitated the crafting of a new model of farmer organisation and management of smallholder irrigation. For Chifundi farm the Cooperative Association model evolved because the settlers found it more beneficial for them to work as a single group since it was difficult for them to split the irrigation system they inherited from the outgoing commercial farmer into individual units. The organisational framework also included a production unit headed by the former commercial farmer's farm manager to ensure the land remained productive. At Elmly Park, the organisational framework revolved around the Irrigation Management Committee. It however included the post of irrigation scheme manager created at the request of Mr. Bosman who wanted to ensure that he dealt with a single person during his mentorship period at Elmly Park farm. The settlers at both schemes were forced into partnership with the former commercial farmers because the traditional free government advisers were not fully conversant with the irrigation technology confronting them.



Photo 19: One of the borehole pumps at Chifundi
Source: picture Zawe 2006

8 THE OPERATIONAL REALITIES AT CHIFUNDI AND ELMLY PARK IRRIGATION SCHEMES

“It seems important to focus upon intervention practices as they evolve and are shaped by struggles between the various participants, rather than simply on intervention models, by which we mean the ideal-typical constructions that planners, implementers or clients may have about the process. Focusing upon intervention practices allows one to take into account the emergent forms of interaction, procedures, practical strategies, types of discourse, cultural ways in which individuals and their households organize themselves individually and collectively in the face of planned intervention by government or other bodies.” (Long and van der Ploeg 1989, 227)

From chapter seven, the establishment of Chifundi and Elmly Park irrigation schemes was seen to have lumped together people of varying backgrounds for them to start a new life based on among other livelihood endeavors irrigated agriculture. How these people have struggled with irrigated agriculture is the subject of this chapter. Exploring the users’ survival paths curved through the struggles helps to script useful policy content for informing a national level irrigation policy statement. This is achieved by discussing: Technology and organizational dynamics at the two schemes (8.1); the recruitment of former commercial farmers, “expert farm workers”, the president’s office and agro processing companies by Chifundi irrigation scheme (8.2); the recruitment of a former commercial farmer as “god father” to Elmly Park irrigation scheme (8.3); and finally some conclusions are drawn (8.4).

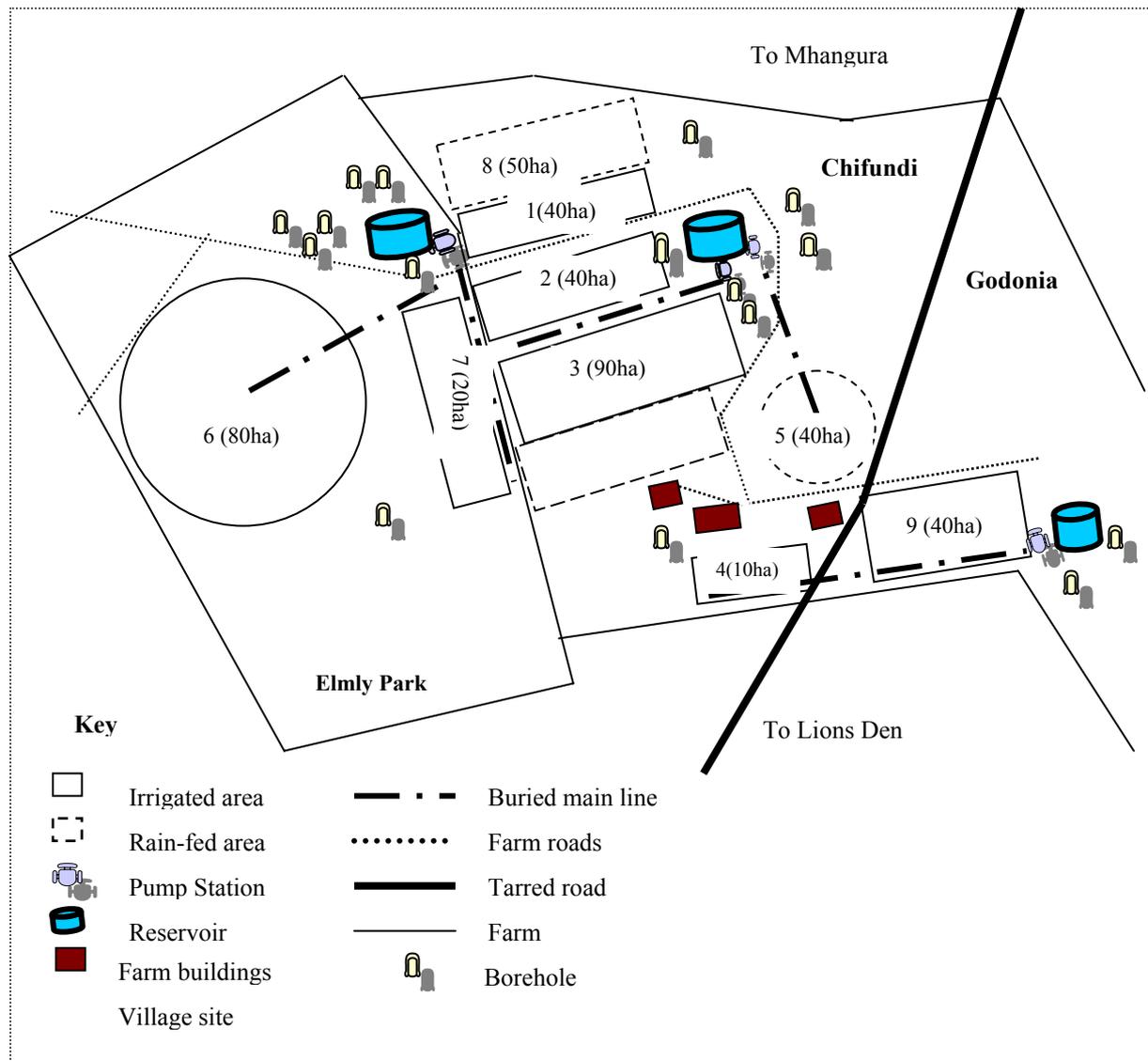
8.1 Technology and organisational dynamics (Chifundi & Elmly Park)

The differences in technology at Chifundi and Elmly Park irrigation schemes produced different organizational dynamics. Although the two irrigation schemes are separated by a thin fence line (see Map 8.1), the organizational frameworks at the two irrigation schemes differed dramatically. At Chifundi, the need for a central operational framework resulted in a farmer cooperative, but without the necessity to provide communal labour (since the model B’s had failed). Rather a cooperative committee was formed that acted as an executive on top of the hired management unit. The hired unit comprised skilled operators (former work force and commercial farmers with their equipment) that could tackle the operational and maintenance requirements of the system. Moreover, irrigated land became communally registered as one piece of land. At the same time, and possibly based on previous experience in smallholder irrigation schemes, individual rain-fed plots were allocated to members in order to cater for subsistence needs.

At Elmly Park though, the centre pivot which was self propelling, required only the engagement of a single operator. However with the settlers not very confident of operating the centre pivot on their own, even with advice from government agencies, they decided to solicit the services of a commercial farmer whose 400 hectare-farm is 100% irrigated by centre pivots. Thus the availability of former commercial farmers and their former farm workers willing to craft a new survival strategy based on farming (their best known occupation) and the failure by the government irrigation and extension departments to offer advice and

services to the settlers on their day-to-day struggles with the irrigation technologies in place and irrigated crop production in general facilitated the evolution of organizational frameworks for the two irrigation schemes. The socio-politico-economic environment pertaining in the country then further complicated the settlers' struggles and with it their strategies and survival mechanisms. Below, the two irrigation schemes are discussed separately, starting with Chifundi irrigation scheme.

Map 8.1: The Chifundi and Elmly Park irrigation scheme map



Source: Field notes.

The technological complexity of the Chifundi irrigation scheme

The irrigation equipment bought for Chifundi irrigation scheme is capable of irrigating 110 hectares using a semi-portable sprinkler irrigation system pressurised by a 125 Horse Power (HP) booster centrifugal pump. If the 40 hectares centre pivot, removed by Mr. Eden during the farm invasions is reinstalled, the irrigated area can be increased to 150 hectares. For this to happen though a 75 HP electric motor driven centrifugal booster pump should be installed and with it an upgrade of the transformer capacity from the present 200 KVA to 275 KVA. The

irrigation system is entirely dependent on five boreholes for the supply of irrigation water. According to Mr. Eden each borehole is about 60 meters deep and has a total yield of 18,000 gallons per hour (90m³ per hour). Each borehole is equipped with a 35 HP, electric motor driven, BH 400 mono pump, discharging about 60 m³ of water per hour (about 66 % of the yield of the borehole). According to Mr. Eden if the discharge was maintained, the boreholes would faithfully serve the farmers. Trying to extract more than 66 % of the yield of the borehole would lead to draw-down problems. Therefore the 5 boreholes were capable of developing a total system capacity of 300 m³ per hour. However Mr. Eden designed the irrigation scheme to operate with only four boreholes per given time thus reducing the demand for water to 240 m³ per hour. Operating four boreholes per given time ensured that there was at any one time one borehole not in use to allow for maintenance of the boreholes without interruption of the irrigation cycles. Effectively therefore the 5 boreholes could irrigate 130 hectares of land at any one season at full irrigation. The irrigated blocks on the farm however amount to 220 hectares of land. Mr. Eden said that he practiced supplementary irrigation in summer and fulltime irrigation in winter. Of this area, 210 hectares could be irrigated from the boreholes on Chifundi farm and the remaining 10 hectares could be irrigated from Godonia farm.

In winter, Mr. Eden alternately grew 140 ha or 130 ha of wheat from one year to another at Chifundi depending on the combination of blocks he put under wheat during a particular year.¹²⁶ But this required strict timing of planting dates for soyabean on blocks 1 and 2 vis-à-vis block 3 in summer. He says this compromised the quality and yield of the soyabean crop in poor rainfall years on these blocks. Nonetheless his yields were always higher than those who did not have irrigation. He always got better yields from block 5 that was irrigated by centre pivot. He also claimed to use less water and electricity per hectare on the centre pivot irrigated block than on the semi-portable irrigated blocks. For this reason he intended to replace all semi-portable systems with centre pivot irrigation on all his three farms.

The technological complexity of the Elmly Park irrigation scheme

The irrigation equipment bought for Elmly Park irrigation scheme was capable of irrigating 100 hectares (80 hectares centre pivot and 20 hectares semi-portable sprinkler irrigation systems), pressurised by a 125 HP booster centrifugal pump. Although the presently developed network of boreholes can command 150 hectares, there is no more available arable land for an extra 50 hectares close to the boreholes unless some negotiations can be made with the Chifundi farmers for some kind of expropriation of land between them. Mr Eden said that he was going to irrigate 50 hectares of some of the present day Chifundi rain-fed arable land (block 8 in Map 8.1) from the Elmly Park boreholes. Chifundi farmers can give up part of their arable land for grazing land from Elmly Park. Like in Chifundi the irrigation system is entirely dependent on five boreholes for the supply of irrigation water. According to Mr. Eden the boreholes have the same characteristics as the Chifundi boreholes. The boreholes were as a matter of fact equipped with similar pump sets. The irrigation system complexities at Elmly Park though differed a lot from Chifundi irrigation system.

¹²⁶ Blocks 1 and 2 combined with blocks 4 and 5 that were always planted to winter wheat resulted in 130 hectares of wheat while a combination of blocks 3, 4 and 5 resulted in 140 hectares of wheat. In summer all the blocks were put to soyabean. The planting dates for blocks 1 and 2 were staggered from block 3 to ensure that the same irrigation equipment used to irrigate blocks 1 and 2 was used to irrigate block 3 with the block where winter wheat was scheduled to be planted ahead of the other.

The 80 hectare centre pivot could not be moved from one position to another. The result was that the irrigated area could not be expanded during the rainy season to take maximum advantage of natural rain as was the case with Chifundi. Therefore the area that was irrigated in summer was exactly the same as the area that was irrigated in winter. However the centre pivot, being self propelling, greatly reduced the labour requirements for operation. During Eden's time, the centre pivot was fully automated, equipped with an Automated Irrigation Management System (AIMS) advance panel that allowed for precise, computerized control of irrigation and fertigation, by programming the centre pivot functions (start, stop, forward, reverse, wet, dry, depth application percentage) to automatically match varying crop, soil and terrain conditions (Snoozy 1998). However this panel was changed to an AIMS basic where the above mentioned functions are manually set in the field by a trained operator. Even with this basic panel, the centre pivot was still very fascinating. Because of these differing technologies, the organisational forms that evolved at the two irrigation schemes were very different.

Chifundi farm cropping sophistication

Mr. Eden defined a number of aspects that he deemed essential for successful cropping with the irrigation system at Chifundi and Elmly Park farms. According to him, the settlers needed to observe four important aspects, they needed to: have a well orchestrated irrigated farming system that ensured efficient utilisation of both rainfall and irrigation water; have a well-designed programme of upgrading the nutrient content (fertility) of the soils that was based on strict monitoring of soil nutrients on a field by field basis; use of minimum tillage practices to ensure that the soil was not disturbed unnecessarily and practice good farm management. He said that it was important to ensure sustainable irrigation by: practicing daily stock taking of the irrigation equipment; keeping records of operation and maintenance activities to ensure adherence to routine maintenance so as to keep the system in a capacity to apply the exact required water; putting in place good security to ensure that the irrigation system was not vandalised; employing a good manager who was able to ensure that the irrigation activities were carried out according to plan.

Eden's asserted essentials for successful cropping were summed up by Mr. Hasbrouck, a former commercial farmer, who teamed up with Mr. Detoit, another former commercial farmer, to form a new Agricultural consultant company Open Heaven, as:

"The Omnia Fertiliser Company's precision farming. With precision farming is meant, that all crop production operations are carried out with precision, defined in three pillars; on time, with the correct inputs and applied correctly. If any one of the three failed, then one could not hope to succeed in farming. In this case the farmer no longer applies fertiliser and other inputs on the field blindly. Guesswork or delays of any sort are eliminated. For precision to occur farming enters the use of Global Positioning Systems (GPS) yield monitors, grid based soil sampling, innovative computer software and variable rate application technologies. Application of fertilisers is done by what are called Multiple Variable Rate Application Vehicles (MVRV) that are able to simultaneously apply three different liquid fertiliser products at varying rates computed from the grid based soil sampling. With precision farming irrigation scheduling and application becomes very important to ensure correct moisture availability and no leaching of the liquid nutrients in use. Precision farming equipment is very expensive. This is why Mr. Eden and most of us took out all our tractors and combine harvester for storage in Harare at the start of the land invasions."

Eden said that it had to be precision farming because of the sodium problem at the farm. He said that precision farming was beginning to pay dividends for him since he was now able to achieve very high yields of both soyabean and wheat. On average, his wheat yield was 7.5 tonnes per hectare compared to a Mashonaland West yield of 5.56 tonnes per hectare and a national yield of 5.46 tonnes per hectare (CSO 1996, 1, 11). His soyabean average yield was 4.5 tonnes per hectare compared to Miss Lisa Nislev of Boroma Estates Glendale's national record of 5.01 tonnes per hectare, a national average of 2.01 tonnes per hectare and Mashonaland West average of 2.04 tonnes per hectare (CSO 1996, 3, 13; Latham 2001).

Elmly Park cropping sophistication

The new settlers at Elmly Park like those at Chifundi adopted Eden's cropping programme of soyabean rotated with wheat. The only difference was that the Elmly Park settlers inherited a worse sodium problem than the settlers at Chifundi. According to Mr. Eden, Emily Park soils still needed more attention because they were still under a reclamation programme to eliminate the sodium problem. So it was with the sodium problem preoccupying the settlers' minds that irrigation started at Elmly Park in 2002. Also at Elmly Park the area irrigated in summer was the same as that irrigated in winter because of the fixed state nature of the irrigation system.

Organs of scheme governance and management at Chifundi

The actual governance and management of Chifundi irrigation was subject to a dynamic process shaped by the pressing needs of the new settlers at any given time. Initially, the governance and management functions at the scheme were articulated via four distinct organizations. These were: the Village Settlement Committee (VSC); the Irrigation Cooperative Association Committee (CICAC); the Production Unit (PU); and the General Assembly of Irrigators (GAoI). The VSC was a compulsory organization formed at all fast track resettlement schemes and was instituted by the District Administrator as Chairperson of the District Land Allocation Committee (DLAC). The other three organizations were formed by the new settlers with advice from AREX. Also interlocked in the process were an array of other not so visible organizations: the different churches, the institution of the local chief Makonde, the School Development Association (SDA), Makonde Rural Development Council (MaRDC), and the DLAC that also wield some form of power at the irrigation scheme. How these organizations have evolved and were transformed as well as their functions is the subject of this section.

The Village Settlement Committee

This is a committee of five people elected by the ruling ZANU PF political party, the invaders group, the group of ordinary land seekers from communal areas and urban centers and the war veterans association. Each one of the groups chose their own representative at the time of settlement. The five representatives then elected their own chairman, secretary and treasurer to constitute the VSC. The function of the VSC was to preside over village development issues and solve land and other disputes at the resettlement scheme. During the establishment of the irrigation schemes in 2002, the committee was responsible for negotiating the land reallocation process to allow for the establishment of the irrigation scheme. The task was made easier for the VSC because its chairman (Mr. Richard Manhindi), who was a well respected leader of the land invaders from Gokwe, was also the acting chairman of the

CICAC. Mr. Manhindi was respected by the settlers because he was a very cool headed man. Most invaders from Gokwe said that although he was never in the forefront during the struggles for land in Kadoma, it was what he said after meetings with government officials to cool down tempers in the camp that was important. Also in the final stages of the resettlement process, he and Mr. Mutizira became the main representatives of the invaders from Gokwe who discussed the modalities of their settlement with the Makonde DLAC. He was also a very good farmer who had some cattle and ox drawn farm equipment that he shared as much as possible with the rest of the invaders. At the start of the irrigation scheme, he was the first to volunteer to destroy his own cotton crop to make way for the irrigated wheat crop. Not only was Mr. Richard Manhindi respected by the settlers, he was also respected by the Makonde DA and his DLAC. Asked in 2003 to comment why it was so easy to give up their land to the irrigation scheme, Mr. Muzorori replied:

“If government officers were in the forefront of the land re-organization process, I can tell you that no farmer would have agreed to reorganize our land in that manner. But because Mr. Richard Manhindi told us that we were not surrendering our land to government, we trusted him. In fact at first when the AREX officers started talking about the establishment of an irrigation scheme on this farm, the farmers were preparing for battle. For at first the farmers did not understand the AREX officers well. They thought that ARDA was going to take over the land and the farmers would work for ARDA. As a result they asked the VSC to negotiate with government on our behalf. However a few refused but they are slowly joining the scheme now.”

The functions of the VSC though were slowly being challenged by the local chief Makonde whose powers were stretched into the resettlement areas during the parliamentary election campaigns of the year 2005. In May 2005 when this study was terminated, the chief was going to appoint his own village head (*Sabhuku*) to preside over all matters relating to traditional ceremonies not only at Chifundi resettlement farm but at all the neighboring resettlement farms as well. Asked what effect the appointment of the *Sabhuku* would have on the management of the irrigation scheme, Mr. Elias Chifamba, the late Vice President Muzenda's body guard, said that they had seen the coming of the Chief to resettlement areas even before the election campaigns of 2005. He cited an incident that occurred in April 2004, in which the Chifundi irrigation scheme chairperson's ten-year old son was swallowed by a python. The intentions of Chief Makonde were made clear. In Shona custom and tradition the swallowing of a person by a python was a very rare occasion that only occurred when the ancestral spirits were greatly grieved by the people.

Apparently the chairperson's son was among five others who were herding cattle in the Urungwe hills in the Northern corner of the irrigation scheme, who tampered with old clay pots they found in there. It is believed that these pots, whose owner was not known, belonged to ancestral spirits. The settlers killed the big snake and removed the dead body of the child from the stomach of the python. Before burial, they reported the case to chief Makonde. The chief came and performed the necessary traditional rituals before the child was buried. After burial, the chief started suggesting that if they wanted to peacefully live at Chifundi, then the Chairperson of the VSC had to be a settler of the totem Mateere of the Makonde Chieftaincy. This was hotly refused by all settlers. According to Mr Chifamba though, the appointment of the *Sabhuku* would change nothing. He said that the settlers were going to ask the *Sabhuku* to stick to his traditional ceremonies. As far as he was concerned, the CICAC was recognized by

government and its functions had nothing to do with traditional ceremonies. The VSC was also established by government and was well recognized by the DA who constituted it.

Cooperative Association Committee (CICAC)

The CICAC was like the board of governors of the Irrigation Cooperative Association. It was made up seven members all elected into office by the GAoI to lead them. The CICAC was composed of the chairman, his/her deputy, the secretary, his/her deputy, the production manager, the overseer and the treasurer. CICAC was mandated to draft a constitution or amendments to it for the purpose of guiding the day-to-day functioning of the irrigation scheme for discussion and adoption by GAoI. Once adopted, the constitution was given back to the CICAC to use in the day-to-day running of the irrigation scheme. However for important decisions like evicting irrigators from the scheme, the CICAC had to call a general meeting of all members in order to endorse a final decision. The CICAC started off in 2002 with an almost standard constitution based on an AREX guide. The AREX guide was an adaptation of the guide prescribed in the 1983 DERUDE Policy Paper for Smallholder Irrigation discussed in chapter 2. In 2003, the constitution was transformed into a specific document for the Chifundi irrigation scheme by the CICAC with the help of friends and relatives in the legal fraternity. Mr. Muzorori's brother, a lawyer based in Harare, assisted a lot in the final drafting of the constitution. The settlers realized that the committee was handling huge sums of money never imagined by the DERUDE document. The CICAC was not only collecting irrigation levies from the settlers. It was involved with marketing all the produce for all irrigators and was also responsible for sourcing inputs for the growing of the crop on behalf of the irrigators. Mr. Mutizira said that the DERUDE constitution was not able to deal with this kind of situation. He said that they were contemplating an official registration of the Cooperative Association with the department of Cooperatives to make it a legal organization that could protect their land rights from unscrupulous politicians.

The Membership of the CICAC was dominated by settlers from Gokwe, except for the production manager, who was a former commercial farm worker, and the treasurer who was from Makonde. Asked why this was so, the treasurer (the 62 year old Amosi Mapuranga) said that most of the Makonde settlers were employed in Chinhoyi and Harare and that they only came at weekends if at all. According to him it was not possible or wise to confer leadership on such people. He also claimed that the people from Gokwe were full time on the farm and committed farmers if only because they came from very far away and had no hope of going back to their Gokwe homes. He said that they were also young and educated giving them an advantage over their counterparts.

"The Gokwe people, you have to understand, have been together in the bush since 1999. They have built a friendship that is difficult to break. They know each other very well and they are also very committed to succeeding in their agricultural ventures. However I would like to conclude by saying your line of questioning is dangerous. It is very divisive. We at Chifundi no longer talk of Gokwe or Makonde. We are just Chifundi farmers."

The production unit (PU)

The PU was instituted by the new settler farmers following advice from the outgoing white commercial farmer, Mr. Eden. At the start of the irrigation scheme in 2002, Mr. Eden was very worried about the success of the irrigation scheme. After Mr. Eden got his money from government for the sale of his irrigation equipment to the Chifundi and Elmly Park settlers, he called me at night at around 19:00 hours:

“I would like to thank you very much for assisting me to get paid for my irrigation equipment. I will refurbish the irrigation system with speed, since you told me that you want to plant wheat with the irrigation system. In two weeks I promise you the irrigation system will be operational. However I can tell that you will never be able to reap a single grain of wheat if you give this irrigation equipment to these invaders. I have nothing against them. They are very nice people but they are not going to be able to run the irrigation system. I have talked to some of them and they told me that they have no clue, what you people in government want them to do. Are you just trying to find a way of trying to get rid of these people so you can give this farm to one of these fat cats from Harare? If you want this irrigation system to survive, you bring here a full fledged government management unit to manage this irrigation equipment.”

As provincial irrigation specialist I took this telephone conversation very seriously. However the Department of Agricultural Engineering (DoAE) was so under staffed that it would not be possible to station a single engineer or technician at Chifundi. Even if they were there, no one had the experience of operating electric motor driven borehole pumps. So I asked Mr. Eden to operate the irrigation system with the new settler farmers for a period of a year under a government sponsored contract. Under the contract, the government would pay Mr. Eden for the running the scheme and training the new settler farmers on the tricks of running the system. Mr. Eden would also be paid for the rest of the farm improvements he made on his farms within that year. Mr. Eden agreed to my plan. However, when I took it up with the Chief Irrigation Officer, I left his office feeling very foolish because of the reply that I got from him:

“You must be crazy! Who do you think will listen to you? Also are you openly admitting to government that our department has no capacity to assist the farmers? Then we will all be fired.”

So my plan went up in smoke. When I discussed with Mr. Eden, he suggested that instead of him being part of the deal, the same result could be achieved by re-engaging some of his farm workers, who were key in the operation of his irrigation system. That was a brilliant idea, but I decided not to take it up, but rather to take it down to the settlers. I gave them my father’s lecture on land and Mr. Jubert’s thesis. It was not the land they needed but the crops that it can produce and that they did not need to be physically tilling it themselves in order to derive benefits from the land. In the end five of Mr. Eden’s former workers were incorporated as members of the Chifundi irrigation scheme and in that way made up the first PU of the scheme. In subsequent years, the PU was expanded to 20 workers and, as will be discussed, later replaced CICAC.

The production unit was responsible for the day-to-day operation of the crop production venture at the irrigation scheme. Asked why they were referred to as the production unit and not irrigation management unit or management committee, as is the case in most smallholder irrigation schemes in the country, the production manager replied:

“I am not here to manage the irrigation system. I am here to use irrigation to enhance crop production. Crop production comes first and foremost in our minds and is our ultimate goal. We take irrigation just like any other input that we may or may not have access to. We pay for it from the crop proceeds. So to us irrigation depends on production. Eden used to tell me that we bought this irrigation equipment from rain-fed cropping and now we maintain it from crop proceeds. You can have a well functioning irrigation scheme but if you irrigate

weeds and if you irrigate crops without fertiliser or if you irrigate wheat planted in July you will not get the expected production and you cannot keep the irrigation functioning.”

The general membership

The general membership at Chifundi irrigation scheme was made up of farmers resettled at Chifundi farm. To become a member, one had to be a registered member of the Chifundi farm resettlement village. Those who joined the irrigation scheme gave up half of the six hectare arable land allocated to them at the time of resettlement to the VSC for reallocation to those farms whose six hectare arable land lay in the proposed irrigated blocks. Thus in the end the settlers who joined the scheme in reality still had access to six hectares of arable land: 3 (three) hectares of irrigated and 3 (three) hectares of rain-fed land. Over and above this each joining settler paid a joining fee of Zim \$100,000 (US \$1,960) to the CICAC. This joining fee was deducted from each member's share of the winter wheat 2002's dividends. The joining fee was increased annually to take care of the galloping inflation. By May 2005 the joining fee was set at Zim \$1,000,000 (US \$109). Because of the fall in strength of the Zim \$, in real terms the joining fee is falling.

The only exception to the membership regulations were the co-opted former commercial farm workers who had no land to surrender. Incorporating the five farm workers into CICAC though brought with it land allocation problems. When the CICAC approached the Makonde DLAC about the formal settlement of the five farm workers, they were told that there was no arable land at Chifundi to accommodate an extra five farmers. They were asked to devise their own means of accommodating the farm workers with the most feasible option being to reduce arable rain-fed land holding of the CICAC members from the then three hectares to something lower. For two seasons the CICAC members battled for a solution. At the general assembly of December 2003, it was unanimously agreed that some ten settlers whose residential stands were sited on good arable land would demolish their houses and relocate to sites that were not arable in order to create arable land for the former farm workers. CICAC took the matter to the VSC who in turn took it up with the Makonde DLAC for ratification. In March 2004, Makonde DLAC ratified the CICAC and VSC recommendations and relocation was started in May 2004. The former farm workers were officially allocated their own rain-fed arable land, gaining equal membership status with the rest of the CICAC settlers.

Since the start of the project in the month of May 2002, the scheme membership increased from the initial 29 to 30 settlers. Two settlers joined the scheme in 2003, each paying Zim \$100,000 (US \$1,960) and surrendering their three hectares of arable land allocation to CICAC. During the summer cropping season of 2003, one plot holder, who was the chairman of the maize production sub committee,¹²⁷ Mr. Chinhengo, was accused of stealing maize seed and some broken aluminium pipes from CICA. According to the constitution of CICA, any member found guilty of stealing CICA's property would face automatic expulsion. The main function of the general membership is to ratify the institutional arrangements crafted by the CICAC for the overall day-to-day functioning of the scheme. They are the supreme level whose influence is manifested through a general meeting of all members.

¹²⁷ As will be explained later, in the wet season of 2003, the CICA members were deeply divided over which crop to grow: soyabean or maize. As a result CICAC was forced to create a sub committee to oversee the maize issue.

Organs of scheme governance and management at Elmly Park

At Elmly Park irrigation scheme, the formally constituted organizations involved in the day-to-day operation and management of irrigation were not as many as at Chifundi irrigation scheme. Three main organizations were noticeable. These were the VSC, the irrigation management committee (IMC) and the general members. The establishment and functions of these two organizations is the subject of this section.

The VSC

This was mandatory at all fast track resettlement schemes. It was instituted by the DLAC, chaired by the DA in this case DA Makonde. Like in the Chifundi case, this committee is made up five people elected by the ruling ZANU PF political party, the invaders group, the group of ordinary land seekers from communal areas and urban centres Makonde district and the war veterans association. At Elmly Park the invaders group was made up of invaders from Makonde district, Hurungwe district and Kadoma District. The Kadoma invaders were the last to arrive at the farm but they were better organized. They also outnumbered the Hurungwe and the Makonde invaders combined. The Hurungwe and Kadoma invaders also stayed permanently upon the scheme unlike the Makonde invaders who came mainly from near by Makonde communal areas and Chinhoyi town. These moved in and out of camp to attend to family ceremonies in their communal homes. As a result when it came to voting, the Kadoma invaders dominated. The war veterans group comprised only six (6) people out of the thirty two (32) (20%)¹²⁸ people resettled at Elmly Park. The function of the VSC was to preside over village development issues and solve land and other disputes at the scheme. It was the VSC that should have liaised with the DLAC to ensure that land was redistributed amongst all the settlers at Elmly Park to allow for the establishment of the irrigation scheme.

The Irrigation Management Committee (EPIMC)

The irrigation management committee was instituted by AREX and the irrigation division of the DoAE. The committee was composed of six members, all elected into office by those farmers that had actually joined the Elmly Park Irrigation Scheme (EPIS). The EPIMC portfolios included the chairman, his/her deputy, the secretary, his/her deputy, the irrigation scheme manager,¹²⁹ and the treasurer. The committee is vested with powers to draft a constitution or amendments to it for the purpose of guiding the day-to-day irrigated crop production endeavors at the EPIS. The drafted constitution only became functional after adoption by a general assembly of those settlers that had joined the EPIS, following considerable discussion and modification. It is this constitution that was then used by the

¹²⁸ The rules of the Third Chimurenga demanded 20% of all land acquired for resettlement purposes in the whole country would be reserved for the war veterans.

¹²⁹ Initially the EPIMC was made up of only five members. The post of irrigation scheme manager was created at the request of Mr. Bosman at the start of the soyabean crop of 2002 to 2003 after the expulsion of the AREX officers from the EPIS. Mr. Bosman said: *"The farmers had severed ties with the AREX agronomist who had been my day-to-day contact person with them during the wheat crop. I therefore requested them to have a single person that I would liaise with at the scheme. I found it difficult to sit in their meetings and argue with them for hours as a committee. I did not have the time and pertinence. They had a strange way of conducting meetings. Their meetings were always very heated and decisions took time to be made. You always had this feeling that they were going to exchange blows but surprisingly it never came to that and somehow in the end a consensus was reached. So I asked them to include in their committee an irrigation scheme manager who would communicate to me only their agreed position. It was also easy to always discuss day-to-day crop production and irrigation water application strategies with one particular individual for the purposes of continuity and accountability"*.

EPIMC in the day-to-day running of the irrigation scheme. However, for important decisions like evicting farmers from the scheme, EPIMC called a general meeting of all members in order to endorse a final decision.

The EPIMC's first constitution was a hurried document prepared with guidance from AREX officers just to fulfill the loan application conditions of the WWIRP 2002, not very different from the Chifundi initial constitution. However, they soon changed the constitution to address specific contractual arrangements with Mr. Bosman and the management of the huge amounts of money that the EPIMC was going to handle. The EPIMC was conducting the farming business for all the EPIS farmers. This was a big departure from the AREX IMC functions and this had to be spelt out in the constitution. Like in the Chifundi case settlers from Gokwe dominated the membership of the EPIMC. However, the irrigation scheme manager came from Hurungwe. In 2002 he was the only settler at Elmly Park farm who had planted soyabean. He had started growing soyabean in 1998 under the AGRITEX soyabean communal area production promotion programme. He had brought the seed he planted at Elmly Park from his 2001 soyabean crop, grown in Hurungwe.

The general membership

The general membership at EPIS was made up of farmers resettled at Elmly Park farm. To become a member, one had to be a registered member of the Elmly Park farm resettlement village. Those who joined the irrigation scheme gave up about 4 hectares of the six hectare arable land allocated to them at the time of resettlement to the VSC for reallocation to those settlers whose six hectare arable land lay in the proposed irrigated blocks. Thus in the end the settlers who joined the scheme in reality still had access to six hectares of arable land: 4 (four) hectares of irrigated and 2 (two) hectares of rain-fed land. Like in Chifundi each joining settler paid a joining fee of Zim \$100,000 (US \$1,960) to EPIS. This joining fee was deducted from each member's share of the winter wheat 2002's dividends. The joining fee was increased annually to take care of the galloping inflation. Since May 2002, the scheme membership fluctuated up and down from the initial 25 members in 2002 to 11 members in 2003 following the expulsion of the AREX officers and disputes over crop choice. By January 2005 the membership had risen to 20 members. However the EPIMC were contemplating stopping the acceptance of new members into EPIS. As a result they raised the joining fee to a high of Zim \$5,000,000 (US \$543) in a bid to discourage anymore settlers from joining the scheme.

8.2 Teaming up with former commercial farmers, farm workers and agro-processors at Chifundi Irrigation Scheme

This section follows the Chifundi Cooperative Association's cropping activities to expose how they learnt the art of irrigated farming through trial and error. It shows how policy content can be informed by how actors on the ground devise means of coping for their own survival in situations where state services are abruptly terminated. This brings us to the concept of uncertainty. Mehta *et al.* (2000 cited in Meinzen-Dick and Pradhan 2002, 8) identify four uncertainties which play an important role in shaping human behaviour: "ecological uncertainty due to fluctuations in weather and other biophysical phenomena; livelihood uncertainty due to fluctuations in employment or other economic phenomena; knowledge

uncertainty due to incomplete understanding or predictability; and social or political uncertainty due to fluctuations in regimes and social power”. With this section I also hope to expose the need to consider who takes over the former functions of government after Irrigation Management Reforms (IMR), a factor that is always ignored in IMR policy models (Bolding *et al.* 2004).

The cropping history of the Chifundi Cooperative Association

The Chifundi Cooperative Association adopted the cropping program of Mr. John Eden. He used to rotate winter wheat with soyabean (cereal to legume). To use his words:

“Soyabean uses residual fertiliser from winter wheat, that is, you fertilise heavily your wheat and do not apply any fertiliser to your soyabean. This way you cut down on your farm operations. It also helps you in weed control where in wheat you use the broad leaf herbicides and in soyabean you use herbicides that eliminate grasses. This rotation also helps reduce disease outbreaks particularly so, maize streak virus. So in one year you can easily wipe out your weeds like we had achieved on this farm.” (John Eden 2002)

The association’s management committee CICAC with advice from AREX agreed to the cropping program and have recorded commendable cropping success as will be demonstrated. According to the AREX provincial office the settlers were following their policy statement. Asked if she was happy with the cropping programme adopted by CICAC, Margaret Mashoko the casual worker who turned crowd controller in the AREX corridors and who initiated the establishment of CICAC replied:

“We are growing European crops and we are proud we can now produce them. We are unique in the Lions Den area now. At first most of us wanted to grow cotton and vegetables. But now after growing wheat and soyabean for three years, I can tell you that cotton and vegetables are for small timers, and not for big timers like us. With cotton there is no machine that can harvest it for you. You have to toil in the land yourself. As for vegetables, you need to find the markets. With the large area that we irrigate, there will be no market. The crops that we grow are smart crops, they can easily be handled by machines and they are sold in one day giving us a lot of money in two lots a year. This makes planning household needs much easier especially for women farmers, like us.”

This was echoed by many irrigators at Chifundi who hail the crops’ capacity to be handled by machines instead of labour.

Winter wheat contract with GMB (2002): A colourful field day is held

In winter 2002 CICAC planted 80 hectares of wheat. Inputs were provided through a government sponsored input support scheme implemented by AREX and the Grain Marketing Board (GMB). CICAC entered into a contract agreement with GMB in which GMB supplied CICAC with all the required inputs in the form of a loan that attracted 20 % annual interest. The loan was 100% payable at the sale of the wheat crop to GMB. As a matter of fact by law, wheat was a controlled product that was marketed only to GMB that then distributed it to the millers or exported it depending on the country’s reserves at any one time. In the contract GMB would also pay for all Zimbabwe Electricity Supply Authority (ZESA) bills until the crop was harvested.¹³⁰ A stop order facility was arranged in order to recover the loan. For

¹³⁰ However access to the funds for the payment of ZESA was through a complicated process that required a farmer to fill a form, take it to the office the provincial Irrigation Specialists of the DoAE together with the ZESA invoice for authenticating. Once authenticated the farmer was to take the form to the GMB depot

tillage the settlers signed a contract with DDF, but because DDF did not have enough tractors, DDF sub-contracted the tillage service to a former commercial farmer Mr. Jubert. See Table 8.1 for a detailed schedule of costs incurred for the production of the 2002 winter wheat crop.

Table 8.1: The Winter Wheat production figures for Chifundi irrigation scheme (2002 to 2004)

Item Description	2002 (Zim\$)	2002 (US) ¹³¹	2003 (Zim\$)	2003 (US\$)	2004 (Zim \$)	2004 (US\$)
1. Costs						
ZESA bills	1,800,000.00	31034.48	1,184,394.67	1393.41	16,986,141.63	2739.70
Inputs (GMB loan)	4,021,963.16	69344.19	16,728,156.56	19680.18	181,775,000.00	29318.55
Equipment hire	700,000.00	12068.97	3,600,000.00	4235.29	51,870,000.00	8366.13
Transport	567,600.00	9786.21	1,752,000.00	2061.18	19,327,100.00	3117.27
Labour	300,000.00	5172.41	8,134,900.00	9570.47	7,985,568.00	1287.99
Weeding	550,000.00	9482.76	1,136,000.00	1336.47	2,310,000.00	372.58
Irrigation repairs	300,000.00	5172.41	3,389,919.10	3988.14	3,000,000.00	483.87
Water Charges	0.00	0.00	0.00	0.00	720,000.00	116.13
Replacements	62,500.00	1077.59	15,502,868.20	18238.67	990,614.11	159.78
Total costs	8,302,063.16	143139.02	51,428,238.53	60503.81	284,964,423.74	45962.00
2. Income						
Wheat sales	25,270,000.00	435689.66	248,494,260.00	292346.19	500,627,080.20	80746.30
Net profit	16,967,936.84	292550.64	197,066,021.47	231842.38	215,662,656.46	34784.30
Shares to members	10,643,000.00	18,500.00	165,000,000.00	194117.65	180,000,000.00	29032.26
3 Savings						
Revolving account deposits	6,324,936.84	109050.64	32,066,021.47	37724.73	35,662,656.46	5752.04

Source: Field notes.

On the 7th of August a wheat field day was held at Chifundi farm. The field day was organised not by AREX as is the norm with most agricultural field days in Zimbabwe, but by the governor's office. Invited guests included two cabinet ministers (the minister of Land Resettlement in the president's office, comrade Flora Bhuka,¹³² and the minister of Higher and Tertiary Education, Dr. Mombeshora, who was also Member of Parliament for Makonde. Also present were several agro-chemical and agro-processing companies. Very conspicuous with its large posters, T-shirts and hats was the "new kid on the block" (to use the company representative's vocabulary) the newly formed FSI AGRICOM, an agro-processing company that was gracing the Zimbabwe agricultural scenery for the first time. The FSI company representative informed the settlers and other field day attendants that FSI had come to assist the settlers with all kinds of inputs, tillage and crop management services. The governor, the

closest to him/her where the form was filed and the farmer given an official payment request form that he/she would take to Harare for the money to be released by the Director of DoAE. It was quite possible that a farmer could spend two or three days in Harare waiting for signatories to the cheque.

¹³¹ The foreign currency exchange rate varied from 1 US \$ to 58 Zim \$ in 2002 , 1 US \$ to 850 Zim \$ in 2003, 1 US \$ to 6200 Zim \$ in 2004 and 1 US \$ to 9500 Zim \$ in 2005

¹³² Flora Bhuka was the MP for Gokwe Nembidziya constituency where most of the Gokwe land invaders at Chifundi and Elmly Park came from. In her speech she thanked the people of Makonde for accepting the people for Gokwe into their district. To the Gokwe invaders, she pleaded with them to show the country that they did not come from Gokwe to waste the land but to make it productive. She told them that she believed in them and trusted that they would turn Chifundi into the bread basket of Makonde.

two ministers and other government officials that stood up to talk, recommended to the settlers that it was wise to take advantage of the services that FSI were offering. Also praised for good work done were the white commercial farmers who had assisted the settlers with land preparation.

To harvest, a District Development Fund (DDF) sub-contractor, Mr. Jubert, a former white commercial farmer, was contracted by CICAC. The story of how Mr. Jubert was attracted to CICAC is explained in chapter seven. The yield of the crop was fairly high (4.63 tonnes per hectare) when compared to the national average of 5.46 tonnes per hectare) but was way below the former commercial farmer, Mr. Eden's, average yield of 7.5 tonnes per hectare on the same farm. October rains just before harvesting drastically affected crop quality. When CICAC delivered the first consignment of about 196 tonnes to the GMB Lions Den, GMB classified it as spoiled wheat that attracted the lowest price. CICAC called a general meeting of all members to decide on the action to take with the remaining wheat. Most settlers suggested side marketing to private buyers, like National Breweries and National Foods that were offering higher prices for the rain damaged wheat for the manufacture of malt and stock feeds respectively.

However Ms Biri an AREX officer advised CICAC to lobby with the local MP and comrade Flora Bhuka for the issue to be debated in Parliament before they resorted to the illegal action of side marketing. She informed them that according to the AREX fortnightly crop situation report, the problem of rain-spoiled wheat was a national one that was not restricted to Chifundi alone. Therefore if the problem was discussed in Parliament, either the price would be increased or government would authorise farmers to market direct to the private buyers like National Foods that were paying the higher price. The settlers agreed to the idea and Ms Biri was given the task to do the lobbying. Meanwhile the GMB general manager issued a strong warning to farmers who were contemplating on side marketing the wheat crop:

"Some farmers have applied for permission to dispose of their wheat crop elsewhere, because they allege that rain has spoiled it. No permission will be granted because that would mean going against the regulations, since GMB is a sole buyer of maize and wheat. There are also reports that some private buyers are offering farmers high sums of money for the rain damaged wheat, but who will ascertain that the wheat is rain damaged? We urge you to deliver your wheat now so that you can quickly get your summer inputs. If you try any tricks, I warn you that our inspectors are out in full force. Some farmers risk having their crop impounded." (New Farmer 2002)

Fearing the GMB threats, CICAC finally delivered all their wheat to GMB. However following government intervention, the price of wheat was not only increased from Zim \$40,000 (US \$690) to \$70,000 (US \$1,207) but also fixed for all grades of wheat including the rain spoiled wheat. CICAC managed to repay their entire GMB loan, the ZESA credit and open a Chifundi Cooperative Association bank account by deducting some cash from CICAC members' dividends before payouts to them.

Soyabean crop (2003) and the contract with FSI

In November 2002 a GAoI meeting was held to discuss what crop CICAC was going to grow in the summer of 2003. Mr. Razau, the production unit manager, on this meeting told the settlers that it was possible to stagger the soyabean planting dates so that they could plant the 190 hectares of soyabean. He told the assembly of settlers that usually at Chifundi in summer

irrigation was only required to start off the crop after which rainfall would take over. If well timed, only the early planted 110 hectares would require full irrigation during the almost certain January mid season drought that coincided with the flowering and heading stages of the crop. So the production unit was asked to prepare the necessary requirements and budget for presentation to the CICAC for it to request for inputs from GMB.

However GMB did not have soyabean inputs. Mr. Razau, Ms Biri and the AREX agronomist insisted that somehow CICAC had to find soyabean inputs. The AREX agronomist told CICAC to approach FSI AGRICOM the company that had advertised itself so much at the wheat field day and in the local print and electronic media for inputs. The company was at the time offering loans to almost all high ranking ZANU PF members to the extent that rumour was rife that the company was one of ZANU PF's companies. The company was however owned by an indigenous business tycoon, Mutumwa Mawere. However FSI was only able to offer CICAC an input loan for 100 hectares of soyabean, citing limited availability of soyabean seed in the country.¹³³ It also offered CICAC a loan for 90 hectares of yellow maize. The GAOI rejected the yellow maize fearing that it would contaminate their rain-fed white maize. AREX continued to push CICAC to look elsewhere for more soyabean inputs.

The FSI soyabean contract suffered more blows in the end. Citing a shortage of fertiliser in the country, FSI only managed to supply soyabean seed, inoculants, and herbicides. Moreover, FSI removed from the contract the offer to transport inputs to the Chifundi irrigation scheme, on account of a lack of fuel in the country. At the time CICAC had no cash to pay for transport, since GMB had not yet paid for the wheat crop. CICAC risked and sold some of the wheat that it had retained for home consumption to private local rain-fed farmers and farm workers (who were reeling from maize shortages) to raise about Zim \$15,000 (US \$259) for the transport of 10 tonnes of soyabean seed from Chinhoyi to the scheme. FSI did not pay for irrigation electricity bills so CICAC resorted to the GMB credit facility. It was alleged that the FSI operations were hampered by the numerous farm management consultant services it undertook for A2 high ranking government officials and ruling ZANU PF members who grabbed most of the inputs (The Independent 30th January 2004). At the same time government were also accusing FSI of gobbling most of the Agro bonds raised to assist new farmers. For example The Independent newspaper quotes president Mugabe as having said at a rally at Esidakeni Farm in Umguza Matebeleland South 13 June 2003 (cited in the Standard 20 June 2003):

“The government made a mistake by allowing the bonds to be administered by commercial banks without giving the financial institutions guidelines. A private company, FSI Agricom,

¹³³ FSI was an agribusiness company owned by the now fugitive businessman Mr. Mutumwa Mawere. The company was involved in agricultural input supply schemes and agricultural management consultant services to both large and small scale farmers. It is also alleged that one of its directors, Mawere, used Zim \$3.5 billion (US \$3.53 million) of FSI funds borrowed from the Syfrets Merchant Bank's Agro Bill to buy shares in the First Banking Corporation. The Syfrets Agro Bills were raised by government to finance agricultural finance credit facilities for the agricultural sector following the Third Chimurenga (Sunday Mail 20th March 2005) Mawere is now embroiled in a wrangle with the President and government of Zimbabwe accusing Mawere of being a front for one of the wealthy Chinhoyi former commercial farmers, Clive Nicole, while Mawere is accusing the ZANU PF top echelons of stealing from him by failing to pay for agricultural management services rendered by FSI to them in a bid to facilitate the government take over his business empire (The Sunday Mirror 25th July 2004, The Financial Gazette 16th December 2004, The Independent 18th March 2005).

gobbled up about \$4 billion of the 7.5 billion from the fund, leaving most of the beneficiaries stranded. This was given to a company yet the money was intended for resettled farmers.”

In the end though, the soyabean produced a crop yield of 2.2 tonnes per hectare against a national commercial average of 2.01 tonnes per hectare (CSO 1996). The yield was however still lower than the former commercial farmer’s average of 4.5 tonnes per hectare on the farm. CICAC delivered 188 tonnes of soyabean to FSI. FSI deducted 13 tonnes of soyabean as payment for the 10 tonnes of seed loaned to CICAC including the 30% interest on the seed loan (see Table 8.2).

Table 8.2: The Soyabean production figures for Chifundi (2003 to 2005)

Item Description	2003 (Zim\$)	2003 (US\$)	2004 (Zim\$)	2004 (US\$)	2005 (Zim\$)	2005 (US\$)
1. Costs						
ZESA bills	675,208.74	11641.53	7,099,131.44	8351.92	14,963,876.73	1575.14
Inputs GMB loan	1,255,000.00	21,637.93	1,136,532.00	1337.10	32,000,000.00	3368.42
Machinery hire	1,073,000.00	18500.00	248,600,000.00	292470.59	150,100,000.00	15800.00
Transport	2,424,650.00	41804.31	10,852,729.00	12767.92	35,500,500.00	3736.89
Labour	933,000.00	16086.21	9,179,862.79	10799.84	9,000,000.00	947.37
Weeding	0.00	0.00	248,600,000.00	292470.59	16,000,000.00	1,684.21
Irrigation repairs	1,196,561.85	20630.38	3,643,440.00	4286.40	11,520,000.00	1212.63
Water Charges	0.00	0.00	0.00	0.00	400,000.00	42.11
Replacements	229,040.00	3948.97	0.00	0.00	3,000,000.00	315.79
Total costs	7,786,460.59		529,111,695.23	622484.36	272,484,376.73	28682.57
2. Income						
Soyabean sales	1,016,271.50	362349.51	769,820,643.44	905671.35	598,500,000.00	63000.00
Net profit	13,229,810.91	228100.19	240,708,948.20	283187.00	326,015,623.27	34317.43
Share to members	6,990,000.00	120517.24	90,000,000.00	105882.35	270,000,000.00	28421.05
3 Savings						
Revolving account deposits	6,239,810.91	107582.95	150,708,948.	177304.64	56,015,623.27	5896.38

Source: Field notes.

Maize is grown with mediation from the president’s office

Frustrated by FSI’s failure to supply CICAC with the required amounts of soyabean seed, and with the settlers failing to reach a consensus on what to do next, a group of CICA settlers, led by Mr. Chinhengo (who had a brother working in the president’s office in Harare) decided to seek the assistance of the president’s office. He accused the AREX officer Ms Biri of forcing Chifundi farmers to grow soyabean instead of maize. With the low levels of maize reserves haunting the country then, GMB Lions Den was sanctioned by the president’s office to immediately deliver maize inputs to Chifundi farm. Thus in the end CICAC grew 100 hectares of white maize in the summer of 2003. This brought some problems at the scheme. Mr. Razau and Ms Biri told the rest of settlers that by opting for maize they had invited a terrible curse to the farm. Mr. Razau the production manager therefore excused himself from the management of the maize crop. Instead, Mr. Chinhengo was acting as the maize crop manager for the 2003 season. According to Ms Biri CICA settlers suffered instant punishment when they were hit hard by maize streak virus on both the irrigated and the rain-fed maize crops. Things did not go down well for Mr. Chinhengo. He was accused of stealing about 25 *

30 kilogram packs of maize seed. He pleaded guilty of the offence, and was fined Zim \$5000 (US \$5.88). A few days later, he was again accused of stealing irrigation pipes. This matter was reported to the police and the GAOI evicted him from the scheme. CICAC through the PU gleaned from the maize crop the little maize grain they could, just enough to offset the crop input loan. The rest of the crop was left to the individual members to harvest for their individual home use. The production manager claims that trying to harvest all the maize by hand was impossible and the yield was too low for the maize to be combine harvested.

Michael Rinseburg stands in to offer services

Because FSI failed to offer the tillage services in its soyabean contract with CICAC, and also because the promised tillage services from DDF for the maize crop failed to materialise, CICAC negotiated a tillage contract with Mr. Michael Rinseburg a former white commercial farmer who had lost his farm to the Third Chimurenga and by then thrived on offering tillage services to the new settler farmers. In the contract Mr. Rinseburg disked the 190 hectares, planted both maize and soyabean, applied fertiliser to the 100 hectare maize crop and sprayed herbicide on the 90 hectare soyabean crop for a cash price of \$1,073,000 (US \$1,262).

Winter wheat production (2003)

From the GMB input loan scheme CICAC only managed to get wheat seed, because the government was still sourcing funding for the winter cropping programme. The result was that CICAC negotiated a “friendly deal” with FSI that ensured that CICAC did not have to pay interest to FSI. CICAC offered fuel tanks, the former Mr. Eden’s office, store sheds and guesthouses to FSI in exchange for an interest free fertiliser loan. FSI needed these facilities to open a Makonde base for its operations in the district. The bottom line of the agreement was that FSI advanced fertiliser to CICAC, to enable CICAC to plant its wheat crop on time and that CICAC would return the advanced fertiliser to FSI as soon as CICAC’s deliveries were made by GMB. For tillage, planting, spraying, and harvesting services, CICAC contracted Mr. Jubert. However this time the contractor requested advance cash payment for every service rendered, citing galloping inflation (see Table 8.1, crop inputs and outputs). The wheat crop was harvested on time with no problems and the yield of 4.23 tonnes per hectare was much higher than the Mashonaland West average of 1.9 tonnes per hectare for the 2003 winter season (AREX 2003).

Soyabean (2003-04 season)

In the 2003 to 2004 season, CICAC planted 190 hectares of soyabean using inputs and tillage facilities provided by FSI. In this FSI contract, CICAC included tillage services for the rain-fed arable lands of all its members. It was also agreed that payment for the rain-fed tillage service would come from the sales of the soyabean crop to FSI. In this contract however CICAC made two blunders. Firstly they agreed that FSI would set the price for the soyabean at marketing depending on the average going price at the time. Secondly, they failed to fully scrutinise the conditions of the contract, especially the stipulated loan interest rate. The FSI contract stated that the interest rate charged would be the average of commercial bank minimum lending rates going at the time of repayment of the loan. Because of these two slip-ups, CICAC paid dearly. In May 2004 when CICAC delivered their soyabean crop to FSI, the average bank lending rates (see Table 8.3) going at the time (272.7 % per annum) had more than doubled the going rate at the time of borrowing in October 2003 (106% per annum). In fact CICAC were lucky because the minimum lending rates were actually falling from their

all time high of 339 % per annum in April 2004. The result was that the calculated interest was about three times what CICAC had expected. CICAC felt cheated and terminated their relationship with FSI. Asked to comment on the FSI, Ms Biri said:

“FSI are in problems, they are failing to get anything from their contract with A2 farmers, who are refusing to pay back the huge loans they got from FSI¹³⁴. Now they are trying to be hard on the A1 farmers whom they perceive to be easy prey. Well the CICAC has already paid so there is not much that can be done now. The problem with these A1 farmers is that the cash they are getting from their sales is much higher than what anyone of them could imagine. Even with the hike in interest rates, the farmers are still making a lot more money than their neighbours. Also they have a consolation in that the soyabean managed to pay for all the tillage costs for the rain-fed maize crop for the individual farmers. To them the soyabean deal was a successful venture.”

Table 8.3: The going Bank Lending Rates in Zimbabwe in May 2003

Name of Bank	October 2002 Rate %	May 2003 Rate %	October 2003 Rate %	April 2004 Rate %	May 2004 Rate %	
Trust Bank		35	75	98	379	200
National Merchant Bank (NMB)		34	75	120	400	340
Standard Chartered		35	80	120	300	250
Jewel Bank		35	81.5	98	300	250
Kingdom		40	80	120	300	250
First Bank		38	82.5	120	350	300
Barclays		40	88	98	300	235
Century		40	88	98	400	395
Royal Bank		40	88.5	98	400	330
Zimbank		33	69	98	300	200
Stanbic		40	80	98	300	250
Average		37.3	81.3	106	339.0	272.7

The production manager though blamed the chairman of CICAC for being a bit careless when it came to scrutinising contract documents. According to the production manager, FSI did not change the contract arrangement. It was CICAC that had not understood the contractual arrangements. He also claims that the contract also covered too many terms that CICAC did just not comprehend. Over and above the agricultural inputs and tillage services on soyabean, the contract also included the hire of irrigation equipment (70 x 3 inch riser-pipes, 70 x 3 inch plain pipes, 70 x 4 mm sprinklers, 2 x 3 inch field bends and 2 x 3 inch end plugs). A breakdown of the costs is presented in Table 8.2. Their crop was very good with an average yield of 3.1 tonnes per hectare.

FSI took away about 226 tonnes with a monetary value of Zim \$497,200,000 (US \$584,941) as payment for all the services they had performed at the scheme, making up about 64.6% of the total sales of Zim \$769,820,643 (US \$905,671). The settlers were also complaining that

¹³⁴ FSI was in serious financial problems then. After being accused of grabbing \$4,6bn of the Zim \$7 billion, in a controversial agro bills tender, government ordered that FSI return the money with the additional interest burden. *“Although the company directors represented by its managing director Mr. Ivan Savala told the Standard that FSI’s company operations would not be disrupted by the recourse, problems soon surfaced. The money was recalled before farmers paid back funding advanced to them for tillage and inputs, necessitating that funds be diverted from other sources to meet the repayment”* (The Standard, 2003). Soon FSI were forced to close down operations at the expense of workers who were not paid retrenchment packages (The Independent 2005, The Sunday Mail 2005).

most of their hydrant pipes had been broken down by the FSI tractors during the tillage operations, resulting in high maintenance costs to them. One settler complained in 2004:

“The FSI employees had no sense of responsibility. They simply ran over our hydrants and did not even bother to repair them. This is not how good contractors operate. Now we have to incur a lot of repair costs as a result of their carelessness. This is daylight robbery.”

Mr. Jubert, their first contractor in 2002, had this to comment about the FSI contract:

“For anyone to learn, they must pay school fees. These farmers have paid their school fees. The farmers decided to dump us and engage a new contractor, FSI, who doesn’t have any farming experience at all. Look now they are crying at this contractor who destroyed their irrigation system and who also cheated them. They have learnt the hard way, but that is what I call paying school fees.”

However, the settlers managed to purchase two small tractors, a disc harrow, and a trailer at a total cost of Zim \$56,600,000 (US \$9,129).

Winter wheat (2004)

In the 2004 winter season the settlers planted 110 hectares of wheat. They purchased all their wheat inputs from GMB. For tillage, CICAC contracted Mr. Jubert, but they had to pay cash upfront for all the offered services. CICAC also hired Mr. Jubert to do the land preparation for all the members of CICAC on their rain-fed three hectare plots. CICAC paid Mr. Jubert and recovered the money from the individual farmers by deducting this cost of land preparation from the individual member’s share of the wheat dividends. The result was that all settlers were able to plant their rain-fed crops on time. The season proceeded without incidents. However, the shortage of fertiliser in the country resulted in a lower wheat yield of only 4 tonnes per hectare. This fertiliser shortage was to haunt the settlers in their following summer crops.

Soyabean and Maize (2004-05)

The next rainy season CICAC planted 100 hectares of soyabean and 80 hectares maize. They got maize inputs from GMB and soyabean seed from their 2003-04 soyabean crop. For tillage services, they contracted Mr. Jubert again on upfront payment basis. Although they managed to get all their basic fertiliser for maize, they failed to get any top dressing fertiliser for maize because of the serious shortage of nitrogen fertiliser in the country. For soyabean, CICAC failed to get any fertiliser. With a soyabean crop following a poorly fertilised wheat crop, the soyabean crop yield plummeted from 3.1 tonnes per hectare to 1.71 tonnes per hectare. CICAC managed to sell the soyabean crop at a price Zim of \$3,500,000 (US \$368) per tonne earning a gross return of Zim \$598,500,000 (US \$63,000). The maize crop was an even bigger disaster with a total harvest of 205 tonnes from the 80 hectare plot, yielding a disappointing 2.56 tonnes per hectare. With the price of maize pegged at Zim \$2,200,000 (US \$232) per tonne the settlers were very disappointed with CICAC. They queried the wisdom of growing maize and not soyabean on the 80 hectare plot. To them if CICAC had used the fertiliser they used to grow maize on soyabean they would have made better use of resources.

At the annual general meeting that followed, the settlers showed their disappointment in the CICAC members as can be seen from the election results. They embarked on what some of them called a “turn around strategy” borrowing the phrase from President Mugabe’s vocabulary. They voted out most of the CICAC members whom they were blaming for

mismanagement and failing to follow the advice of Mr. Razau, the production manager. The new look CICAC comprised of Mr. Razau (former farm manager) now chairman; Mr. F.T Gaza a new comer, now vice chairman; Mrs Margaret Mashoko (former Arex employee) now secretary; Mr. S Ayibeki (son of the late scheme's electrician) now vice secretary; Mr. Chigwada (former security foreman of Mr Eden) now treasurer; and the pump minder Mr. S Mwanza (former pump minder of Mr Eden). The meeting also dissolved the position of the scheme's production manager consolidating the powers of the new chairman. The settlers feel that Mr. L Razau, the new scheme chairman, will turn around the fortunes of the scheme since he has been given enough space to breathe. One settler at the scheme, Mr. Muzorori, commented soon after the elections in 2005:

"Now Mr. Razau is going to show us what he is made up of. This man has great experience in the farming industry since he was here at this farm for more than a decade. Mr. John Eden recommended this man as an indispensable resource. Of late his experience was being relegated to the waste bin, since all his requests were being turned down. Now that we have given him the floor for him to demonstrate all his tricks, this year we smell of better yields to come."

Most settlers interviewed were of the opinion that the committee they had chosen now would steer CICAC to success since most of the members of the committee were former farm workers and Mr. Razau's former workmates who would understand him better.

8.3 A commercial farmer becomes "Godfather" to Elmly Park

Like in the case of Chifundi, the EPIS adopted the cropping pattern that had served Mr. John Eden so well as to make him one of the top farmers in Zimbabwe (i.e. wheat rotated with soyabean). EPIS started off operations with the growing of winter wheat in 2002.

Winter wheat (2002)

In 2002 80 hectares of wheat were planted at the irrigation scheme. Initially 22 out of 31 plot holders of Elmly Park resettlement scheme were involved in the wheat programme. In addition to these, three AREX officials joined the settlers. Asked why the AREX officials joined the settlers, Ms Biri explained;

"The farmers had only one week to prepare the lands, plant the wheat and start irrigating the crop. We (the AREX Agronomist, two AREX officers and I) coined a plan to get assistance from former commercial farmers. Mr. Bosman was the commercial farmer who was recruited for EPIS. As a matter of fact he was sub-contracted to EPIS by Mr. Jubert who in turn was a DDF tillage subcontractor in a government crop production assistance package. Mr. Bosman was not happy with the DDF contract nor did he trust any government department either. He agreed to take his farm equipment to Elmly Park only if there was someone who was personally going to ensure that he would be paid for the services rendered. The AREX Agronomist assured him that he would be paid and promised that he (the Agronomist) would be a member of the irrigation scheme. To ensure that nothing would go wrong, two other AREX officials were also incorporated into the scheme as the day-to-day contact persons between Mr. Bosman and the invaders. For their trouble, the AREX officials were given equal status with the invader settlers in terms of claims to the final wheat harvest."

This marked the beginning of what was to become a long “God father” like relationship between Mr. Bosman (the God father) and Elmly Park irrigation scheme (the child). However according to Mr. Isdory Mtandwa for many irrigators, things were happening too fast, since some actions like the inclusion of the AREX officers were not clearly explained to them. Because of intimidation from some leaders of the war veterans association and the desire to grow wheat in a bid to be in line with the government policy, the settlers decided to let the AREX officials enter the scheme. For inputs, the settlers signed a wheat production contract with GMB to acquire inputs on loan. In the contract GMB supplied all the inputs required (seed, fertilisers, and chemicals) through a government sponsored input-loan scheme already discussed in the Chifundi case. For the costs of the inputs see Table 8.4.

Table 8.4: The wheat production costs for Elmly Park irrigation scheme

Item	2002	2002	2003	2003	2004	2004
	Zim \$	US \$	Zim \$	US \$	Zim \$	US \$
Initial fertiliser	1,681,277.70	30,022.82	1,365,510.40	1,606.48	95,357,100.00	15,380.18
Nitrogen fertiliser	1,681,277.70	30,022.82	5,345,613.54	6,288.96	95,357,100.00	15,380.18
Seed	1,725,696.00	30,816.00	3,986,640.00	4,690.16	21,733,740.00	3,505.44
Chemicals	271,648.00	4,850.86	2,325,370.20	2,735.73	3,600,000.00	580.65
Tillage	543,296.00	9,701.71	138,474,972.00 ©	162,911.73 ©	374,600,000.00©	60,419.35 ©
Planting	271,648.00	4,850.86				
Fertiliser spreading	271,648.00	4,850.86				
Chemical spraying	271,648.00	4,850.86				
Weeding	550,000.00	9,821.43				
Transport	1,001,520.00	17,884.29				
Inputs						
Reaping	1,669,200.00	29,807.14				
Transport	667,680.00	11,922.86				
Produce						
Repairs	504,000.00	9,000.00	36,862,497.77	43,367.64	14,630,000.00	2,359.67
Electricity	789,304.12	14,094.72	6,816,100.10	8,018.94	15,350,000.00	2,475.81
Water bills	0.00	0.00	0.00	0.00	140,000.00	22.58
Total Costs	11,899,843.52	212,497.21	195,176,704.01	229,619.65	30,120,000.00	100,123.86

Source: Field notes

© Inputs provided through the Bosman contract

During this wheat cropping season, the EPIS had borehole pump breakdowns that sent the EPIMC on a wild goose trail. Two of their BH 400 borehole pumps developed problems. To fix them they approached the DoAE provincial irrigation specialist for assistance. The WWIRP 2002 budget, discussed in chapter seven, did not cater for repairs and maintenance of irrigation equipment. As a result the Irrigation Specialist contacted the deputy director of a newly formed DoI in the Ministry of Water Resources and Rural Development for assistance. The DoI irrigation development budget included an irrigation operation and maintenance vote for smallholder irrigation schemes. The deputy director of DoI agreed to assist the settlers but they were seriously under staffed. In the province the department was represented by a single technician who was himself a civil engineer by training.

To solve the problem of manpower, DoI transferred the EPIS repair funds from their account into the Zimbabwe National Water Authority (ZINWA)'s account at head office for them to repair the boreholes.¹³⁵ At provincial level, ZINWA operated through the River Catchment Council in this case the Sanyati Catchment Council (SCC) whose head office was located in Gweru. Its nearest operational base was located in Karoi town some 100 kilometres west of the irrigation scheme. To get the Karoi base to start work at EPIS entailed a long process. First ZINWA requested the manager of the SCC to provide a cost estimate of the EPIS pump repairs. The SCC manager in turn demanded that ZINWA paid the transport costs in advance. This process took a week after which SCC instructed their Karoi base to visit EPIS to make an assessment of the repair costs. Karoi had a pressing schedule of work to accomplish. They were repairing the pumping station at Siyakobvu Growth Point in Nyaminyami district some 300 kilometres further west. It took them four days to get to EPIS. Meanwhile the chairman of the EPIS would travel by bus every other day to the DoAE's offices in Chinhoyi to check on progress. When Karoi finally arrived, the wheat crop was already showing signs of wilting.

Karoi dismantled the two pumps and told the settlers that they needed new pumps. In this case only the SCC's procurement committee in Gweru could do the purchases. According to their estimate the process would at least take a week. The settlers could not wait that long.

"The AREX agronomist told us that a week without irrigation would result in huge yield loss from moisture stress. Mr. Chikomba the Makonde leader of the land invaders suggested that we contact Mr. Bosman, to assist in solving our problem. He took us to Mr. Bosman who did not waste time. He took two BH400 pumps from his storeroom and brought us back to the farm with two of his workers. After four hours of work the centre pivot was again irrigating. Mr. Bosman took our pumps to Tautes Engineering in Chinhoyi where they were refurbished contrary to the SCC officials' assertions. Mr. Bosman decided to keep our pumps until the SCC's pumps arrived. The deal was that we would then give the new pumps to Mr. Bosman who would then return our old pumps while we were expected to pay Mr. Bosman for the refurbishment cost of the pumps after harvesting the wheat crop." (Elmly Park irrigation scheme manager 2002)

Mr. Bosman says that he assisted them because he had planted the crop and he wanted the crop to succeed. In the end the settlers harvested a total of 368 tonnes of wheat from the 80 hectares giving them a yield of 4.6 tonnes per hectare, the same as the Chifundi farmers' yield. They sold 361.43 tonnes to GMB and retained 6.5 tonnes for own consumption. After selling the wheat to GMB, they managed to repay the entire loan to GMB, ZESA, DDF, purchased two BH 400 pumps for Mr. Bosman and also paid for the repairs of their old pumps. Each scheme member managed to take home Zim \$605,132 (US \$10,433) after deduction of all the expenses. This represented a lot of money for a majority of the settlers.

Soyabean (2002-03) with the assistance of Mr. Brink Bosman

A lot of confusion and anxiety gripped the EPIS settlers at the time of preparing the soyabean summer crop. To allay this anxiety a meeting that encompassed the three AREX officials, Ms Biri, the Irrigation Specialist and the settlers was held at EPIS. However instead of uniting the settlers, the meeting further agitated them. Trouble started when the settlers failed to agree on what crop to irrigate after the winter wheat crop. They were split over maize and soyabean.

¹³⁵ ZINWA traditionally were responsible for the operation of pumping stations in smallholder irrigation schemes. However this function of manning of the pumping stations was now in the hands of the Catchment Councils under the new water resources management strategy for Zimbabwe.

Most settlers at Elmly Park resettlement farm had not harvested enough maize grain the previous year due to what the settlers characterised as poor rainfall. Fearing a repeat of the rainfall pattern some of them were of the opinion that it was only logical to irrigate maize and not soyabean since maize was their staple food¹³⁶. However AREX officials were emphatic that the settlers could not grow maize after wheat as this would result in a maize streak virus outbreak on the farm. At the meeting the AREX agronomist was very firm as he spelt out the government's position as viewed by AREX:

"We understand the farmers' concerns, but if we allow you to plant maize after wheat there is going to be a disaster here. We have seen it before with the Musengezi irrigation schemes. As AREX we have tried to address your concerns by looking around for maize streak virus tolerant varieties but because of the Third Chimurenga disruptions, this seed is not available in the country this year. Chemical control of the hoppers is also out of the question, because the chemicals are not available in the country. So soyabean it has to be. The worst that can happen is that if you are not willing to grow soyabean, then you will be asked to surrender the irrigated land to A2 farmers who do not mind very much of staple food since they get their food from the supermarket. We insist on soyabean, because it is a short season crop that fits in well with a wheat rotation and that it is also very important in the production of cooking oil and stock feeds in the country."

With the government position spelt out, a can of worms was opened. Those whose land did not fall in the irrigated block decided to quit the irrigation scheme citing several reasons. They refused to surrender part of their 6 hectare arable land to those whose land was taken up by the irrigation scheme citing that the remaining land would not be adequate to produce enough food from rain-fed farming. They also accused the three AREX officials who had joined them in the growing of wheat of exploiting them. They accused them of effectively reducing their land holdings. One settler said:

"You AREX officials have failed to assist us to get chemicals and streak resistant maize varieties. As a result we see no reason why we should keep you in the scheme when you do not have land on this farm."

Some settlers accused the AREX officers of conniving with Ms Biri to force them into a co-operative. Others accused them of shrewdly crafting a plan to reduce them to simple ARDA farm workers where they (the AREX officers) would assume the role of farm managers. One settler erupted:

"We know all the scheming that you are up to, we were not born yesterday. You are assisting Ms Biri to achieve her goal of turning us into a corporative farm like she has done to the Chifundi farmers. That will not happen here. If the government thinks that by bringing Eden's irrigation equipment back onto this farm they can take the land away from us and give it to ARDA, so that we become ARDA farm workers, government is in for a long war with us."

¹³⁶ Servenia Murungweni the only woman settler in the irrigation scheme said this of the misunderstanding: *"You government officials must understand where the farmers' argument is rooted. It's not just the money that we want from growing a crop. Also we are not just inconsiderate of the maize streak virus that you are talking about. What comes first and foremost in the minds of us women who have to feed the children at home is the availability of the staple food maize. As you all know most of us did not harvest any maize last season. So we thought it would be logical to irrigate maize and not soyabean. However if this streak virus is going to wipe out all the maize including the rain-fed maize we have no choice do we?"*

After long discussions, the meeting resolved that the crop to be irrigated was going to be soyabean. The three AGRITEX officials and 11 farmers who did not have land under the centre pivot took no further part in the growing of the soyabean crop. In the end it was those who had land under the pivot who remained in the scheme to grow the single soyabean crop. The settlers approached the VSC to obtain permission to use some arable land dotted around the irrigated land for their rain-fed cropping of maize and other food crops. With the concurrence of the DLAC the settlers were authorised to use the land.

The settlers did not have the required inputs, the cash, machinery and expertise to grow the soyabean crop. Their relations with AREX were also a bit strained following the bruising meeting. The settlers then contacted their newly found friend, the commercial farmer Mr. Brink Bosman, who provided all the soyabean inputs and made minor repairs to the centre pivot. He also provided all the farm machinery for the handling of the soyabean crop. The settlers only provided labour for weeding and paid the electricity bills. All this was provided under a signed contract between the EPIMC and Mr. Bosman. The bottom line of the contract was that the settlers would get 10%, while Mr. Bosman would get 90 % of the harvested produce. This did not go down well with AREX officials and some politicians who cried “exploitation and the return of the white man”. However the settlers defended their contract vehemently, challenging AREX officials’ capacity to advise on the operation of the centre pivot, repair of boreholes and DDF’s capacity to provide timely farm machinery services that were now provided by one contractor Mr. Bosman. Asked to comment on their contract, the chairman of the scheme said:

“In fact we came here because we were told it was you who wanted to talk to us, if it was some other government official, we would not have come. If anyone tried to do anything hideous to our murungu (white man) we will take up our axes and fight a ferocious battle with them.” (pers. comm. 2003)

The crop yielded 210 tonnes from the 80 hectares planted. The resultant yield of 2.6 tonnes per hectare was commendable when compared to the national average of 2.01 tonnes per hectare. The EPIMC adhered to the terms of their contract with Mr. Bosman. He got his 90% and the settlers got their 10 %. After marketing the crop, the settlers paid the ZESA bills and the labour costs from their 10% share. Asked to comment on the contract in March 2003, Miss Biri said:

“There is no transparency here. In fact I will not argue with Mr. Bosman as shrewd businessman but not as a helper of up and coming A1 farmers. I agree that the farmers are making money from the contract, a lot more than most A1 even some A2 farmers, but Mr. Bosman is making a lot more out of this deal. I think the farmers can still make more. It is his getting 90 % of the produce that makes my stomach run. It is also worrying some politicians, including the local MP. How can we explain it to top politicians like the vice President of the country when a commercial farmer rakes in a whooping 90 % of the produce? They will obviously cry very loudly that this is exploitation. I wanted to have a big field day here where the high ranking politicians of the country would converge and see the good work, but not when Mr. Bosman is taking the lion’s share like this.”

However Mr. Bosman defended the contract saying that it was not exploitative at all, but in fact based on a percentage contribution to the costs of producing the crop. He claimed that his conscience was very clear. He did not believe that he was cheating anybody. He accused outsiders of intervening from an uninformed position. As far as he was concerned the Elmly Park settlers were led by able people, some with very high levels of education.

“Their treasurer is a former Chinhoyi branch manager of the Standard Chartered Bank. How can I cheat such a person? These people are jealous of the money that these AI farmers are making. I used to make a lot of losses when I assisted some of these shouting people. I was forced into this kind of a contract just because I was tired of being cheated by farmers who just promised to pay but never paid me for the services I rendered to them. This type of a contract is the best arrangement ever.”

After paying off all the expenses, the settlers deducted and deposited Zim \$3,800,000 (US \$4,471) into a bank account of the newly introduced EPIS revolving fund from the remaining Zim \$13,000,000 (US \$15,294). They shared the balance equally amongst themselves. For a break down of the costs see Table 8.5.

Table 8.5: The soyabean production costs for Elmly Park irrigation scheme (2003-05)

Item	2003	2003	2004	2004	2005	2005
	Zim \$	US \$	Zim \$	US \$	Zim \$	US \$
Initial fertiliser	117,000,000.00©	137,647.06	382,344.00	61.67	32,000,000.00	5,161.29
Nitrogen fertiliser		©	0.00	0.00	0.00	0.00
Seed			25,788,000.00	4,159.35	88,000,000.00	14,193.55
Chemicals			18,050,000.00	2,911.29		0.00
Tillage			198,120,000.00©	31,954.84©	35,000,000.00	5,645.16
Planting					28,000,000.00	4,516.13
Fertiliser					0.00	0.00
Application						
Chemical					8,500,000.00	1,370.97
Application						
Weeding					18,000,000.00	2,903.23
Transport					2,100,000.00	338.71
Inputs						
Harvesting					54,000,000.00	8,709.68
Transport					18,000,000.00	2,903.23
Produce						
Maintenance					17,630,000.00	2,843.55
Replacement					0.00	0.00
Labour	20,982.85	24.69	382,344.00	61.67	32,000,000.00	5,161.29
Electricity	224,000.00	263.53	3,771,078.23	608.24	9,254,000.00	1,492.58
Water					280,000.00	45.16
Total Costs	117,244,982.85	137,935.27	246,493,766.23	39,757.06	342,764,000.00	55,284.52

Source: Field data (2002 to 2005)

© Inputs provided through the Bosman contract

Winter wheat (2003) by contract with Mr. Brink Bosman

Satisfied with the service provided by Mr. Bosman, the EPIMC decided to contract him again. Seven more settlers joined the scheme, giving up their 6 hectares rain-fed land for sharing with those whose land lay under the centre pivot and increasing the number of irrigators to 18 (eighteen). However the contract with Mr. Bosman was modified after concerted negotiations between the EPIMC and Mr. Bosman.¹³⁷ In the new contract, Mr. Bosman’s contribution to

¹³⁷ Mr. Bosman said: *“This was a frank discussion where I put my cards on the table and they put theirs as well. I realised that I was dealing with people who knew what they wanted. I was told by the farmers that most of them had for many years been in search of good farming land having migrated from crowded communal*

the production costs was reduced to transport for inputs and the produce to and from market, tillage, planting, fertiliser broadcasting, chemical spraying and harvesting. He would also provide repair and maintenance services for the centre pivot. The settlers on the other hand would purchase all the inputs, pay all ZESA bills, repair, maintain and replace boreholes. Through a complex weighting of each cultural activity, the bottom line of the contract this time was that the contractor, Mr. Bosman, would get 40% of the produce while the settlers would walk away with 60% of the produce (for the share of costs refer to Table 8.4). From this table it is clear that the absolute costs of cultural practice were not used to determine the final weighting of the percentage contribution to the production of the crop.

The settlers made cash purchases for most of their inputs with the balance being purchased under the GMB input-credit scheme. Their harvest was 489 tonnes from the 80 hectares they had planted, at an average yield of 6.1 tonnes per hectare. The yield was quite close to Mr. Eden's record average yield of 7.5 tonnes per hectare. Both parties were happy with the result. Mr. Bosman was so happy that he was already dreaming of reaching Mr. Eden's 7.5 tonnes per hectare yield in the following winter crop.

"For as long as these new farmers are willing to provide all the inputs required we can achieve the 7 tonne per hectare target yield. Give the soil what it requires, if you want it to give you the high yield that you yearn for. It's refreshing to work with these farmers. What we need now is for the government and Commercial Farmer's Union to appreciate what we are doing here and stop all this squabbling and create a good economic environment where all inputs are available easily and we can make this country a wonderful place again."

After harvesting the crop, the EPIMC retained 28 tonnes for seed, consumed 15 tonnes, and sold 446 tonnes to GMB. From the sale of their produce, EPIS cashed Zim \$207,712,458 (US \$244,368). With this amount, they managed to fully repair, maintain and replace their aging irrigation equipment. After deducting the irrigation refurbishment costs, the EPIMC deposited a total of Zim \$51,000,000 (US \$60,000) into their revolving fund account before sharing the balance equally amongst themselves.

Makonde gets a new MP

Mr. Bosman was hoping and yearning for an end to squabbling and an appreciation by the government of the coexistence that was brewing between white commercial farmers and the newly resettled farmers at such schemes like Elmly Park and Chifundi. While they were basking in the glory of achieving very good yields in their agricultural endeavours, a natural event occurred 150 kilometres away from EPIS in the Borrowdale suburb of Harare. This event was to change the fate of EPIS in an unprecedented way. On 17th March 2003 the Minister of Higher and Tertiary Education, Dr. Swithan Mombeshora died after suffering a stroke. In the ensuing by-election campaigns, Makonde constituency experienced a lot of

areas in Masvingo and Midlands provinces to either Gokwe or Hurungwe. They thought that this time they had found the good land they were looking for. They told me that now they wanted to make money from farming. They were very clear to me that their intentions were not for them to end up being my farm workers. I also told them that I had been cheated before and that the only profession that I knew well enough to survive was farming. I was not going to give away my money to them. We therefore in the end decided that I would assist them to learn the farming game. While they were learning they would make money and they would pay school fees to me. So we embarked on a five year programme in which they would contribute what they could of the inputs costs and I would provide the balance. The share of the produce would depend on the contribution to the cost of production."

political tensions. The tensions started way before the official election campaign period was announced. In Zimbabwe the ruling ZANU PF party conducts what are known as primary elections to choose a single candidate from among its ranks who would represent the party against opposition party candidates. In rural areas like Makonde it is these primary elections that bring into play tantalising dramas.

The primary elections for Makonde pitted together a young journalist *cum* politician Kindness Paradza¹³⁸; former Zimbabwe Football Association national chairman, President Mugabe's nephew Leo Mugabe; Dr. Douglas Mombeshora, the late minister's brother, who had given up practice to become a full-fledged farmer by invading Rukute Farm in Doma ICA of Makonde district; and woman aspirant Lashiwe Murefu, then a civil servant working in the Provincial Medical Director's (PMD) office. It was rumoured that the Mashonaland West ZANU PF leadership were fully behind the President's nephew Leo Mugabe. According to Paradza's campaign team leader Ms Betty Biri, Paradza's support base came from Chief Makonde who was said to have a strong political following in his domain. After protracted campaigns, Kindness Paradza emerged victorious. However reports from newspapers quoted some ZANU PF Mashonaland West politburo members accusing Kindness Paradza of having written a lot of negative articles about President Mugabe whilst he was still working for the weekly tabloid the Financial Gazette before joining ZANU PF. As a result there was speculation that the President and the supreme organ of the party, the politburo, would not endorse Paradza's victory. To the amazement of many the President announced that the politburo had accepted the will of the people.

On 31st October 2003 Paradza won the Makonde by-election against the opposition MDC candidate by a very wide margin, of over ten thousand votes. It is however said that Paradza's election was never really accepted by many in the ZANU PF Mashonaland West leadership. Paradza did not help the situation either, providing his opponents with more ammunition. In his maiden speech in Parliament, he made scathing attacks at the newly enacted "Access to Information and Protection of Privacy Act (AIPPA)"¹³⁹. This did not go down well with the ZANU PF political heavy weights particularly in Mashonaland West province. Sensing trouble, Paradza decided to concentrate his energies on building his support base in Makonde constituency. He promised his electorate (mostly composed of smallholder communal farmers and fast track resettled farmers) that he would ensure that they benefited from all government support programmes. At Chifundi and Elmly Park irrigation schemes in particular, he promised that he would ensure that the farmers got access to the then widely publicised Islamic Republic of Iran and Zimbabwe Government tractor procurement support scheme to resettled farmers. Thus Paradza became involved with the day-to-day happenings at the two irrigation schemes.

¹³⁸ Paradza was also proprietor and publisher of the African Tribune Newspapers (ATN).

¹³⁹ Asked to comment on why his colleagues were bitter with him, Kindness Paradza replied: "These people make me sick. I understand AIPPA better than most of them because it affects my profession on a day-to-day basis as a newspaper publisher. This AIPPA is a piece of garbage meant to gag the press and suppress all those trying to talk about the bad things that the government is doing to its own people. I am a ZANU PF member of parliament but I can not sit there in parliament and let my liberties be trampled by fellow Zimbabweans in the name of patriotism to the party principles. One day they will agree with me but I am afraid it will be too late."

Soyabean production (2004)

GMB delayed paying the settlers their money for the winter wheat crop, causing several problems. Since time was ticking away, they approached their contractor (Mr. Bosman) for him to assist with purchasing the inputs. Mr. Bosman agreed to provide them with all the inputs on credit, on condition that the settlers would pay him as soon as they were paid by GMB. Like in the wheat crop, Mr. Brink Bosman was contracted to do all the tillage, planting, fertiliser broadcasting, spraying of chemicals, harvesting and transport of all the inputs to the farm, and the produce to the market. They signed an agreement that Mr. Bosman would get 40% of the produce and EPIS 60% only if EPIS repaid the input loan extended to them by Mr. Bosman on time or else he would get 90% share of the crop. EPIS repaid the loan and the season proceeded without flaws. EPIS harvested 267 tonnes from the 80 hectares, an average yield of 3.34 tonnes per hectare and a yield increase of about 0.7 tonnes per hectare over the 2003 yield of 2.6 tonnes per hectare. This was steady progress towards Mr. Eden's average yield of 4.5 tonnes per hectare. Of their 267 tonnes, 227 tonnes were sold to an agro-processing company Olivine Industries under Mr. Bosman's contract with the company at Z\$1,900,000 (US\$ 306) per tonne while the remaining 40 tonnes were marketed to GMB at Zim \$1,600,000 (US \$258) per tonne. The lower GMB price was accepted because the settlers wanted to keep a good record with GMB so as to ensure continued access to cheaper GMB inputs.

The Vice President is dragged into the operations at Elmly Park Irrigation scheme

On the 6th of April 2004, a soyabean field day was held at Chifundi and EPIS. Like previously with wheat this field day was not the usual field day organised by AREX. It was more of a ZANU PF rally. The master of ceremony was the MP for Makonde, Mr. Kindness Paradza. Invited guests included the Vice President (VP), Comrade Msika; ZANU PF Mashonaland West members of the politburo; the newly appointed Governor of Mashonaland West province, Comrade Samukange; the Minister of Policy Implementation, Comrade Shamu; Mashonaland West ZANU PF provincial leadership and all provincial heads of government departments. The field day started with a meeting chaired by the provincial governor at which the VP was briefed of all development programmes in the province by the provincial administrator (PA). From time to time during the PA's address, heads of ministries were asked to furnish the VP with more details on the projects and programmes of their departments. When it came to the irrigation development in the province and Chifundi and EPIS in particular, the DoI's provincial Chief Irrigation Engineer¹⁴⁰ gave more details. He detailed the impacts of the Third Chimurenga on irrigated agriculture in the province, and the efforts of DoI to redress them, citing the activities at Chifundi and EPIS as part of the efforts. The VP expressed shock at the impacts and was full of praise of the DoI efforts. He demanded a full report on the activities at Chifundi and EPIS and how these could be replicated throughout the country.

After the meeting a tour of the fields was made. The VP was impressed and personally shook hands with the white commercial farmers and former commercial farmers who were involved with the production at the two irrigation schemes describing them as "true sons" of Zimbabwe. He pledged that he would inform his boss, the President of Zimbabwe, of their good work. After the field tour, the VP addressed hundreds of people who had gathered from all corners of Makonde to witness the good work going on at the farms. Mr. Paradza had hired

¹⁴⁰ The researcher was the Chief Irrigation Engineer.

several lorries and a mini-bus to offer free transport for the occasion. The VP praised the MP very much for coordinating development in his constituency. He concluded by promising the Chifundi and EPIS that he would personally ensure that they were given a loan to purchase new tractors under the Iranian Aid Tractor Facility to Zimbabwe. The tractor promise fulfilled the MP's promise to the settlers. The MP did not waste time. Soon after the field day; he personally supervised the production of the irrigation report requested by the VP. He and the Minister of Policy Implementation facilitated a meeting at which the Chief Irrigation Engineer presented the report to the VP. Satisfied with the report the VP told the three that he would set up a meeting with the Governor of the Reserve Bank of Zimbabwe (RBZ) to discuss the funding of a much bigger programme.

The meeting with the RBZ governor was held at the governor's office. The governor was very impressed with the briefing. He proposed the setting up of a task force comprising the Ministry of Agriculture heads of departments involved in irrigated agriculture and officers from RBZ. For Chifundi and EPIS, he promised a face-to-face discussion with them for him to make a decision as to how they could be assisted. The meeting was organised at which two settler representatives were brought to Harare to meet the governor. Paradza paid for all the expenses of the settlers' trip to meet the governor including transport and hotel accommodation for one night at George Hotel in Harare. The governor was impressed by the settlers' narratives. He advised them to apply for the "RBZ Productive Sector Facility Loan" (PSFL)¹⁴¹ for all farm equipment they required through their banks. The settlers were advised to contact the governor's assistant if they faced any problems. However the settlers were never granted the loan. As will be discussed later Paradza got embroiled in complicated political and business struggles that made it impossible for him to continue assisting the settlers. When the settlers approached the banks, they were told that the PSFL was not for unregistered cooperatives like the Chifundi and EPIS. They were also told that even if they qualified for the loan, their application was too late since the PSFL facility was only six months away from termination. However some commentators argue that banks were not keen to implement the RBZ programme that offered loans at very low rates when they could use their own cash to offer loans at much higher lending rates (for the bank lending rates see Table 8.3). There were complaints of outright laxity on the part of banks to process applications by very large players in the productive sector.¹⁴² This probably explains why the Chifundi and EPIS loans did not get favorable attention.

¹⁴¹ PSFL was an RBZ finance facility meant to reinvigorate the country's ailing manufacturing sector. The productive sector finance facility was first introduced by the government when it introduced a dual interest rate policy in 2002 to cushion producers from sharp interest rate hikes, which would scupper efforts aimed at resuscitating production. The facility was first announced in the 2003 monetary policy by the then RBZ governor, Leonard Tsumba, and was structured to avail cheap funds to exporters at 5% and 15% for exporters and producers. However under Gono's monetary policy, the dual interest rate incentives were collapsed into one, with a uniform 30% interest rate. The maximum maturity period for the loans was set at 180 days for working capital and 360 days for capital expenditure. Sectors considered under the facility were agriculture, mining, manufacturing, construction, transport, communication and tourism, while the financial sector, individuals, non-governmental organizations, passenger transport firms, parastatals and other quasi-governmental institutions were not eligible for funding.

¹⁴² Recently, Zimbabwe Tobacco Association (ZTA) president Duncan Millar expressed disappointment at the perceived intransigence of some banks to advance the concessionary loans. Hamish Rudland of Pioneer Africa Corporation (PCA), one of the country's biggest transport firms, said there were inordinate delays in processing loan applications. Gono, however, insisted that the central bank, through its Apex Unit, processed most applications within 48 hours. *"My staff has committed to processing all applications within 48 hours of*

Winter Wheat Programme (2004)

Immediately after harvesting their soyabean crop the settlers planted the winter wheat crop. Settlers procured most inputs with cash. Like in 2003, GMB also provided them with some of the inputs on the input-credit scheme. However the settlers decided to increase the area under wheat by planting 10 more hectares irrigated by a semi portable irrigation system. The 10 hectare crop was not included in the contract with Mr. Bosman. According to the EPIS chairman they decided to pay upfront for all the services rendered by Mr. Bosman. He says that this was expected to bolster the EPIS' confidence to go it alone at the end of their five year contract with Mr. Bosman. Under the centre pivot, the settlers harvested 496 tonnes of wheat at an average yield of 6.2 tonnes per hectare. From their 10 hectare plot, they harvested 63 tonnes of wheat, a yield of 6.3 tonnes per hectare. The yield of 6.2 tonnes per hectare was quite close to Mr. Eden's record average yield of 7,5 tonnes per hectare. There was however only a slight yield increase of 0.1 per hectare over their 2003 yield. The chairman of EPIS claims that they could have increased the yield under the pivot by a wider margin were it not for their neighbours' livestock, especially cattle and goats that were grazing their wheat at night.

The MP invades Bosman's farm

Kindness Paradza's problem with ZANU PF mounted after the field day at Chifundi and EPIS. Many ZANU PF provincial leaders, including war veterans, were visibly shaken by the praises showered on him by the VP. His adversaries in the primary elections could be heard groaning during Paradza's speech. A listening survey conducted during the field day clearly revealed that Paradza was in trouble. The Mashonaland West provincial war veterans association chairman Comrade Mangeya, Leo Mugabe and the Mashonaland West ZANU PF provincial Chairman Mr. Chiyangwa were heard whispering to each other on the motive of the field day, who had invited the VP and why Paradza was master of ceremony at a function that involved politburo members. They were visibly agitated by the event. It was not surprising when on the 29th of April, the Financial Gazette newspaper ran a front page story on Kindness Paradza:

"ZANU PF's Mashonaland West province has issued Member of Parliament for Makonde, Kindness Paradza, with a prohibition order suspending him from carrying out party duties in his constituency. Part of the prohibition order reads: "You are suspended from carrying out any party work in the Makonde district and particularly Makonde constituency. You will appear before the disciplinary committee on due dates and in this case on May 27 2004, at the ZANU PF provincial office, Old Hospital, Chinhoyi, or such other place as may be suggested in writing by the chairman of the disciplinary committee."

submission, three days at most and if there are any delays, then you should check with your banks," Gono said. Bankers Association of Zimbabwe (BAZ) vice president, Jeremiah Tsodzai, refuted claims that banks were not keen on advancing funds under the productive facility. "Banks are only too eager to advance loans, whether at the 30 percent interest or 200 percent interest. There is no question of banks not wanting to advance the concessionary funds in order to get people borrowing at higher interest rates. What might be happening is largely due to the differences in systems that exist between one institution and another," Tsodzai said. The conditions of the loans stipulate that banks carry 100 percent risk for non-performance of loans advanced under the facility. The facility came under criticism in its first year of operation, with non-monitoring resulting in abuse (The Zimbabwe Financial Gazette 02/12/2004).

On 27th May 2004, Paradza's case was heard by the ZANU PF Mashonaland West disciplinary Committee after which he was suspended from the party. However he remained Member of Parliament for the constituency, although there was speculation that a by-election was in the offing and preparations were already in progress with ZANU PF politburo and Mashonaland West provincial party stalwarts canvassing support for their favorite horses.

Meanwhile Paradza descended on Mr. Bosman's farm with an offer letter signed by the Minister of Lands and Rural Resettlement (LRR) suggesting that he, Paradza, was resettled on Mr. Bosman's farm under the A2 fast track resettlement model. Mr. Bosman refused to accept the offer letter and later took the case up with the Provincial Governor. The Provincial Governor took the matter up with the Minister of Lands and Rural Resettlement explaining the VP's visit to EPIS and promises he made to Mr. Bosman. The Minister of LRR immediately cancelled the offer letter to Kindness Paradza and asked Mr. Bosman to carry on with farming. Kindness Paradza's problems continued to mount. On the 11th of June 2004 Kindness Paradza's media house, the Africa Tribune Newspapers (ATN), publishers of The Tribune newspaper, was shut down by the government-appointed Media and Information Commission (MIC) on allegations of breaching sections of AIPPA. As if this slide was not enough, Paradza hired some youths from Makonde and invaded Mr. Bosman's farm on Friday the 17th of September 2004. According to Mr. Bosman the youths spent the whole night singing and dancing in front of his house. On Saturday morning he decided to evacuate his wife and children to Harare where they would stay with friends. He also decided to remove most of his personal belongings from the farm to warehouses in Harare. When I arrived on the farm on Thursday the 23rd of September, Mr. Bosman's house was completely empty and some of Paradza's hired youths had camped in the house. Mr. Bosman was now staying at his farm manager's house. When I announced the business of my visit, which was to assess and put a value to his irrigation equipment for eventual take over by Mr. Paradza after he had been paid off, Mr. Bosman said:

"I was told you were coming by Mr. Paradza himself. I don't mind you doing your academic exercise. You are a civil servant doing your job. I will make it very easy for you. I have a very well kept register of all my irrigation equipment. I also have a latest evaluation report of all my equipment that was made by Dore and Pit a week ago. I will give you a soft copy of that evaluation so that your report will be much faster. But that report is a waste of time because I am not selling my equipment to anyone. I am still here at my farm. This MP is playing games with me. The worst that he can manage to do is to disturb my operations a bit. His target is not me. He is trying to create problems for his fellow ZANU PF members. A close look at his offer letter shows that the letter is a dubious one. If he was issued the offer in 2000 as the offer letter suggests, why didn't he come during that time? I am told he has got a relative in the Ministry of Lands and Resettlement; this is the one who fabricated the letter. I am telling you that they are going to whimper. This issue is involving a lot of people including also the current governor. They are all going to pay the price. If I am expelled from this farm, I am not going to stop anywhere in Chinhoyi. I will simply travel to Harare and get an aeroplane and go anywhere in the world as a political asylum seeker. I can tell you, many people are going to cry. But it's good because we must all cry together."

Kindness Paradza's youths remained on the farm as Bosman harvested his wheat crop but they never interfered with his operations. However, when Mr. Bosman started preparations for the soyabean crop, the youths instructed him not to do so. Mr. Bosman reported the case to the police, the provincial governor and the secretary for the Ministry of LRR but he was told to remain calm. The planting of soyabean on his farm was only possible at the end of

December following the arrest of Kindness Paradza. The state sponsored Zimbabwe Herald newspaper of 28th December 2004 carried on its front page the following story that was “sweet music” to Mr. Bosman:

“ZANU-PF Member of Parliament for Makonde Cde Kindness Paradza was arrested yesterday afternoon on charges of inciting public violence, becoming the second legislator after Phone Madiro to be arrested on the same charges. Police reports indicate that the legislator who is in custody at Chinhoyi Police Station was picked up following a spate of the ruling ZANU PF intra-party political violence in Makonde District since Christmas Day. The skirmishes involved youths backing Cde Paradza and those aligned to Cde Leo Mugabe, who were both vying to represent Zanu-PF in Makonde in next year’s general elections scheduled for March. It is alleged that on Christmas Day, several youths supporting the Makonde MP arrived at Hombwe Shopping Centre in the Zumbara area wearing Cde Paradza’s campaign T-shirts and clashed with those loyal to his challenger, Cde Leo Mugabe. Cde Paradza’s youths were outnumbered and were subsequently severely beaten up. A report was made to police and a number of the youths belonging to Cde Leo Mugabe’s camp were arrested and charged. It is alleged that on Boxing Day, Cde Paradza regrouped and organised youths in his camp to strike back. Cde Paradza’s youths went about identifying youths aligned to Cde Leo Mugabe and beating them up. Police reiterated yesterday that they would come down hard on any elements bent on causing violence ahead of the polls. Cde Paradza is expected to appear in court soon facing public violence charges. Early this month, Police Commissioner Augustine Chihuri said the practice of recruiting hordes of youths to cause mayhem and brutalise innocent citizens whenever elections were due would be monitored and decisively dealt with. He said police would not tolerate politicians who substitute “lack of brain work by physical power”. Cde Chihuri said “the message for peaceful campaigns must find meaning among all contesting parties in both letter and spirit”. He said police would deal sternly with any violence whether intra-party or inter-party.”

With Paradza in custody, all his youths including those that were camped at Mr. Bosman’s farm were rounded up by police. Paradza was banned from contesting the election. Soon after the removal of Paradza’s youths from his farm, Mr. Bosman planted what he described as his ‘latest planted soyabean crop in his farming history’. The anxieties brought about by these disturbances had telling effects on Mr. Bosman’s contract with the EPIS.

Soyabean (2004-05)

After good yields in the 2003-04 season, the EPIS and Mr. Bosman were geared for the target 4.5 tonne yield. The EPIS had even increased the area to be planted to soyabean to 100 hectares (80 hectares under centre pivot and 20 hectares under semi-portable sprinkler irrigation systems). However with Mr. Bosman under siege from the local MP Kindness Paradza, all their plans were derailed. Isdory Mtandwa, the EPIS manager, summed up the scenario:

“Paradza was too sweet music. It reminds me of my father’s advice, “sweet things are expensive, and they don’t come easy”. When I analyse Paradza’s actions, I see a very devious man. He is a very intelligent man but this is wasted intelligence, because it’s intelligence in the head of a crazy man. All this tractor business was a hoax. He was killing many birds with one stone. I tell you the man is a schemer. I suppose it comes from his training (journalism). Using us, he wanted to get political good will from the VP. With support from the VP then he would write insinuating stories very close to defaming ZANU PF for his paper without too much scrutiny from the party. This would churn windfalls into his bank account as people rushed to buy his paper. But to be politically more correctly he

needed to pose as a tough guy with commercial farmers, thus his invasion of Mr. Bosman's farm. But invading Mr. Bosman's farm would make him lose our support. So to alienate us from Mr. Bosman he decided to make sure that we had our own tractors. This is why we never trusted Ms Biri right from the word go. We understand they were very close, but now there seems to be some problems between them. However God is not for one man He is for all humans. It's good he was nipped whilst he was still a bud in politics. Paradza's actions greatly disturbed our plans."

The certainty of Mr. Bosman's farming career in Lions Den and even in Zimbabwe was unexpectedly threatened by the MP. Because of this, after concerted discussion with the EPIS, they modified their contract. It was agreed Mr. Bosman would provide the settlers with transport for inputs and the produce to and from market, tillage, planting, fertiliser broadcasting, spraying of chemicals and harvesting. However the settlers would pay him cash for every service rendered. The EPIS would continue with its contributions as before, but they would also be fully responsible for the operation and maintenance of the irrigation system. At harvesting the settlers would take 100% of the crop. The chairman of EPIS says it was a mind blasting process to negotiate with a white man who was being terrorised by one of their colour:

"It was difficult to approach him when he was under siege. We asked ourselves many questions: Who is going to approach him? What is he going to say of us? If he refused to work with us, what were we going to do? In the end we agreed that the whole EPIMC would approach him. When we finally approached him, we were surprised that he was still willing to work with us. He simply said he was only at war with Paradza and his youths. He however said that it would be good for him and us if we paid him cash for all the services he rendered until the situation was a bit better."

With the sudden change in contract, and with delays in payment by GMB, the settlers decided to cut down on tillage operations. They simply burnt the wheat straw and planted soyabean without ploughing or disking. They were also unfortunate in that a day after they had planted their soyabean crop, their centre pivot developed problems. When they tried to contact Mr. Bosman for help, he was not on the farm. In the end they went to Harare to get help from Dore and Pit, Eden's former contractors. To get Dore and Pit to come and diagnose the problem, the settlers needed to pay the company Zim \$3,000,000 (US \$484) upfront. It took them a week to get the centre pivot working again. However, as a result germination was erratic. In the end the yield they got (1.85 tonnes per hectare) was very low compared to their 2003 and 2004 yields (2.5 and 3.34 tonnes per hectare respectively).

8.4 Conclusions

This chapter has shown how the irrigators at Chifundi and Elmly Park struggled with irrigated agriculture in a politically charged national environment. The detailed narration shows that irrigation management reform policy models in Zimbabwe can not be isolated from the main national reforms that constitute the macro-economic environment. IMR in this case became what is known in Shona religion and by spirit mediums as "*mberekwa*", meaning a small spirit that rides on the back of a much bigger and more powerful spirit. In this scenario, IMRs ride on the back of the macro level reform programme.

Opportunities and contests: a learning process in the face of political turmoil

The Chifundi and Elmly Park irrigation schemes were not typical policy model experiments based on clearly defined and coded policy prescriptions written down in any document. The intentions of government were only understood from the utterances of politicians and government officials. The government's intentions were in the form of promises by government made through an agricultural input support programme. Although the promises can be said to have been made by government, government was no longer coherent or united, but was instead contingent, internally divided and fluid, as was most clearly demonstrated in the case of the arrested MP, who tried to use the farming success at Chifundi and Elmly Park to further his own political mileage. In fact, promises were made by separate government ministers and civil servants representing different ministries and were delivered by an equally varied number of organisations, e.g. DDF, GMB ARDA, AREX, DoAE, DoI and ZINWA. These in themselves were in most cases neither aware, readily prepared nor capable of delivering the promised services.

This chapter discussed how settlers at the two irrigation schemes struggled with the input support programme and how they crafted strategies to overcome the constraints. Faced with ailing government support in terms of operation and maintenance of the irrigation infrastructure as well as crop inputs, the new settlers teamed up with other service providers. Many actors trying to scratch a living from the harsh economic environment following the Third Chimurenga stormed into the agricultural sector. Former commercial farmers availed themselves to the new settlers at the two schemes, despite the differences between the schemes in their irrigation technology, other human resources for operations in the community and the access that the new settlers had to civil servants and politicians.

The Chifundi settlers guided by an AREX extension officer settled on the farm and with the availability of former farm workers opted for self management of the irrigated agricultural venture. When they were incorporated as key irrigation operation and management personnel at the Chifundi irrigation scheme, the former farm workers (whose residential compound was on Chifundi farm) not only offered the required expertise in the operation of the irrigation infrastructure but also the required crop production expertise including labour management. As a result these former farm workers formed the core of the production unit led by the former farm manager to spearhead the irrigated agricultural ventures of the Chifundi settlers. The result was that at Chifundi only inputs like tillage, fertiliser, seed and crop chemicals were sourced from outside. The actual operation was carried out by the production unit with hired labour. Although the AREX officer was not fully conversant with the irrigation infrastructure, her networks with politicians, agro-processing companies, government service providers like DDF, ARDA, GMB and ZINWA, and also former commercial farmers proved to be a valuable asset that the Chifundi settlers took advantage of. Not all her advice was readily taken up by the settlers though as was evidenced by the failure on the part of the settlers to take heed of her advice on rotating wheat with maize. However Chifundi settlers were able to enter into varied contracts with numerous organisations and individuals in their survival strategies, because of their close association with the AREX officer.

On the other hand at Elmly Park, where settlers had no access to expert farm workers, operation and maintenance services were sourced from a commercial farmer who became a god father or mentor to them. Their brief stint with the three AREX officials was quickly

terminated because they suspected that the latter were trying to wittingly elbow them out of their hard earned land. Although the commercial farmer was willing to assist them, he was not prepared to engage in a dialogue with the settlers as a group. The result was that the new settlers were forced to create the position of irrigation scheme manager who would liaise with their mentor Mr Bosman on a day-to-day basis. The mentor was initially supporting the new settlers with not only irrigation infrastructure operation and maintenance advice but also the bulk of the inputs. The result was that the mentor took up the bulk of the profits. However the settlers soon learnt the tricks from the commercial farmer and were steadily taking over these activities from him. As they progressed they changed the terms of the contract in their favour, steadily wielding more of the produce in their own pockets. Thus they changed the terms of the service contract from 10% to 60% of the yields, and later augmented this to 100% of the yields in exchange for impromptu cash payments for each service extended to them by their mentor. External events, such as the invasion of their mentor's farm by an unscrupulous ZANU PF MP, hastened the pace of the learning process that the invader settlers embarked on with their mentor.

Because the centre pivot at Elmly Park could not be moved from one site to another, the Elmly Park settlers were restricted to the growing of a fixed area in summer. At Chifundi though, the settlers were able to double the irrigated area in summer to take advantage of rainfall. However this brought problems when the settlers failed to provide the inputs for the expanded cropped area. With this failure, the CICAC was voted out of office and replaced by members of the production unit. Because the Chifundi settlers had storage and crop drying facilities on the farm, they were able to store their wheat while they negotiated a price with GMB. The Elmly Park settlers though depended on the swift harvesting operations and the commercial farmer's networks to quickly market their crops. When the Chifundi farmers failed to secure farm inputs from GMB, they resorted to contracts and deals with agro-processing companies like FSI to provide the inputs on loan to them. At Elmly Park on the other hand they deepened on the networks of their god father who was not only able to supply them with inputs but also sold their products at higher prices through his personal contracts with private agro-processing companies. By engaging FSI, the Chifundi farmers ended up paying very high interests rates on the borrowed inputs. This was a salient lesson to them, which only served to strengthen their resolve to work with former commercial farmers as service providers. It is striking and ironic to note that the very 'enemies of the state', i.e. the white commercial farmers, proved to be the most reliable partners available to the invader settlers in their endeavours to make the fast track resettlement programme a farming success.

Power relations and accountability practices: trust versus political prowess

Accountability is about 'answerability' and 'controlling the actions of one party by another party' and thus is about power relations (Vos 2002, 23). Accountability has also been closely linked with the notion of user or beneficiary participation. The concept of accountability has however mainly been limited to questioning the responsive behaviour of irrigation bureaucracies to the irrigators, referred to as downward accountability (Small and Carruthers 1991; Merrey 1996). The detailed discussion on the functioning of Elmly Park and Chifundi irrigation schemes has shown that relating to accountability as the responsive behaviour of irrigation bureaucracies is not applicable for the context of the fast track resettlement farms. Rather accountability is about power relations. Power here is the whole range of power forms as defined by Rummel (coercive power, bargaining power, intellectual power, authoritative

power, altruistic power and manipulative power). All these power forms were at play in the day-to-day operations at the irrigation schemes.

What was clear in the case of the two schemes was that government irrigation agencies were almost absent at the two schemes. When AREX officers tried to be involved at Elmly Park, even with their intellectual and authoritative power that they wielded over the new settlers as state representatives, they were thrown out of the scheme by the settlers who failed to understand why the AREX officers were benefiting from their hard earned land. When the new settlers realised that the government agencies were not fully conversant with the centre pivot irrigation system at their farm, they decided to bargain directly with the commercial farmer who later became their mentor. The commercial farmer fearing the numerical advantage that the Elmly Park IMC had over him at negotiations and also wishing to reduce discussion time during contract negotiations, demanded that the new settlers be represented by a single person that he would work with on a day-to-day basis. When government officials tried to interfere with their contract with the commercial farmer, the new settlers resorted to coercion, threatening physical harm to any government officer who intended to interfere with their “*murungu*”. However their threats proved to be empty threats when their “*murungu*” Mr Bosman’s farm was invaded by their MP. The new settlers failed to stop the MP from interfering with Mr Bosman and as a result their operations at the farm were disrupted. The actions of the MP are clearly documented showing how he resorted to manipulative tendencies to prop up his ailing political career.

At Chifundi irrigation scheme, the intellectual power of the AREX officer member of the irrigation scheme was clearly documented. However this was sometimes countered by the high level political connections of some members of the scheme like Mr. Chinhengo whose brother worked in the president’s office. Using his political connections, the settlers forced the irrigators into growing maize following wheat. The result was a disaster. The new settlers’ altruistic power is clearly demonstrated. Their desire to make the resettlement programme a success forced them to accommodate former commercial farm workers into their leadership structures if only to ensure that their irrigated agricultural ventures were a success. They also decided to seek for services from former commercial farmers who themselves were also deeply in love with their farming career and were therefore willing to offer the services. The new settlers were at one time lured into a contract with an agro-processing company FSI on advice from their AREX irrigation scheme member. But when this deal proved to be a raw lesson in economics, they quickly resorted back to their original service providers, i.e. former commercial farmers.

What was mostly clearly demonstrated by the unfolding events at Chifundi and Elmly Park is that accountability is about trust and that this trust is subjected to frequent (re)negotiations of its terms on the basis of alternative options and proven track records of fulfilling agreed promises (services) and obligations. Trust is established on the basis of lived practice rather than beautiful organograms and theoretical deliberations on incentives and rational human behaviour, as neo-liberal and neo-institutional reformists in the irrigation sector would have it. Ironically in the context of the Third Chimurenga, it is about a love of the land and its people, as is most clearly demonstrated by the mutually beneficial relationship that developed between former commercial farmers and invader settlers involved in the Chifundi and Elmly Park cases. I say ironic, because the very people portraying their actions in the context of a

professed love of the land and the people of Zimbabwe, i.e. ZANU PF and the top leadership, proved to be the most greedy, rapacious and untrustworthy partners in this game of trying to revive a rich irrigation culture.

Outcomes of the model

Irrigated agriculture at both schemes was mediated by different actors chasing different agendas in the name of assisting the irrigation schemes. The local MP Kindness Paradza is one such actor whose actions were clearly demonstrated in this chapter. His actions had deleterious effects on the operations of Elmly Park settlers and their contract with Mr Bosman. Mr Bosman's intentions were not only to create his political good name but also to increase the area on which his farm equipment was operating. In this way he made more efficient use of his farm equipment. To make sure he made maximum benefit, he assisted the settlers in growing the crop so as to get the highest possible yield. High yields meant high returns to him since he was paid in percentages of the harvested crop. The AREX officer Ms Biri's advice to the Chifundi farm was not only going to benefit her directly since she owned a plot at Chifundi but would also benefit her career-wise both as a politician and in the form of promotions within AREX. Other actors Mr Jubert, FSI and Mr Van Rensburg's motives were also documented. Chief Makonde assisted the settlers only to ensure that his tentacles of power were spread into the resettlement area. When the settlers tried to get a loan from the bank under the RBZ productive sector facility, they were seemingly turned down because the banks found it illogical to process the RBZ loan at a very low interest rate when they could process a much higher interest rate loan with the same time and labour.

Production and rewards from the irrigated agriculture was uppermost in the minds of the new settlers. Capacity to operate and maintain the irrigation infrastructure and to ensure high productivity as a result governed who was incorporated into the leadership structure at the two schemes. In the end it was how much one was able to contribute to the productivity of the irrigated venture that mattered and not who one was in terms of race, tribe or place of origin. Although there were problems at the irrigation schemes, the irrigation schemes were succeeding. By 2005, 125 farms with varying irrigated areas had equipment bought by government for the new farmers to start irrigation. Makonde alone had 16 such farms assisted. Of these only five others were operating fully. These were also operating under the same principles as the Chifundi farmers. The remaining 11 farms were struggling with pump breakdowns (the greatest foe then), shortage of crop inputs and shortage of tillage equipment.



Photo 20: Pump house and main intake at Gondoma farm
Source: picture Zawe 2006

9 CONCLUSIONS AND DISCUSSION

This study set out to answer the question: How and why were three Irrigation Management Reform models negotiated, adapted, and transformed by different policy actors, how did the reform models shape organisations and institutional forms at three sprinkler irrigation schemes, what opportunities or contests emerged among stakeholders, and what outcomes were produced by them? Sprinkler irrigation systems were a critically important technology in Zimbabwe's prime agro-ecological zone but not typical of smallholder irrigation designs in Zimbabwe (Chidenga 2003). With the help of the three cases discussed, this study has taken a close look at how people organised themselves, how they dealt with policy models, how they managed or coped with irrigated agriculture and why they chose to do it that way. It also unravelled how these practices were embedded in the wider state-society relations, other wider reforms and social, cultural and political histories of the people and their state. This concluding chapter ties up the main findings of the research.

The guiding framework as presented in figure 1.1 that I used in this study was that International Development and Aid Agencies guided by irrigation management reform discourse and cash engaged recipient national governments, themselves armed with national development agenda and programmes, in negotiations for the crafting of irrigation policies and programmes. These negotiations will prescribe not only IMR policy models but also irrigation technology and crops for smallholder farmers (the beneficiaries). These prescriptions are implemented through an implementation process by agents who interact not only with beneficiaries but with other agents in different arenas. The government and the beneficiaries' social dynamics shaped by the country's history have an impact on the sociotechnical outcomes of the IMR models as much as the models will reshape the social dynamics of the beneficiaries and the surrounding society. With this realisation, this chapter was shaped as below to help clarify the discussion.

The first section (9.1) revisits the case study sites of the three policy models, to summarise each model's dynamics and realities, and provide an "epilogue" on their experiences during the first half of 2006. This shows how my findings deviate substantially from the progressive global image of irrigation management reforms presented in chapter 1. Section 9.2 looks for some learning on policy formation across the case studies while Section 9.3 translates these into generic findings relevant to transformed conceptualisation and support for social designs for IMR. The chapter then reflects on methodological needs and challenges for research on such problem contexts (9.4). This study also hoped its findings could help formulate new irrigation policies for sustainable technology and production, as well as to help address the three critical dimensions of the land question in Zimbabwe, as discussed in section 9.5.

9.1 The three models, their changing realities and the epilogue to 2006

This thesis looked at three irrigation management reform policy models that were implemented in Zimbabwe, as discussed in chapter 3 to chapter 8. In this section the three models are revisited to summarise the dynamics between model and reality. The models are separately discussed to clearly show how each model concepts transformed into reality.

The Water Users Association model (Musarurwa)

The model in theory

“Involvement of all concerned in planning, design, operation and maintenance of water systems increasingly is considered a necessity in order to overcome current problems in the water sector. In the irrigation sub-sector, farmers are at the end of the chain of those involved in water supply. They are the users who turn water into agricultural products. A review of irrigation systems around the world shows that participation of farmers in decision making is far from automatic.” (van Vuren 1996, back cover)

As discussed in chapter 1, this reform model was an attempt by the provincial Irrigation Branch of AGRITEX to implement its adopted policy of smallholder irrigation development in association with or with the participation of the users. It was hoped that this would ensure easier transfer of the responsibility of operation and maintenance (O&M) of the irrigation scheme to users. The model had proposed a two tier ownership of irrigation infrastructure where field level equipment was to be owned by individual farmers, while scheme level infrastructure was to be held in communal custody by an elected IMC that was headed by the users. The IMC would then form sub-committees as it saw fit to assist in the day-to-day running of the irrigation scheme. Initially, the aim was to develop a 200 hectare irrigation scheme for a group of 200 users, each with an individually owned one-hectare plot. The intention was that government agencies would provide technical advisory and extension services free of charge to the IMC and the irrigators, while commercial service providers like fertiliser companies, irrigation installation-companies, seed houses and others would provide services to the irrigators and the IMC at commercial rates (see Figure 1.3). As discussed in chapter 1, design engineers of Musarurwa irrigation scheme adopted the slippery concept of “participation of users” in developing the irrigation scheme. Chapter 1 also discussed the two typologies of participation as presented in van Vuren (1996). The detailed reality encounters presented in chapters 3 and 4 have however shown that the fruits of participation emanate not only from the adherence to any one of these typologies but also from wider collective interactions that are mediated by natural and manmade events.

The model in practice

The vivid account of the model presented in chapters 3 and 4 demonstrated the interactions that result when international aid organisations, the recipient state’s agendas, the state histories and the beneficiaries engage with each other in shaping outcomes of policy models illustrated by Figure 1.1. Actors, events, mishaps and technological demands over and above levels or intentions of participation played through the model modifying it into reality. As discussed in chapter 3, initially the model was to be implemented with Japanese funding. The insistence by the Japanese government on a consolidated glamorous 200 hectare irrigated block of land was countered by the targeted Kutama communal farmers to surrender all or part of their rain-fed agricultural land to irrigated agriculture. Apparently they were suspicious of not only the benefits of irrigation (following the dismal performance of the government developed Mukadzimustva smallholder irrigation scheme) but also of the motives of the State President that resulted in the Musarurwa irrigation scheme being developed without technical or financial inputs from international development and aid agencies by default. In the end a much smaller 25 hectare clan-based irrigation scheme, much further away from the initial target community was developed, dictated by the limited government funding and the available idle land. The victory by irrigators as regards plot size over the design engineers

upset the model's cherished intentions of allocating in-field irrigation equipment to individual irrigators. The theft of aluminium lateral pipes and the operational demands of the on-off pump unit resulted in the IMC garnering control over both scheme and field level irrigation equipment.

The departure of the AGRITEX AEW in pursuit of further education and the failure by the Irrigation Division to provide resources for the replacement of the stolen in-field irrigation equipment not only strengthened the smallholder farmers' resolve to take over the day-to-day operation and maintenance of the irrigation scheme. It also resulted in introduction of the Water Committee (WC) in the management framework at the irrigation scheme. The WC's effectiveness was possible thanks to the availability (in their midst) of capable individuals that were eager and able to operate electricity driven pump units albeit with experience gained from previous encounters with similar technologies. The capable guys however got their drive to perform not from lucrative payments for services delivered but from fear of loss of residential land allocated to them by the Musarurwa village heads. In conflict resolution, it was shown how the IMC chairperson recruited the wisdom of other actors and organisations that were never imagined by the crafters of the model, as shown in the resolution of the stolen sugar bean case discussed in chapter 4. The role of the AGRITEX SAES Mr Kubayabaya in assisting the farmers in the acquisition of crop inputs went beyond the extension and advice roles stipulated by the model. His wish to assist the irrigators was rooted not in the departmental mission statements, objectives, operational culture or remuneration structure but in the fact that his mother was related to the Musarurwa family, such that his efforts went beyond the call of duty. As Mosse (2004) argues, the impacts of events like the hailstorm, the lightning strike and the witch hunting ceremony discussed in chapter 4 vividly showed that policy outcomes were mediated by multiple interactions between a variety of actors that drew on different customs and cultural and ritual fabric of the community in which they were crafted and implemented.

The Co-operative Company model (Negomo)

The model in theory

*“The fieldworkers should not only act as irrigation and production advisers, but assist in the development and consolidation of water users' organisations. This requires **specific skills in the organisation of user groups**. Only very rarely will the water authorities in irrigation systems possess adequate experience and skills, since problems of group formation have hitherto been largely ignored by water authorities and external donor organisations.”*
(Huppert and Walker 1989, 57)

As discussed in chapter 1 and chapter 5, the model was developed by international and local companies wishing to establish a modern irrigation scheme, run by a co-operative company. The crafters of the model also wished to introduce efficient intensive production and marketing of high value export crops so as to ensure sustainable operation and maintenance of the irrigation system. As discussed in chapter 1 the company would collect irrigation levies from each of its members to finance the operation and maintenance of the irrigation system. The co-operative company's CSU was empowered to borrow from, or enter into contracts with, other companies (Huppert and Urban 1998) on behalf of its shareholders in its quest to provide a range of services as a complete package. The model was going to be used to

develop Negomo irrigation scheme as a pilot project from which lessons could be learned for the development of a regional irrigation scheme in the form of the 1,200 hectare Guruve irrigated valley. As discussed in chapter 5, both the modern technical and management options were transferred from the corridors of Hamburg in Germany through a bilateral technical cooperation assistance programme signed by KfW representing the Federal Republic of Germany (FRoG) and the Ministry of Energy and Water Resources Development (MEWRD) representing the GoZ. One basic assumption in this model possibly gleaned from Huppert and Walker (1989, 57) was that the irrigation agency (AGRITEX) staff did not have **the specific skills in the organisation of user groups** hence the engagement of the consultant Price Waterhouse to establish and develop the organisational framework at Negomo.

The model in practice

The encounters presented in chapters 5 and 6 show that IMR policy models were not self-contained isolated endeavours but that they were enmeshed into the wider national happenings. In chapter 6 it was shown how the implementing consultant Price Waterhouse bungled the creation of the Private Company when they failed to carry the irrigators with them in the creation and registration of the company. It was also shown how Price Waterhouse failed to fully integrate the various organs of the KCC like the MC, the CSU and the individual irrigators and also to devolve the financial obligations for operation and maintenance of the irrigation scheme to the irrigators. Instead it tried to develop profit-making business enterprises from which to finance the operation and maintenance of the irrigation scheme dragging the users into debts that had to be written off by KfW project funds. These failures resulted in the dumping of the private company novelty, opting instead for an organisational framework that was well linked to the government irrigation agency AGRITEX and its organisational hierarchy. It was evident from the case that transforming the operations of the irrigation agency (AGRITEX) and related agencies involved in the water sector were not an easy process. Chapter 6 showed that not all created organisations functioned as they were expected to function in theory. As was discussed for example the NAB never functioned. When it tried to work, clashes occurred between the NAB and Price Waterhouse. The KCC management committee that was expected to control the activities of the CSU was never developed to the level where it was able to take up those functions. As in the Musarurwa case, although the crafted organisations had clearly defined functions on paper, in reality their functions were intertwined and were also mediated by other organisations and individuals. Other man-made and natural events shaped the outcomes of the policy model.

The political upheavals that rocked the country turned out to be a major factor in shaping the outcomes of the model. KfW was forced to abandon Negomo three years before the end of the implementation programme and as a result there was a premature handover of the irrigation management responsibilities to the farmers. Also as discussed in chapter 6, the political upheavals resulted the curtailing of the overseas export markets for the high value crops like citrus and baby corn and thus, steering the farmers towards locally marketed low input crops like sweet potatoes. The “Third Chimurenga” as a matter of fact resulted in a wheat and citrus shortage in the country thus creating a ready local market for sweat potatoes and citrus (see chapter 6). The disintegration of AGRITEX and the creation of new several government agencies responsible for irrigation discussed in chapter 2 also shaped the destiny of the model. Drought that resulted in shortage of water in the Negomo dam, forced the irrigators to seek

the assistance of ZINWA and as a result forcing them into paying for the water bills that they were previously refusing to pay. The water shortage problem helped the irrigators' leadership to bolster its resolve to take control of the day-to-day operation and maintenance of the irrigation system, thereby steering the model back towards its intended destiny as a user managed irrigation scheme. Drought also helped ZINWA to stamp its authority over not only the Negomo irrigators but the fast track resettled farmers and the commercial farmers upstream of the Negomo dam as well. The Negomo model demonstrated the embeddedness of irrigation management reforms.

The A1 settlers and white farmer partnership model (Chifundi & Elmly Park)

The model in theory

“At best the relationship between policy and practice is understood in terms of an unintended ‘gap’ between theory and practice, to be reduced by better policy more effectively implemented. But what if development practice is not driven by policy? What if the things that make for good policy are different from those that make it implementable? What if the practices of development are in fact concealed rather than produced by policy? What if, instead of policy producing practice, practices produce policy, in the sense that actors in development devote their energies to maintaining coherent representations regardless of events?” (Mosse 2004, 640)

The Chifundi and Elmly Park irrigation schemes represent an emergent IMR model that arose out of events unfolding during the Third Chimurenga (see chapter 2). The model revolved around a group of A1 fast track resettlement smallholder irrigators that engaged in a partnership with former commercial farmers, who provided them with both irrigated crop production services as well as mentorship to coach the new irrigators in the use of new irrigation technologies. As discussed in chapter 1, the partnership models that emerged in Chifundi and Elmly Park schemes deferred slightly in terms of organisational format and type of contractual arrangements. In the case of Chifundi the A1 settlers officially registered themselves as a cooperative association that employed an executive production unit consisting of former commercial farm workers. The Production Unit ran the semi-portable sprinkler irrigation system, whilst the Cooperative Association brokered deals with service providers, like the former commercial farmer. This model evolved in a way into what the crafters Negomo irrigation scheme intended to achieve albeit without any preplanning and with no deliberate influence from government agencies or international development or aid agencies. As discussed in chapter 7 though, the AGRITEX SAEO conservation as an individual had some influence in the evolution of the organisational framework.

In the Elmly Park case, the A1 settlers organised themselves into a group led by an IMC that appointed a production manager, who liaised on a daily basis with a commercial farmer mentor. The latter provided irrigation and crop production services in exchange for a share of the crop output. As discussed in chapter 1, in contrast to the other two studied models, no conscious policy making effort on the part of irrigation development or funding agencies preceded the emergence of the model. As discussed in chapter 7 the model evolved as a consequence of a number of conditions. Firstly, the farm invaders at Chifundi and Elmly Park were confronted with highly sophisticated irrigation technologies, which were also alien to the local government irrigation and extension service whose capabilities were also further

exacerbated by the unbridled staff resignations. Secondly, there was willingness and commitment from the former commercial farm owners to provide technical, material, and coaching services. Thirdly, the promptness of the land invaders at Chifundi farm to co-opt the former farm workers into their A1 farm helped them to harness and exploit their knowledge and experience of the farm and its irrigation system. Finally, the local government departments, like AREX and DoI, actively supported the partnership production model in order to avert a looming wheat shortage in the country.

The model in practice

In chapter 8 I asserted that implementation of the model was at a time when government was no longer coherent or united, but was instead contingent, internally divided and fluid. As discussed in chapter 8, the model evolved from the land invaders' interpretation of the government's intentions that were articulated through a government agricultural input support programme to farmers. When the settlers at the two irrigation schemes failed to secure enough inputs through this input support programme they crafted strategies to overcome the constraints. One of their major strategies was to team up with other service providers who were themselves struggling to conjure up a living from the harsh economic environment following the Third Chimurenga. The main service providers were former commercial farmers who availed themselves to the new settlers at the two schemes.

As discussed in chapter 8 the Chifundi settlers were guided by an AREX extension officer who was also settled on the farm. Because they had former farm workers who were familiar with the farm and the irrigation technology, they opted for self management of the irrigated agricultural venture. These former farm workers formed the core of the production unit led by the former farm manager to spearhead the irrigated agricultural ventures of the Chifundi settlers. The AREX officer's networks - with politicians, agro-processing companies, government service providers like DDF, ARDA, GMB and ZINWA, and also former commercial farmers - proved to be a valuable asset that the Chifundi settlers took advantage of. The settlers were thus able to enter into varied contracts with numerous organisations and individuals in their survival strategies. Not all her advice was readily taken up by the settlers though as was evidenced by the failure on the part of the settlers to take heed of her advice on rotating wheat with maize.

As shown in chapter 8 Elmly Park, settlers had no access to expert farm workers. Operation and maintenance services were thus sourced from a commercial farmer who became a god father or mentor to them. Their brief stint with the three AREX officials was quickly terminated because they suspected that the latter were trying to wittingly elbow them out of their hard earned land. Because the commercial farmer was not prepared to engage in a dialogue with the settlers as a group, the settlers were forced to create the position of irrigation scheme manager who would liaise with their mentor on a day-to-day basis. Initially the mentor supported the settlers with not only irrigation infrastructure operation and maintenance advice but also the bulk of the inputs resulting in the mentor taking the bulk of the profits. However the settlers soon learnt the intricacies of irrigated farming from the mentor and progressively changed the terms of the contract in their favour, steadily wielding more of the produce in their own pockets. External events, such as the invasion of their mentor's farm by an unscrupulous ZANU PF MP, hastened the pace of the learning process that the invader settlers embarked on with their mentor. As discussed in chapter 1, the

Chifundi and Elmly Park cases showed that that policy models that work originate not only from scientists or development agencies for them to be transferred by government development agents and other intermediaries for adoption by rural under developed communities (Leeuwis 2004, 288). They also originate from the rural under developed communities themselves for them to be transferred by government development agents and other intermediaries for adaptation and modification by scientists and or development agencies.

Epilogue: the schemes in 2006

The macro-economic system in Zimbabwe remained on a downward trend in 2006. By June 2006, the official inflation rate was nearly 1,200%. Basic agricultural inputs like fertiliser, seed and crop chemicals were continually in short supply. Electricity was also in short supply and the power company ZESA had resorted to unscheduled power cuts to keep the country going. The October 2005 to September 2006 agricultural season welcomed the establishment of a taskforce aimed at restocking the then empty grain reserve silos of the country. The taskforce, headed by the Air Vice Marshal of the Air Force of Zimbabwe, embarked on what they termed "Operation Maguta" to ensure that the country would become food secure again. Initially, the operation targeted all underutilised government farms (ARDA farms, Prison farms, Agricultural College farms, Army farms etc) to make them fully operational under maize production. The taskforce would not only make inputs available for the farms but also use the inputs to plant and manage the maize crop up to delivery to the Grain Marketing Board (GMB) silos. All operations at the farms would be supervised by army personnel and conducted just like any military operation. However the operation was later extended to individual A1 and A2 resettled farmers who were willing to get inputs under the programme on condition that all the grain produced would be delivered to the GMB. The move was taken after previous crop input support programmes to newly resettled and communal area farmers had failed to yield the intended results. It was under these circumstances that the four irrigation schemes discussed in this book operated during the October 2005 to September 2006 agricultural season.

Negomo irrigation scheme's problems compounded. The water shortage problem worsened when, despite good rains in most parts of Zimbabwe, the Negomo dam Catchment area received poor rainfall. The Negomo dam and most of the upstream dams on the Ruya River took time to fill. Most of the upstream dams only started to spill at the end of April 2006 and those that were not spilling had their scour valves opened by ZINWA to let water flow into the Ruya River and subsequently into the Negomo dam. Therefore the Negomo dam itself slowly started to fill from then on and by end of June the dam had also started spilling and was set for fulltime irrigation if all was well at the scheme. But as if the San people's curse had visited the Negomo people, the pumps at the scheme were stolen in two raids by thieves (one in March 2006 and another one in April 2006). As a result no irrigation was going on at the end of June 2006. However a telephone interview with the Acting Chief Irrigation Engineer for Mashonaland Central on 2 July 2006 revealed that Operation Maguta had managed to purchase replacement pumps and motors. They had also engaged a private contractor to fit the pumps at a cost of Zim \$ 7 billion (US \$69 173.10). So if all goes well Negomo will be irrigating again but may be under the dictates of Operation Maguta.

As for Chifundi irrigation scheme, the turn around strategy they embarked on in 2005 (as discussed in chapter 8) did not exactly bear the fruits they had wished. When the SAEO responsible for Soil and Water Conservation for Makonde district (who was a member of the Chifundi Irrigation scheme and also one of the most active members of Operation Maguta provincial taskforce for Mashonaland West) informed them of the services offered by Operation Maguta, they were persuaded to dump their former commercial farmer as tillage service provider. They decided to go for a contract with Operation Maguta that was seemingly more complete, offering, tillage, a full pack of crop inputs (seed, fertiliser, herbicides) and transport. All that CICAC needed was to provide labour and at harvest time it would rake in the profits. This seemingly complete package however never materialised as envisaged. The promised tractors only arrived in January of 2006 when the season was too late for maize planting. In the end CICAC ended up planting a late sorghum crop (100 hectares) and a late 60-hectare crop of soyabean as well. By mid June 2006 CICAC was still to harvest the sorghum crop that was by then still not yet ready for harvesting. However the CICAC management committee had since reengaged their former commercial farmer tillage service providers for the winter wheat programme and they were on the face of it now back on track.

On the other hand Elmly Park was floating on cloud nine having harvested a 360 tonne crop of soyabean that they managed to sell to Olivine Industries at Zim \$ 70 million (US \$ 691.73) per tonne. Elmly Park by mid May 2006 had already planted their 100 hectares of winter wheat. They had fenced off their irrigated block to keep out livestock. They had refurbished their boreholes and centre pivot. They had bought a tractor, trailer and disc harrow. Asked to explain how they were progressing so well when the economic climate was so harsh, the scheme's treasurer responded:

“What has kept us going is our unit of purpose. We have stuck to our contract with Mr Bosman and this has helped. We have also decided to avoid too much advice from those people who know it all. I was as you know the branch manager of the Chinhoyi branch of the Standard Chartered Bank. This has helped us in deciding how to save our hard earned cash in these highly inflationary conditions”.

Thus Elmly Park irrigation scheme on the face of it was quite on track.

Musarurwa irrigation scheme was not irrigating at the end of June 2006. The electric motor had burnt-out. To replace it the farmers needed to pay Zim \$ 2 billion (US \$ 19 763.72). The farmers had negotiated for a loan from Agricultural Development Bank (Agribank) to pay for replacement costs. However in the processing of the loan, their bank manager awarded them a loan for crop inputs and not for the replacement of irrigation equipment. The farmers had approached DoI to assist. DoI was still considering possible options of lending money to the farmers. Asked why they were failing to pay for the replacement of their electric motor, the scheme's production manager responded:

“This animal called inflation is killing us. We had saved a lot of money last year but because of inflation we can not buy this electric motor. Our money was just losing value whilst it was in the bank. How can we save money in this highly inflationary situation?”

I told him that they could invest their money on the money market that offered much higher interest rates.

9.2 Elements to consider from across the study on policy formation design and reality

This book started off by alluding that it was focusing on smallholder Irrigation Management Reform (IMR) models implemented in Mashonaland West and Mashonaland Central provinces of Zimbabwe. In chapter 1 I presented Kerr (1976)'s important attributes of public policy: (a) an agent who takes some particular action; (b) availability of conditional imperative (particular conditions under which the agent shall take action) and (c) an agent who has intentions to act suggesting that policy was not spontaneous but was a deliberate effort taken over time. This thesis criticised this linear model as being greatly informed by the 'adoption and diffusion of innovations' (Leeuwis 2004, 287) in favour of a reciprocal approach (see chapter 1). The thesis has argued that outcomes of policy models emanated not only from their substance and internal coherence but that the outcomes were also mediated by multiple interactions between a variety of actors that draw on different cultural, social, technical and political repertoires (Mosse 2004). Mosse (2004, 641) citing Escobar 1995, Ferguson 1994, and Shore and Wright 1997 argues that 'understanding the relationship between policy discourse and practice has been hampered by the dominance of two opposing views on development policy: an instrumental view of policy as a rational problem solving-directly shaping the way in which, development is done and a critical view that sees policy as a rationalising discourse concealing hidden purposes of bureaucratic power or dominance, in which the true political intent of development is hidden behind a cloak of rational planning'. This thesis has shown that neither of these views fully explained the complexities of policy-making and its relationship to practice or the actor creativity and skill involved in negotiating development. Both the critical and the instrumental perspectives divert attention away from the complexity of policy as institutional practice, from the social life of projects, organisations and professionals and the diversity of interests behind policy models and the perspectives of actors themselves.

To understand the relationship between development policy and practice, therefore this thesis proposed a shift from the narrow technology-led micro-managed projects to wider state-level analysis (Brinkerhoff 1996, Mosse 1997) that regard international technical development agencies as being guided by some kind of policy discourse or development fashion when they negotiated IMR assistance programmes with recipient states who themselves had their own development policies and agendas. It also proposed that policy formulation and implementation was an interactive process where policy content popped up from many domains and arenas and was negotiated, reshaped, accepted by groups who integrated it into their everyday life worlds adding it to the already available large pool of individual survival tricks and strategies that were themselves shaped by State histories. This thesis termed this ***implementation process mediated by agents interacting in different arenas***. Ferguson (1994, 18) writes: 'Development's effects occur behind the backs or against the wills of even the most powerful actors'. This section discusses the genesis of the policy models, the implementation process and the outcomes.

Genesis: drivers and actors

The drivers

This book has shown that IMR policy models in practice have been shaped or informed by not only the neo-liberal impetus that focus on reduction of the role of irrigation bureaucracies (Uphoff *et al.* 1991) and other international paradigms including making irrigation agencies financially autonomous and more accountable to the users (Merrey 1996) and the introduction of water markets and tradable water rights (Bauer 1997, Carney 1998, Rosegrant and Binswanger 1994) but by other motives as well. It has also shown that focusing only on crafting institutions and arrangements for effective collective mobilisation of irrigation management resources (Kloezen 2002), crafting of new well-functioning irrigation organisations to take-over the operation and maintenance of irrigation schemes from government agencies (Ostrom 1992); and giving the right set of incentives, embedded in rules and regulations, (see discussion in chapter 1) may miss the mark. The assertion that if the crafted agencies are legally constituted, they can enter into contractual agreements with other formal corporate bodies, opening up contractual marketing opportunities for smallholder farmers and therefore affording them the opportunity to indulge in high value export cash crops (Huppert and Urban 1998); may be rhetoric that is difficult to put into practice. Also the assertion that successful institutional reform requires not only changing the system on paper but the ability to implement and enforce provisions of new legislation and regulation through institutions capable of supporting the intended changes (Huppert and Walker 1989, Vermilion and Sagardoy 1999), also often misses the difficulties in the evolution of such institutions of support and the politics around them. Instead this study called for the inclusion of wider aspects to include the political and socioeconomic environment of the new irrigation management organisations (see chapter 1). In effect, for relevant policy transformation, there is a need to recognise that new groups do not develop as autonomous structures, but are rather semi-autonomous in the influence of history culture and contemporary politics on them.

Across the three models, the need to reduce government expenditure on smallholder irrigation and cost recovery principles gleaned from the Economic Structural Adjustment Programme (ESAP) that the country had embarked on, greatly informed the reform models (see chapter 2). Also existing policy statements, especially the DERUDE 1983 (Meinzen-Dick 1993, 35) and the FAO 1994 policy papers, and implementers' experiences with other donor and government funded projects elsewhere also helped in shaping the models. Specifically the Musarurwa model was driven by the need to involve users in the crafting of their irrigation scheme. Involving the users, it was hoped, would assist in cutting development costs to government (Uphoff *et al.* 1991) and persuading the users to develop a sense of ownership of the irrigation system and hopefully inculcate in them a willingness to finance the operation and maintenance of the irrigation system (Meinzen-Dick *et al.* 1995). The principle of participatory irrigation development was also informed by the abundant donor development discourses presented in chapter 2. The overseas training of the implementing engineers that emphasised on participatory irrigation development also informed the model.

Specifically the Negomo model was driven by the international and local private companies' wish to establish a "modern" irrigation scheme run by a private company capable of providing irrigation water to individual irrigators on demand (Plusquellec *et al.* 1994). Also the shifts in international discourse on irrigation management greatly informed the model. Two German

publications on smallholder irrigation management were important here, Huppert and Walker (1989) and a critical review of Zimbabwe's smallholder irrigation sector (GKW Consult 1985). The late 1980s development discourse that was steering away from donor support for government managed irrigation schemes towards farmer managed or private sector managed irrigation schemes (IIMI 1987, Huppert and Walker 1989, Uphoff 1986) and the application of market principles in irrigation (Small 1989) were also important here. As noted in chapter 2 donor funding to the smallholder irrigation sector in Zimbabwe was shifting from channelling funding through the government departments to direct funding of the beneficiaries most likely informed by emerging discourse on the inefficiency of irrigation bureaucracies (Repetto 1986, Wade 1982). Also the government's popular policies of privatisation and commercialisation of the smallholder sector, indigenisation of the economy and government-private sector partnership propelled the Negomo model.

The Chifundi and Elmly Park irrigation reform models were propelled by the desire by the ruling ZANU PF political party to stay in power at all costs. Political patronage as a result became a key feature. Actors like the commercial farmers, MPs, leaders of the war veterans and even to some extent civil servants participated in the establishment of the irrigation schemes in order for them to be seen to be politically in line with the ruling party ZANU PF leadership so as to protect their assets or enhancing and consolidating their positions of power, authority or professional careers. The models were incidental, emergent, *ad hoc*, subject to fluxes in the political landscape, and responsive to events on the ground rather than subjected to planning from the top. The establishment of the two irrigation schemes was part and parcel of the Third "Chimurenga". As presented in chapters 7 and 8, they were established under the WWIRP, a programme intended to resuscitate former white farmer irrigation systems vandalised during the land invasions. The schemes were therefore driven by the compulsion to transfer land from the minority white farmers to the landless black majority people but ensuring that the land remained efficiently and intensively utilized though irrigated agricultural production. This suggests that irrigation policy is not something controlled within its sector structure and boundaries. Given its critical important in state-locality linkages and rural livelihoods, it should also be seen as part of the public policy of the state, as decisions taken by political actors concerning goals – but where those decisions should in principle be within the powers of those actors to achieve. What is needed is this policy analysis across different models and forces – not just policy prescription or inadequate policy advocacy (without relevant capacity to see through) of certain sector models.

The main actors

To embed the project in the responsible government agencies and at the same time generating the necessary political support for the project's execution, (Brewer *et al.* 1999, Chen and Renbao 1995, Langford *et al.* 1999, Musa 1995, Peter 2000, Svendsen and Nott 1998) at Negomo, the main actors intended to implement the irrigation scheme were two advisory bodies at national and district level (the MLC and NAB respectively). In these two bodies, all possible public and private actors involved in the smallholder irrigation sector were to be co-opted including two white farmer citrus producers. In practice though, as was discussed in chapter 5, the strategy failed to work as envisaged. In the end only a limited number of actors proved instrumental in crafting the IMR model: Price Waterhouse, AGRITEX, MRDC staff and to some extent the Governor. Conspicuously absent in the whole implementation structure were the smallholder farmers themselves, even though participation of the users had been

cherished as an important virtue in the project proposals. Some of the participating actors were even participating under protest.

AGRITEX, who viewed themselves as the guardian of all smallholder irrigation development in Zimbabwe, in particular felt cheated or ill-treated in the execution of model when they were asked to play second best to private sector companies. AGRITEX were relegated to the task of mobilising farmers with no clearly defined budget for the execution of the task. It took a work boycott by the local AGRITEX staff for a budget to be made available to them. As discussed earlier, Price Waterhouse became the main architect in the crafting of the organisational framework and the crop production programmes for the scheme. The farmers themselves became onlookers save for protecting their cherished dead from inundation by the dam. They resorted to mobilising their local chief to fight for the reburial of their dead. To them it was only the traditional chief who could stand up to their marauding governor and ZANU PF stalwart who had at the launch of the farmer mobilisation process clearly shown his displeasure with individuals trying to stand in the way of the development of the irrigation scheme. In the end, to them the irrigation scheme was a government-donated high-yielding milk cow from which they could leisurely suckle until they were delivered from the poverty stricken Chiweshe communal area to a new Chiweshe paradise flowing with milk and honey. To them this was government pay back time for their loyalty to ZANU PF since the days of the Second Chimurenga.

In the Musarurwa case the State President Mugabe marvelled by the ingenuity of the relief canal from Darwandale dam to Chegutu town following the 1992 drought coupled with the Japanese Ambassador's generous present to him hatched the irrigated agriculture idea. Government bureaucrats - perceiving the State President's idea as a political dictate and seizing it to be an opportunity to please the patron of the state - decided to prioritise the project with the hope of enhancing their own professional careers through political patronage. The detailed encounters discussed in chapter 3 show that the main actors included the two AGRITEX engineers, the DAEO, the DA, the AEO and SAES. Funny enough farmers themselves were initially not involved when the project was first conceived in Harare. In the end however following the exploits of the DA and the AGRITEX DAEO, the farmers were brought into the race. However during the construction of the irrigation system, when the pace of the farmers proved to be too slow for AGRITEX engineers, the AGRITEX decided to pay the farmers for their labour in the construction of the scheme showing how difficult it is to involve farmers in the planning and implementation of smallholder irrigation schemes.

In the Chifundi and Elmly Park cases, the main actors in the establishment of the irrigation systems and the organisational frameworks were initially expected to be the several government agencies responsible for agricultural development (AREX, DoAE, GMB, ARDA and DDF) who were the implementers of the WWIRP. As discussed in chapter 7, these agencies especially so for DoAE, were thinly staffed due to exodus of staff into the Diaspora. DDF and ARDA were also poorly equipped in terms of tillage implements to cope with demands of the WWIRP programme. Some former white farmers who had lost their land to the Third "Chimurenga" invasions were recruited by DDF as sub-contractors for the provision of tillage services. The failure by DDF to pay the sub-contractors on time resulted in the Chifundi and Elmly Park farmers paying the sub-contractors themselves. This sucked the former white farmers and their still practising colleague into the organisational frameworks at

the two irrigation schemes. DoAE irrigation specialists realising their lack of knowledge of the irrigation systems at the two farms, and acknowledging the expertise and familiarity of the former white farmer and his workers with the systems, engaged him to reconstruct the irrigation system. They also gave him the task of training the resettled farmers on the operation and maintenance of the irrigation system. In the process the irrigation specialists themselves received on-job training from the outgoing former white farmer. As discussed in Chapter 7 the personal political, financial and professional ambitions of the ARES SAEO conservation who was also a member of the Chifundi irrigation scheme, made her an import actor in the model. At Elmly Park the professional and financial ambitions of three ARES officers who joined the farmers during the first wheat crop also helped in reassuring the former white farmers would be paid for their service to the irrigators. Leaders of the Third “Chimurenga” and MPs were also players in the development of the model through their utterances and threats to the resettled farmers.

Implementation process

This book has argued that policy implementation was an interactive process where policy content could pop up from many domains and arenas to be negotiated, reshaped, accepted by societies as opposed to the linear conception that relied on the ‘adoption and diffusion of innovations’ (Röling 1988 cited in Leeuwis 2004). This book also challenged what Kline and Rosenberg (1986) labelled as the linear model of innovation that drew a straight one-direction line between science and practice and that also assigned ‘clear task divisions between various actors some of whom were accorded the specialised role of generating innovations while others worked on their transfer (Leeuwis 2004, 288). Chapters 3 to 8 revealed that across the cases, the implementation process was marred by twists and turns and protracted negotiations among actors and beneficiaries. This section discusses the implementation process of the three models.

The cooperative company model, coupled with an abundance of donor funding that international and national consultant companies used in the creation of Negomo, could have created opportunities for sustained operation and maintenance of the irrigation system where it not for the actions of Price Waterhouse. Price Waterhouse not only bungled the creation and registration of the Kanhukamwe Co-operative Company (KCC), failed to involve the irrigators in the process, failed to integrate the various organs of the KCC into a single organisation but as discussed in chapter 6, they also failed to devolve financial obligations for operation and maintenance of the irrigation system to the irrigators. Instead it tried to develop business enterprises that made profit that would be used to finance the operation and maintenance of the irrigation system. Although the crafters of the model abandoned the private company mode of implementing the model (opting to implement an organisational framework that was well linked to the government irrigation agency- AGRITEX’s - organisational hierarchy), the political upheavals that rocked the country resulted in a premature end to the implementation process.

In the Musarurwa irrigation scheme though, the implementation process took the farmers or “beneficiaries” on board. Beneficiaries were taken on a guided tour of working irrigation schemes to provide them with an opportunity to discuss on the spot with fellow farmers the intricacies of irrigated agriculture. The guided tours took the farmers to schemes with technologies ranging from draghose sprinkler, semi-portable sprinkler to surface systems. The

design engineers also offered alternative designs to the farmers for discussion and adaptation and adoption. Although in the end the design engineer's preferences prevailed, at least the beneficiaries were given the chance to discuss and share their insights with the engineers and as a result they felt they were part to the establishment of the irrigation scheme. The beneficiaries even were able to take the engineers to task on the choice of the pumping station. When the process of consultation proved to be too slow in relation to the demands of the funding agencies, the design engineers skipped the process only to later on painstakingly labour to convince the beneficiaries that they were right in their designs and decisions. The beneficiaries at times scored some impressive victories in their negotiations with the design engineers: the reduction of the size of the plot allocated to an individual from one hectare to half a hectare is a typical example.

The implementation process of the Elmly Park and Chifundi model greatly empowered the irrigators. Because government departments threw the irrigators at the deep end, the irrigators had no choice but to learn to swim fast. Haste was essential because the irrigators wanted to overcome eviction threats from their hard earn farm land by government officials and politicians. The fact that the smallholder irrigation management models readily available on the government agencies' shelf did not cater for any of the encountered irrigation technologies at the farms resulted in the crafting of a new model of farmer organisation and management for smallholder irrigation. The farmers at both schemes were forced into partnership with the former white farmers because the traditional free government advisers were not fully conversant with the irrigation technology confronting them.

Outcomes

The outcomes of the three models were greatly affected by other events, national reforms, and programmes and the economic collapse of country that was brought about by the Third "Chimurenga" - as much as they were dependent on the internal dynamics of the organisational frameworks created by the models and the irrigation technologies installed at the irrigation schemes. As discussed in chapter 1, the policy-beneficiary interface was said to take place in different arenas spanning from the irrigation scheme in rural community settings to the corridors of irrigation development agencies and market places in urban centres. I also asserted that this thesis focused not only on the practice of irrigation - that is 'the day-to-day operational activities undertaken by the different actors in relation to water acquisition, delivery and field application and crop production (Manzungu 1999, citing the works of others like Chambers 1988, Horst 1998, Mollinga 1998, Pradhan 1996, Shanan 1992, and van der Zaag 1992). It also focused on other social arenas of interactions that were surrounding the scheme, and were sometimes even far away from the irrigation scheme in the urban centres. These most distant dynamics included the actions of politicians, agro processing companies, and personnel of the different irrigation development agencies. Organisational frameworks and irrigation technologies installed are not the end product for the users of irrigated agriculture, this section discusses how the outcomes of the models differed in terms of the irrigators' capacity to operate, and maintain the irrigation system and produce crops, in a sustainable manner and how these were negotiated by different actors in different arenas.

Users' capacity to operate and maintain the irrigation system

The AGRITEX model that they employed to establish the Musarurwa irrigation scheme seemingly resulted in the empowerment of the irrigators in relation to operation and

maintenance of the irrigation system. In Chapter 4 it was clearly demonstrated how the farmers were able to take over the operation and maintenance of the irrigation scheme with minimal government assistance. However it was the detection by the Musarurwa irrigators that the government agencies were not able to provide the financial and human resources needed for operation and maintenance of the irrigation system that propelled the irrigators to take over the task to the best of their ability. For example it was not concerted coaching from the model that empowered the farmers. Rather it was their failure to get assistance from government for the replacement of stolen pipes, and the open and frank talk by the irrigation specialist spelling out government's lack of resources to assist them, that forced the farmers to replace the pipes on their own and never to bother government again. The farmers also reoriented their organisational framework by introducing overnight guarding of the irrigation equipment by the users themselves to replace the ineffective employed night watchman. It was not effective coaching by the model that helped the irrigators to introduce the water committee and the post of production manager into their organisational framework to ensure that they would be able to operate and maintain the irrigation system without reliance on government agencies. Rather it was the withdrawal of the AGRITEX AEW from the day-to-day operation of the irrigation system. Fortunately for the irrigators there were amongst themselves capable individuals who could be slotted into these newly created positions. The stance the irrigators took weakened their dependence on the waning support from government agencies - that were themselves reeling from staff shortages owing to emigration by irrigation engineers from the country into the Diaspora and dwindling financial resources owing to reduction in government budgetary allocations to smallholder irrigation. Also the hyper inflationary conditions rocking the country took its toll on the savings of the irrigators and greatly affected their capacity to replace aging irrigation system components, as discussed in the epilogue above.

In the Negomo case, the bungled implementation process discussed above resulted in a lack of empowerment of the irrigators and development of their capacity to operate and maintain the irrigation infrastructure especially the automated pumping plant as discussed in chapter 6. However the simplistic nature of the infield equipment (a 36 meter hosepipe coupled to a tripod carrying a nelson sprinkler) made it easy to handover the in-field irrigation equipment to the irrigators themselves right from the onset. The ease with which a hosepipe could be transported from market to the scheme even on top of buses made it feasible for the irrigators to replace this major component of the infield irrigation equipment. As a result the irrigators were able to handle the in-field irrigation equipment without any dependence on government assistance. It was the pumping station that the irrigators failed to operate and maintain when it was finally dumped on them by AGRITEX and the donors. The strategies adopted by the irrigators of disposing of some of the irrigation scheme assets like guest-house furniture, renting out the irrigation scheme houses to government staff and other individuals and hiring out their tractors to surrounding villagers to finance the operation and maintenance of the irrigation system, discussed in chapter 6, were obviously not sustainable. Unlike the case of Musarurwa, where the irrigators themselves took turns to guard their irrigation equipment, at Negomo, night watchmen were employed to guard the irrigation equipment. This might have been the main cause of the thefts discussed in the epilogue above.

The ad-hoc model of resuscitating the former commercial farmer irrigation systems into A1 resettled-farmer irrigation schemes at John Eden's Chifundi and Elmly Park farms resulted in

organisational frameworks for operation and maintenance of the irrigation scheme and irrigated agricultural ventures that were never imagined by any logically and rationally minded Zimbabwe government official. The speed with which the WWIRP was intended to be implemented by government and the need by government to produce wheat from the irrigation systems forced the fragmented, staff and cash-strapped government agencies responsible for smallholder irrigation not to consider redesign of the irrigation systems at the two farms to suit multiple users in the manner they were used to. The availability of farm workers at Chifundi farm who knew the irrigation systems in and out, who were incorporated into the irrigation scheme, provided the irrigators with capable personnel for operating and maintaining the irrigation system without any reliance at all on government agency personnel. Elmly Park irrigators were fortunate to stumble into a commercial farmer who was willing to enter into a mentorship contract with them. The mentor was able to not only train the irrigators on operation and maintenance of the centre pivot irrigation system but to link them into his network of private irrigation companies that offered operation and maintenance service contracts. The two irrigation schemes were able to operate and maintain and even replace components of their irrigation systems without any government assistance at all.

Users' capacity to produce and market crops

Across the three models, the capacity to produce crops was greatly affected by the national economic problems brought about by the Third "Chimurenga". However the irrigators' ability to sustain production depended as well, on the cropping programmes prescribed by the models, the production modalities as well as the contacts and networks that the irrigators were able to forge. The irrigators at Elmly Park irrigation scheme opted for a simple rotation of wheat in winter followed by soyabean in summer, a rotation that they adopted from the former commercial farmer. They also decided to operate the irrigation scheme as a single block instead of splitting the irrigated area into individually owned plots as was the case with most smallholder irrigation schemes in Zimbabwe. Inputs were sourced for the single block, workers were also employed for the single block and profits were shared equally amongst the irrigators. This was a fitting arrangement in relation to the centre pivot irrigation system that was in place. The result was that irrigation scheduling was made simpler, the irrigators benefited equally from the proceeds of the irrigated agriculture ventures and sourcing of inputs was made much easier. The IMC simply used their white farmer mentor's contacts to get inputs either by paying cash to him or as a loan from the mentor. As discussed in Chapter 8, Elmly Park irrigation scheme's crop production was good even according to commercial farming standards. Their organisational arrangements with the commercial farmer mentor were paying dividends.

The irrigators at Chifundi irrigation scheme like those at Elmly Park also decided to operate the irrigation scheme as a single block. They were however not consistent in their cropping programme. They depended heavily on government crop input supply programmes orchestrated through the GMB. The GMB input supply programme was not very reliable as sometimes the inputs came late, or they were not available at all forcing the farmers to look for inputs from other not so reliable sources like the FSI and Operation Maguta. The fact that they had as members in their scheme, an AREX personnel and people with links with the state's Vice President did not always work to their advantage, as discussed in chapter 8. At times it has led to crop losses like the maize crop that was destroyed by maize streak virus.

However they had the personnel and an organisational framework that was able to perform well in crop production once the inputs were made available.

The Musarurwa irrigators split their irrigation scheme into 0.5 hectare plots allocated to individual irrigators. However they had a single cropping programme for all the individual farmers that they strictly followed. This was dictated by the on-off nature of their single pump unit for all irrigators. However although their constitution allowed for group sourcing of inputs, in a number of cases some irrigators failed to contribute cash for the sourcing of inputs. As a result as discussed in Chapter 4 production is not uniform among irrigators. Generally though before the Third “Chimurenga”, when inputs were available in the market, all irrigators were able to source their inputs. The AREX SAES played a big role in assisting the irrigators to source inputs through his contacts with salesmen of the fertiliser manufacturing companies. The irrigators were however able to organise markets for their crops through their marketing committee and overall as discussed in chapter 4 the irrigators were performing well.

The crop production programmes at Negomo irrigation scheme varied from farmer to farmer again informed by the irrigation technology in place. The irrigation technology at Negomo was flexible, on-demand and capable of availing water to individual farmers as and when they required it irrespective of other irrigators’ actions. As a result the managers of the irrigation system found it unnecessary to institute a single strictly adhered to cropping programme for all irrigators. Crop production at Negomo therefore was a purely individual affair where individual irrigators planted what they wanted as and when they wished. However at the start of the project all farmers were forced by the model to plant citrus and were to choose amongst a number of horticultural crops for export. This export oriented crop production though collapsed with the collapse of the country’s international relations that resulted from the Third “Chimurenga”. The irrigators therefore opted for locally marketed horticultural crops like sweet potato. Shortage of inputs in the country and their high costs resulted in most farmers failing to utilise all of the land allocated to them in the irrigation scheme. As discussed in chapter 8, because irrigation levies were charged on a flat rate based on the area allocated to the irrigator irrespective of actual area planted, most irrigators leased out part of their land to others for them to raise cash to pay for not only the irrigation levies but for crop inputs as well. Thus cropping intensity at Negomo remained high not because the registered irrigators were producing and benefiting from the irrigated plot themselves, but because the irrigators were spreading the benefits to other unregistered irrigators by leasing part of their plots. As discussed in chapter 6 the Third “Chimurenga” in a way helped the irrigators to find markets for their oranges and sweet potato due to citrus and wheat shortages in the country as a result of failure by newly resettled farmers on the former white farms to maintain production levels of these crops.

9.3 Conceptual implications for designing or redesigning IMR: The social embeddedness of irrigation management reforms

This thesis has clearly revealed the need for an integrated approach to the analysis of irrigation management reforms. This research took the view that irrigation management did not only entail water acquisition delivery and application to the field for crop uptake but also

entailed such resources as tillage, crop inputs and markets. The research also asserted that groups could be studied through diverse social relations and structures, and not only through a formalised hierarchy of a legalised management model. Analysis therefore took Coward's irrigation landscapes viewpoint that regarded irrigation governance as taking place in arenas where humans interacted with their environments on a wide scale rather than applying and testing the institutional design principles for irrigation institutions (e.g. Ostrom 1992, Vermillion and Sagardoy 1999 cited in Kloezen 2002, 231). Because of this stance it was possible to follow the irrigators as far away from the irrigation scheme as market places in the capital city Harare and on their errands to secure water from upstream dams as in the case of Negomo, and confrontations with other more illustrious upstream water users like white farmers as in the Musarurwa case.

It was also possible for me to be there when they were at witch hunting ceremonies with Tsikamutanda and for me to follow and record the actions of individuals like AREX personnel, politicians, white farmers, former white farmers, commercial farm workers and invaders who were part of the shaping operational realities of the irrigation schemes. It became clear that acquisition of crop inputs, dexterity in dealing with internal disputes and dealing with natural calamities like lightning and hailstorm were as important as provision of resources for operation and maintenance of the irrigation system. This way I was able to give a richer account of the intricacies and the embeddedness nature of smallholder irrigation management. By detailing the critical roles of individual actors like the AREX SAES, the Production manager at Musarurwa, the SAEO conservation, the local MP and the commercial farmers at Chifundi and Elmly Park I revealed how irrigation management reform policy model's outcomes depended not only on crafted organisations and institutions but on the clout of individuals, making the outcomes unpredictable. This clearly shows that the crafting, implementation and working of institutions should be viewed as a continuous process to help analysts to explain why institutions work the way they do.

Accountability

Policy models in irrigation management reforms usually picture irrigation management in terms of the agency and the user, related to each other through formal rules, fee collection for services rendered (e.g. Vermillion 1997, Small and Carruthers 1991). Oorthuizen (2003) argues that this view is informed by conventional thinking, which views management essentially as an administrative matter and define socio-political or cultural relations as context (Jurriens and de Jong 1989, Small and Svendsen 1992). Kloezen (2002) defined three forms of accountability (financial operational and political) that I presented in chapter 1. Kloezen asserted that operational and financial accountability were easy to apply while political accountability was difficult to apply, and that operational and financial accountability had to be separated. This thesis has shown that operational accountability was not always related to financial accountability and therefore also justifies the need for such a separation.

In the Negomo case, it was shown that during the implementation of the programme by Price Waterhouse, the operational requirements for the irrigation infrastructure were met not only by funding from the irrigation levies paid by the irrigators. As a matter of fact they were also met by borrowed funds from and to some extent the profits from other business ventures like hiring out tractors and selling of crop inputs to both the Negomo irrigators and surrounding farmers. Selling of scheme assets and renting out scheme houses were also strategies that the

irrigators adopted when government and donors pulled out of the irrigation scheme. Financial accountability on its own - especially during high inflationary conditions as were the case in Zimbabwe after the Third Chimurenga - was meaningless. Even when irrigators paid their set levies and the irrigation scheme manager banked the collected levies, because of inflation, the irrigators ended up failing to maintain their irrigation system.

As for political and social accountability, this thesis found it to be very important in deciding the outcomes of the models. In chapter 1, I stated that the struggle by the people Zimbabwe to achieve a responsible and caring government was important in shaping the smallholder irrigation sector. Therefore political accountability represented here by the national government's policies and their capacity to deliver its election promises played a major role in deciding the destiny of the irrigation management reform models that were reviewed in this thesis. The "Third Chimurenga" and its aftermath clearly demonstrated how national politics affect day-to-day operations at irrigation scheme level therefore demonstrating the embeddedness of irrigation management reforms. The people to people relationships at irrigation schemes were also found to be very important drivers of irrigation reform models. In chapter 1 I said that individual irrigators were held accountable on the basis of moral obligations or everyday pressures put on them by being part to a community and that this has a big bearing on the outcome of policy models. The fact that irrigators respect their traditional resting days like Chisi, attend witch hunting ceremonies and prioritise the medical fees of their urban based relatives at the expense of irrigated agriculture demands says it all. From this discussion therefore, the narrow version of accountability fails to explain policy in practice.

9.4 Methodological implications for IMR

In chapter 1 it was said that one of the intentions of this thesis was to add to the growing body of debate on IMRs by providing information on "the reform process" that the researcher perceives as a gap in this debate. This section provides such information by discussing the theoretical, conceptual and empirical findings of the study. Firstly the methodological implications of the study are discussed. In conducting this research, walking with the farmers in their plots, discussing the shortage of inputs with them, why they had not paid electricity bills, what they had bought with income from irrigated agriculture, and long interviews on how they had ended up as irrigators at the scheme, I was always bothered by the question: Who stands to gain from the research process? Research conducted by local researchers on communities they belong to is different from research conducted by outsiders to the community. Some, like Mararike (1999, 20) have asserted that:

"In colonial field work, research was mainly aimed at increasing knowledge of the researchers rather than prompting positive local action which would improve the lives of the people who were part of the research process".

Others, like Barnes (1967, 196), reflect that "It may be true that the knowledge acquired had practical applications, but these were however, ancillary." In this research, the methodology chosen was guided by the realisation that I was a researcher doing research in my area of work and I shared the same historical, socio-economic and political conditions as the people in the research sites. In fact I was one of them. Gaining physical entry to the sites was,

therefore, like going to work. I therefore realised that the communities that constituted the research had to gain directly from the research process as well as the research outcome. I was forced to take this stance after attending a winter season pre-planting meeting held at Musarurwa irrigation scheme on the 1st of March 2001. The irrigators were faced with a critical shortage of crop inputs (potato seed and fertiliser). An old woman said to me after the meeting:

“You are our son. You are therefore our ears and eyes. We expect you to pluck us out of this mud in which we are stuck. We believe that if you want you can help us out of these problems. Why do you come to listen to us as we argue amongst ourselves for a whole morning without you offering us your views or solutions to the problem? Can you not see that its like the blind and the deaf trying to lead each other?”

From my experiences during this research I would like to highlight that there are important ethical issues to consider when conducting research. Conducting research in a village community setting is like getting involved in a struggle. The nature of the research marks the start of the struggle between the researcher on the one hand and the villagers on the other hand. The other struggle that comes into play is that between the researcher and his/her conscience. Invariably researcher’s agenda and the villagers’ agendas are different. The villagers’ agendas and concerns revolve around finding solutions to life threatening problems like lightning strikes, sick children and shortage of food. Why then would I bother them with issues in a majority of cases, not relevant to their day-to-day problems? In the end the villagers’ expectations ended up challenging my own way of thinking, forcing me at times to reconsider my position and assumptions. I now agree with Mararike (1999, 32), who asserts that:

“But then it was only when “professionals” had the courage to question their own approaches and underlying frameworks that the validity of social science research findings might have a realistic chance of standing on two feet.”

I would also like to observe that the relationship between research and action is not as routine a process as we researchers think. Bringing research and action into one line requires not only courage but the resources to do so. I regard research to be an exploration of social reality which is expected to eventually assist sections of the community or individuals to fulfil their survival strategies. Assuming that research results will help empower the community is a simplistic view. It requires a very well informed understanding of the structure and actual dynamics of the society in question. In my field work I found myself unconsciously and unintentionally supporting one section of the community against the other. As a researcher it is however advisable to retain a sufficient professional distance in order to gauge the extent of internal social differentiation and to appreciate how opinion is shaped by social dynamics. However when the researcher is an insider-outsider as the case was with me, this professional distance becomes more difficult to retain. To cope I ended up resorting to a willingness to listen and to be critical of even my most cherished convictions.

9.5 Policies for the redress of the critical dimensions of the land and water imbalances in Zimbabwe

I started this book by signalling that the smallholder irrigation sector in Zimbabwe was to a large extent shaped by the land question in the country. I also said that the land question in

Zimbabwe constituted the struggle by the Zimbabwean people to achieve a responsible government, the struggle by the nation to redress the land and water imbalances brought about by conquest and subsequent colonialism and the struggle by the Zimbabweans to come up with policies and programmes that would drive and shape the management and intensification of land use in the country. This book has expounded on how these three struggles have played through the three policy models implemented by government to ensure successful smallholder irrigated agriculture by communal area and resettlement area communities.

The struggle to achieve responsible government

Many pages of this book do show that the struggle for creating a responsible government by the people of Zimbabwe did have a great impact on the direction and progress of the three policy models discussed in this book. This is not the place to review and make judgement on whether or not the government of the day was regarded by the people of Zimbabwe as a responsible one. I feel that an attempt to do so would require the writing of another, much bigger PhD thesis. I therefore leave that to others to do. What can not be doubted though is that the rulers of the country were admitting that Zimbabwe was in an economic and political crisis and that the people of Zimbabwe were suffering. What was also very obvious from the utterances of the rulers of the country was that they did not accept responsibility for the crisis. Blame was showered at many “enemies” of the state that include Prime Minister Tony Blair of Great Britain, President George W. Bush of the United States of America, the “hostile” Western media, local private media and the local opposition political parties among others. This reminds me of my mother’s advice to me on the day of my marriage.

“My son now that you are getting a life partner, I would to bring to your attention the greatest enemy of successful family development. This is also one of the greatest weaknesses of us Shona people. When things go wrong and they will sure do, instead of swiftly analysing the problem and working out possible solutions to the problem, in most cases time is spent jumping around looking for someone to blame. For example if one of these days you have a running tummy, do not waste time accusing your wife of feeding you with poison. Go to the hospital and when the running tummy has stopped, take a good look at yourself. Examine your own feeding habits. Do not start by looking for enemies who would like take your life. Blaming others is a Shona people’s very bad habit.”

Was the blame problem affecting the government leaders of the day? From the same utterances of the rulers, one heard cries of economic turnaround programmes and initiatives and new development buzz words like, “home based solutions” and “thinking outside the box”, clearly signalling that they did admit that all was not well in the Zimbabwean economy. At the end of the research period in May 2005, the country’s international image was bad, having lost international credit worthiness, with donors, aid organisations and international lending institutions fleeing the country. The macro economic conditions in the country had tumbled with inflation rising to unprecedented heights, the value of the local currency plummeting to record low levels, bank lending interests rising to unbearable levels and shortages of basic commodities like food, fuel, power and crop inputs becoming the order of the day. By then as well, the state functions were increasingly becoming obscure, with the country’s state functions (especially so in agriculture) being executed not by government line ministry departments, but by task forces, commissions, committees or special operations invariably headed by senior members of the uniformed forces. These were no doubt conditions that provided fertile ground for seeds of corrupt tendencies with people struggling to make ends meet in a bid to stay alive. The prevailing conditions discussed above resulted in

new forms of accountability, power relations and everyday politics of irrigated agriculture in Zimbabwe.

It is my view therefore that action number one in developing smallholder irrigation policy in Zimbabwe is to ensure that government functions are put back in place and the economy is given the opportunity to function according to market forces. I am proposing to redefine the box if the country needs to, so as to work in a defined framework that can be evaluated. It is my view that a defined framework helps others to understand where the country is coming from and where it is going. A defined framework also helps the country to relate with other countries especially if the country entertains any hopes of attracting foreign investment. Foreign investment is no doubt required following the destruction of irrigation systems as a result of the Third Chimurenga. The Third Chimurenga was a war and its aftermath is no different from that of any other war. The irrigation reconstruction work at hand calls for external injection of funding. This can only come if the state is functioning in a normal way again. It is my view that a well functioning state builds the confidence of the personnel of the government agencies involved in irrigated agricultural development. It also defines accountability in working relations not only of the government agency personnel and the farmers but also of the farmers and the markets, finance houses, private sector irrigation companies and with other farmers (Staudt 1991). Resource mobilisation and distribution is likely on rational lines if state functions are in place as opposed to the present patriarchal way in which they were being mobilised and distributed at the end of the research period in 2005. By this time the boundaries between political, administrative and technocratic agendas had been blurred on a massive scale (Alexander 2003).

The struggle by the nation to redress the land and water imbalances

This book has shown that the struggle to redress the land and water imbalances between the black and white communities of Zimbabwe played a fundamental part in defining the shape and character of the three policy models. The course chosen by the government to redress these imbalances after independence defined the agricultural policy thrusts and the development path followed by development agencies. These policies however in most cases differed from the wishes of the people at the grassroots (rural producers). As a result there were sporadic clashes between government policy implementers and the smallholders. Soon after independence the reconciliation policy adopted by the Robert Mugabe government resulted in a softening of the radical land reform programme that the liberation movements had promised. The government decided to adopt a rational and scientific approach to redress the land problem. The independence government of Zimbabwe inherited a highly centralised state. The new government also failed to quickly decentralise the decision making authority to local level. The result was that gaps in perception developed between the new rulers and peasant masses over land redress policies. The new government's land redress policies and the promises of the liberation war rhetoric of reclaiming land that still hovered in the minds of the local people were divergent. However, in the year 2000, with mounting pressure from the disgruntled war veterans of the liberation movement and the peasant masses and a rampant newly-formed political party, the government decided to depart from the rational and scientific approach to a political and radical approach (Alexander 2003). With this approach, land redistribution was by rulers who had invoked the liberation war rhetoric of reclaiming the land. They did so alongside a dramatic narrowing of the nationalist constituency. Land

redress was there used as a political tool to rebuild the waning ZANU PF political power base, with no regard to the capacity and or commitment of the beneficiary to farming.

It is my view therefore that there is a need to revisit the land redress process by adopting a technical and professional approach to the process. A decision has to be made on the type of land tenure system, the viability of farm sizes, the capacity and commitment of the resettled people to farming, and the form and scale of government support that will be offered to which farmers. This defined; it becomes possible to set government agencies that will provide services to the different categories of farmers. I suggest that government has no business in irrigation service provision for private individual farmers who are financially and commercially viable. Such farmers can approach commercial banks for financing. If any government assistance is to be offered at all, this can be in the form of targeted subsidies based on enterprise viability and importance to the economy. Government can then concentrate on developing irrigation systems for A1 and communal area smallholder farmers. This way benefit of the land redress programme will be extended to both the black elite and the peasant masses as opposed to the current political patronage, networks, kinship and “survival of the fittest” approach.

The struggle to develop policies and programmes to intensify land use

Policies to intensify land use in Zimbabwe were interlocked with the struggle to redress the land question. Irrigation was used as a vehicle to increase crop production intensities per unit of land by the rulers of the country before and after independence. The three policy models discussed in this book are examples of such policies. The logic behind irrigation was that with irrigation, it would become possible to grow more than one crop per unit of land. Also implied was that with irrigation yields per unit of land would increase and the risk of crop failure would be minimised because the crop would have optimum water for growth. The three models discussed in this book centred on irrigation management frameworks for sustainable smallholder irrigated agriculture. The models intended to develop institutions and modalities for owning and financing the operation and maintenance of smallholder irrigation schemes in a sustainable way.

What has emerged from the study is that smallholder irrigation policy in Zimbabwe is not clearly defined. However there are a number of pieces of legislation that contain issues of irrigation policy. These pieces of legislation are referred to by different actors at different times to articulate disputes. I would like to suggest that all these pieces of legislation are documented and distributed to the actors involved in smallholder irrigation development to ensure that actors have a clear guide to refer to in times of need. This should be a good start to developing a comprehensive irrigation policy. The Negomo case did show that, while international aid agencies are required to assist in finance of developing smallholder irrigation management frameworks, the government irrigation development agencies - in particular their local level structures - should be involved in the development process. This is important to ensure continuity when bi-lateral or international relations falter like as was the case with Negomo. I feel that the local communities are able to organise themselves into organisations that work and that government and their international partners should only facilitate the process. This comes out clearly from the Musarurwa, Elmly Park and Chifundi cases. What also comes out clearly from all the cases is that shortage of agricultural inputs had a major impact on the production capacity of smallholder irrigation schemes. As a result I suggest that

smallholder irrigation schemes could be assisted by government to forge alliances with agricultural service providers or commercial farmers for mentorship like was the case with Elmly Park.

To intensify land use, irrigation technologies that are prescribed to users should be compatible with capacity of users to cope with them. However it should be understood that no particular irrigation technologies can be said to be suitable for use by smallholder farmers. One technology may work very well for a certain group of smallholder farmers while the same technology will prove disastrous with another group of smallholder farmers. Therefore with the Third Chimurenga that resulted in smallholder farmers inheriting varied irrigation technologies, irrigation engineers in Zimbabwe are expected to spend time with the resettled farmers discussing the management requirements of irrigation technologies encountered in order to balance the cost of irrigation development and the risk of rejection of the technology by the users. To quote Chidenga (2003, 265) on this issue:

“For too long designers in Zimbabwe have prioritised technical and institutional paradigms to justify their own order, which have no clear meaning to smallholder farmers. Engineers in Zimbabwe need to be people who understand and are interested in how irrigation systems are used, not only how to design and construct equipment and artefacts. They also need to have engineering precepts that contribute to robustness, sustainability and water security of systems for smallholder farmers, not just individualising water use.”

The Elmly Park case has shown that automated irrigation technologies like centre pivots that for long have been the preserve of large scale commercial farmers in Zimbabwe can be operated by smallholder farmers with success. However such technologies lend themselves easily for use by farmers who are willing to work as a group. The Musarurwa case has also shown that smallholder farmers have knowledge about their resources and that they are able to fully negotiate designs with design engineers if given the chance. Therefore when it comes to technology choice for smallholder irrigation scheme in Zimbabwe I would want to argue that this has to be left to the engineer and to site specific negotiations. This would contribute to a new policy reality building from the ideas and lessons from older policy models.

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SUMMARY

The irrigation sector in Zimbabwe at the end of the millennium comprised two main sub-sectors: the large scale white commercial farmer sector and the small scale black farmer sector. These sub-sectors varied tremendously in terms of technology used, management regime and contribution to the national economy. In a way the sector mirrored the dual nature of Zimbabwe's economy that came about as a consequence of the segregated agrarian development policies that stemmed from the country's human habitation history. The large scale white commercial farmer irrigation sector (73%) encompassed two private sugar estates, citrus estates, and a multitude of individually operated farm systems. The sector was characterised by high output production levels providing for the bulk of the agricultural exports of the country (tobacco, tea, sugar, citrus, and coffee), as well as the bulk of the maize seed and wheat. Technologies used were predominantly overhead irrigation systems (centre pivots, sprinklers) often making use of an elaborate network of interconnected dams and pumps. The sector had in the past enjoyed considerable government subsidy to develop this elaborate network of infrastructure. In terms of management, white commercial farmers organised themselves into River Boards that would appoint water bailiffs to operate the elaborate network of interconnected dams and transfer canals, thus minimising water-related conflicts amongst different users. The sector though was never a subject of serious discussion or debate during the colonial and the postcolonial periods of the country.

The smallholder irrigation sector on the other hand has been a subject of recurrent discussion throughout Zimbabwe's colonial and postcolonial history. This apparent high interest in smallholder irrigation, however, did not correspond with its current or past contribution to the national economy. At the end of the millennium smallholder irrigation covered only 5 % of the officially recognised total irrigated area in the country. If one added the estimated command area of informal irrigation practised by smallholders, their total share increased to some 17 % of a total of 172,400 hectares. The gross output from smallholder irrigation in the 1984/85 agricultural season was only 0.4 % of the total agricultural produce. Literature claims that four major issues dominated the debates: the persistence of strong, though ineffectual, government control over the schemes; the weak economic viability of the schemes, necessitating sustained government subsidies for their operation and maintenance; the fragmented nature of the government agencies managing the schemes and concurrent lack of a coherent irrigation policy, despite many donor funded policy formulation attempts; and the feeble, but largely ineffectual, attempts at user involvement in the development and management of the schemes.

This thesis focuses on smallholder Irrigation Management Reform (IMR) policy models implemented in Mashonaland West and Mashonaland Central provinces of Zimbabwe. In particular it is concerned with how the models were negotiated, recursively shaped, adopted, transformed and accepted into policy by an array of actors spanning across international funding agencies, government ministries, local agencies responsible for smallholder irrigation development, the irrigators and their surrounding communities. The thesis intends to add to the growing body of debate on IMRs by providing information on 'the reform process,' an aspect that has been underplayed so far. It also aims to contribute to the development of an irrigation management policy for the smallholder irrigation sector in Zimbabwe that has been

lacking to date. Chapter one defines the research context, the research problem, the theoretical framework and the research methodology that has been used to find answers to the main research question formulated as:

How and why were the three Irrigation Management Reform models negotiated, adapted, and transformed by different policy actors, how did the reform models shape organisations and institutional forms at the three sprinkler irrigation schemes, what opportunities or contests have emerged among stakeholders, and what outcomes were produced by them?

Analysis of power relations is central in answering the above question. Power here is the whole range of power forms as defined by Rummel (coercive power, bargaining power, intellectual power, authoritative power, altruistic power and manipulative power). The thesis asserts that all these power forms are at play in shaping the day-to-day operations at irrigation schemes. It asserts that accountability is more about power relations as opposed to the concept of accountability that is limited to questioning the responsive behaviour of irrigation bureaucracies to the irrigators, referred to as downward accountability that has been emphasised in literature. It asserts that understanding accountability as the responsive behaviour of irrigation bureaucracies is too narrow a view in the quest to understand smallholder irrigation schemes.

The chapter also introduces the three IMR models under review and the cases that represent them. The Musarurwa case represents an Agritex in-house model, incorporating the lessons learnt to date in the government irrigation agency, building on an existing farmer management institution (Irrigation Management Committee). The Negomo case represents a donor-pushed model, incorporating the central tenets of the global consensus on irrigation management reforms. The adopted Company model reflects a neo-liberal emphasis on accountability, service delivery and economic incentives, and a neo-institutional drive to find new institutional formats that promote public-private partnerships. Finally, the Chifundi and Elmly Park model has emerged in the wake of the chaotic days of the Third Chimurenga. This emergent model comprises a pragmatic working partnership between former white commercial farmer mentors and groups of farm invaders that were confronted with sophisticated irrigation technologies (borehole-fed centre pivot and semi-portable sprinkler systems) and a collapsing economy.

Chapter two discusses how successive governments in their bid to increase or intensify the land use for sustainable development, created policies and programmes that shaped the smallholder irrigation arena. The struggle by the respective governments to create sustainable smallholder irrigation operation and management frameworks is presented. The chapter discusses how Zimbabwe has struggled to formulate and implement a clear policy on smallholder irrigation development after independence. It is shown that at best a certain policy discourse has developed that stresses the need for irrigation management turnover and establishment of farmer managed irrigation schemes. Justification for this revolved around the supposed better performance of smallholder irrigation schemes under farmer management. But a closer look shows that improved cost recovery on operation and maintenance expenditures required to keep the irrigation schemes running, was the major motive, informed by the neo-liberal macro-economic policies adopted by the government in the 1990s.

The chapter shows how the policy discourse was given shape through various policy papers (government initiated and donor initiated), research projects, donor initiated stakeholder

workshops and donor funded experiments or pilot projects. It also presents the main focus of the policy discourse. The chapter gives a detailed account of the abundance of donor-funding that on the one hand strengthened both the capacity and status of the Agritex irrigation branch, but on the other hand tended to confuse the young irrigation division as each donor weighed in with different implementation procedures. The economic structural adjustment programme (ESAP) reshaped the destiny of the smallholder irrigation development in the 1990s. The ultimate fragmentation of AGRITEX (in 2002) into many different departments, headed by political appointees, did not help to see to an orderly implementation of irrigation hand-over and rehabilitation policies during the fast track resettlement drive that followed after the Third Chimurenga land invasions. The Third Chimurenga turned the whole situation of smallholder irrigation in Zimbabwe upside down.

Chapter three presents the crafting of the Musarurwa irrigation scheme in Zvimba district using the Water Users Association (WUA) policy model. It shows how the wish by the State President to establish an irrigation scheme in his home area apparently triggered by a water shortage alleviation canal constructed by DWD to augment the dwindling water reserves of Chegutu town, following the 1992 drought, was interpreted by the personnel of the Irrigation Agency (AGRITEX) and other rural development agencies, as an instruction to develop the irrigation scheme at all costs. The personal gift to the State President in the form of a development project in his home area by the outgoing Japanese ambassador to Zimbabwe crystallized the practicability of the President's wish. However the failure by the agencies to identify a block of land on which to develop a 200 hectare irrigation scheme was in contradiction with the funding principles of the Japanese government who subsequently withdrew their financial support. It was after this fallout that the crafters of Musarurwa decided to adopt the concept of user-participation in establishing the irrigation scheme.

The adoption of the concept was apparently intended to achieve two main goals: (1) ease tensions between AGRITEX engineers and the farmers during the development stages; and (2) facilitate a smooth hand-over of the irrigation infrastructure operation and maintenance responsibilities to the users. Both goals were targeted at cutting down the cost of smallholder irrigation development, operation and maintenance to the irrigation agency whose human and financial resources were fast dwindling. The fact that there was abundant policy discourse emphasising the participation of users 'haunting' the crafters of the irrigation scheme apparently from their overseas training, experiences with other donor funded projects elsewhere and available policy initiatives like those of Derude and FAO/GTZ and also the dictates of ESAP, crystallised the need for the concept. By following the day-to-day struggles faced by the irrigation agency staff in identifying the land, the water source, exposing the intended beneficiaries to different irrigation technologies and in involving them in the physical construction of the irrigation scheme it was shown that the concept was easier said than done. The boardroom meetings held by various rural development agencies, the field meetings held by front line development agency personnel with farmers and the strategies adopted by individual actors within the different organisations, like the DA and AGRITEX staff to achieve their goals, clearly show that policy models are negotiated and recursively shaped by reality on the ground as opposed to strict adherence to model principles.

Chapter four discusses the operational realities of the Musarurwa irrigation scheme showing how the irrigators struggled to come to terms with the irrigation infrastructure and the

organisational framework crafted during the implementation process. The local *Sabhukus* (kraalheads) became the main actors in the selection process of irrigators. This central role accorded to the *Sabhukus*, not only resulted in the creation of a clan based irrigation scheme but, also entrenched the irrigation scheme into the day-to-day lifeworlds of the Musarurwa clan through the observance of village rituals (*chisi*, witch hunting and rain making ceremonies). The irrigation agency's selection criterion for the "right" irrigators was abandoned in preference to a simpler and practical criterion that revolved around previous ownership of land that lay in the proposed irrigation site. When the *Sabhukus* sought to accommodate all those whose land was engulfed by the irrigation scheme, the number of beneficiaries doubled. This not only halved the plot size allocated to an individual irrigator but also resulted in every two irrigators sharing plot level irrigation equipment.

The discussion on the functioning of the organisations created, demonstrated the need for a broad conception of accountability as opposed to the narrow accountability between the irrigation agency and the irrigators, if the complexities of the functioning of smallholder irrigation schemes were to be understood. The actions of the key actors like Mr Chaya and the AGRITEX SAES Mr Sithole vividly show that they were driven by not only the dictates of their positions in the organisational framework, but personal ambitions like safeguarding not only the newly acquired irrigated plot but also the residential landholding (Mr Chaya) and uplifting the standard of living of his relatives (Mr. Sithole). The stolen sugar bean case showed how the IMC chairperson relied not only on the wisdom of the affluent members of the Musarurwa clan, who were not at all members of the scheme, but also on other institutions like the local *Sabhukus*, the local Chief and the ZRP in the resolution of internal conflicts when use of their own crafted rules and regulations failed to resolve such conflicts. The lightning strike, the hailstorm and the subsequent witch hunting ceremony also show that the day-to-day operational realities at smallholder irrigation schemes are shaped not only by the crafted institutions, but also by other societal institutions as well as natural calamities.

The irrigators were forced to reconstitute their organisational framework to suit the demands of the irrigation infrastructure during operation showing that using participatory principles is not an automatic passport to the creation of appropriate irrigation infrastructure and organisational frameworks. The detailed account of the stolen irrigation laterals shows how the paid night watchman was replaced by rotational guarding of the irrigation infrastructure by the irrigators themselves. The failure by AGRITEX to replace the stolen pipes, coupled with the departure of the AGRITEX extension worker for further training, resulted in the irrigators creating the Water Committee (WC) thereby strengthening their resolve to do without AGRITEX. The availability of capable individual members of the scheme, who were experienced in the operation of electricity driven pumps from their previous employment as farm workers, made the changeover easier. The situation was different in the irrigators' struggle to cope with the shortage of crop inputs. In this case, their reliance on the wit and networks of the crafty AGRITEX specialist became one of the irrigators' major survival strategies.

Chapter five discusses how the Co-operative Company model was used to establish Negomo irrigation scheme in Chiweshe Communal area of Mazowe District of Mashonaland Central. The scheme was developed by international and local private companies wishing to establish a modern irrigation scheme, run by a private company on behalf of the irrigators. It is shown

how the Negomo irrigation scheme, initiated under the TILCOR estate model of the Rhodesian government's segregated development policy in 1974, was only developed under the German funded 'one dam and one irrigation scheme per district' programme in 1988. The adopted management model concept was informed by the late 1980s development discourse that stressed the inefficient management and rent-seeking behaviour of irrigation bureaucracies, the benefits of farmer management, the beneficial effects of the application of market principles in irrigation and the need for instituting full recovery of operation and maintenance costs from the users. To facilitate such cost recovery, whilst at the same time improving beneficiaries' livelihoods, it was deemed essential to produce high-value crops for export markets and to establish a 'Water Authority' that would provide operation and maintenance services to the users. The crafters of the scheme initially by-passed the state and engaged private sector companies to develop the irrigation scheme infrastructure and organisational framework. The adopted Economic Structural Adjustment Programme (1990) with its emphasis on the need to cut down on subsidies, increased private investment, increased output from export agriculture, and promotion of public-private sector partnerships provided fertile ground for nurturing the model.

The crafters of the irrigation scheme developed an elaborate implementation strategy and structure, in a bid to co-opt all possible public and private actors involved in the irrigation sector in two advisory bodies the Ministerial Liaison Committee (MLC) at national and the Negomo Advisory Board (NAB) at district level. The intention was to embed the project and its revolutionary approach in the responsible government agencies, whilst at the same time securing the necessary political support for the project's execution. However, in practice the strategy didn't quite work as envisaged since only a few actors took part in crafting the scheme and its organisational framework on the ground: Price Waterhouse, Agritex and to some extent the Governor. Conspicuously absent in the whole implementation structure were the smallholder irrigators themselves, except for farmer mobilisation and rescuing their dead from inundation by the dam. The project's implementation structure did not perform the roles accorded to it. The MLC hardly met. As a result the attempt to create commitment from the involved line departments failed. The NAB failed to meet, because insufficient financial and material incentives were provided by the project. The project's choice to work with private consultants was legitimised by an assumption that it would be hard to change established ways of working on the part of government agencies and that the project needed a kind of expertise which was hard to find in government circles. As a result, the AGRITEX personnel felt by-passed and ignored in their own endeavours to design and develop a farmer managed irrigation scheme. Yet, AGRITEX's field personnel were expected to undertake the crucial task of farmer mobilisation. Lack of budgetary planning resulted in a delay in the mobilisation of farmers by AGRITEX. The pivotal role of the Governor in securing government support for the project occurred at the expense of meaningful dialogue with the beneficiaries. The latter felt that they were coaxed into submission by the Governor's reputation as a party stalwart and autocratic policy implementer.

Chapter six presents the struggles faced by the irrigators at Negomo to cope with a modern irrigation scheme crafted and thrust upon them by international and national consultant companies. The cooperative company ensured a legally constituted, irrigation management institution that entered into contractual agreements with other corporate bodies, opened up contractual marketing opportunities for the smallholder farmers and afforded them the

opportunity to indulge in high value export cash crops. By introducing the Central Service Unit (CSU) in the organisational framework, almost all irrigated agriculture services were offered to the smallholder farmers under one roof. However Price Waterhouse not only bungled the creation and registration of the Kanhukamwe Cooperative Company (KCC) but also failed to carry the irrigators with them in the creation and registration of the company. They further failed to fully integrate the various organs of the KCC into a harmonious single organisation, and didn't manage to devolve the financial obligations for operation and maintenance to the irrigators. They opted instead, to develop profit making business enterprises whose profits would be used to finance the operation and maintenance costs on behalf of the irrigators. As a result the irrigators never fully appreciated the need to pay for operation and maintenance of the irrigation scheme. When they were ultimately asked to pay, the irrigators found it taxing to pay for CSU provided services like extension that had previously been provided at no cost by government.

The pathway of the model was shaped by the failure of created organisations to function as expected and the occurrence of other natural or man-made events. For example when the NAB tried to function, clashes occurred between it and Price Waterhouse apparently because personnel of the CSU, mindful of their prestige and credible curriculum vitae (CV), preferred to have their employment contracts signed by an established company instead of a makeshift organisation like NAB. The KCC management committee was never developed to the level where it was able to function on its own, resulting in Price Waterhouse maintaining control over the CSU. To the irrigators though this was a welcome move, because whatever debts were incurred by the CSU on behalf of the irrigators remained the responsibility of the CSU and Price Waterhouse. The political upheaval drove the funding agency KfW out of Negomo three years before the end of the implementation programme. This precipitated a premature handover of the irrigation management responsibilities to the irrigators. A drought-induced shortage of water in the Negomo dam forced the irrigators to seek the assistance of ZINWA, who then insisted on payment of the water bills, that the irrigators had previously refused to pay.

The irrigation technology at Negomo also had impacts on the reform model. The flexible on demand irrigation water supply system resulted in irrigators using varying amounts of water. Yet, irrigation water meters were only available at block level, rendering volumetric water charging impossible. Thus the implementers of the scheme resorted to charging a flat rate per plot, irrespective of the area actually irrigated. The large plots allocated to individual irrigators allowed irrigators who did not have adequate crop inputs to lease out irrigated land to others and still retain a sizable plot. Because the hosepipe could easily be transported from the market, it was easy to hand-over the field level irrigation equipment to the irrigators. This can not be said for the fully automated pump station that was dumped on the users by AGRITEX and the donors after their unceremonious departure at the onset of the Third Chimurenga.

In chapter seven, the establishment of two irrigation schemes financed by government through the Winter Wheat Irrigation Rehabilitation Programme (WWIRP) is presented. The WWIRP was instituted in a bid to revive some of the prime irrigation systems that had been wrecked during the chaotic Third Chimurenga land invasions. The latter started in 1997 as sporadic squatter problems that the government of the day vehemently opposed, only crystallising in

1999 into the massive national violent land grabs that had the backing of some ZANU (PF) stalwarts led by the State President. The invasions were however not planned or orderly executed as part of an ordinary government policy or even (war) strategy: they were emergent, *ad hoc*, subject to fluxes in the political landscape, and responsive to events on the ground. The story of the trajectory that was followed by one invader, Mr. Mutizira, as representative of a group of land invaders from Gokwe clearly demonstrates this.

The execution of the programme was mediated by the economic melt-down and collapse of the country's agro-industrial service sector that were a direct result of the Third Chimurenga. Government agencies like AREX, DoAE, DoI, DDF and ARDA were expected to execute the programmes. However these agencies were not only still finding their footing but were also reeling with staff shortages lost to the Diaspora. As a result the intended services could not be offered by the state organizations. Thus former commercial farmers joined forces with the invaders to implement the programmes in many types of coexistence arrangements and sharecropping practices. This scenario shaped a new policy process that was born out of practical and political necessities of the actors on the ground rather than as a result of concerted governmental planning. Hence the talk of an emergent model of IMR.

The detailed story of Mr. Mutizira shows that whilst the Third Chimurenga produced a new political order, this new order was fairly fluid. The war veterans mobilised their national association, their MPs and the provincial Governors to get settled, departing from the norm where civil servants held fort. Even after assisting ZANU PF to win the elections, the war veterans still had to battle to be resettled, sometimes resorting to harassing the DA to achieve this at the expense of being settled in a district a lot further away from their original homes. Farms belonging to commercial farmers like Eden who had twice earlier volunteered to sell their farms to government, were invaded all the same. Mr Eden decided to act in a cooperative fashion by offering the invaders food, equipment and services. Contrary to public allegations by the State President that commercial farmers were British citizens, who did not want to share their lives with black Zimbabweans, the commercial farmers involved in Chifundi and Elmly Park considered themselves first and foremost Zimbabweans. Confused by rag-tag solutions, political pressures, and threats from armed soldiers and political big wigs looking for land and irrigation equipment, most civil servants involved in the programmes migrated into the Diaspora. Eager to derive benefits from their land invasion efforts, the land invaders were forced to join hands with their enemies, *viz.* former white commercial farmers and their farm workers, for not only irrigation operation and maintenance services, but tillage services and production advices as well.

The chapter stresses the extent to which the institutional framework is structured by the technology at hand. A centre pivot, most certainly when it irrigates a circular shaped command area and is fully automated, almost 'demands' one central operator, it is indivisible (i.e. can not be split into individual plots) and it calls for a high input-high output use on account of its operating expenses. The fact that the smallholder irrigation management models readily available on the government agencies' shelf did not cater for any of the above pre-conditions, necessitated the crafting of a new model of farmer organisation and management at Elmly Park. Here the organisational framework revolved around the Irrigation Management Committee with a single irrigation scheme manager at the request of their mentor Mr. Bosman. At Chifundi farm the settlers found it more beneficial to work as a single group

according to the Cooperative Association model, since it was difficult for them to split the inherited irrigation system from the outgoing commercial farmer into individual units.

Chapter eight presents the struggles faced by the settlers at Chifundi and Elmly Park in coming to grips with irrigated agriculture in a politically charged national environment. The chapter shows how government policy was incoherent and fluid and how this was exacerbated by the fact that the government agencies tasked with irrigation rehabilitation were in most cases not readily prepared nor capable of delivering. As a result the new irrigators teamed up with former commercial farmers and farm workers who made themselves available to the new irrigators at the two schemes. The former farm workers not only offered the required expertise in the operation of the irrigation infrastructure, but also formed the core of the production unit that spearheaded the irrigated agricultural ventures. Although the resident AREX officer was not fully conversant with the irrigation infrastructure, her networks with politicians, agro-processing companies, government service providers, and also former commercial irrigators helped the new irrigators to forge crop production contracts with numerous organisations at different times. Not all her advice was readily taken up by the irrigators though: the irrigators failed to take heed of her advice on rotating wheat with maize.

Without access to expert farm workers, the Elmly Park irrigators sourced both irrigation operation and maintenance services and crop management services from the former commercial farmer who became a godfather or mentor to them. Their brief stint with the three AREX officials was quickly terminated because they suspected that the AREX officials were trying to elbow them out of their hard earned land. Although the commercial farmer was willing to assist them, he was not prepared to engage in dialogue with the irrigators as a group resulting creation of the position of irrigation scheme manager who would liaise with their mentor Mr Bosman on a day-to-day basis. At first the mentor was supporting the new irrigators with not only advice but also the bulk of the inputs. The result was that the mentor took up the bulk of the profits. Since the centre pivot could not be moved from one site to another, the Elmly Park irrigators were restricted to a fixed area for crop production. At Chifundi though, the irrigators were able to double the irrigated area in summer to take advantage of rainfall. However this brought problems when the irrigators failed to provide the inputs for the expanded cropped area. Because the Chifundi irrigators had storage and crop drying facilities on the farm, the irrigators were able to store their wheat on the farm while they negotiated a price with GMB. The Elmly Park irrigators though depended on the swift harvesting operations and the commercial farmer's networks to quickly market their crops. When the Chifundi irrigators failed to secure farm inputs from GMB, they resorted to contracts and deals with agro-processing companies like FSI. At Elmly Park on the other hand they depended on the networks of their godfather who was not only able to supply them with inputs but also sold their products at higher prices through his personal contracts with private agro-processing companies.

The cases show that accountability is about power relations, with power being the whole range of power forms as defined by Rummel. The case of the three AREX officers who tried to be involved at Elmly Park for example, shows that even with the intellectual and authoritative power that they could wield over the new irrigators, the irrigators were able to throw them out of the scheme. Also when government officials tried to interfere with the Elmly Park contract, the new irrigators resorted to coercion, threatening physical harm to any

government officer who intended to interfere with their *murungu* (whiteman). However their threats proved to be empty when their *murungu*'s farm was invaded by their MP, resulting in their operations at the farm being disrupted. The actions of the MP show how he resorted to manipulative tendencies to prop up his ailing political carrier. At Chifundi, the intellectual power of the AREX officer member of the irrigation scheme was documented. However this was sometimes countered by the high level political connections of some members of the scheme, like Mr. Chinhengo whose brother worked in the president's office. The new irrigators' altruistic power is clearly demonstrated. Their desire to make the resettlement programme a success forced them to accommodate former commercial farm workers into their leadership structures, if only to ensure that their irrigated agricultural ventures were a success. They also decided to seek for services from former commercial irrigators who themselves were in love with their farming career and were therefore willing to offer the services.

Chapter nine summarises the main findings of the study and makes some theoretical points regarding Irrigation Management Reform policy models. In the Musarurwa case it was shown that the fruits of participation emanate not only from the adherence to the participatory stages of development, but also from wider collective interactions that are mediated by natural and manmade events. It was shown that the international aid organisations, the recipient state's agendas, the state histories and the beneficiaries' interactions with each other shape outcomes of policy models. In the end not only actors, but events, mishaps and technological demands over and above levels or intentions of participation recursively shape and modify policy models into reality. The Negomo case demonstrates the embeddedness of irrigation management reforms. The case shows that IMR policy models were not self-contained isolated endeavours but that they were enmeshed into the wider national happenings. It also shows that final accountability complexities also evolve from the implementation process. In this case it was the (in)competencies of the implementing consultant Price Waterhouse, that shaped the accountability complexities. It was evident from the case that conceptualising accountability limited to questioning the responsive behaviour of irrigation bureaucracies to the irrigator was a misleading notion since not all created organisations functioned as they were expected to function in theory. Their functions were intertwined and were also mediated by not only other organisations and individuals but also man-made and natural events in shaping the outcomes of policy models. The Chifundi and Elmly Park case that represent an emergent IMR model arose out of events unfolding during the Third Chimurenga. Yet, the model evolved in a way into what the crafters of Negomo intended to achieve, albeit without any preplanning and with no deliberate influence from government, international development or aid agencies. The cases show that policy models that work originate not only from scientists or development agencies to be transferred by government development agents and other intermediaries for adoption by rural under-developed communities. Particularly in the chaotic circumstances, such as those prevailing in Zimbabwe after the third *Chimurenga*, viable new IMR models emerge in a trial and error fashion driven by the capacity and initiative of local actors on the ground.

NEDERLANDSE SAMENVATTING

Aan het einde van het millennium omvatte de irrigatie sector in Zimbabwe twee voornamelijk sub-sectoren, de grootschalige, commerciële blanke boeren sector en de kleinschalige zwarte boeren sector. Deze subsectoren contrasteerden scherp met betrekking tot gebruikte technologieën, beheersregime en bijdrage aan de nationale economie. In zeker opzicht weerspiegelde de irrigatiesector de duale aard van de Zimbabweaanse economie, die tot stand gekomen was als gevolg van het gesegregeerde landbouwbeleid dat gedurende de koloniale tijd was uitgevoerd. De grootschalige commerciële blanke boeren irrigatie subsector (73%) omvatte twee private suikerplantages, citrus plantages, en een veelvoud van individuele boerenbedrijfssystemen. De sector werd gekenmerkt door een hoge productiviteit die verantwoordelijk was voor het overgrote deel van de landbouw export uit het land (tabak, thee, suiker, citrusvruchten, en koffie) alsmede voor de zaaizaad productie van maïs en tarwe. De gebruikte irrigatie technologie bestond voor het overgrote deel uit sproeisystemen (sprinklers en centre pivots) die vaak gevoed werden door een uitgebreid netwerk van onderling verbonden dammen en pompstations. De sector had in het verleden geprofiteerd van aanzienlijke overheidssteun bij het ontwikkelen van dit uitgebreide netwerk aan irrigatie infrastructuur. Met betrekking tot irrigatiebeheer hadden de blanke commerciële boeren zich georganiseerd in waterschappen ('river boards') die zelf het operationeel personeel aanstelden om het geheel aan dammen en verbindingskanalen te beheren, aldus het aantal watergerelateerde conflicten tussen gebruikers reducerend. De sector was nooit het onderwerp van serieuze beleidsdiscussies geweest, noch gedurende de koloniale noch gedurende de post-koloniale tijd.

Dat laatste is niet het geval met de kleinschalige irrigatie sector in Zimbabwe die altijd het onderwerp van terugkerende beleidsdiscussies is geweest, zowel in de koloniale als in de post-koloniale tijd. Deze schijnbaar grote belangstelling voor kleinschalige irrigatie correspondeert echter niet met haar huidige of voormalige bijdrage aan de nationale economie. Aan het einde van het millennium besloeg de kleinschalige irrigatie slechts 5% van het totale areaal aan geïrrigeerde gronden in het land. Als we daar het geschatte areaal aan informele kleinschalige irrigatie aan toevoegen neemt dit aandeel toe tot 17% van 172.400 hectaren geïrrigeerde grond. De productie van de kleinschalige irrigatiesector in het seizoen 1984/85 bedroeg niet meer dan 0,4% van de totale landbouwproductie. Uit de literatuur over kleinschalige irrigatie kunnen vier hoofdzaken worden gedistilleerd die het onderwerp van discussie waren: de blijvende aanwezigheid van een grote, doch ineffectieve, overheidsbemoeienis in het beheer van de irrigatiestelsels; de lage economische rentabiliteit van de stelsels, waardoor overheidssteun voor het operationeel beheer en onderhoud noodzakelijk is gebleven; de versnippering van beheerstaken onder verschillende overheidsdiensten en het gelijktijdige gebrek aan een coherent irrigatiebeleid, ondanks vele, door donoren gefinancierde, pogingen tot beleidsformulering; en de zwakke, maar veelal ineffectieve, pogingen de gebruikers te betrekken bij het ontwerp en beheer van de irrigatiestelsels.

Deze studie gaat over beleidsmodellen voor de hervorming van kleinschalig irrigatiebeheer die zijn geïmplementeerd in de provincies Mashonaland West en Mashonaland Central in Zimbabwe. In het bijzonder houdt de studie zich bezig met hoe de beleidsmodellen werden

uitonderhandeld, interactief werden vormgegeven, aangenomen, getransformeerd en tot beleid werden verheven door een scala van actoren. De betrokken actoren varieerden van internationale donororganisaties, overheidsministeries, lokale organisaties verantwoordelijk voor de ontwikkeling van kleinschalige irrigatie, en irrigatieboeren met de hun omringende gemeenschappen. Deze studie wil bijdragen aan de groeiende literatuur over hervormingen in irrigatiebeheer door informatie te verstrekken over het ‘hervormingsproces’, een aspect dat tot nu toe onderbelicht is gebleven. De studie hoopt ook bij te dragen aan de ontwikkeling van beleid voor het beheer van de kleinschalige irrigatiesector in Zimbabwe, iets waar het tot nu aan ontbroken heeft.

In hoofdstuk één wordt de onderzoekscontext, het onderzoeksprobleem, het conceptueel kader en de onderzoeksmethodologie gedefinieerd die zijn gebruikt om tot een antwoord te komen op de volgende onderzoeksvraag:

Hoe en waarom zijn de drie hervormingsmodellen voor irrigatiebeheer tot stand gekomen, uitonderhandeld, geïmplementeerd en getransformeerd door verschillende (beleids)actoren; hoe hebben deze hervormingsmodellen organisaties en institutionele ontwikkelingen vorm gegeven in drie sprinkler irrigatiestelsels; welke kansen en confrontaties hebben zich voorgedaan onder de belanghebbenden; en tot wat voor uitkomsten heeft dit geleid?

Bij het beantwoorden van de bovenstaande vraag staat de analyse van machtsverhoudingen centraal. Onder macht wordt het hele scala van machtsvormen verstaan zoals gedefinieerd door Rummel: dwingende macht, onderhandelings macht, intellectuele macht, autoritaire macht, altruïstische macht en manipulatieve macht. Deze studie betoogt dat al deze vormen van macht een rol spelen in het vormgeven van de dagelijkse realiteit van een irrigatiestelsel. Het afleggen van verantwoording (‘accountability’) gaat dus over machtsverhoudingen in tegenstelling tot een conceptie die beperkt wordt door het problematiseren van de dienstverlening van een irrigatie dienst aan de irrigatieboeren, beter bekend in de literatuur als het benedenwaards verantwoorden van acties (‘downward accountability’). Deze studie betoogt dat een conceptie van verantwoord beheer als het beantwoorden aan verlangens van cliënten door een irrigatiedienst een te beperkte opvatting van de problematiek is, die niet leidt tot een beter begrip van kleinschalige irrigatiestelsels.

Het hoofdstuk beschrijft de karakteristieken van de drie verschillende hervormingsmodellen en de bijbehorende case-studies. De Musarurwa case-studie behelst een hervormingsmodel dat intern was ontwikkeld door Agritex op basis van getrokken lessen door de overheidsirrigatie dienst en voortbordurend op een bestaande institutionele vorm van boerenbeheer (de zogenaamde ‘Irrigation Management Committees’). In de Negomo case studie staat een door donoren gestimuleerd hervormingsmodel centraal, dat de belangrijkste elementen die voortvloeien uit de mondiale consensus over hervormingen in irrigatiebeheer in zich verenigt. Het geïmplementeerde bedrijfsmodel weerspiegelt een neo-liberale nadruk op accountability, dienstverlening en economische prikkels, en een neo-institutioneel verlangen om nieuwe organisatie vormen te realiseren die een publiek-privaat partnerschap bevorderen. De derde casestudie gaat over het hervormingsmodel in Chifundi en Elmly Park dat een direct voortvloeisel was uit de chaotische dagen van de derde *Chimurenga* (‘onafhankelijkheidsstrijd’). Dit opkomende hervormingsmodel behelst een pragmatisch partnerschap tussen voormalige blanke commerciële boeren in de rol van mentor, en groepen van landbezitters, die werden geconfronteerd met de dubbele uitdaging van een geavanceerde

irrigatietechnologie (centre pivots en verplaatsbare sprinkler technologie) en een ineenstorting van de economie.

Hoofdstuk twee laat zien hoe opeenvolgende regeringen de kleinschalige irrigatie sector hebben vormgegeven middels beleid en programma's die gericht waren op een toename en intensivering van land gebruik voor duurzame ontwikkeling. De worsteling door de respectievelijke overheden om te komen tot duurzame vormen van irrigatiebeheer in de kleinschalige sector wordt beschreven. Het hoofdstuk laat zien hoe de Zimbabwaanse overheid na haar onafhankelijkheid heeft gepoogd om een duidelijk beleid voor kleinschalige irrigatie te formuleren en implementeren. Er wordt getoond dat er op z'n best een bepaald soort van beleidsdiscourse is ontstaan dat de voordelen benadrukt van het overdragen van het beheer van irrigatiestelsels aan gebruikers en het aanleggen van door gebruikers beheerde irrigatiestelsels. Deze keuze werd gelegitimeerd op grond van de veronderstelde betere resultaten die werden behaald in de kleinschalige irrigatiesector door de stelsels onder boerenbeheer. Een nadere beschouwing toont echter dat het hoofdmotief voor deze verandering in beheer werd gevormd door het verlangen een groter deel van de operationele en onderhoudskosten terug te winnen van de gebruikers. Dit verlangen werd versterkt door het neo-liberale macro-economische beleid van de overheid in de jaren negentig.

In het hoofdstuk wordt verder getoond hoe dit beleidsdiscours werd vormgegeven door verscheidene beleidsstukken (zowel door de overheid als door donoren geschreven), onderzoeksprojecten, door donoren geïnitieerde stakeholder workshops, en door donoren gefinancierde experimenten en proefprojecten. De overvloed aan beschikbare donor gelden resulteerde enerzijds in het versterken van de capaciteit en status van de irrigatiedienst binnen Agritex, terwijl het anderzijds een bron van verwarring was voor de jonge irrigatiedienst, aangezien iedere donor er zijn eigen criteria voor projectimplementatie op na hield. Het economisch structureel aanpassingsprogramma (ESAP) van de jaren negentig resulteerde in een koerswijziging in de kleinschalige irrigatiesector. Maar de derde *Chimurenga* zette de hele situatie rondom kleinschalige irrigatie in Zimbabwe op z'n kop. Het ontleden van Agritex, in 2002, in allerlei verschillende diensten met politieke aanstellingen aan het hoofd heeft allerm minst geholpen bij het ordentelijk implementeren van irrigatieoverdracht en –rehabilitatie-programma's gedurende het Fast Track Resettlement programma dat na de land invasies van de derde *Chimurenga* werd uitgevoerd.

Hoofdstuk drie presenteert hoe het hervormingsmodel, dat boerenbeheer centraal stelt, de vormgeving van het Musarurwa irrigatiestelsel in Zwimba district heeft beïnvloed. Een noodkanaal voor de watervoorziening van de stad Chegutu, dat was aangelegd tijdens de grote droogte van 1992, inspireerde de president van Zimbabwe om een irrigatiestelsel in zijn thuisbasis te laten aanleggen. Deze wens van de president werd door het personeel van de irrigatiedienst (Agritex) en andere rurale ontwikkelingsorganisaties opgevat als een bevel dat koste wat kost moest worden uitgevoerd. Een persoonlijke gift in de vorm van een ontwikkelingsproject in de president's thuisbasis door de vertrekkende Japanse ambassadeur leek deze droom tot werkelijkheid te maken. Edoch het daaropvolgende falen van de betrokken instanties om één blok van 200 hectaren land te reserveren voor het irrigatiestelsel betekende dat aan één van de voorwaarden voor financiering van de Japanse overheid niet kon worden voldaan, met als direct gevolg dat de Japanners hun aanbod tot financiering

introkken. Dit debacle verleidde de vormgevers van Musarurwa irrigatiestelsel tot de aanname van het concept van gebruikersparticipatie in de aanleg van het stelsel.

Middels dit concept wilde men klaarblijkelijk voldoen aan twee doelstellingen: (1) het wegnemen van spanningen tussen de Agritex ingenieurs en de boeren gedurende de ontwikkelingsfase; en (2) het faciliteren van een vlekkeloze overdacht van de beheers- en onderhoudsverantwoordelijkheden voor het irrigatiestelsel aan de gebruikers. Beide doelstellingen waren essentieel in het terugbrengen van de kosten die gemoeid zouden zijn met de aanleg, het beheer en het onderhoud van het irrigatiestelsel. De irrigatiedienst had immers te maken met een snel afnemend reservoir aan menselijke en financiële middelen. Het concept werd min of meer opgedrongen aan de verantwoordelijke ingenieurs door de nadrukkelijke aanwezigheid van een beleids-discours dat de voordelen van participatie van gebruikers benadrukte, de buitenlandse training die de ingenieurs hadden genoten, alsmede de ervaringen met door donoren gefinancierde projecten elders, de beschikbare beleids-initiatieven van Derude en FAO/GTZ en de eisen van het economisch structureel aanpassingsprogramma (ESAP). De problematische aspecten van het gebruikersparticipatie concept worden aan het licht gebracht door de dagelijkse beslommeringen van de irrigatiestaf te volgen bij het identificeren van het areaal en de waterbron, het bekendmaken van de doelgroep met verschillende irrigatietechnologieën, en het betrekken van de doelgroep in de feitelijke aanleg van het irrigatiestelsel. Middels het belichten van de vergaderingen op kantoor van de verschillende rurale ontwikkelingsorganisaties, van de discussies in het veld tussen irrigatie ingenieurs en boeren en van de toegepaste strategieën van de individuele actoren binnen die verschillende organisaties, zoals de DA en Agritex staf, om hun doelen te bereiken, wordt duidelijk getoond dat beleidsmodellen het onderwerp zijn van actieve onderhandelingen en iteratieve interacties in het veld in tegenstelling tot de conceptie dat ze worden geïmplementeerd volgens de principes van datzelfde beleidsmodel.

Hoofdstuk vier bespreekt de operationele werkelijkheid van het Musarurwa irrigatiestelsel door te laten zien hoe de irrigatieboeren zichzelf het irrigatiesysteem eigen maakten en omgingen met het tijdens de uitvoering tot stand gekomen organisatorische raamwerk. De lokale dorpschoude (Sabhukus) speelden een centrale rol tijdens de selectie van irrigatieboeren. Dit laatste resulteerde niet alleen in de totstandkoming van een boeren irrigatiestelsel dat bestierd wordt door de clan, maar maakte het stelsel ook ondergeschikt aan rituelen die onderdeel uitmaken van de dagelijkse werkelijkheid van de Musarurwa clan (*Chisi* dag, hekserij, en traditionele regen-ceremonies). Men zag af van de selectie criteria voor 'goede' irrigatieboeren van de irrigatiedienst in ruil voor een veel simpeler en praktischer criterium, namelijk voormalig landgebruik op de geïdentificeerde irrigatiegrond. Het aantal begunstigden van het stelsel verdubbelde aldus, aangezien de dorpschoude iedereen die voorheen land had in het beoogde irrigatiestelsel wilden vestigen. Dit halveerde niet alleen de plotgrootte voor iedere irrigatieboer, maar resulteerde ook in een situatie waarin ieder stel irrigatieboeren zijn/haar irrigatieapparatuur (sproeiers) moest delen op veldniveau.

Het feitelijke functioneren van de ontworpen beheersorganisaties toont de noodzaak aan van een brede conceptie van het begrip verantwoording (accountability), aangezien een beperkte definitie als dienstverlening van de irrigatiedienst aan gebruikers de complexe werkelijkheid van het functioneren van een kleinschalig irrigatiestelsel te kort doet. Het beschreven handelen van sleutelfiguren als de heer Chaya en de Agritex specialist (Sithole) toont aan dat

zij niet enkel gedreven werden door motieven die voortvloeiden uit hoofde van hun functie, maar ook door persoonlijke drijfveren zoals het waarborgen van een nieuw verworven irrigatieplotje en woonplaats (Dhr Chaya) en het helpen verbeteren van de levensstandaard van verwanten (Sithole). Het geval van de gestolen suikerbonen laat zien hoe de IMC voorzitter voor de oplossing van een intern conflict, dat niet kon worden opgelost met behulp van eigen regels en statuten, zijn toevlucht zocht tot welgestelde leden van de Musarurwa clan (die echter geen lid waren van het irrigatiestelsel), alsmede lokale dorpschoude, de 'Chief' en de Politie. De blikseminslag, hagelregen en daaropvolgende heksenjacht laten zien hoe de dagelijkse operationele werkelijkheid van kleinschalige irrigatiestelsels niet enkel wordt vormgegeven door ontworpen gebruikers organisaties maar ook door sociale instituties en natuurlijke calamiteiten.

De irrigatieboeren werden gedwongen hun organisatorische raamwerk aan te passen aan de operationele behoeften van het irrigatiestelsel. Dit toont aan dat de strikte toepassing van participatieve principes niet automatisch leidt tot een goed op elkaar afgestemd irrigatiesysteem en beheersstructuur. Naar aanleiding van de diefstal van irrigatiepijpen werd de betaalde nachtwacht vervangen door een vrijwillige ploegendienst, bestaande uit de gebruikers, voor de bewaking van irrigatie-infrastructuur. Na het uitblijven van de door Agritex beloofde nieuwe irrigatiepijpen, en het vertrek van de landbouwvoorlichter op studieverlof, besloten de gebruikers het voortaan alleen te doen, en werd een waterbeheercomité ingesteld. De beschikbaarheid van enkele capabele individuen met eerdere ervaringen in het gebruik van elektrische pompen (opgedaan als landarbeider) heeft deze overname zeker vergemakkelijkt. Deze oplossing gaf echter geen soelaas bij de 'strijd' om het verkrijgen van landbouwbenodigdheden (zaaizaad, kunstmest). Hiervoor werd vertrouwd op de ervaring en het netwerk van de behendige Agritex specialist. Zijn neusje voor het bij elkaar sjacheren van deze goederen vormde één van de belangrijkste overlevingsstrategieën van de irrigatieboeren.

Hoofdstuk vijf laat zien hoe een coöperatief bedrijfsmodel het uitgangspunt vormde bij de totstandkoming van het Negomo irrigatiestelsel in de Chiweshe communale gebieden van Mazowe district in Mashonaland Central. Het stelsel werd ontwikkeld door internationale en lokale privé-ondernemingen met de expliciete wens een modern irrigatiestelsel te bewerkstelligen dat namens de gebruikers zou worden beheerd door een privaat bedrijf. Het Negomo stelsel dat oorspronkelijk was gepland als een TILCOR plantage ten tijde van de gesegregeerde landbouwontwikkelings politiek van Rhodesie in 1974, werd pas ontwikkeld door het door Duitsland gefinancierde 'één dam en één irrigatiestelsel per district' programma in 1988. Het irrigatiebeheersmodel was sterk beïnvloed door het ontwikkelingsdiscours uit de late jaren tachtig dat de nadruk legde op het inefficiënte beheer en corrupte gedrag van overheidsirrigatiediensten, de voordelen van boerenbeheer, de gunstige effecten van het toepassen van marktprincipes in irrigatie en de behoefte om alle kosten voor beheer en onderhoud terug te winnen van de gebruikers. Om deze kostendekking te bewerkstelligen en tegelijkertijd de welvaart van de gebruikers te verhogen, werd het noodzakelijk geacht om hoogwaardige gewassen voor de exportmarkt te verbouwen en het verlenen van beheers- en onderhoudsdiensten over te laten aan een gespecialiseerde, professionele eenheid ('water authority'). Bij het ontwerp van het stelsel werd de overheid in eerste instantie gepasseerd en de voorkeur gegeven aan privé ondernemingen om de infrastructuur en het organisatorisch raamwerk van het stelsel te ontwikkelen. Het Economisch Struktureel Aanpassingsprogramma (1990) met haar nadruk op de noodzaak overheidssubsidies te

reduceren, privé-investeringen te bevorderen, productie voor de exportmarkt te verhogen en publiek-private partnerschappen te promoten, leverde een vruchtbare voedingsbodem voor het hervormingsmodel.

De ontwerpers van het irrigatiestelsel ontwikkelden een doorwrochte uitvoerings-strategie en -structuur met het oogmerk alle mogelijke publieke en private actoren die actief waren in de irrigatiesector te coöpteren. Dit gebeurde middels twee adviesorganen, namelijk het Ministerieel Verbindingsorgaan (MLC) op nationaal niveau en het Negomo adviesorgaan (NAB) op districts-niveau. De bedoeling was om middels deze organen het project en haar revolutionaire benadering goed in te bedden in de verantwoordelijke overheidsdiensten, en tegelijkertijd de broodnodige politieke steun voor de uitvoering van het project te verwerven. In de praktijk werkte deze strategie niet, aangezien maar een beperkt aantal actoren daadwerkelijk betrokken was bij de vormgeving van het stelsel en haar organisatorisch raamwerk: Price Waterhouse (lokaal consultancy bedrijf), Agritex en in zekere mate de Gouverneur. Opvallende afwezigingen in de hele uitvoeringsstructuur waren de irrigatieboeren zelf, behalve dan tijdens de mobilisatiefase van de boeren en de (geslaagde) poging van de boeren een lokale begraafplaats te behoeden voor overstroming door de aanleg van een dam.

De uitvoeringsstructuur van het project voldeed echter niet aan de verwachtingen. De MLC hield geen bijeenkomsten, met als direct gevolg dat de verwerving van steun van de overheidsdiensten in het water viel. De NAB functioneerde ook al niet, aangezien het project onvoldoende materiële en financiële prikkels gaf. De keuze van het project om uitsluitend met privé consultants te werken werd gelegitimeerd door de aanname dat het te moeilijk was bestaande werkwijzen van overheidsdiensten te veranderen, terwijl het project behoefte had aan een soort van expertise die moeilijk te vinden was binnen overheidskringen. Het gevolg van deze keuze was dat Agritex personeel zich gepasseerd voelde en miskend in haar eigen pogingen te komen tot het ontwerp van door boeren beheerde irrigatiestelsels. Desondanks werd er van het personeel van Agritex verwacht dat zij de cruciale taak om de boeren te mobiliseren voor haar rekening zou nemen. Een gebrekkige financiële planning resulteerde uiteindelijk in een vertraging van de mobilisatie van de boeren door Agritex. De cruciale rol die de Gouverneur speelde in het verzekeren van overheidssteun voor het project ging ten koste van een serieuze dialoog met de irrigatieboeren. De laatsten hadden het gevoel dat ze gedwongen werden zich te schikken in de gang van zaken door de reputatie van de Gouverneur als partijbons en autocratisch bewindvoerder.

Hoofdstuk zes presenteert de worsteling van de irrigatieboeren in Negomo met het moderne irrigatiestelsel dat was ontworpen en aan hen was opgedrongen door internationale en nationale consultancy bedrijven. De coöperatieve bedrijfsstructuur verzekerde hen van een wettelijk erkende beheersorganisatie, die contracten kon aangaan met andere organen, om hen de gelegenheid te geven contracteelt te bedrijven alsmede toegang te verstrekken tot de hoogwaardige teelt van export gewassen. Door een centraal dienstencentrum (CSU) in het organisatorische raamwerk op te nemen, werden bijna alle benodigde diensten voor het bedrijven van geïrrigeerde landbouw via één loket aan de boeren verstrekt. Price Waterhouse knoeide echter met het registreren van het Kanhukamwe Coöperatieve Bedrijf (KCC), en slaagde er niet in om de irrigatieboeren het concept van dit bedrijf duidelijk te maken. Verder was Price Waterhouse niet succesvol in het volledig integreren van alle organen van de KCC in één irrigatiebeheersstructuur. Ze slaagden er ook niet in de financiële verplichtingen voor

de exploitatie en het onderhoud van het stelsel over te dragen aan de irrigatieboeren. In plaats daarvan besloten ze winstgevendende bedrijfsonderdelen te ontwikkelen, waarbij de winst gebruikt zou worden om de exploitatie- en onderhoudskosten van het stelsel te dekken. Als gevolg van deze gang van zaken werden de gebruikers zich nooit bewust van de noodzaak zelf de exploitatie- en onderhoudskosten te bekostigen. Toen hen uiteindelijk toch werd gevraagd te betalen bleek dat de irrigatieboeren het te gortig vonden om voor diensten die voorheen gratis werden verstrekt door de overheid (bijvoorbeeld landbouwvoorlichting), te moeten betalen aan de CSU.

De verdere ontwikkeling van het bedrijfsmodel werd in grote mate bepaald door het falen van de nieuw gecreëerde organisaties zich van hun taken te kwijten en een aantal natuurlijke en door mensen veroorzaakte gebeurtenissen. Toen bijvoorbeeld de NAB, het districtsadviesorgaan, poogde te doen waarvoor zij was opgericht ontstond er gelijk frictie met Price Waterhouse. Het personeel van de CSU wilde niet dat hun arbeidsovereenkomsten zou worden getekend door een tijdelijk orgaan als de NAB. Om redenen van prestige en verdere ontwikkeling van hun CV prefereerden ze in dienst te treden bij Price Waterhouse. Ook werd het bestuur van de KCC nooit in die mate ontwikkeld dat ze zelfstandig kon gaan functioneren, met als gevolg dat Price Waterhouse feitelijk de baas bleef over de CSU. Voor de irrigatieboeren leek dit niet eens zo'n ongunstige ontwikkeling, aangezien op die wijze de schulden die het stelsel opliep de verantwoordelijkheid bleven van de CSU en Price Waterhouse. De politieke onrust in Zimbabwe was ervoor verantwoordelijk dat de financier van het project (KfW) drie jaar voor het einde van het programma z'n biesen pakte. Dit resulteerde in een versnelde en vroegtijdige overdracht van irrigatiebeheerstaken aan de boeren. Het door droogte veroorzaakte watertekort in de Negomo dam dwong de irrigatieboeren hulp te zoeken bij ZINWA (de Nationale Water Autoriteit), met als gevolg dat de irrigatieboeren alsnog aan alle achterstallige waterrekeningen, die men voorheen had geweigerd te betalen, moesten voldoen.

De gebruikte irrigatietechnologie in Negomo had de nodige effecten op het hervormingsmodel. Het feit dat water continu beschikbaar was, wanneer de gebruiker het maar wilde, resulteerde in een grote variatie in waterverbruik. Aangezien er enkel watermeters geïnstalleerd waren op blok niveau, was het onmogelijk iedere watergebruiker individueel te laten betalen voor zijn/haar waterverbruik. Dus namen de vormgevers van het stelsel hun toevlucht tot het heffen van een standaardrekening per plot, onafhankelijk van de grootte van het geïrrigeerde perceel. De grootte van de toegekende kavels stond die irrigatieboeren, die niet in staat waren voldoende inputs te verwerven, toe een deel van hun perceel te verhuren aan derden en het andere deel zelf te bebouwen. De beschikbaarheid van de gebruikte tuinslangen op de markt vergemakkelijkte de overdracht van de irrigatie apparatuur op veldniveau. Dit was niet het geval met het volledig geautomatiseerde pompstation dat min of meer werd gedumpt door Agritex en de donororganisaties na hun vertrek met stille trom gedurende de uitbraak van de derde *Chimurenga*.

Hoofdstuk zeven behandelt de totstandkoming van twee irrigatiestelsels, die werden gefinancierd door het wintertarwe irrigatierehabilitatieprogramma (WWIRP) van de overheid. Dit programma was speciaal gericht op het herstellen van irrigatie infrastructuur die verwoest was tijdens de chaotische landbezettingen van de derde *Chimurenga*. De land invasies begonnen in 1997 als sporadische landbezettingen, waar de toenmalige overheid fel tegen

gekand was. Tegen 1999 was de beweging ontaard in een massale landroof die werd gesteund door een aantal ZANU-PF partijbonzen onder aanvoering van de president. De landbezettingen werden echter niet gepland of systematisch uitgevoerd als ware zij onderdeel van een overheidsbeleid of oorlogsstrategie: ze waren spontaan, ad hoc, en onderhevig aan fluctuaties in het politieke bestel en gebeurtenissen in het veld. Het verhaal van één landbezetter, de heer Mutizira, die een groep van landbezitters uit Gokwe vertegenwoordigde, laat dit duidelijk zien.

De uitvoering van het (wintertarwe) programma werd bemoeilijkt door de economische recessie en de ineenstorting van de agro-industriële dienstensector. De uitvoering van het programma werd overgelaten aan overheidsdiensten als Arex, DoAE, DoI, DDF en ARDA. Maar de meeste van deze diensten waren nog maar net opgericht en leidden bovendien aan een acuut gebrek aan gekwalificeerde staf als gevolg van de toegenomen braindrain. Mede hierdoor konden de geplande diensten van het programma niet worden geleverd door de overheidsorganisaties. Aldus ontstond er ruimte voor voormalige commerciële boeren en landbezitters om de handen ineen te slaan en het programma vorm te geven middels verschillende vormen van samenleving en halfbouw (waarbij de bezetters een deel van hun oogst afstonden aan de commerciële boer in ruil voor hulp bij de verbouw van geïrrigeerde tarwe). Aldus ontstond een scenario waarbij pragmatische en politieke overwegingen van lokale actoren leidden tot nieuw beleid. Dit in tegenstelling tot beleid dat het gevolg is van doelmatige overheidsinterventie. Vandaar dat er in dit geval gesproken wordt van een spontaan hervormingsmodel voor irrigatiebeheer.

Het gedetailleerde landbezettingsverhaal van de heer Mutizira toont aan dat het tijdens de derde *Chimurenga* totstandgekomen nieuwe politiek bestel volop in beweging was. De oorlogsveteranen mobiliseerden hun nationale vereniging, hun parlementsleden en de provinciale gouverneurs om toegang tot land te krijgen, waar voorheen enkel het ambtelijk bestel dat kon doen. Nadat de oorlogsveteranen ZANU-PF hadden geholpen met het winnen van de verkiezingen, bleek dat zij nog steeds moesten vechten voor hun land. Hierbij namen de oorlogsveteranen soms hun toevlucht tot het bestoken van de District Administrator met als gevolg dat ze soms ver van hun thuisbasis werden gevestigd. Boerderijen, zoals die van meneer Eden, die tot twee keer toe te koop waren aangeboden aan de overheid, werden even zo goed bezet. Desalniettemin besloot meneer Eden mee te werken aan de landbezetting, door de bezetters te voorzien van voedsel, apparatuur en landbouwhulp. In tegenstelling tot publieke beschuldigingen door de president dat commerciële boeren Britse staatsburgers waren, die hun leven niet wilden delen met zwarte Zimbabweanen, bleek dat de commerciële boeren in Chifundi en Elmly Park zichzelf allereerst en voornamelijk als Zimbabweaanse staatsburgers beschouwden. In de war gebracht door houtje-touwtje oplossingen, politieke druk, en bedreigingen van gewapende soldaten en politieke zwaargewichten op zoek naar land, nam het gros van de ambtenaren zijn toevlucht tot de diaspora. In een poging hun landbezetting te doen slagen, zagen de landbezitters zich genoodzaakt de handen ineen te slaan met hun vijanden, de voormalige blanke commerciële boeren en hun landarbeiders, om niet alleen toegang te krijgen tot irrigatie exploitatie en onderhoudsdiensten, maar ook tot landbewerking (ploegen) en landbouwadvises.

Het hoofdstuk toont in hoeverre het ontstane organisatorische raamwerk werd gestructureerd door de aanwezige irrigatietechnologie. Een centre pivot, zeker wanneer deze een

cirkelvormig areaal irrigeert en volledig geautomatiseerd is, ‘vraagt’ bijna om een enkelvoudige, centrale beheerder. Het areaal kan immers niet in ‘taartvormige’ plotjes worden verdeeld en bovendien is een kapitaal intensieve gewasteelt vereist om de hoge exploitatiekosten te financieren. Het feit dat de beschikbare beheersmodellen voor kleinschalige irrigatie niet aan deze voorwaarden konden voldoen, resulteerde in de noodzaak om een nieuw model van boeren-organisatie en –beheer vorm te geven in Chifundi en Elmly Park. In het laatste geval draaide het organisatorische raamwerk van de boeren om een irrigatiebeheerscomité (IMC) met één irrigatiemanager, op expliciet verzoek van hun mentor, de heer Bosman. In Chifundi achtten de landbezitters het meer opportuun om als één groep te werken, verenigd in een coöperatieve vereniging, aangezien het moeilijk bleek het overgenomen irrigatiestelsel in individuele percelen te splitsen.

Hoofdstuk acht laat zien hoe de landbezitters van Chifundi en Elmly Park poogden vat te krijgen op geïrrigeerde landbouw in een politiek gevoelig klimaat. Het hoofdstuk toont dat het overheidsbeleid incoherent was en onderhevig aan fluctuaties. Het negatieve effect hiervan werd versterkt door het feit dat de overheidsdiensten, verantwoordelijk voor irrigatierehabilitatie, in de meeste gevallen niet tegen hun taak waren opgewassen. Als gevolg daarvan besloten de nieuwe irrigatieboeren in zee te gaan met voormalige commerciële boeren en hun landarbeiders, die zichzelf daarvoor beschikbaar stelden in de twee irrigatiestelsels. De voormalige landarbeiders boden niet alleen de broodnodige expertise voor de exploitatie van de irrigatiesystemen, maar vormden ook het hart van de productie-eenheid die verantwoordelijk was voor het verder uitbouwen van de geïrrigeerde landbouw activiteiten. Ondanks het feit dat de aanwezige Agritex beambte niet volledig bekend was met de irrigatietechnologie, bleek haar netwerk van politici, agro-industriële bedrijven, overheidsdiensten, en voormalige commerciële boeren essentieel bij het sluiten van teeltcontracten met verschillende organisaties op diverse momenten. Niet al haar advies viel echter in goede aarde bij de irrigatieboeren, zoals bleek toen de irrigatieboeren haar advies om tarwe met maïs te roteren in de wind sloegen.

Zonder toegang tot voormalige landarbeiders waren de irrigatieboeren in Elmly Park min of meer gedwongen hun toevlucht te nemen tot de voormalige commerciële boer, die een soort van peetoom of mentor werd voor hen. Hij deed dan ook alles, van irrigatie-exploitatie en –onderhoud tot gewasteelt activiteiten. De korte samenwerking met drie Arex officials werd snel beëindigd omdat de landbezitters vermoedden dat de Arex officials het op hun land hadden voorzien. Hoewel de commerciële boer de landbezitters wilde helpen, was hij niet bereid om een dialoog aan te gaan met alle irrigatieboeren. En dus werd de positie van irrigatiemanager gecreëerd om op dagelijkse basis te interacteren met hun mentor, meneer Bosman. In eerste instantie voorzag de mentor de nieuwe irrigatieboeren niet enkel van advies maar leverde hij ook alle landbouwbenodigdheden. Op basis hiervan eigende de mentor zichzelf ook het overgrote deel van de behaalde winsten toe. Aangezien de centre pivot niet kon worden verplaatst, werden de irrigatieboeren van Elmly Park gedwongen hun gewassen te verbouwen op een vast, niet verplaatsbaar, areaal. In Chifundi was dit niet het geval en konden de irrigatieboeren in de zomer hun geïrrigeerde areaal verdubbelen, gebruikmakend van de regenval. Dit leverde echter problemen op toen de irrigatieboeren onvoldoende zaaizaad en kunstmest wisten te mobiliseren voor het beschikbare areaal. Aangezien de boeren in Chifundi opslag- en droogfaciliteiten hadden op hun boerderij, konden ze hun tarwe in opslag houden terwijl ze onderhandelden met de GMB over de verkoopprijs. De

irrigatieboeren in Elmly Park waren afhankelijk van een snelle oogst en het netwerk van de commerciële boer om hun producten snel af te zetten op de markt. Toen de boeren in Chifundi er niet in slaagden zaaizaad en kunstmest te verkrijgen van de GMB namen ze hun toevlucht tot het afsluiten van contracten en overeenkomsten met agro-industriële bedrijven zoals FSI. In Elmly Park vertrouwden de boeren op het netwerk van hun mentor die er telkens in slaagde zaaizaad en kunstmest te regelen en ook hogere prijzen voor hun produkten wist te bedingen door zijn persoonlijke kontakten met privé ondernemingen.

De casestudies laten zien dat het bij ‘accountability’ draait om machtsrelaties, waarbij alle vormen van macht, zoals gedefinieerd door Rummel, een rol spelen. In het geval van de drie Arex beamtten, bijvoorbeeld, is gebleken dat ondanks de intellectuele en autoritaire macht die deze figuren konden uitoefenen op de nieuwe irrigatieboeren, dit de boeren er niet van weerhield ze alle drie uit het stelsel te verwijderen. Toen overheids personeel een poging waagde zich met Elmly Park te bemoeien, namen de irrigatieboeren hun toevlucht tot dwang. Iedere overheidsbeambte die poogde zich te bemoeien met de gang van zaken van hun blanke (*murungu*) werd bedreigd met fysiek geweld. Dit bleken echter loze bedreigingen toen de boerderij van de *murungu* werd bezet door een parlamentslid, met als gevolg dat een aantal activiteiten op Elmly Park geen doorgang konden vinden. De bezetting door het parlamentslid toont hoe de laatste zijn toevlucht nam tot manipulatief gedrag om zijn tanende politieke carrière nieuw leven in te blazen. De intellectuele macht van de Arex beambte in Chifundi wordt duidelijk belicht, hoewel ze soms werd overvleugeld door de politieke connecties van sommige leden van het irrigatiestelsel, zoals in het geval van meneer Chinhengo, wiens broer bij de presidentiële dienst werkte. De altruïstische macht van de landbezitters komt ook duidelijk naar voren. Hun verlangen om van de landbezetting een succes te maken gaf de doorslag bij het incorporeren van voormalige landarbeiders in hun managementstructuur, al was het maar om zich van succes te verzekeren in hun irrigatieactiviteiten. Dit deed hen ook besluiten in zee te gaan met voormalige commerciële boeren, die zelf gehecht waren aan hun boerenbestaan en daarom bereid bleken om allerlei diensten te verlenen aan de nieuwe gemeenschap van irrigatieboeren.

Hoofdstuk negen bevat de belangrijkste bevindingen van de studie alsmede enige theoretische observaties met betrekking tot de bestudeerde beleidshervormingsmodellen voor irrigatiebeheer. In het geval van Musarurwa werd getoond dat de vruchten van participatie niet enkel voortvloeien uit een strikte toepassing van participatieve principes, maar evenzeer voortspruiten uit bredere collectieve interacties die tot stand worden gebracht door natuurlijke en door mensen veroorzaakte gebeurtenissen. Er is aangetoond dat de uitkomsten van beleidsmodellen voortvloeien uit interacties tussen internationale hulporganisaties, de (beleids)agenda van het ontvangende land, lokale ervaringen met overheidsinterventies, en de gebruikers zelf. Uiteindelijk zijn het niet enkel de actoren, maar de gebeurtenissen, tegenslagen, en technologische eisen die meer dan het niveau of de intentie van participatie de iteratieve transformatie van een beleidsmodel naar de praktijk beïnvloeden.

De Negomo case toont de mate van verankering van irrigatiebeheer hervormingen. De case laat zien dat beleidshervormingsmodellen voor irrigatiebeheer geen geïsoleerde, op zichzelf staande verschijnselen zijn, maar dat ze verweven raken met bredere nationale gebeurtenissen. Evenzeer blijkt dat complexiteiten rond ‘accountability’ ook voortvloeien uit het implementatieproces zelf. In dit geval was het de (in)competentie van de uitvoerende

consultant Price Waterhouse die de complexiteit rond 'accountability' vormgaf. Het was duidelijk dat een conceptie van het begrip 'accountability' als had het enkel betrekking op de dienstverlening van de irrigatiebureaucratie naar de irrigatieboeren misleidend was, aangezien lang niet alle gevormde organisaties functioneerden zoals ze beoogt waren te functioneren. Hun functies waren vervlochten en kwamen tot stand in interactie met andere organisaties en individuen alsmede als gevolg van menselijk en natuurlijk handelen.

De Chifundi en Elmly Park cases vertegenwoordigen een nieuw irrigatiebeheer hervormingsmodel dat voortvloeide uit de gebeurtenissen rond de Derde *Chimurenga*. Desondanks ontwikkelde het model zich in een richting die de ontwikkelaars van het Negomo project voor ogen hadden gehad, al was het dan zonder enigerlei vorm van planning of doelbewuste beïnvloeding door de overheid en internationale hulp organisaties. Alle cases tezamen wijzen erop dat beleidsmodellen die werken in de praktijk niet enkel voortvloeien uit de kokers van wetenschappers of ontwikkelingsorganisaties om te worden overgedragen door overheidsorganen en andere intermediairen aan rurale, arme gemeenschappen. Met name onder chaotische omstandigheden, zoals in het Zimbabwe van na de Derde *Chimurenga*, ontstaan levensvatbare, nieuwe beleidshervormingsmodellen voor irrigatiebeheer op experimentele wijze, gedreven door de vaardigheden en initiatieven van lokale actoren in het veld.

CURRICULUM VITAE

Conrade Zawe was born on 21 May 1958 at Wadilove clinic near Marondera town, the capital of Mashonaland East province of Zimbabwe. He grew up in Mudzingwa village of the Chihota Tribal Trust Land (communal area) of Marondera District. He attended primary education at Chitangazuva Primary school in the same village. He attended secondary education at a Methodist Church mission run Kwenda Secondary school in the Chikomba district of Mashonaland East province between 1972 and 1976. During the period 1977 to 1978 he was employed as general farm worker at Grasslands Research Station near Marondera. It was Chibero College entry condition that a student had to at least have one year farm experience before enrolment. During the period 1978 to 1981 he was studying for a diploma in agriculture at Chibero College of Agriculture near Norton in Mashonaland West province of Zimbabwe. From July 1981 to March 1984 he was a Coffee Estate manager employed by Mr. Charles Bruce at his Coffee Estate in Vumba in the Eastern highlands of Zimbabwe. Mr. Charles Bruce also owned a tobacco and coffee growing farm near Mhangura in Mashonaland West province where he stayed.

In April 1984 he joined AGRITEX as an Agricultural Extension officer. He was posted to the low rainfall district of Chirumhanzu in the Midlands province of Zimbabwe. It was here that Conrade Zawe began his indulgency in smallholder irrigation development and management. He designed and constructed many small dams and irrigation schemes with funding sourced by the Roman Catholic priest Farther Joe Stocker. In 1987 he was enrolled into the FAO/AGRITEX 14-week Irrigation Design, Construction and Management course in Harare. He was also appointed Irrigation Officer for Midlands South responsible for the management of smallholder irrigation schemes in four districts. In 1992 he attended the six-week On Farm Irrigation Design and Evaluation course at Utah State University USA. From 1993 to 1994 he studied for a Post Graduate Diploma in Land and Water Management Irrigation Option at Cranfield University in the UK. In 1995 he was posted to Mashonaland West Province as an Irrigation Specialist.

During the period September 1998 to January 2000 he studied for an MSc degree in Land and Water Management at the Irrigation and Water Engineering Group at Wageningen University in the Netherlands under the Zimbabwe programme on women studies, extension, sociology and irrigation (ZIMWESI). His MSc thesis focused on coping strategies by farmers in the management of smallholder sprinkler irrigation systems in the Musengezi resettlement area of Chegutu district of Mashonaland West province of Zimbabwe. From 2001 to 2005 he was awarded a WOTRO grant to carry out PhD research with the Irrigation and Water Engineering Group at Wageningen University in the Netherlands. The research was on policy models for irrigation reforms at four smallholder irrigation schemes in Mashonaland West and Mashonaland Central provinces of Zimbabwe. In November 2003 he was appointed Chief Irrigation Engineer for Mashonaland West province of Zimbabwe of the Department of Irrigation (DoI) of the Ministry of Water and Infrastructure Development.

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