

The Benefits of Goats to Rural Households' Food Security: The Case of The World Vision Zambia Goat Project in Chibombo District.

A Research Project submitted to Van Hall Larenstein University of Applied Sciences in partial fulfilment of the requirements for the award of Professional Master Degree in Management of Development with specialization: Rural Development and Food Security

Mable Mwaba

September 2011

© Copyright Mable Mwaba, 2011. All rights reserved

Van Hall Larenstein, Part of Wageningen UR,

The Netherlands

Permission to Use

As I present this research project, which is partial fulfilment of the requirement for Master's Degree, I fully agree that Larenstein University Library makes freely available for inspection, I further agree that permission for copying of this research project in any form, in whole or in part for the purpose of academic study may be granted by Larenstein Director of Research. It is understood that any copying or publication or use of this research project or parts therefore for financial gain shall not be allowed without my written permission. It is also understood that recognition shall be given to me and to the University in any scholarly use, which may be made of any material in my research project.

Requests for permission to copy or to make other use of material in this research project in whole or in part should be addressed to:

Director of Research
Larenstein University of Applied Sciences
Forum-Gebouw 102
Droevendaalsesteeg 2
6708 PB, Wageningen
Postbus 411
Tel: +31 317486230
Fax: +31 317484884

Dedication

I dedicate this work to my husband Francis Shinkanga and my two lovely daughters, Mwaba and Temwani. Your love, words of encouragement and support gave me the strength to give my best to the course work and thesis. I love you so much!

Acknowledgements

I wish to express my gratitude to the following for their contribution to the successful completion of this work.

God Almighty for the opportunity to pursue my master programme and for granting me the wisdom and strength to complete the programme.

Nuffic and Van Hall Larenstein University of Applied Sciences for financing and facilitating my study program respectively.

World Vision Zambia, for allowing me to use their project for my research work and their willingness to provide information regarding the goat project.

Robert Baars, my supervisor for his constructive and inspirational direction, who tirelessly coached and guided me until the final research. My course coordinator, Eddy Hesselink and all the lecturers for the instrumental role they played in my completion of the study programme.

Management and Staff of the Livestock Development Trust for the prayers, encouragement and support offered before and during the study programme. .

Finally, all those not mentioned individually here, kindly take my heart felt appreciation for your support and cooperation. May the Lord bless you all.

Mable

Table of Contents

Permission to Use	i
Acknowledgements	iii
List of Tables.....	vi
List of Figures	vi
List of Abbreviations and Acronyms	vii
Abstract.....	viii
Chapter One.....	1
1.1 Introduction	1
1.2 Background (Problem context)	1
1.3 Research problem	2
1.4 Objective	2
1.5 Research main and sub questions.....	3
Chapter two: Literature Review and Conceptual Framework.....	4
2.1 Working Definitions	4
2.2 Conceptual Framework.....	6
2.3 HIV/AIDS and Food Security	7
2.4 Improved Crop Productivity for Improve Rural Food Security	7
2.5 Goats as a Tool to Poverty Alleviation and Improved Food Security	9
2.6 Contribution of Livestock to Rural Households.....	10
2.7 Women’s access to production assets in rural Zambia	11
2.8 Constraints of Rural Goat Keeping	11
2.9 Overcoming the Constraints	13
Chapter Three: Methodology.....	15
3.1 Research Area	15
3.2 Study Design	16
3.4 Selection of Respondents	18
3.5 Analysis of Results	19
3.6 Limitations of the Study	19
Chapter Four: Research Findings and Discussion	20
4.1 Successes and Failures	20
4.2 Criteria for Selecting Beneficiaries.....	21
4.3 Passing on of the Goats to Other Beneficiaries.....	21
4.4 Rate of Satisfaction with the Project.....	22

4.5 Relevance of the Training	25
4.6 Effect of Training on Goat Management.....	25
4.7 Sources of Food (income) For the Households.....	27
4.8 Livestock Ownership of the Households.....	29
4.9 Household Benefits From the Different Sources of Income (contribution to food availability of the income sources).....	31
Chapter five: Discussion on the contribution of goats to rural households	36
5.1 Vulnerability context and coping strategies for Keembe ADP residents.....	36
5.2 Institutions.....	37
5.3 Livelihood Outcomes for Goat Keepers	37
5.3.1 The economic role of goats	37
5.3.2 Improved food security	38
5.3.3 Improved social status.....	40
Chapter six: Conclusions and Recommendations	41
6.1 Conclusions	41
6.2 Recommendations.....	41
References	43
List of Annexes	48
Annex 1: Beneficiary questionnaire.....	48
Annex 2: Non beneficiary questionnaire.....	53
Annex 3: Checklist for WVZ and LDT interviews	57
Annex 4: Photo gallery	58

List of Tables

Table 1: Breakdown of respondents and information provided.....	17
Table 2: rate of satisfaction with the goat project (N=16)	23
Table 3: Crops cultivated by the respondents and their contribution to household food security.....	28
Table 4: Livestock ownership and numbers.....	30

List of Figures

Figure 1: The sustainable livelihood framework for Beneficiary Households in Keembe	6
Figure 2: Map of Central Province.....	15
Figure 3: Recommended housing for goats	26
Figure 4: Pie chart illustrating the significance of the benefits from the livelihood strategies to beneficiary households in terms of percentage.....	31
Figure 5: Pie chart illustrating the significance of the benefits from the livelihood strategies to beneficiary households in terms of percentage.....	31
Figure 6: Comparison of the benefits between the beneficiary and non-beneficiary households	32

List of Abbreviations and Acronyms

ADP	Area Development Programme
AIDS	Acquired Immuno-deficiency syndrome
DRC	Democratic Republic of Congo
FISP	Farmer Input Support Programme
FRA	Food Reserve Agency
GART	Golden Valley Agricultural Research Trust
GDP	Gross Domestic Product
HH	Household
HIV	Human Immunodeficiency Virus
LDT	Livestock Development Trust
MACO	Ministry of Agriculture and Co-operatives
MDG	Millennium Development Goal
MLFD	Ministry of Livestock and Fisheries Development
NGO	Non-governmental Organisation
OVC	Orphaned and Vulnerable Children
PDTI	Palabana Dairy Training Institute
SIDO	Small Industries Development Organisation
VIS	Village Industry Services
WVZ	World Vision Zambia
ZMK	Zambian Kwacha (currency)

Abstract

The research study explored the effect of the goat project implemented by WVZ in Keembe ADP in 2006. The findings revealed that the WVZ goat project in Nanswisa and Chabona have made notable contributions to the beneficiary households. The training that the beneficiaries received prior to receiving the goats was reported to be relevant to them because it had enabled them to take better care of not only the goats but their other livestock as well. The relevance of the training was also appreciated by the non-beneficiary households who acknowledged that the improvement in the beneficiaries ability to manage their goats. The better management was also noted in the type of goat housing that 62.5% of the beneficiary households had constructed according to the recommendations provided during the training.

The contribution of the goats to the households is undisputable. Apart from the actual contribution to the household in terms of meat and milk, the beneficiary households were more food secure as was shown by the number of households that were in maize deficit in the two categories. The number of houses with maize deficit in the beneficiary households was at two out of sixteen while in the non-beneficiary category seven out of sixteen were maize deficit. Due the higher hectarage cultivated by the beneficiary households, they had more food and cotton to sell than the non-beneficiary households. The average household yield for maize, for example in the beneficiary households was 3,850 kg while in the non-beneficiary households it was 1,500 kg. The goats were cited by the beneficiary households to have contributed to the improved food security because goats were sold in order to hire extra labour by the households and purchase subsidized inputs.

The contributions of the goats to the households were far beyond that of food security. Goats as assets were converted into cash easily whenever there was need for cash. The money was used for the payment of school fees, purchase of food and purchase of other farm inputs. Goats were also reported to have assisted the families in times of bereavement. They provided meat in times of sorrow and in times of happiness like during weddings. As an animal that can survive anywhere with minimal inputs, it is therefore a suitable animal for the resource poor farmers as a tool for poverty alleviation.

Chapter One

1.1 Introduction

Zambia is a landlocked country located in southern Africa. It has a population of 13,046,508 people out of which 61% are based in the rural areas while 39% is urban based (CSO, 2011). It is the second most urbanised African country after South Africa in Sub Saharan Africa (World Bank, 2008; Mudenda, 2006).

The economy of Zambia is based on the copper mining sector which contributes 15% to the country's GDP. Agriculture, though not a major contributor to the national GDP, is the major employer in the country with over 85% of the workforce employed in agriculture which is the major source of income for the rural population, and especially women, who constitute a higher proportion of the rural population and agricultural labour force (Mucavale, 2001). Agriculture is the major instrument for poverty alleviation and sustainable development for the country which was in July 2011 reclassified from a low income to a lower middle income by the World Bank with a per capita GDP of \$1,400. This reclassification is mainly attributed to the economic growth of which stands at 6% annually that the country has enjoyed as a result of the high investments in the copper industry by private multinational companies coupled with high copper prices on the world market (CIA 2011). Despite the said achievements, rural Zambians are still facing a number of challenges which include; poor infrastructure, lack of markets, limited distribution of production inputs, and in the recent past the high prevalence of HIV/AIDS. The high HIV/AIDS epidemic which has mainly affected the urban population has not spared the rural population. With an infection rate of 14.3% for the population aged 15-49 years (NAC, 2007), which is one of the highest infection rates in the world.

In the last two decades, the HIV/AIDS epidemic has exposed the rural households to the risks and impacts of the epidemic, although the prevalence is currently higher in urban areas as compared to rural areas. The epidemic which has resulted in the loss of the much needed labour for the production of food has negatively affected the income and food security of the rural households' due to the labour intensive nature of the agricultural production for the rural poor. Repeated incidence of death and illness as well as the increasing number of orphans that have to be looked after has undermined the existing traditional safety nets.

1.2 Background (Problem context)

Zambia is one of the sub-Saharan countries with the highest prevalence rate of HIV/AIDS infections estimated to be at nearly 14.3% for the population aged 15-49 years (NAC, 2007). The HIV epidemic in Zambia has left many households under the care and charge of women and children due to the loss of the male household heads. Rural households are not only affected through the loss of labour and the burden of caring for the sick and orphans, but also through the resulting negative impacts in agricultural production. This is supported by Kürschner et al (2000) who argues that the HIV/AIDS pandemic has serious implications for food security and rural income. This has left the poor female-headed households who have to care and provide for themselves and AIDS orphans in rural contexts with very few coping capacities to re-establish themselves and maintain self-sustaining livelihoods.

The responses adopted by the affected households, such as the sale of productive assets and the removal of children from school, predispose and increase household poverty in the long term (GTZ, 2005). To help alleviate the above mentioned effects of HIV/AIDS in rural Zambia, World Vision Zambia invested a lot of money in agricultural programmes in 6 provinces. The strategic objective of the programme is improved livelihood security for 150,000 vulnerable households with the following as sub-objectives:

- i. Improved agriculture production/productivity among small scale farmers
- ii. Increased access to loans and business development services to facilitate income generation
- iii. Improved community resilience to shocks
- iv. Strengthened agricultural policy implementation to improve household food security

In order to achieve its objectives, WVZ contracted the Livestock Development Trust (LDT) in 2006 to offer animal husbandry training to the beneficiary households, procure and distribute the livestock. The livestock distributed under the project were goats, beef and dairy cattle and chickens. The focus of this paper is not on the contribution of all the livestock but specific to goats only. The research will therefore only investigate the contribution of the goats to the beneficiary households.

Livestock was selected as a tool to fight poverty by WVZ because of the many roles that it plays in the lives of the rural population. It is the bank in which all the surpluses from both savings and crops are reserved to be converted to cash whenever there is a need for money. Livestock also plays many other roles in the lives of the livestock keepers. As an asset, it can be a natural capital which has shaped and contributed to the lifestyles of many communities through its products and services all over the world. To many communities, households and individuals, it is essential in enabling effective use of natural resources towards secure and sustainable livelihoods. In this respect, livestock also contributes to household financial capital, as it can be a primary source of saving, income, credit, insurance, loans, gifts and investments as is supported by Rota and Sidahmed (2010).

1.3 Research problem

The training and goat distribution was first completed in 2006 in four provinces where over 4000 goats were distributed to about 500 households. The beneficiaries received training in basic goat husbandry which included housing, feeding practices and goat breeding. They were also trained in basic animal health, for example how to identify a sick goat and how to prevent goat diseases (tick and worm control). The training was to ensure that the recipients were prepared and able to take care of the goats once they received them. The training which was conducted on site, in the beneficiaries' villages, was offered in the local languages. In Keembe ADP, 90 households received both the training and the goats (WVZ, 2010). Five years after programme implementation, there is a need to assess the benefits/contribution of both the goat training and distribution on programme the beneficiary households' food security, hence the need for research.

1.4 Objective

To assess the effect of the WVZ goat distribution programme on household food accessibility on beneficiary households in Chibombo district.

1.5 Research main and sub questions

- a) What are the successes and failures of the WVZ goat project in Keembe?
 - i. What were the criteria for selecting beneficiaries?
 - ii. What is the rate of satisfaction of the beneficiaries with the goats?
 - iii. What is the effect of the training on the goat management practices of the beneficiaries?

- b) What is the significance of the sources of income to the households food security?
 - i. What is the contribution of crops to household income?
 - ii. What is the contribution of goats to household income
 - iii. What is the contribution of other livestock species to household income?
 - iv. What are the other sources of income?

Chapter two: Literature Review and Conceptual Framework

2.1 Working Definitions

- i. The World Food Summit of 1996 defined food security as a state in which “all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preference for an active and healthy life”. The world food summit defined food security as existing when “all people at all times have both physical and economic access to the basic food they need” (FAO, 1996).
- ii. **Definition of a Household**

A household is one or more people who share cooking and eating arrangements (Foster et al, 1997). In African countries, a household may comprise several houses which belong to one family. Rudie (1995) defines a household as a co-residential unit that is usually family based and jointly manages resources to provide for its members primary needs. Rudie’s definition will be used in this research. GTZ (2000) definition of food security is “adequate access to food for all people at all times for an active, healthy life”. The research will use the GTZ definition of food security.
- iii. **Household Head**

The definition of household head poses challenges especially in rural Zambia because a household maybe a cluster of many housing units. First, countries use different and therefore often non-comparable definitions of both the terms "household" and "head of household" in their census instruments. Second, there is ambiguity inherent in the term "head of household" when the assignment of headship is left to the judgment of household members. The third and perhaps most serious limitation is that the term "head of household" is not neutral (Buvinic and Gupta, 1997). The household head is the person primarily responsible for the day-to-day running of the house hold, including child care, breadwinning and household supervision (Foster et al, 1997). For the purpose of this research, a household head is the person responsible for decision making and provision for all the basic needs of the household members.
- iv. **Household Income**

Household income is defined as the total income of all the members of the household put together for the household use for food, health and education purposes.
- v. **Beneficiary Household**

The definition of the beneficiary household is the household which received the training and goats under the WVZ goat project in Keembe ADP.
- vi. **Non-beneficiary Household**

The definition for non-beneficiary household are households that have not received any training and goats from the WVZ goat project which were used as a comparison in order to determine the contribution of the goats to the beneficiary households.
- vii. **Benefits**

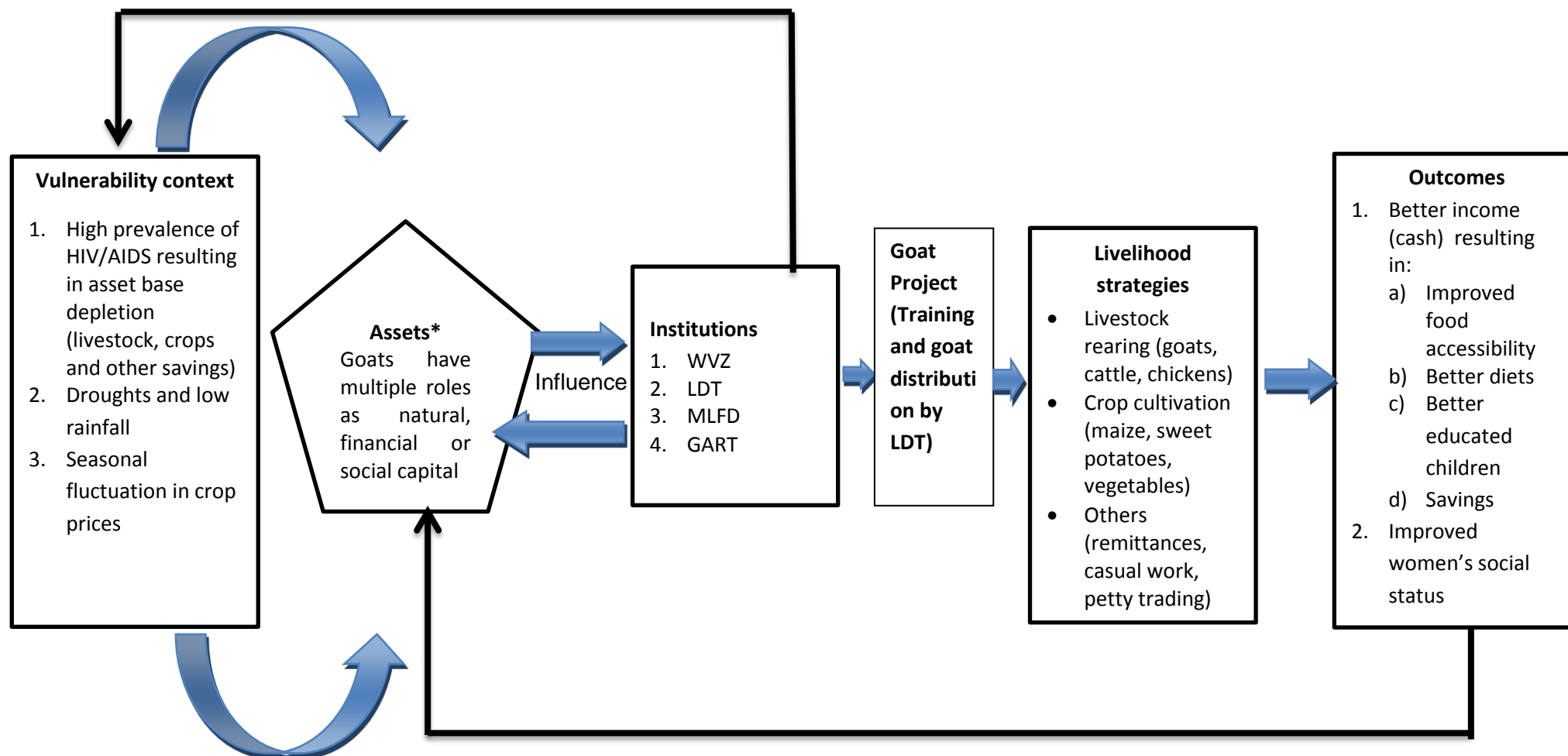
The benefits are defined as the addition or contribution to the wellbeing of the households from the goats, other livestock, crops and off farm activities.

viii. Zone

A zone is an area of catchment which is demarcated by WVZ for the projects which is under the management of a local zone leader.

2.2 Conceptual Framework

Figure 1: The Sustainable Livelihood Framework for Beneficiary Households in Keembe



2.3 HIV/AIDS and Food Security

Food security has four components which are availability (production), accessibility (ability to buy), utilisation (nutrition) and stability. The definition of food security has evolved considerably over time. The starting point of '**Food Security**' was food availability to balance unequal food distribution regionally and nationally. However, it was rapidly accepted that availability, though a necessary element, is not sufficient for food security, because food may be physically existent but inaccessible for those most in need. For this proposal the GTZ (2000) definition of food security is being used which describes it as "*adequate access to food for all people at all times for an active, healthy life*". From this definition, it is clear that attaining food security is not just about improved agricultural productivity but also entails ensuring that people who do not produce enough food have resources to food. With improved incomes households can still be food secure by being able to purchase food which is produced by other people. This has been shown to be true for countries like Japan which are not self-sufficient in food production but are not food insecure. As long as people have the financial capability to purchase food, it can be sourced from other parts of the country or of the world.

Vulnerability to food insecurity can be triggered by a number of factors such as, in recent times, rising food prices and the global economic downturn, household disruptions such as illness or the death of a wage-earner, and/or risky crop production as a result of climate, or water scarcity (Faber, Witten and Drimie, 2011). Subsistence farmers are particularly vulnerable to the impact of HIV/AIDS. Because of the chronic nature of the disease which requires a lot of care and nursing. It diverts the labour which can be used either for food production or work to the care of the sick. The epidemic in Zambia is increasingly becoming one of the major impediments to sustainable development. The high prevalence rate in the most productive age group (15-49 years) has resulted in the wiping out of the much need labour force resulting in wide ranging socio-economic effects on all aspects of rural livelihoods. These include erosion of food security and the livelihood asset base, decreased access to education and other productive assets thereby exacerbating poverty. Although each family is affected differently, the costs of the disease – in care and medicines, for example – are inescapable (Miles and Mwendu, 2005). Due to the loss of relatives working in the urban areas, the rural people who also depend on remittances suffer from loss of this source of income.

As one of the 189 United Nations member states, Zambia has committed to the Millennium Development Goals (MDGs), the first of which ("eradicate extreme poverty and hunger") is directly related to food and nutrition security. In addition, many of the MDGs, such as improving education, reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases, require good nutritional status if they are to be achieved effectively. It is now well recognised that HIV/AIDS and food and nutrition security are complex phenomena entwined in a vicious cycle. Food insecurity increases susceptibility to HIV exposure and infection, while HIV/AIDS exacerbates vulnerability to food insecurity (Faber, Witten and Drimie, 2011).

2.4 Improved Crop Productivity for Improve Rural Food Security

Reducing poverty and hunger for many countries is a challenge because it requires the creation of an enabling environment which supports and promotes the creation of

employment and other income generating opportunities for the target group so that even when they cannot produce enough food, they can purchase food from the local markets. This argument is well supported by Chambers and Ghildyal (1985) who argue that "rural poverty is much less a problem of total food availability than of who produces the food and who has the income to buy it." The argument of increased productivity as a means to end hunger and malnutrition is one that has been used for many years by many governments and countries. This was the drive for the promotion of the green revolution in Asia which was seen as a means to end food shortages and food insecurity. This was birthed in time when food insecurity was associated with low food productivity and hence food shortages. The result of the green revolution which was achieved through the use of fertilisers and improved seed varieties was an increase in crop productivity especially rice. This increase however did not eliminate the food insecurity and rural poverty in India and other third world countries which advocated for this method of production. This could be attributed to the fact that, the target group was mainly the resource richer farmers with the potential to buy inputs and machinery. The rural poor could not afford these inputs and the food which was produced by the richer farmers since they did not have the income to purchase. This and other attempts and programmes aimed at improved agricultural productivity have shown that increased food production on its own is not the solution to rural poverty and hence food insecurity. This is clearly demonstrated by Sen (1984) who argues that famines and family food shortages result much less from the shortages of food supply, and much more from lack of means to grow it or of income to buy it.

In Zambia maize production has been promoted over the cultivation of other crops like millet, cassava and sorghum and livestock production. Huge amounts of money have been pumped in the production of maize through the provision of subsidies and micro credit for the rural settlers. Currently the government is providing subsidised inputs like fertiliser and seeds for the cultivation of maize. Although the country has recorded bumper harvests in the last few seasons, it has not reduced the incidence of poverty for the poor.

For most households in rural Zambia, maize is the crop which provides their primary source of income, as well as food. This is due to the demand of the crop in the urban areas as the staple food and its use in the production of animal feeds, an industry which is growing rapidly in Zambia. It is the one crop whose marketing is better organised with a guaranteed market from the government owned Food Reserve Agency (FRA). Unfortunately maize is a crop which is highly vulnerable to drought, and increasingly erratic and lower rainfall has had a severe impact on maize production in the country (Miles and Mwendu, 2005). For good yields, maize is very dependent on favourable weather for it to grow and produce the corn. Zambia has not been spared from the effects of climate change which in some years have resulted in short rainfall seasons, drought and floods. Small scale rural farmers who produce over 80 per cent of maize are very vulnerable to the effects climate change because their production is based on rainfed type of cultivation and the entire usage of natural resources. Any shift in the rainfall pattern therefore affects them negatively in terms of maize productivity. This is witnessed in Southern, Central and Eastern provinces, where maize is major crop which occupies more than 70 per cent of the total area cultivated in these provinces. These provinces have in the recent past proved to be more vulnerable to food deficits. Maize yields in these areas show a very positive correlation with the total seasonal rainfall (All Africa, 2010).

The Northern Province on the other hand, which only cultivates about 13 per cent (MACO 2011) of the total maize in the country, is not affected by food insecurity. The reason for this is because the rest of the cultivated area is planted with cassava, sorghum and millet which are drought tolerant crops. It is one of the most food secure provinces in the country even in drought years.

2.5 Goats as a Tool to Poverty Alleviation and Improved Food Security

Poverty differs from one place to another. According to the World Bank (2000), poverty is pronounced deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. The World Bank also describes people as being in poverty or poor when they live on \$1 or less per day. Living on \$1 a day is obviously far from being sufficient to afford and access the basic needs for a healthy life. Poverty for this research will be restricted to people who are unable to have access to resources (income and consumption) for a decent standard of living.

Currently, around 73% of Zambians are classified as poor. Poverty is more prevalent in rural areas compared to the urban areas; 83% and 56% respectively (IMF, 2007). The reasons for the high poverty rates in the rural areas include the poor infrastructure, lack of markets and market information, low productivity, livestock diseases and lack of extension services. This is in agreement with Dose (2007) who states that “more than half of the population in developing countries live in rural areas, where poverty is most extreme.” Dose further argues that “on this background, it is highly important to improve the livelihoods of the rural poor. Achieving secure household incomes is generally assumed to be a fundamental step out of poverty and food insecurity”.

The low maintenance needs of the goats have made them not only suitable for the poor but also a good source of income and proteins. Goats are also able to adapt to any environment and make use of the limited resources which are converted into income. Compared to cattle, goats produce more milk on less food and are not adversely affected by declining pasture conditions (Kurtze, 1982). Devendra , (1999) and Gall, (1981) have also reported on the adaptability of goats to difficult conditions even in areas which fall under desert and tropical environments. These attributes just place goats in a class of its own in comparison to cattle and sheep. It makes them such a suitable animal for the resource poor farmers who only need assistance on how best they can manage the goats without causing much damage to crops. Together with wide adaptation to harsh environments and several unique attributes (e.g. ability to eat diet composed of tree leaves and shrubs (browse), high digestive efficiency for coarse roughage's, water metabolism, and disease resistance), they also provide for food security and survival, thus making a significant but underestimated socioeconomic contribution (Aucamp et al, 1981).

The key to fighting rural poverty is the creation of an environment in which the rural dwellers can diversify their livelihood strategies beyond the cultivation of maize which is highly dependent on good rainfall patterns. The rural dwellers need to develop their economies in order to engage in other activities like trading so that they are encouraged to stay these areas and contribute to the development and job creation. According to Kozel and Parker

(2003), the challenges for redressing poverty in rural areas is mainly related with the expansion of economic opportunities, empowerment of the poor to take advantage of new opportunities and an effective safety net to reduce vulnerability and protect poorer of the poor. The root cause of poverty is the limited availability of assets like livestock which exposes the rural poor to the effects of trends and shocks like drought and floods, low crop prices and HIV/AIDS. This affects their resilience and how they come out of such shocks/trends. Livestock is the major asset of rural households which is also useful for their livelihood support in both good and bad times.

2.6 Contribution of Livestock to Rural Households

Livestock contributed and continue to contribute to the sustainable livelihoods and security of many rural people especially in the developing parts of the world which include Sub Sahara Africa, Latin America and Asia. Livestock has a multiple role in the lives of the poor. As an asset it plays the role of the natural capital by providing the households with meat, milk, wool and hide; as financial capital it provides cash, saving, insurance, gifts and collateral for credit; and as a social capital it is used in traditions ceremonies, sign of wealth, prestige, identity, respect, friendship and dowry. Livestock also provide poor households with alternative sources of high quality nutrition, especially as sources for the pregnant women and for improving the cognitive skills and mental growth of the children (Rota & Sidahmed, 2010)

Goats have played multiple roles in the support of man's livelihood for many years all over the world. While goats were originally domesticated in southwest Asia they quickly moved into Africa and now can be found in every environment on the continent. Goats are deeply embedded in almost every African culture and are true friends to the rural poor in particular (Peacock, 2005). Goats for the rural poor can also play a role in risk avoidance which in most cases is not considered as economical gain. Livestock in general and goats in particular protect and cushion many rural households from the risks of crop failure due to climatic conditions which result in low yields or total crop failure. Even in cases of good weather and bumper harvests, livestock is still a buffer from low crop market prices which both have potential to destroy and undermine the economies of the rural poor increasing their vulnerability to food insecurity and malnutrition. Livestock rearing is hence a means of diversification which reduces the risks for the rural farmers and family (Ali, 2007).

The contribution of goat production has been well illustrated in India where there are a lot of landless people or people with small plots of land. The research which was conducted in the states of Punjab, Haryana, Andhra Pradesh, Gujarat, Karnataka, Kerala, Maharashtra, Rajasthan and Tamil Nadu showed a fast decline (reduction) in poverty. This fast decline in poverty was attributed to the fast growth which was noted in the in agriculture and/or livestock sectors. This is in contrast to states like Bihar, Orissa, Uttar Pradesh and West Bengal where the intensity of poverty is still relatively high. According to Ali (2007), the relationship between the incidence of rural poverty and share of livestock sector in total agricultural output for major states of India has been clearly shown. There is significant inverse relationship between poverty and value of livestock output. The states with higher livestock share have low level of poverty and vice versa.

The promotion of livestock rearing and agriculture in general is therefore a very important tool in the alleviation of rural poverty even for the marginalised and disadvantaged groups which include women. The advantage with goat rearing is the limited demand in terms of animal husbandry knowledge and other resources for them to perform well.

2.7 Women's access to production assets in rural Zambia

Women in rural Zambia have limited or no access and control over production assets which include land, livestock, inputs and finances. The major decisions are made by the male relatives even over what crops to cultivate. This is so even in households which are considered as female headed. Although women produce over 60% of the food in Zambia, their uncertain access to land, credit and education denies them exposure to and control of new technologies that might help them contribute effectively to agricultural productivity and hence food security (Mutangadura, 2005).

Land and land rights in Zambia eludes the majority of the rural women under the customary land holding system which is prevalent in rural Zambia, women are not land owners. This is supported by Byrne (1994) who states that ordinarily Zambian rural women do not own land in their own right. This means that they only acquire the use of land through marriage, relatives or village headmen without necessarily owning that land. In rural areas, married women obtain access to land for farming through their husbands. In the event of divorce or widowhood, they may be permitted to continue to use the land, but under customary law they will never inherit control of this land. Most divorced or widowed rural women return to their natal families, where they are dependent upon male kin for access to land (Keller, 2000). This goes without saying that women in rural Zambia do not have land which makes it more difficult for them to produce food for their families increasing their susceptibility to food insecurity. Rearing of livestock particularly small ruminants, pigs and poultry are therefore considered to be the potential options for female and child headed households to earn their livelihood on a sustainable basis.

In addition, small ruminants and poultry are specifically beneficial to the rural women as they also provide additional income to them, which they use of health, education, travel or other emergency needs. Goats have the capacity to utilise low-quality feeds, such as pasture, crop and industrial by-products which have only few alternative uses and they convert them into high value products.

2.8 Constraints of Rural Goat Keeping

Rural livestock keepers in Zambia are faced with a number of challenges which hamper the growth of the traditional livestock sector. The following have been identified as some of the key constraints associated with the goat production in rural areas:

i. Inadequate Livestock Husbandry Skills Among the Farmers

Most traditional livestock farmers have not had any formal training in livestock production as most of them have not had any form of education. As a result, they have limited knowledge and skills on proper animal management to improve productivity at farm level. This has resulted in poor productivity in the livestock sector resulting in low livestock numbers and low off take in the traditional sector which owns over 97 percent of the goats, 83 per cent of cattle and 64 per cent of sheep (LDT, 2006).

ii. **Poor Livestock Production Extension Services**

Extension services are mainly limited to the line of rail in rural Zambia. In the remote parts of the country, there are limited or no extension officers to cater for the needs of the livestock keepers. This limits the dissemination of information to the farmers cutting them off from the benefits of the recent developments in the livestock sector. According to the USAID report (2002), farmer capacity building can be achieved through advising farmers on opportunities not only in agricultural production as it is the case in developing countries, but in marketing, conservation, and family livelihoods; (2) developing and transferring new technologies to farmers; and (3), taking a wholesome approach to addressing public interest issues in rural areas such as resource conservation, health, monitoring of food security and agricultural production, food safety, nutrition, family education, and youth development. The flow of such information is dependent upon interactions among special agricultural agents and libraries, local public libraries, and selected gatekeepers in the farmer population (Aina, 1991). With a ratio for the extension worker to farmer at 1:1700, it is not possible for these officers to meet with the farmers as frequently as is desirable for the effective passing on of information and monitoring of its application. The size of the veterinary camps or catchment areas for these extension officers also hinders them from reaching all the farmers in the catchment areas.

iii. **Communal Grazing Land**

The majority of the grazing land in Zambia is under the custody of the chief making it communal grazing land. The challenges which are encountered with such land is that it is not well taken care of, it is overused and over grazed providing very little feed for the livestock. This poses a challenge in the availability of feed for the livestock for certain parts of the year like the dry season. The limitation in feed available has an effect on the productivity of the livestock and hence its contribution to the households.

iv. **Prevalence of Animal Diseases**

The high incidence of livestock diseases poses a major challenge in the profitable rearing of livestock and the productivity of the livestock. Although most of the diseases are management diseases which can be easily prevented through the control of ticks and worms, most of the rural farmers have no access to the necessary drugs for their prevention. The privatisation of the veterinary services in Zambia means that farmers have to bear the full cost of purchasing the drugs. The availability of these drugs in rural areas is also a major issue, as most of the companies dealing in such drugs are along the line of rail and closer to the commercial farmers. The seriousness of the decline in the livestock numbers due to livestock diseases is noted in Southern Province which in 1985 had over 1 million cattle. In 2007, the population was reported at just below 700,000 (MACO, 2007) due to cattle deaths caused by theileriosis (corridor disease). The Government of the Republic of Zambia has identified livestock diseases as one of the major constraints to rural development and poverty alleviation in the country. The high prevalence of livestock diseases has retarded the growth of the agricultural sector as a whole (SNDP, 2011).

v. **Lack of Credit Facilities**

The credit supply system is not in existence in most parts of the rural areas. The credit system which was available from independence to around the early 1990s was the life line for the production of food for many of the rural households. The government financial

institutions like the co-operatives and the Lima bank which had consistently suffered due to problems with recovering the loans, closed down during the early 1990's with the change of government. Small scale business support institutions such as Small Industries Development Organisation (SIDO) and the Village Industry Services (VIS) which were providing support for the small scale producers also closed down due to problems with funding. Though credit and savings are an important element in supporting rural development, there is no assured source of this service to the rural producers now. Credit where it is available is most commonly available for crop production inputs, typically for maize, cotton and tobacco. This is provided by the government through the Farmer Input Support Programme (FISP) for maize, various NGOs and microfinance institutions (SIDA, 2002). It is mainly available to farmers in areas close to the line of rail leaving out the distant rural areas.

vi. Poor Marketing Infrastructure and Information

Most of the rural areas in Zambia lack proper marketing infrastructure which include roads and market places to sell their produce and livestock. Markets for goat products, especially milk are very poorly developed in most developing countries despite the fact that generally consumers are willing to pay a premium for goat's milk (Vries, 2008). Furthermore the farmers are not organized and have to move with their livestock on foot for long distances to access the markets in a bid to get a good price for the livestock. The livestock are sold live to the consumers directly or to processing plants. For goats, they are sold live directly to the consumers or to livestock traders who transport them to the urban markets.

2.9 Overcoming the Constraints

Despite the above constraints, however, the goat production has great potential to contribute to the improvement of household food security for the land and resource poor rural people. In order to overcome these constraints, the interventions have to be implemented as a package so that the beneficiaries are better empowered to handle and manage within these constraints.

WVZ contributed to the reduction of the constraints by training the beneficiaries in goat management. This was hoped would contribute to the better management of the goats and hence the productivity of the goats which is important in the effective contribution of the goats to poverty alleviation. The beneficiaries also received training on the marketing of the goats which was meant to help them in the marketing of their goats. Goat meat which was looked down on by most Zambians has had an increase in the demand in urban Zambia to the change in the perception of goat meat and an increase in the Muslim community in the country. The demand for goat meat in the neighbouring DRC has also seen an increase in the traders who are going into remote parts of the country to purchase goats for further sale in DRC.

The creation of the new Ministry of Livestock and Fisheries Development (MLFD) is seen as a positive development which will foster development in the livestock sector. The separation has ensured that the ministry receives its own budget line away from the Ministry of Agriculture and Cooperatives (MACO) in which most of the funding was directed towards the support of maize cultivation at the expense of the livestock sector. Funds in the new ministry

have been provided for the construction of camp houses for the extension officers, purchase of motor bikes and construction of livestock centres. The livestock centres will be areas for the farmers to gather their livestock, receive extension messages, have their livestock counted and sell their livestock to cattle traders and the general public. This is hoped will also contribute to the not only the marketing but also the information dissemination and sharing of experiences by livestock keepers.

The beneficiary households were also provided with veterinary drug kit starter packs which included acaricides, de-wormers, antibiotics, needles and syringes last one year cushioning them from the immediate need for veterinary drugs. WVZ office in Keembe also works closely with the veterinary assistants in the area who provide the veterinary services to the beneficiary households when they are needed.

Chapter Three: Methodology

3.1 Research Area

The research was conducted in Keembe ADP of the Chibombo District of Central Province which is situated about 200 km north of Lusaka. Chibombo is one of the six districts of Central Province. The province has a population of 1,267,803 (CSO, 2011). Chibombo is a rural district with minimal infrastructure in place which predisposes its inhabitants to high levels of poverty. Over 90% of the inhabitants are involved in agriculture. They keep livestock and cultivate crops as a source of livelihood. They work on commercial farms and conduct their own farming activities. They cultivate both cash and food crops. The major cash crops cultivated in the area are maize and cotton by both small scale and commercial farmers. The people of Keembe also cultivate crops like groundnuts, sweet potatoes and vegetables for home consumption.

The data collection was conducted in two zones of the Keembe ADP, Nanswisa and Chabona which are 8 km and 40 km respectively from Keembe central. The two zones were selected because the beneficiaries in these zones were among the first to be trained and receive the goats. As a result, the beneficiaries were perceived as being in a better position to provide the most accurate contribution of the goats to the households. These households received the training during the end of 2006 and received the goats in 2007 from January to March.

Figure 2: Map of Central Province



3.2 Study Design

The research which had both a quantitative and qualitative approach was based on both literature review and empirical data. Materials used in literature review included the latest books, journals, internet sites and reports from WVZ and LDT. The literature was also used to triangulate the findings from the stakeholder consultations. Literature was also useful as a basis for comparing the results from other projects implemented in other parts of Zambia and the world. It was also used to highlight the effects of HIV/AIDS on rural households and their income, the benefits of goat rearing and marketing practices in place for rural Zambia.

The study included a survey in which thirty two interviews were conducted with the household heads; two meetings with WVZ; one meeting with LDT trainers and one meeting with two headmen as outlined in table 1 below. Two meetings were held with WVZ management at their head office and another with the field staff in Keembe ADP. One meeting was held with three LDT training staff at PDTI to get information and insight on the training offered to the beneficiaries. In all these meetings, checklists were used to as a guide in information gathering on the type of training offered to the goat project beneficiaries. The meeting was also used to provide information on the quality of the training and what LDT perceived as successes and failures of their training capacity. This was seen as a basis for providing recommendations to LDT for future livestock trainings to beneficiaries of livestock projects.

Table 1: Breakdown of Respondents and Information Provided

Method of data collection	Type of respondent	Number of Respondents	Information provided
Survey through interviews and observations	Beneficiaries	16	<ul style="list-style-type: none"> • Household characteristics • Sources of income • Assets owned • Relevance of training • Effect of training • Selection criteria • Benefits of goat project • Ranking of contribution of farm activities to household food security
	Non beneficiaries	16	<ul style="list-style-type: none"> • Household characteristics • Sources of income • Assets owned • Selection criteria • Perceived benefits of goat project • Ranking of contribution of farm activities to household food security
Key informants through discussions guided by checklists	Trainers	3	<ul style="list-style-type: none"> • Type of training • Materials provided
	WVZ head office	1	<ul style="list-style-type: none"> • Selection criteria • Successes and failures of project • Challenges • Effects of goats on household food security • Objectives of project
	WVZ field office	2	<ul style="list-style-type: none"> • Selection criteria • Successes and failures of project • Challenges • Effects of goats on household food security • Objectives of project
	Headman	2	<ul style="list-style-type: none"> • Selection criteria • Successes and failures of project • Challenges • Effects of goats on household food security • Objectives of project
Total		40	

3.3 Sampling and Data Collection

The visit to the Keembe ADP was for a period of fourteen days. On the second day in Keembe, a meeting with the Food Security Facilitator took place. The purpose of the meeting was to introduce the research project objectives in order for him to advise on how best the survey could be conducted. The field office was also key in providing the link with the zone leaders who were required for the purposes of escorting and interpreting.

Empirical data was collected through the use of self-administered questionnaires and meetings with key informants. The questionnaires had two parts (annexes 2 and 3); one part had closed questions (household characteristics and stock numbers) while the last part had open questions which provided in depth data for the qualitative part. Two sets of questionnaires were prepared, one for the beneficiary households and another for the non-beneficiary households. Since the interviews were conducted at the respondents' homesteads, observations were also used as a tool for data collection. Observations were based on assessing the condition of the goats in order to determine if the goats were well or poorly fed; their housing to check the adoption of the recommended type of housing for their management level and other management practices like feeding through checking the type of feed being provided for the goats. This was useful in highlighting the adoption and application of the training received in the goat management course.

Part of the questionnaire, the respondents had to rank the contribution of the different farm and non-farm activities to the wellbeing of the household with emphasis on food security. The question had four boxes with each representing the following categories; crops, livestock, goats and off farm activities was used for the ranking of the categories' contribution to the household food security as perceived by the household head. Goats were separated from the other livestock category so that the actual contribution of the goats to the households could be determined and see if there is any difference in their contribution to the beneficiary and non-beneficiary households. Using eight grains of maize, the household heads were asked to distribute them in the four boxes according to the significance of the category's contribution to household food security. The category most significant received the highest number of grains, followed by the next most important and so on to the least most important receiving the fewest number of grains. Thus the contribution was ranked. The box with the off farm activities heading was explained as any other activities that the household engages in away from their farm in order to receive income or food for the work done. It also included the remittances if the households had any other relatives that sent them money or provided them with food from the neighbourhood or church.

3.4 Selection of Respondents

Thirty two households were selected for the interviews. The thirty two respondents were categorised into two groups; sixteen of the respondents were from the beneficiary households while the other sixteen respondents were non-beneficiary households. The beneficiary households were randomly selected from the list of beneficiaries provided by WVZ Chibombo office. The non-beneficiary households which were used for comparison in order to highlight the benefits from the goats in the beneficiary households were selected with the help of the headmen and the zone leaders. Proximity to the beneficiary households was a criterion for selecting the non-beneficiary households for the survey.

3.5 Analysis of Results

The data from interviews were analysed by comparing the effects/contribution of the goat programme to the two clusters of households; the beneficiary households and the non-beneficiary household in terms of incomes/food accessibility. The comparison of the two clusters was useful in determining the actual benefits of the goats to the households.

The data was also useful in the triangulation of the information. The sources on triangulation were the information from the respondents and key informants, the observations and literature. The observations provided the basis for checking if the beneficiary households had managed to put to practice the lessons learnt from the training. The type of infrastructure available for the goats in terms of housing, feeding and drinking was used for the observations. The observations also provided insight on the feeding practices of the goat owners which was used in determining the applicability of the training received.

The sustainable livelihood framework will also be used in the final part of the discussion to analyse the livelihood strategies and outcomes that the respondents have realised from the diversification of their livelihoods by including goats.

3.6 Limitations of the Study

The findings of the study are specific for the goat project in Nanswisa and Chabona. As a result they can be generalised for all the goat projects implemented in other parts of the country by WVZ and other organisations. They can only be used as guidelines.

Chapter Four: Research Findings and Discussion

4.1 Successes and Failures

The major success of the project was that the objectives for the goat project were met which included the distribution of goats and training of the beneficiary households in goat production. Although the programme did not move at the planned time schedules, it was nevertheless completed. From the first goats which were provided, the project had managed to sustain itself in the sense that the first goats had multiplied and more people continued to receive goats. This way the goat project managed to touch more and more people in the targeted communities. Because of the WVZ and other goat projects, Chibombo was one of the major goat suppliers to other parts of the country where breeding stock for goats were needed. The district was also a major supplier for the urban population which needed goat meat.

The success of the project was largely attributed by WVZ to the full involvement of the community and the local leadership in the implementation of the project. Since the community was involved in the project from the identification of the beneficiaries to the monitoring of the project, they owned the project. This sense of ownership had helped in spotting errors quickly before they caused damage to the project. The communities were as a result quick to report any issue that they deemed was not going as planned to the zone leaders and the WVZ field office.

The major success according to WVZ was seeing the changes that the intervention had brought into the lives of the people that the help was meant for, the poorest of the poor. These included the joy and pride of a parent who could not send their children to school being able to do so after the help; to see the smile on the face of the mother, who could not provide food for her children being able to do so. These were considered major successes by the project implementers. According to WVZ, what was considered as a major success was seeing the lives of the beneficiary households transformed through capacity building by giving assets like goats which they could use to earn a living and be able to live from that.

With this mind, WVZ considered the inability to reach all the poor that needed help as the major failure. With so much suffering in the rural poor, they could only do so much with the available resources. But knowing that the project was still going on with the beneficiaries still passing on the gifts, they were hopeful that more households would be touched though not at the speed they would have liked it to happen. One step at a time, it was hoped that many more people would benefit from the project as a wise man once said “the journey of a thousand miles begins with one step”.

The project failures included the following:

- i. Lack of consistency in the quality and breed of the goats
- ii. Not being able to work within the time limits/frames
- iii. Poor linkages between the zones in different areas so that they could share experiences and knowledge

Despite the above mentioned failures, the project had as much as possible managed to meet the set targets and objectives which was a positive thing. In this case, WVZ felt that the successes far outweighed the failures.

4.2 Criteria for Selecting Beneficiaries

The overall goal of the WVZ programme was to contribute to the wellbeing of children and reduce malnutrition in their target groups. The group that was targeted for the programme was the vulnerable and orphaned children (OVCs) in the two zones. This was the group that had lost one or two parents or guardians due to HIV/AIDS. The project was aimed at mitigating or reducing the effects of the pandemic on the affected households. It aimed at keeping children in school so as to help them achieve the hope of a better future. It was also hoped that the project would prevent girl children from engaging into prostitution and early marriages so that they could concentrate on their education.

The beneficiaries as a result included the following categories

- i. Orphans in child headed households
- ii. Widows
- iii. The elderly
- iv. Households looking after orphans

Among the interviewed households were found the following categories:

- i. Widows
- ii. Elderly women looking after their orphaned grandchildren
- iii. Uncles taking care of their orphaned nephews and nieces

The selection of the beneficiaries was not done by WVZ only. WVZ has been working in these communities for years by providing them with help which has ranged from food, finances, clothing and farm inputs like fertilisers and seeds. In these communities, they had what are called zone leaders who work very closely with the traditional leadership and the communities. By being in the area for so long, they were well informed about the communities and the plight of the people. It was with the help of the zone leaders and the traditional leadership that the beneficiaries were identified from the areas. By encouraging the communities to be involved in the selection of the beneficiaries, it allowed them to take responsibilities for any issues concerning the beneficiary's behaviour or conduct. The involvement of the communities had not been all smooth, it had some challenges. The challenges included the leaving out of the people that needed help the most as some of the beneficiaries were people that seemed well off and were already food secure (researcher's observation).

4.3 Passing on of the Goats to Other Beneficiaries

The project was designed in such a way that it was self-sustaining and continuous so that many households could benefit from it. Like most of the livestock projects implemented in the country, it was designed as a pass on the gift project. The concept has been used by other organisations like Heifer International and Farm Africa in Zambia and other parts of the world. From the interviewed households, all of them had managed to pass on the two female goats to the next beneficiaries. This did not mean the project had not faced challenges with some of the beneficiaries defaulting in passing on the gift at the time that they should have

passed on the goats. Some of the examples which were cited as experienced by the project were:

- i. Beneficiaries hiding the kids when the females had the kids; this though not a common occurrence was reported to have happened in a few cases in some of the areas that the project had been implemented. Beneficiaries were reported to have kept away the kids or pretended they had died shortly after the kidding.
- ii. Goats dying before the beneficiaries had passed on the female offspring to the next beneficiary household. The challenge of such an event was the next household was deprived of the goats that they should have received; it delayed the process for such a household to receive the goats. The problem was the next recipients were already aware that they were next in line for receiving and were anxiously waiting for the goats. The delay in passing on the goats was a possible source of conflict and tension in the community.
- iii. Beneficiaries selling the goats when they received them; some beneficiaries were reported to have sold goats before they even passed on the gift to the next beneficiaries. This was due to them not being able to appreciate the long term benefits of keeping the goats and having them multiply to numbers where they could sell the surplus to realise income for the household. This behaviour where households sold their assets which were meant to help in times of need was deemed as retrogressive. It is very erosive behaviour which in the long term may result in the household's failure to cope with any shock that might occur. Livelihood coping strategy diversification was the main outcome intended by the project which in times where most of the country were experiencing droughts, short rainfall periods and floods resulting in crop failure.

The question asked was how could the above mentioned challenges be minimised or stopped. The answer that was provided was close monitoring of the project. That was the reason that the project had these zone leaders in place who were members of the communities. The zone leaders visited the beneficiaries regularly to check on progress, especially the households that were yet to pass on the gift to others. It was crucial that these were closely monitored to ensure compliance to the agreements. The WVZ employee based in Keembe also monitored the progress of the project. Where the beneficiaries were not closely monitored, the chances of noncompliance to the agreement were higher.

Apart from the monitoring of the beneficiary households, the zone leader were provided with kits containing veterinary drugs by WVZ. The drugs in the kit included acaricides for the control of ticks, anthelmintics for the control of worms and antibiotics for the treatment of sick goats. The zone leaders were tasked with the treatment of sick goats for the beneficiary households at no cost at all. Whenever the beneficiaries had problems with their goats, they called upon the zone leader who administered the first treatment while waiting for the veterinary assistant to check the goats and provide the household with the information on how best the goats could be treated.

4.4 Rate of Satisfaction with the Project

The rate of satisfaction of the project was very important as a tool to assess the success of the project. The findings are illustrated in table 2.

Table 2: Rate of Satisfaction With The Goat Project (N=16)

Item	Percentage satisfied	Percentage not satisfied
Overall goat project	75	25
Type of livestock	80	20
Breed of goats	60	40
Quality of goat	85	15
Performance of the goats	90	10
Quality of training	90	10
Monitoring and evaluation	80	20

80% of the beneficiaries were satisfied with the choice of livestock provided to them by the project. The beneficiaries who compared the goats to the challenges of rearing other livestock like cattle were happy they had received goats instead. Their reasons for their satisfaction with the goats included the following reasons:

- i. Goats were low maintenance livestock which could be kept even by the poor of the poorest with limited resources like was the case for the majority of the beneficiaries.
- ii. Goats were able to give birth to twins and their gestation period was shorter compared to cattle, resulting in them multiplying and increasing faster than cattle.
- iii. They were disease tolerant compared to cattle which at the time of the interviews were reported to be dying in numbers due to tick borne diseases like anaplasmosis and theileriosis.
- iv. The goat beneficiaries also considered themselves “lucky” compared to the chicken beneficiaries whose chickens were reported to die in numbers in the first few days of receiving them and still continued to die on an annual basis from June to September due to Newcastle disease outbreaks.
- v. Compared to pigs, goats were also said to be better animals due to the amount of supplementary feeding one has to provide for pigs in order for them to reach the desired market weights. The other advantage of goats over pigs which was cited was the religious restriction concerning the consumption of pork which do not apply to the goats. The market of the goats was said it was better because people from all religions eat goat meat unlike pork which is not consumed by Muslims and the seventh day Adventists.
- vi. Goats were also reported to have a very good market because of the presence of livestock traders who were reported to be selling the goats to the urban areas and to neighbouring countries like Democratic Republic of Congo (DRC). As a result, the beneficiaries were able to sell their goats right at farm gate without worrying about transportation and other transaction costs. The other market for the goats was from the other organisations which were buying them for their goat projects in other parts of the country. The result of this was that the prices of goats had risen in the last 2 years from ZMK 80,000 to ZMK 150,000 per live goat. The price change represented a 87.5% increase in the price of the goats compared to the 10% inflation rate reported for the country in the last 4 years. The young goats which were about 4 months old were selling

for the old price of the adult goats which was ZMK 80,000. As one respondent happily said “we are very happy that there are many organisations following us right to our doorsteps to buy our goats and because the demand for the goats is growing every day, the price has also increased in the last one year. I am able to determine the price for my goats now and I do not have to worry about transporting them to the markets in town”. Another respondent also had this to say about the goat market, “The market for goats is better even for the maize that we grow which we have to transport to the depots or collection points where we have to spend up to weeks sometimes just to get the maize weighed and packaged in the FRA bags. We still have to wait for 3-4 months before we can receive the payment for the same maize but for the goats its cash first then they collect them.”

Despite the above mentioned advantages, 20% of the beneficiaries were not satisfied with the type of livestock received as they cited some disadvantages with goat keeping/project. These include:

- i. The use of the local breeds for the female was seen as retrogressive. A respondent had this to say “The project should have provided us with the improved and bigger breeds for both the males and females so that we can receive better prices for them as they are much bigger than our local breeds.” Breeds like Boer goats were seen as better breeds compared to the local females that the project provided. The beneficiaries had received two female local breeds (Gwembe breed) while the male which was of the improved Boer goat was used by five households to serve the females. Despite the beneficiaries claiming they would have done better had they received the improved goats, it is possible that they would have been worse off with the improved goats as most likely they would not have been able to manage them. Despite the Boer goats being adapted to the tropical conditions, they still need a certain level of management and resources to be able to perform according to the specifications. It was wise for the project to provide the local females and an improved male so that the offspring will be better than the mothers.
- ii. Goats were considered to be labour intensive at certain times of the year like the rainy season when crops were in the field and they have to be with someone to prevent them from eating the crops. A non-beneficiary respondent said the following “the disadvantage with goats especially for the aged is that one needs a lot of help to keep them from straying in one’s field or the fields of the neighbours. If they eat someone’s crops, the penalty is very high. But it helps if one has grandchildren or small children who can look after the goats and keep them away from the fields. Apart from that we have seen the benefits in the beneficiary households.”
- iii. The quality of the goats was not uniform in terms of size, age and breed. The beneficiaries who were expecting to receive female goats of the same age, noted variations in the age of the goats which ranged from as young as four months to as old as 18 months (already has had some kids). The respondents said they preferred female goats that were just at the age puberty preferably already pregnant for the first time. They claimed some of the animals were also not in very good health as some of them were suffering from diseases like mange which required treatment on arrival.

4.5 Relevance of the Training

All the beneficiary households stated that the training was very relevant and was provided at the right time which was before they received the goats. Of the sixteen households trained, twelve were keeping goats for the very first time as they had never owned goats before. All the beneficiaries claimed that the training was very useful in their management of goats as for some of them that was the first time they were keeping goats in their lives. They said the training helped to prepare them and placed them in a better position to rear and take care of the goats. They also said because of the training, they were able to identify any problem with the goats early before it became serious and called for help quickly. This had helped the beneficiaries in saving the goats from the situation getting out of hand or dying.

Of the sixteen beneficiaries, ten per cent were not satisfied with the quality of the training citing the following reasons:

- i. The period of the training which was for 7 days was not sufficient for them to grasp and learn all the new things they had been taught. They suggested that the period should be extended to two weeks instead of the current 7 days.
- ii. Although they appreciated that the training was conducted in Lenje and they were provided with the booklets on goat production, they lamented that the booklets which were in English should have been translated into Lenje. Since the current booklets were in English, some of them had to depend on other people to read for them and interpret to them. They would have been happy for the booklet to be in Lenje as they could easily consult the booklets in all other issues whenever there was need to do so.

4.6 Effect of Training on Goat Management

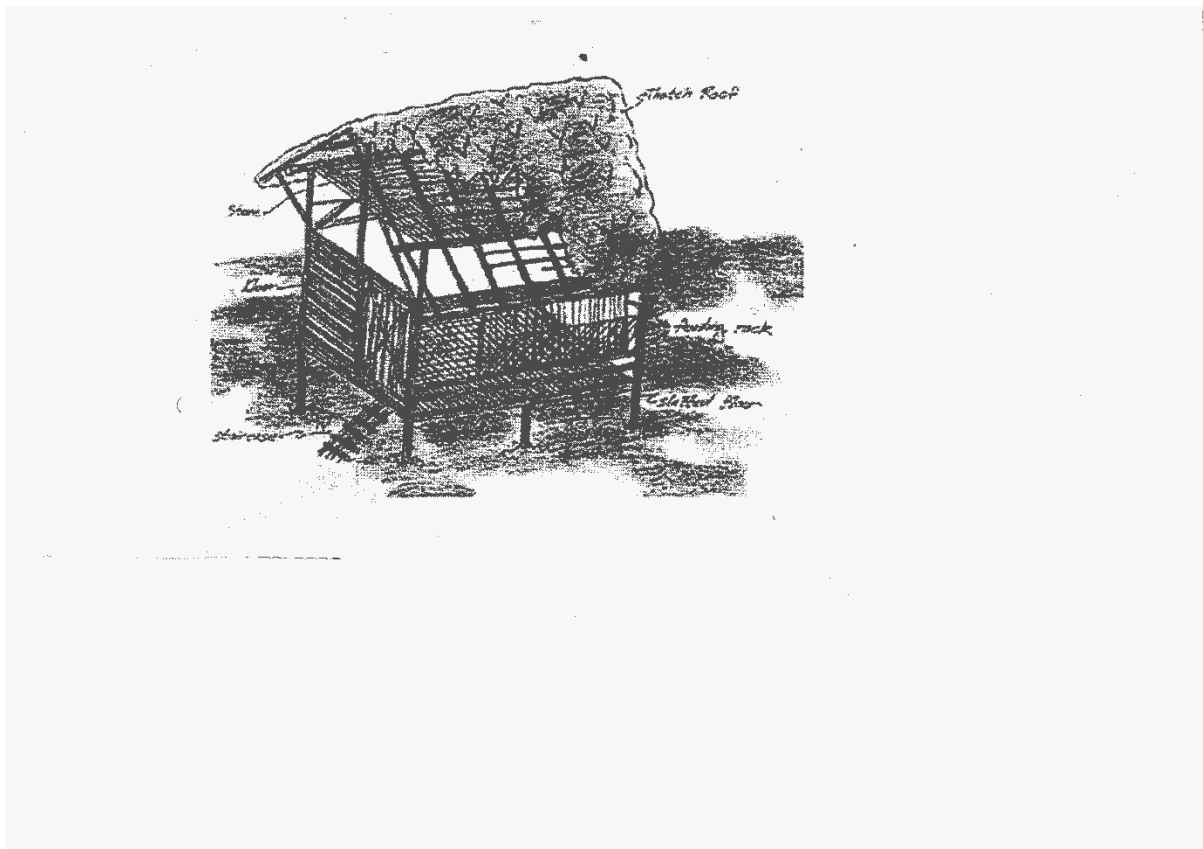
From the discussions with LDT, WVZ and the zone leaders, it was noted that two groups of beneficiaries were trained. LDT trained the first group which was the trainers of trainees. The group was trained at one of the LDT training institutes, Palabana Dairy Training Institute (PDTI). The beneficiaries trained by LDT had in turn been training the other beneficiaries for the goats. They used the same booklets and materials received from their training to train the other beneficiaries. The training which was conducted for a period of one week was conducted in the local language which is Lenje. Both the trainees and trainers confirmed that the beneficiaries were provided with booklets on goat management during the training which some of them still have and were more than happy to show me the material. The booklets given to the trainees were all in English and not translated into the local languages. The booklets obtained from the trainers from LDT showed that the following topics were covered in the training:

- i. Benefits of goat keeping
- ii. Goat management practices
- iii. Goat nutrition
- iv. Goat breeds and breeding
- v. Health care
- vi. Marketing

The findings on the adoption of training to the beneficiary households were cardinal in determining the usefulness and effectiveness of the training method used by LDT not just to the WVZ goat project beneficiaries but also to other future beneficiaries on other livestock projects. The rate of adoption was determined by simple observation and the use of open questions.

From observations, it was noted that the goats were in fairly good condition. They appeared healthy and active. This could be attributed to the fact that the rainy season had just ended and the harvest season was going on implying that feed was not yet a problem. Most of the females had kids with a good number nursing twins. The good condition and the twin kiddings could also be indicative of good management due to the training the beneficiaries received. The training received provided the beneficiaries with specifications for the recommended goat house were expected to construct a house for the goats. The recommended goat house was the one with an elevated floor. Although all the beneficiaries had some form of housing put up, not all were able to construct the recommended house (figure 3).

Figure 3: Recommended Housing for Goats



Source LDT (2006)

Out of the sixteen beneficiary households interviewed, ten households or sixty three per cent had constructed the housing which was recommended during the training. The recommended housing for the beneficiaries was the one with the raised floor in order to

ensure easy cleaning and minimisation of diseases like worms and others. The rest of the beneficiaries had not constructed the recommended housing citing reasons like lack of the construction materials and labour.

One grandmother, whose grandson was a beneficiary, was heard reprimanding her grandson saying “I have repeatedly told you to construct the proper house for your goats but you are too lazy and are always giving excuses, see now they are taking the pictures of the housing. You ought to be ashamed of yourself”.

Another household which did not have the correct housing for the goats claimed that the reason was because he had just moved out of his old homestead where he had constructed the house to the new place after the death of his brother and was in the process of constructing one as soon as he had settled down in the new place.

4.7 Sources of Food (income) For the Households

The households of Nanswisa and Chabona earned their livelihoods through the cultivation of crops, livestock rearing; engaging in seasonal casual work and through help from the neighbours and church members. The earnings from casual work were in the form of money but mostly as a food payment. Tables 3 and 4 illustrate the types of crops and livestock owned by the respondents. The tables also show the amount of crops harvested and the number of livestock owned by the households which are meant to illustrate the contribution of the two to the household incomes.

Table 3: Crops Cultivated by the Respondents and Their Contribution To Household Food Security

Item	Type of Households	
	Beneficiary HH (N=16)	Non- beneficiary HH (N=16)
Average household size	9	8
Land size	6 hectares	3 hectares
Average land size per crop		
Maize	3 hectares	1 hectare
Cotton	2 hectares	1 hectare
Nyemu (groundnuts)	0.5 hectare	0.25 hectare
Kandolo (sweet potatoes)	0.5 hectare	0.25 hectare
Crops amount harvested per HH		
Maize	3,850 Kg	1,500 Kg
Cotton	600 Kg	380 Kg
Nyemu (groundnuts)	150 Kg	50 Kg
Kandolo (sweet potatoes)	250 Kg	100 Kg
Harvested maize use per HH		
Maize for home consumption	1,350 Kg	1,250 Kg
Surplus maize	2,500 Kg	250 Kg
Number of HH with maize deficits	2	7

Crop cultivation which catered for home use (consumption, ceremonies and funerals) and for sale was a very important part of all the respondents' livelihoods. The crops cultivated by the households included maize, cotton, soya beans, sunflower, groundnuts, bananas and sweet potatoes. All the households interviewed cultivated maize which was the staple crop for the area. It was the most important crop cultivated by the households followed by cotton. Maize was cultivated both as a food and cash crop. As a cash crop, the marketing of maize was well laid out and improved compared to the other crops except cotton which was specifically cultivated on contract for a cotton company called Donavant. For the two crops, inputs were provided to the farmers. The inputs for maize which were subsidised were provided by the government under the FISP whose aim was to encourage the production of maize. The inputs for cotton were provided by a private company and were therefore not subsidised.

According to one respondent, the subsidised inputs helped them to cultivate the maize because of the low prices of fertiliser and seed. A 50 kg bag of subsidised fertiliser cost ZMK 50,000 compared to the full price of ZMK 150,000 for both urea and D-compound fertilisers. This contributed to farmers cultivating maize on bigger pieces of land as illustrated in the

table 3 above compared to the other crops where they had to bear the full cost of the inputs by themselves.

Cotton which was cultivated on contract for Donavant was the second most important crop. It was cultivated by 65 per cent of the respondents in the two zones. The farmers were provided with fertilisers, seeds and pesticides on credit at full commercial prices. The guaranteed market for the cotton made it a more attractive second option to maize. The costs of the inputs were recovered from the cotton sells. The average yield for the two groups of respondent households differed with the beneficiary households harvesting more cotton than the non-beneficiary households. In monetary terms, the beneficiary households received ZMK 1,904,000 compared to ZMK 1,224,000 in the non-beneficiary households at a price of ZMK 3,200 per kilogram.

The households also cultivated groundnuts and sweet potatoes which were mainly consumed in the home and the excess was sold in good years. Groundnuts especially were a very important crop in the households as it was a high protein crop which was used in the preparation of most dishes. Since it could be stored for long without spoiling, was suitable for the rural conditions faced with challenges of post-harvest spoilage. The sweet potatoes on the other hand could not be stored for long periods as they easily get spoiled once harvested. As a result not much is stored for the lean period of the year. The price was also not very attractive because as a seasonal crop, they are plenty when in season resulting in low market prices. It was on the other hand a good source of vegetables as the leafy part of the plant was consumed in all parts of the country.

The beneficiary households were also able to cultivate bigger pieces of land than the non-beneficiary households despite the fact that was not much difference in the household size. The cultivated land in the beneficiary households was twice in size compared to that of the non-beneficiary land size. The main reasons for the difference, which had nothing to do with land availability, were the lack of extra labour and inputs for the field. The beneficiary households reported that they were able to produce more food because they could sell goats to hire labour and purchase inputs.

4.8 Livestock Ownership of the Households

Livestock are very important assets for the households which are used to diversify the household income. Livestock, apart from being prestigious especially cattle was appreciated by the households who consider them vital to their survival especially as a source of draught power. The table below shows the households that had livestock and the type of livestock reared by the respondents.

Table 4: Livestock Ownership and Numbers

Item	Beneficiary HH (N=16)	Non- beneficiary HH (N=16)
Number of HH with Livestock		
Cattle	8	4
Goats	15	6
Chickens	16	16
Average number of livestock per HH		
Cattle	5	1
Goats	10	2
Chickens	18	10

Livestock is an important part of the livelihoods of the Lenje speaking people. The respondent households in Nanswisa and Chabona mainly kept three species of livestock namely cattle, chickens and goats as is illustrated in the table 4 above. Of the three species of livestock, chickens were kept by all the households. According to the respondents they kept chickens because they did not require much in terms of management as they were just left free to roam around the villages and find food for themselves. Both groups of respondents viewed chickens as livestock kept mainly for home consumption. Chickens were rarely sold except in times of immediate need of minimal cash for the purchase of example school books or pencils for school children as they did not fetch much money. The cost of an adult chicken ranged between ZMK 10,000 and ZMK 15,000 which was not enough even for a bag of maize meal.

Eight households or fifty per cent of the beneficiary households owned cattle compared to twenty five per cent in the non-beneficiary category. The explanation provided for this was that the beneficiary households were able to purchase the veterinary drugs for their cattle by selling some goats from time to time. The non-beneficiary households on the other hand claimed that they once had cattle but most died due to theileriosis (corridor disease) and other tick borne diseases. They claimed that they had no means to purchase the necessary drugs due to lack of money. It was easier for farmers to sell livestock like chickens and goats for the purpose of protecting other livestock like cattle than to sell cattle to protect the same.

Of the interviewed sixteen beneficiaries, only fifteen households still had goats. The number of goats ranged from three to twenty per household. The households that had goats before the project had more goats than the households that had no goats prior to the project. The average number of goats for the beneficiary households was ten, five years after they received the goats. The goats did not seem to have multiplied much for some households. The reason for this was the fact that most of the households limited the number of goats that they kept at any given time due to the difficulties in managing them. The goats were from time to time sold to meet the financial needs of the homes.

The one beneficiary who had no goats said that the goats had died a few months after receiving. She said the goats died after she had honoured the obligation of passing on the

two females to the next beneficiary households. She said the goats had been sick prior to their death. No explanation was provided as to why the beneficiary did not report the sick goats even when she knew that the project had provided for the free treatment of the goats.

4.9 Household Benefits From the Different Sources of Income (contribution to food availability of the income sources)

The sources of income/food were divided into four categories which included the crops, livestock, goats and off farm. The major crops cultivated by the households were maize, cotton, groundnuts and sweet potatoes. Maize and cotton were the cash crops while sweet potatoes and groundnuts were primarily cultivated for home use with any excess in a good year sold at the local markets. The contribution of the four categories to the two types of households' food security is illustrated in the pie charts (figures 4 and 5) below.

Figure 4: Pie chart illustrating the significance of the benefits from the livelihood strategies to beneficiary households in terms of percentage

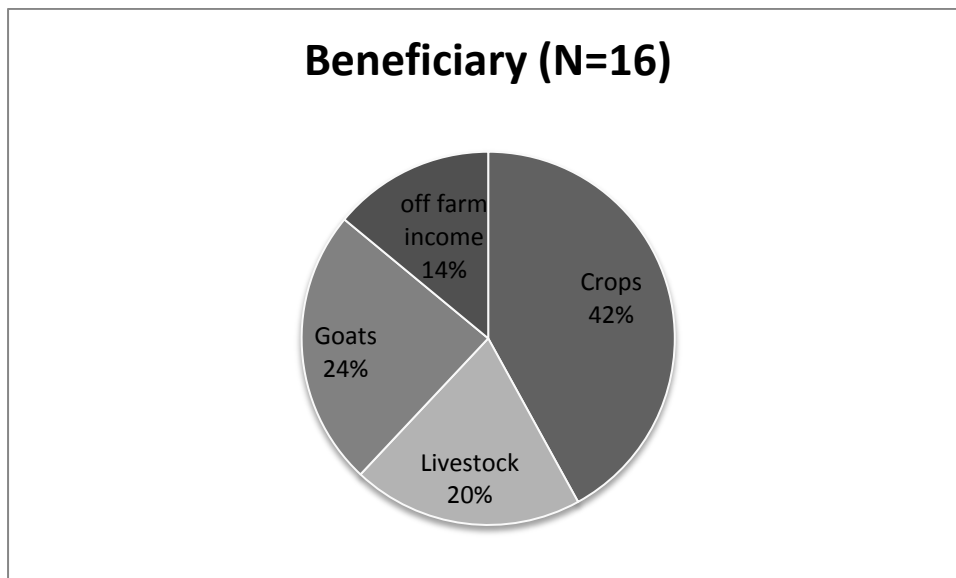


Figure 5: Pie chart illustrating the significance of the benefits from the livelihood strategies to non-beneficiary households in terms of percentage

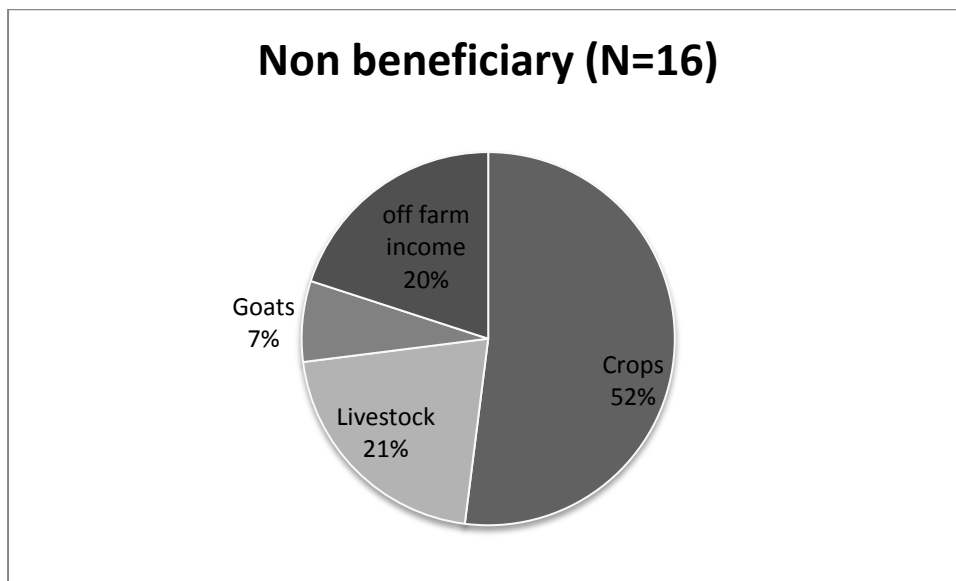
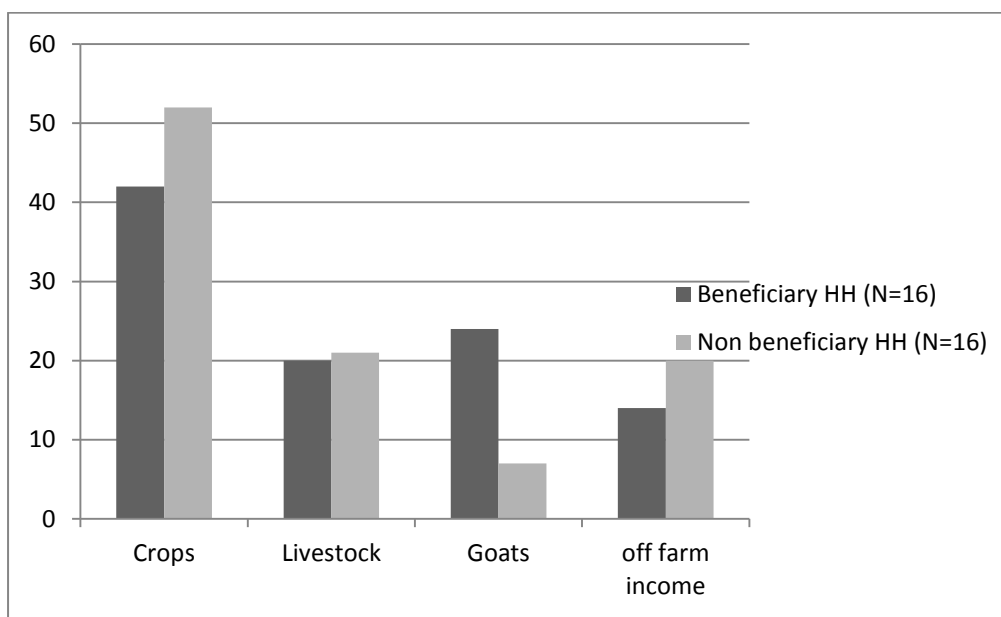


Figure 6: Comparison of the benefits between the beneficiary and non-beneficiary households



For both the beneficiary and non-beneficiary households, it is obvious that the crop sector was considered as the major contributor to their food security and general household benefits. The crop sector contributed forty two per cent and fifty two per cent to the beneficiary and non-beneficiary households respectively. It is the one sector that the respondents viewed as the lifeline for their livelihood. Most of the food consumed in the households, especially the staple food maize which made up the bulk of the meals, was produced by the households themselves. All the respondents cultivated maize both as a cash crop and food crop. Maize took up the major portion of the fields cultivated by both categories of households. The meals of the households were mainly porridge from maize

meal or samp, a form of maize grit for breakfast. Nshima which is also cooked from maize meal was eaten for lunch and supper.

Cotton was also considered a major contributor to the wellbeing of the households because the income from the crop was used for the purchase of relish and inputs for the cultivation of other crops mainly maize. The groundnuts and the sweet potatoes which were mainly cultivated for home consumption also played a big role in ensuring food security. In the years of good harvest, both crops had a very good market especially in Lusaka, where it was a major substitute for bread in most low income urban households. Groundnuts in most households in Zambia were used in the preparation of most traditional dishes and hence had a good market.

A difference was noted in what the two households considered the second most important category contributing to their livelihoods. The category which the beneficiary households considered the second most important was the goats which contributed twenty four per cent. In the non-beneficiary households the livestock category which included cattle and chickens was the second most important category with a contribution of twenty one per cent. In this sector, chickens were considered as important contributors to the non-beneficiary households.

The benefits from the livestock category included the following:

- i. Chickens and eggs as sources of not just relish but good quality proteins as well
- ii. Income from chickens for the purchase of vegetables and school requirements for children
- iii. For the households with cattle, they were used as animal draft power for the preparation of the fields and transportation of the produce to the markets and also provided manure for the vegetable gardens.

Although the livestock category took different positions in the two households in terms of household benefits; i.e. second in the non-beneficiary households and third in the beneficiary households, there was very little difference in the significance of its contribution to the two households. At twenty one and twenty per cent in the non-beneficiary and beneficiary households respectively, it was an important sector for their livelihood. The difference was in the numbers of livestock kept by the two households with the beneficiary households having more cattle and chickens than the non-beneficiary households. The number of beneficiary households owning cattle was higher in the beneficiary households compared to the non-beneficiary households. Cattle, which were considered a prestigious and symbol of status animal, were very important in male headed households which had more cattle than the female headed households. Although there was no significant difference in the goat and livestock categories contribution in the beneficiary households, cattle were still considered the most important livestock.

Goats which were the second most important livestock in the views of the respondents contributed to the households in Keembe in the following ways:

- i. Meat for home consumption
- ii. The other contribution of the goats is the payment of hired labour to work in the field for field preparation, sowing, harvesting and maize shelling and packaging. One

respondent who harvested 170 bags of maize this year had this to say. "Goats are very good animals, they help us a lot especially for hiring people to work in the field when we need extra labour. What we do is we slaughter the goats and the meat is used as payment for the people working in the field. In times were we have to provide meals especially at shelling, we used the meat to cook it for food for the hired laboured. So they really help us a lot."

- iii. Income from the sale of goats for the purchase of medicines, school fees and other school needs and other household goods. For example, a widow with 6 children had 6 goats from the two goats she received from the project said "at the beginning of the year I sold a goat in order to purchase solar panels. We were having difficulties with where to charge our cell phones because we had to move some distance to get them charged at a fee. With the solar panels we not only charge our phone but also charge our neighbours at a fee off course which is a source of income. We also have lights in the house, we are in town." In the midst of all the poverty and hunger, it is amazing to see the number of households owning cell phones. The charging of these phones for this respondent was deemed as a good business for generating income for the household.
- iv. Goats also provide manure for the gardens. They also provide the families with furniture as the skins are used in the making of stools for the households.

The goat numbers were maintained at an average of nine goats per household, although the numbers ranged from three to twenty. The structure of the herd was kept stable through the sale of male goats or slaughtering them for home consumption or for ceremonies like weddings and funerals. As Mamabolo and Webb (2005) have stated, the goat keepers usually retain one or two bucks in the flock functioning for reproduction. The number of goats was kept low due the stigma associated with goats as being destructive animals. High numbers require more labour to watch and keep them from straying in the fields. Keeping goats in an enclosure with feed brought to them makes it more labour intensive.

The households also differed in the placement of the importance of the contribution of the off farm income category. As explained earlier, this category included any benefits realised from doing work or engaging in activities away from one's farm. It included the payment for casual work, any part time work and remittances from relatives. It also includes the selling of goods at the nearby market. Apart from the place in the contribution to the households, the significance of the contribution was also different. The sector contributed fourteen per cent to the beneficiary households while it contributed twenty per cent to the non-beneficiary households.

Although most of the respondents claimed that there were very few opportunities for one to engage in any paid labour outside the farm, people still got hired for work on other people's farms. This meant that the availability of off farm work was highly seasonal; during the rainy season and the period just after the rainy season. The types of off farm work available during the rainy season included the preparation of fields, planting and weeding. The activities after the rainy season included the harvesting of maize and cotton and shelling, cleaning and packaging of maize.

The payment for such work was food especially if it was done on someone else's farm. It was some sort of food for work programme. A number of households that had excess maize reserved some for the payment of people who would be hired to prepare the field and do other works for the households in the next cropping season. As mentioned earlier, goats were also slaughtered to pay hired labour. The hired labour was given meat as payment. Cash was rarely exchanged for such work as people worked for what they needed the most which was food.

One elderly widow who was a beneficiary said she received help from the church members. Since the woman had no energy to cultivate enough food for her and her grandchildren, the church members contributed maize and other farm products which were given to her family throughout the year. The social cohesion in the Nanswisa and Chabona communities was still very strong even in the midst of weakening of such structures in most parts of Zambia. This was an asset which was demonstrated in the case of this widow who has lost her children leaving her six young grandchildren to care for. Apart from the church, the other help for such households came from the close neighbours who provided labour to work in the field as a way of contributing to household food security for the disadvantaged in the communities. The importance of such networks cannot be overemphasised in the Zambian rural communities especially for the elderly and disabled. Although the network was not as strong as it was thirty or so years ago due to the high levels of poverty, it was still an asset that some households depended on for their survival.

In the off farm income category was also the provision of food packs by WVZ for the households that needed food aid. The food packs were made up of maize meal, beans, cooking oil and other foodstuff like salt. The food packs were provided for the most vulnerable households who were identified with the help of the communities themselves. The number of respondents on the food pack list was four out of the thirty two; three from non-beneficiary households and one from beneficiary households. The food packs were provided to the households in order to reduce the rate of malnutrition in children in 600,000 households by twenty per cent by 2012 (WVZ, 2010). Apart from the food packs, WVZ also provided the households with inputs like fertilisers and seeds so that the households that could not afford even the subsidised inputs could produce some food themselves and hence reduce household food insecurity.

Chapter five: Discussion on the contribution of goats to rural households

5.1 Vulnerability context and coping strategies for Keembe ADP residents

The majority (70%) of the interviewed household heads were keeping livestock which included cattle, goats, chickens and pigs. All of the households in the survey had chickens. This only emphasises the role of the livestock in the livelihood strategies of the rural poor. They are assets that play a major role in the coping strategies of the people of Nanswisa and Chabona. These are the poor who are living in places where there are no financial institutions to provide credit for their needs. The lack of credit for the people of Keembe increases their vulnerability to food insecurity because they cannot access the inputs that are necessary for maize cultivation. Although the government has tried to provide the credit through subsidised inputs, not all of the targeted population benefit from the programme.

As all traditional farmers are dependent on rainfed agriculture for their crop production, they are very susceptible to food insecurity due to crop failure from drought or floods. As they have very few off farm and credit opportunities, the provision of goats to such households has provided them with another source of income and food. Rural people without access to land or with smaller land plots have lesser chances to increase agricultural crop productivity (Feder 1985; Dorward 1999) and are expected to be more likely to diversify their livelihood strategies (Barett et al. 2001), for example by acquiring livestock in addition to crop production. Despite land availability not being a problem in Keembe and rural Zambia as whole, the rural people still have no capacity to increase their crop productivity. They also need to diversify their income sources which the rearing of goats has provided for them

The vulnerability of the people of Keembe is not different from most parts of rural Zambia despite them not being so far from the urban centres. They are still faced with the challenges of poor infrastructure which include poor roads, inadequate health and educational facilities. They also lack veterinary services in the area which they pointed out as a factor in the high prevalence of livestock diseases. This is a constraint which has hindered the full exploitation of the contribution. The risks associated with livestock diseases has been cited by Dossa et al (2008) as a contributing factor to farmers perception of the benefits associated with keeping particular livestock species. This is true for Keembe in relation to cattle and chickens. Goats have been appreciated as disease tolerant because even in the midst of all the cattle that are dying, only one respondent reported of having lost their goats due to diseases. With limited capacity in the provision of veterinary services by the government, the hardiness of goats was well appreciated by all the respondents. Rural areas are not attractive for private veterinarians because the farmers are not able to pay the price of their services. The suitability of the goats for the resource poor rural populations can therefore not be overemphasised.

The loss of livestock to tick borne diseases has also compounded the poverty in Keembe. The farmers depend on the cattle for animal traction for field cultivation and transportation. The death of the animals from diseases that can be easily prevented is a very sad situation. The farmers are aware of how the diseases can be managed but they have no resources to purchase the required veterinary inputs for their livestock especially cattle. As a result such households have found the rearing of goats as a suitable strategy. Due to their few and limited financial and economic options, no off-farm income and no access to formal credit,

goats are suitable livestock. This was the reasoning for WVZ to provide small stock to its beneficiary households.

5.2 Institutions

The institutions that are working in Keembe include the Lenje Royal Establishment, MLFD, MACO, FRA, WVZ, LDT and Donavant. All these institutions are involved in the livelihoods of the people. Their involvement cut across the livelihood strategies which are crops, livestock and the social aspect. They all claim to have the same aim which is the alleviation of the people's poverty through providing means of diversification of their income sources. The traditional leadership is key in allocating the very vital asset land, without which the households would have no livelihood. All the land in Keembe is under the jurisdiction of the chief i.e. customary land to which the users cannot claim title deeds.

The organisations are not working in isolation. Instead they are partnering and collaborating because they have realised that the target group is the same and hence as a way of maximising the benefits, they get the organisations to do that which they are best in. This is the case with the WVZ/LDT partnership in which the training and procurement of livestock is done by LDT through contract from WVZ. Vertical linkage was thus a contributing factor to multidimensional success in rural development. Similarly, but even more strongly, horizontal linkage with organizations at the same level contributed to better rural local organizational performance. A combination of horizontal and vertical linkage added to this effect (Uphoff, 2004).

Advantages of organisations collaborating are as follows:

- Sharing of resources and expertise
- Provision of room for specialisation/concentrate on core business
- Building of strong network
- Minimising risks and costs
- Knowledge transfer

The advantages have provided room for the organisations to concentrate on what they are each good at; this is seen in the partnership between WVZ and LDT which has resulted in the successful implementation of many of the WVZ livestock project. WVZ and LDT have also partnered with MLFD to ensure adherence to the regulations in livestock restocking programmes in the country.

5.3 Livelihood Outcomes for Goat Keepers

5.3.1 The economic role of goats

Goat keepers realise a variety of benefits in form of products and socio-economic services from their goats. Goats have played an important role in the social life of many African people being used as gifts, dowry, in religious rituals and rites of passage (Peacock, 1996). The people of Keembe have clearly shown the economic contribution of the goats to their households. In the case of one widow who from the goats managed to buy solar panels in order to provide phone charging services for her community is a clear example of how as financial assets the goats have it possible for the household to start an income generating activity. Without the goats, the widow would have had to access a loan from somewhere in

order to use it as start-up capital. The goats have been able to provide the chance for her household to engage in an income generating venture, earning extra money or food for the family without engaging in activities that would otherwise have kept her away from her children for many hours in a day in search of off farm activities. It can be argued that the contribution cannot be much from the phone charging activity but neither is the payment that people receive for most of the off farm income generating activities. For a woman who is all alone, the little income she receives from her business is a lot especially in rural areas where the expenses are mainly for food. It is an easy, honest and decent way for earning a living and income for the family especially for a rural woman bearing in mind that women are among the most resource poor people in rural Africa.

The ability of the goats to multiply faster due to a shorter gestation period and higher chances of twin kiddings are attributes that have been appreciated by the people of Keembe. This view is supported by Devendra and Burns (1980) who state that goats are prolific and require low inputs for a moderate level of production, reach maturity early and are profitable to keep. The fact that the goats require no or little investment/resources makes them a good and profitable livelihood strategy for the poor. Despite these attributes, the contribution of goats is overshadowed by them being considered a nuisance. Most of the other farmers asked about the contribution of goats easily outline the benefits and finally end with them being destructive animals. This results in the potential of goats' productivity not being fully utilised by the beneficiary households. Bembridge (1988) states that "until recently, in Southern Africa there has been an official bias against the goat as a destroyer of vegetation. Because of this prejudice, efforts to exploit the full potential of this animal have been generally minimal compared to efforts in sheep and cattle". The case is not different for Zambia where goats have just received attention as an animal for the poor and the benefits attributed to it through the introduction in rural development by international NGOs in the last ten or so years. The negative perceptions against goat keeping which include but are not limited to environmental degradation have resulted in inadequate official support. The training that the beneficiaries received has helped them to learn to manage the goats better by not just allowing them to scavenge for food in the villages but by providing feed for them. Despite this being labour intensive, it minimises the potential damage that the goats can cause when left loose. Cattle are also capable of causing the same damage to fields if they are not well managed as well. The issue therefore is not one species being more destructive than the other but the management practices of the livestock keepers.

5.3.2 Improved food security

The contribution of goats to the improvement of the beneficiary households' food security and income generation cannot be overemphasised. The contribution of the goats to the food security is twofold; directly and indirectly. The direct contribution is through the provision of meat and milk for the households. Out of the sixteen beneficiary households, ten were able to get not more than a litre of milk from the goats when they were nursing kids. The milk was given to the young children or the sick in the homes to boost their nutritional status. Whaley et al. (2002) states that it is now well known the vital role small quantities of animal products can play in healthy child development as well as in adult health. Vitamin A deficiency is widespread in the developing world and can cause night blindness. Goat development programmes can have a very positive impact on certain key micronutrient deficiencies (Ayele and Peacock, 2003). By keeping goats households that normally cannot afford meat and

milk, can now enjoy these. Goats have therefore contributed to improved nutritional status of such households ultimately contributing to the WVZ goal of reducing malnutrition.

The goats' indirect contribution to the household food security was noted through the improvement of food availability (production). The extra labour which was needed by the households in field preparation was paid for using meat from goats. Through this extra labour households were able to cultivate bigger pieces of land which increased the amount of maize or cotton planted and harvested as shown in the chapter five. This is definitely a positive contribution to the households which without the goats would be in food deficit. The households with goats were not only able to produce enough food for home consumption but had excess to sell. The income realised from the sale of the excess crops does not only contribute to the food security but to the provision of school requirements for children, enhancing their chances of staying longer in school and completing their primary education ultimately contributing to the nation's attainment of the second MDG; achieve universal primary education.

The goats also indirectly contribute to the households by providing manure which is used in vegetable or maize fields to help boost the productivity of the crops, further contributing to food security. This is a very important benefit for the households that cannot afford to purchase all the fertiliser required for the fields. The benefit of the manure is its ability to provide nutrients for the soils without destroying them ensuring a sustainable way of food production. The crops which are mainly used for home consumption due to the size of the fields are also sometimes sold at the markets to realise some income for the households

Goats play a critical role in contributing to household food security. This is true because they are sometimes the only asset that the poor households own which they are able to maintain with minimal inputs. In times of trouble or need, such as crop failure or family illness, goats can be sold and food or medicine purchased (Ali, 2007). This is a vital role in ensuring the food security of family members. In the Keembe beneficiaries, goats have been able to contribute indirectly to the household food security. They contribute through income generation so that the households are able to purchase inputs and as payment for hired labour. The contribution of goats has also been registered in Ethiopia where they were used to improve the household food security of the households affected by many years of war, regular droughts and famine for the many impoverished women headed households which were barely able to survive. From the goats that the women received from FARM-Africa, a British NGO, they were able to quickly build up their herd of goats which in some cases they were able to sell in order to purchase oxen for ploughing or a milking cow (Peacock, 2005). Peacock further outlines that during the severe drought of 1999–2000 households with livestock to sell were able to buy grain and survive the drought without resorting to food aid hand outs. Selling one goat could buy enough grain to feed a family of 5 for 2–3 months. At the current price of ZMK 150,000, selling a goat in Keembe can buy a household 3-4 of the 50kg bag of maize which is sufficient for about 2 months for a household of nine people. This is a very significant contribution to the households in case of poor crop harvests or no inputs or labour to cultivate sufficient maize for the whole year. This contribution is also useful to the households with goats during the lean period of the year just before the harvesting of maize.

5.3.3 Improved social status

The contribution of goats to the poor is far beyond that of improving food security. The goats also contribute to improving the social standing and status of the beneficiaries. A household's head who is able to provide for those under their care, will have dignity and pride and will be better placed and respected in their community. To be able to move from a beggar or dependent to a provider is a joy and a blessing that can easily elude the poor when left on their own. This was the case in 3 households in Keembe ADP. The heads are now able to not only provide food but also manage to put their children in school. Goats have provided the households with the much needed source of income (Ali, 2007), a source of livelihood without which some parents would be forced to send their girl children into prostitution or early marriages in order for them to have something to eat. All the beneficiary households had their children in school or at least had the children in school up to grade 7. Apart from the lack of resources on the parts of the parents, the insufficiency of secondary schools in the area is a factor in most children not being able to acquire secondary education.

The goats have also provided for the empowerment of the beneficiary heads especially the female headed households. Women are the most marginalised in the rural communities with few opportunities for them to have access and control over the production resources (Devendra, 1999). The case is not different from the women of Keembe who have no access to land and not easily access the limited credit when it is available. The people of Keembe, but especially women, have very few opportunities for off-farm work, other than that of processing and marketing farm products. They have very few opportunities for accessing financial, natural, or technical resources. The investment in goats by WVZ has provided them with the chance to earn extra-income for their personal requirements, enhance the household's capacity to cope with shocks (i.e., to purchase staple foodstuffs) and keep/enrol their children into primary education. The contribution of goats to such households can therefore not be emphasised enough. The goats which can also be looked after by children provide them with the source of income and food which contribute not only to their wellbeing by their self-esteem as well.

Chapter six: Conclusions and Recommendations

6.1 Conclusions

The households of Keembe ADP have adopted a number of livelihood strategies in order to ensure they not only survive but attain household food security. These are households which are among the poorest in the country, are made more vulnerable due to not only the effects of HIV/AIDS but also the droughts or short rainfall periods; all of which predispose the households to food insecurity.

The goats from the WVZ project have helped the beneficiary households to diversify their livelihood coping strategies. The goats have also provided the households with an asset which they can not only convert to cash when the need arises but also provide good quality proteins for the sick, children and adults as well. The contribution of the goats has been appreciated by both the beneficiary and non-beneficiary households. The training was seen as a relevant tool to contribute to the improved management of the goats and hence their productivity. Goats have been said to be easy to manage even for the poor. This is a fact that has been noted by many authors and researchers which has also been reiterated by the beneficiary households. The contributions of the goats to the households range from; the meat for home consumption and sale, collateral for accessing credit, improving crop productivity through the purchase of inputs, provision of manure and as a source of payment for extra labour when required. These contributions are not only unique to the households of Chabona and Nanswisa but have been echoed in many other parts of the world where goats have been used for poverty alleviation. They are an important aspect in the attainment of the MGD; eradication of hunger and extreme poverty.

6.2 Recommendations

In order to realise the full potential of the goats' contribution, the projects must be implemented as a full package in order to provide for the support services that the beneficiary households are not able to access. The support services once established and running must not be accessed by the beneficiary households but the community as a whole. The projects should also provide the following either as part of the project itself or through collaboration and partnerships with other organisations which are already providing the similar services:

- Establishment of persons/small organisations providing veterinary services and inputs
- Linkage to markets or marketing centres
- Establishment of credit facilities/institutions for the communities
- Formation of producer or functional groups

The formation of functional/producer groups is very important in the empowerment of the goat farmers. The group will organise the farmers in a group that will have one strong voice and ensure effective bargaining even for services and prices. The way the goat farmers are in the two areas, operate on an individual basis. They deal with the livestock traders as individuals which weaken their price negotiating power. They are currently reduced to the level of price takers. The traders dictate the price to offer the farmers. The fact that the farmers are able to receive a better price now for their goats compared to a few months ago

has nothing to do with the farmers ability to negotiate but due to the increase in the demand for goats and goat meat. The farmers can still manage to get better prices for the goats if they are able to bargain with one voice.

The farmer's inability to have their goats in one place where they can sale their goats is another factor which works against their receiving a better price for their goats. The traders move from one village to another when they are buying goats. This also brings down the price of the goats as the traders use it as a point of negation for a lower price. If the farmers can gather their goats in one place when selling, they would be better placed to get a better price for their goats. Such gatherings also provide farmers with powerful arenas were they can share information on prices and livestock management.

References

- Aina, L. O., 1991. Information for Successful Agriculture, World Libraries (2), 1. [Online]. Available at: http://www.worlib.org/vol02no1/aina_v02n1.shtml [Accessed 4 July 2011]
- Ali, J., 2007. Livestock Sector Development and Implications for Rural Poverty Alleviation in India. *Livestock Research for Rural Development*, 19 (27). [Online] Available at: <http://www.lrrd.org/lrrd19/2/ali19027.htm> [Accessed June 6 2011]
- All Africa, 2010, [Zambia](#): Impact of Climate Change On Agriculture. [Online]. Available at: <http://allafrica.com/stories/201010041021.html> [Accessed 20 August 2011]
- Aucamp, A.J., Baonard, H.H. & Venter, J.J., 1981. Beef cattle and Boer goat performance in the dry bush communities of the Eastern Cape, *Proceedings of the Grassland Society of Southern Africa*, (16), pp 45 - 48.
- Ayele, Z., Peacock, C., 2003. Improving Access to and Consumption of Animal-source Foods in Rural Households: The Experiences of Women-focused Goat Development Program in The Highlands of Ethiopia. *Animal Source Foods to Improve Micronutrient Nutrition and human function in Developing Countries, Supplement to the Journal of Nutrition*.
- Barret, C.B., T. Reardon, & P. Webb. 2001. Nonfarm Income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics, and Policy Implications. *Food Policy* (25), pp 479–498. [online]. Available at: http://inequality.cornell.edu/publications/working_papers/Barrett-Reardon-Webb_IntroFinal.pdf [Accessed 18 August 2011]
- Bembridge, T.J., 1989. Aspects of small stock production in Ciskei. *South African Journal of Animal Science*, 19 (1), pp. 1-3.
- Buvinić, M. & Gupta, G. R., 1997. Female-Headed Households and Female-Maintained Families: Are They Worth Targeting to Reduce Poverty in Developing Countries? *Economic Development and Cultural Change*, 45(2), pp. 259-280. The University of Chicago Press Article [online]. Available at: <http://www.jstor.org/stable/1154535> [Accessed 6 June 2011]
- Byrne, B. 1994. Gender profile of Zambia. *BRIDGE (development - gender)* (29), Institute of Development Studies University of Sussex [pdf]. [online]. Available at: <http://old.bridge.ids.ac.uk/reports/re29c.pdf> [Accessed 07 June 2011]
- CIA, 2011. Zambia Economy 2011, *CIA World Factbook and Other Sources*. [online]. Available at: http://www.theodora.com/wfbcurrent/zambia/zambia_economy.html [Accessed 29 July 2011]
- CSO, 2011. 2010 Census of Population and Housing. *The Monthly* (94). [online] Available at: http://www.zamstats.gov.zm/media/vol_94_2011_the_monthly_january.pdf [accessed 25 July 2011]

Chambers R. & Ghildyal B.P. (1985), Agriculture Research for Resource-Poor Farmers: The Farmer-First-and Last Model, *Agriculture Administrative* 20 (1985) 1-30, Institute of Development Studies, University of Sussex-England & Ford Foundation, New Delhi-India. [online] Available at: <http://opendocs.ids.ac.uk/opendocs/handle/123456789/103> [Accessed 20 June 2011]

Devendra, C. & Burns, M., 1980. Goat production in the tropics. Commonwealth Agricultural Bureaux, Farnham Royal Bucks. England.

Devendra, C., 1999. Goats: Challenges for Increased Productivity and Improved Livelihoods. *Outlook on Agriculture*, 28, (4), pp. 215 - 226. [Online]. Available at: <http://www.ilri.org/InfoServ/Webpub/fulldocs/Outlk2840/Goats.htm> [Accessed 20 August 2011]

Dorward, A., 1999. Farm size and productivity in Malawian Smallholder Agriculture. *Journal of Development Studies* (35). pp 141–161.

Dose, H., 2007. Securing Household Income Among Small-scale Farmers in Kakamega District: Possibilities and Limitations of Diversification, *GIGA Research Programme: Transformation in the Process of Globalisation*(41)German Institute of Global and Area Studies (GIGA), Hamburg, Germany [online]. Available at: <http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail> [Accessed 01 June 2011]

Dossa, L.H., Rischkowsky, B., Birner, R. & Wollny, C. 2008. Socio-economic Determinants of Keeping Goats and Sheep by Rural People in Southern Benin

Faber, M., Witten, C. & Drimie, S., 2011. Community-based agricultural interventions in the context of food and nutrition security in South Africa, *South African Journal of Clinical Nutrition*, 24(1), pp. 21-30 [online]. Available at: <http://www.sajcn.co.za/index.php/SAJCN/article/viewFile/461/660> [Accessed 2 June 2011]

FAO, 1996. Rome Declaration on World Food Security. World Food summit 13-17 November, 1996, Rome Italy [online]. Available at: <http://www.fao.org/docrep/003/w3613e/w3613e00.htm> [Accessed 06 June 2011]

Feder, G., 1985. The Relation Between Farm Size and Farm Productivity: The Role of Family Labour, Supervision and Credit Constraints. *Journal of Development Economics* (55), pp 297-313 [online]. Available at: <http://www.sciencedirect.com/science/article/pii/0304387885900598> [Accessed 20 August 2011]

Foster, G., Makufa, C., Drew, R. & Kralovec, E., 1997. Factors Leading to The Establishment of Child headed Households: The Case of Zimbabwe, *Health Transition Review*, 7(2), pp.155-168 [online]. Available at: <https://digitalcollections.anu.edu.au/handle/1885/41524> [Accessed 06 June 2011]

Gall, C., 1981. Goat Production in the tropics. Academic Press.

GTZ, 2005. HIV/AIDS and Rural Development Fact Sheet.[online]. Available at: http://www.sarpn.org.za/documents/d0001160/FactSheetAIDS_RD.pdf. [Accessed 20 December 2010]

GTZ, 2000. Gross, R., Schoeneberger, H., Pfeifer, H. & Preuss, H.J.A., The Four Dimensions of Food and Nutrition Security: Definitions and Concepts [pdf]. Available at: <http://www.redsan-palop.org/doc02/018.pdf> [Accessed 06 June 2011]

IMF, 2007. Zambia: Poverty Reduction Strategy Paper [pdf] IMF Country Report (276), [online] Available at: <http://www.imf.org/external/pubs/ft/scr/2007/cr07276.pdf> [Accessed 7 June 2011]

Keller, B., 2000. International Federation of Surveyors (FIG). Women's Access to Land in Zambia [Online]. Available at: http://www.swedesurvey.se/files/pdf/Seminars_Women_Zambia_2000.pdf . [Accessed 22 October 2010]

Kozel, V. & Parker, B., 2003. A Profile and Diagnostic of Poverty in Uttar Pradesh. *Economic and Political Weekly*, 38(4). pp. 385-403 [Online]. Available at: <http://www.jstor.org/stable/4413138> [Accessed 06 June 2011]

Kürschner, E., 2000. Incorporating HIV/AIDS Concerns into Participatory Rural Extension. A Multi-Sectoral Approach for Southern Province, Zambia. [Online]. Available at: <http://edoc.hu-berlin.de/series/sle/s188/PDF/s188.pdf> [Accessed 28 October 2010]

Kurtze, H., 1982. Goat rearing in Africa-its advantages and disadvantages. *Animal Research and Development*, 15(96).

LDT, 2006: Report on Livestock Diseases Status in Zambia, Presentation to Parliamentary Committee on Land and Agriculture, 29th March, 2006, National Assembly.

MACO, 2011. Rural Zambian Smallholders Cost of Maize Production, *Presentation to the Ministry of Finance and National Planning, 17 February, 2011*. [Online]. Available at: http://www.aec.msu.edu/fs2/zambia/The_Cost_of_Producing_Maize_MFNP_presentation.pdf [Accessed 29 July 2011]

MACO, 2007. National Livestock Census

Mamabolo, M.J. & Webb, E.C., 2005. Case Study - Agricultural Commission – Witfor Goat Production Survey – Fundamental Aspects to Model Goat Production Systems in Southern Africa

Miles, M. & Mwendwe, E. 2005. Food Security and Markets in Zambia. *Humanitarian Exchange Magazine*, (30). [Online]. Available on: <http://www.odihpn.org/report.asp?id=2725>. [Accessed 23 October 2010]

Mucavale, F.G., 2001. True Contribution of Agriculture to Economic Growth and Poverty Reduction: Malawi, Mozambique and Zambia Synthesis Report. [Online]. Available at: <http://www.fanrpan.org/documents/d01034/Synthesis%20Report%20-True%20Contribution%20of%20Agriculture.pdf> [Accessed 22 August 2011]

Mudenda, M., 2006. An Integrated Approach to Rural Planning and Development in Zambia [Online]. Available at: http://www.fig.net/pub/fig2006/papers/ts35/ts35_05_mudenda_0858.pdf. [Accessed 22 October 2010]

Mutangadura, G., 2005, Gender, HIV/AIDS and Rural Livelihoods in Southern Africa: Addressing the Challenges, *Journal of Culture and African Women Studies* (7). [Online]. Available at: http://www.kubatana.net/docs/gen/mutangadura_gen_hivaid_0511.pdf. [Accessed 21 October 2010]

NAC, 2007, HIV/AIDS Fact Sheet, National Aids Council. [Online]. Available at: <http://www.nac.org.zm/index.php/component/poll/1-hiv-prevalence-in-2007-in-zambia-is> [Accessed 6 January 2011]

Peacock, C., 2005. Goats—A pathway out of poverty *Small Ruminant Research* 60(1), pp. 179-186. Plenary papers of the 8th International Conference on Goats FARM-Africa, 9-10 Southampton Place, London WC1A 2EA, UK [Online]. Available at: <http://www.journals.elsevierhealth.com/periodicals/rumin/article> [Accessed 03 June 2011]

Peacock, C.P., 1996. Improving Goat Production in the Tropics. A Manual for Development Workers, FARM-Africa/Oxfam, Oxford.

Rota, A. & Sidahmed, A., 2010. Livestock planning, challenges and strategies for livestock development in IFAD, *IFAD's Livestock Position Paper*. [Online]. Available at: <http://www.linkinghub.elsevier.com/retrieve/pii/S0308521X01000336> [Accessed 15 January 2010]

Rudie, I., 1995, The significance of 'eating': cooperation, support and reputation in Lelantan Malay households. *'Male' and 'Female' in Developing Southeast Asia*. Oxford, Washington: berg Publishers, pp 227-245

Sen, A., 1984. Food battles: conflicts in the access to food, *Food and Nutrition (FAO)*, 10(1) pp. 81-89, Oxford Univ. UK

SIDA, 2002. Sustainable Poverty Reduction through Area Development Projects; Zambia Country Report. [Online]. Available at: <http://www.rogerblench.info/Development/Zambia/Zambia%20report%20SIDA%20study.pdf> [Accessed 20 October 2010]

SNDP, 2011. "Sustained Economic Growth and Poverty Reduction". [Online]. Available at: http://siteresources.worldbank.org/INTZAMBIA/Resources/SNDP_Final_Draft_20_01_2011.pdf [Accessed on 29 August 2011]

The World Bank, 2008. World Development Indicators. [Online]. Available on: <http://data.worldbank.org/data-catalog/world-development-indicators>. [Accessed on 20 October 2010]

The World Bank, 2000. Poverty Reduction and Equity. [Online]. Available at: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY> [Accessed on 7 June 2011]

Uphoff, N., 2004. Local Communities and Institutions: Realizing Their Potential for Integrated Rural Development. [Online]. Available at: http://www.apo-tokyo.org/projreps_acd/04_ICD-SE-3-01.pdf [Accessed on 31 August 2011]

USAID, 2000. Agricultural Extension Services: Rural Extension and Advisory Service Report. [Online]. Available at: http://www.usaid.gov/our_work/agriculture/extension_services.htm [Accessed 10 March 2011].

Vries, J.D., 2008. Goats for the poor: Some keys to successful promotion of goat production among the poor Small Ruminant Research (77), pp. 221–224. [Online]. Available at: <http://www.sciencedirect.com> [Accessed on 23 August 2011]

Whaley, S. et al., 2002. The Impact of Dietary Intervention on the Cognitive Development of Kenyan School Children. Research Brief 02-01-CNP, Global Livestock CRSP, Davis, USA.

WVZ. 2010. List of Goat Project Beneficiary Households and Project Objectives

List of Annexes

Annex 1: Beneficiary questionnaire

Questionnaire

Assessment of the Effect of World Vision Zambia's (WVZ) goat Project on Household food Accessibility

Introduction

My name is Mable Mwaba, a master student at Van Hall Larenstein in the Netherlands. As part of my master programme I have to conduct a research and use the data collected for my thesis in order for me to be awarded the master's degree certificate. I chose the WVZ project for my research in order to assess the effect of the goat project on the beneficiary household's income and hence food accessibility. The information from this research will also be useful in providing recommendations on how best the livestock projects can be implemented in future by LDT and WVZ.

Date:

1. Household demographics

Name of respondent:

Name of village/chief:

Name of ADP:

Age of respondent:

Household size:

No. of children..... No. of dependents.....

2. Assets

What livestock do you own?.....

.....

How many heads of Cattle do you have?

No. of adults No. of young.....

No. own..... No. for other relatives.....

How many chickens do you have?

No. for household:..... No for other relatives.....

How many sheep do you have?

No. of adults (>2 years) No. of young (<2 years).....

No. own..... No. for other relatives.....

How many goats do you have?

No. of adults No. of young.....

No. own..... No. for other relatives.....

How many goats did you have before the project?

No. of adults No. of young.....

No. own..... No. for other relatives.....

How many goats did you receive from WVZ: females males.....

Do you own land? Y/N

If no where do you cultivate your crops/keep livestock?

.....
.....

Who owns the land?.....

What is the size of the land (acre/lima)?

.....

What crops do you cultivate?

.....
.....
.....

What is the land size per crop cultivated?

.....
.....
.....
.....

What is the yield per crop cultivated? (50 kg bags, buckets)

.....
.....

.....
.....
.....

What is the price today for each of the crops?

.....
.....

How much of the crops are used for home consumption? (50 kg bags, buckets)

.....
.....
.....

How much of the crops did you/do you sale? (50 kg bags, buckets)

.....
.....
.....

How many of the following livestock did you sell in the last one year?

Cattle: adults..... young

Chickens: adults..... young

Goats: Adults young.....

Sheep; adults young.....

At what times of the year do you sell your livestock?

.....
.....
.....
.....

What were the prices at the different times?

.....
.....

What is the market price for the livestock sold today?

.....
.....
.....

How do you rank the benefits from each of the following activities?

Crops	Livestock
Goats	Off farm income

Open questions

- i. How did you know about WVZ?
- ii. What is the purpose of the project?
- iii. How were you selected for the project?
- iv. What information was provided about the project after the selection?
- v. What type of training did you receive from WVZ?
 - How long was the training?
 - Who conducted the training
 - Where was it conducted?
 - Did you receive any materials like booklets?
 - What language was being used for the training?
- vi. How useful is the training to the rearing of goats?
 - What did they train you on?
 - Housing, nutrition, animal health and management?
 - Do you receive any visits to check on how you are managing the goats?
 - When the goats are sick, what do you do?
- vii. What else did you receive from WVZ apart from the goats?
- viii. What are the four most important off farm income generating activities for the household?
- ix. Has your life improved in anyway because of the goats you received? If yes how?
- x. What challenges have you faced in rearing/feeding of these goats?

- xi. What recommendations would you give the WVZ for the improvement of future goat projects?

Annex 2: Non beneficiary questionnaire

Questionnaire

Assessment of the Effect of World Vision Zambia's (WVZ) goat Project on Household food Accessibility

Introduction

My name is Mable Mwaba, a master student at Van Hall Larenstein in the Netherlands. As part of my master programme I have to conduct a research and use the data collected for my thesis in order for me to be awarded the master's degree certificate. I chose the WVZ project for my research in order to assess the effect of the goat project on the beneficiary household's income and hence food accessibility. The information from this research will also be useful in providing recommendations on how best the livestock projects can be implemented in future by LDT and WVZ.

Date:

3. Household demographics

Name of respondent:

Name of village/chief:

Name of ADP:

Age of respondent:

Household size:

No. of children..... No. of dependents.....

4. Assets

What livestock do you own?.....

.....

How many heads of Cattle do you have?

No. of adults No. of young.....

No. own..... No. for other relatives.....

How many chickens do you have?

No. for household:..... No for other relatives.....

How many sheep do you have?

No. of adults (>2 years)

No. of young (<2 years).....

No. own.....

No. for other relatives.....

How many goats do you have?

No. of adults

No. of young.....

No. own.....

No. for other relatives.....

Do you own land? Y/N

If no where do you cultivate your crops/keep livestock?

.....
.....

Who **owns** **the**
land?.....

What is the size of the land (acre/lima)?

.....

What crops do you cultivate?

.....
.....

What is the land size per crop cultivated?

.....
.....

What is the yield per crop cultivated? (50 kg bags, buckets)

.....
.....
.....

What is the price today for each of the crops?

.....
.....

How much of the crops are used for home consumption? (50 kg bags, buckets)

.....
.....
.....
.....

How much of the crops did you/do you sale? (50 kg bags, buckets)

.....
.....
.....

How many of the following livestock did you sell in the last one year?

Cattle: adults..... young

Chickens: adults..... young

Goats: Adults young.....

Sheep; adults young.....

At what times of the year do you sell your livestock?

.....
.....

What were the prices at the different times?

.....
.....

What is the market price for the livestock sold today?

.....
.....
.....

How do you rank the benefits from each of the following activities?

Crops	Livestock
Goats	Others

Open questions

1. What do you know about the WVZ goat project?
2. Why were you not selected for the project?
3. How do you think the lives of the beneficiaries have been affected by the goats?
4. Is there any difference in the way the beneficiary households look after their goats compare to non-beneficiary households with goats?
5. What are the four most important sources of off farm income?
6. What recommendations do you have for WVZ?

Annex 3: Checklist for WVZ and LDT interviews

Topic list for discussions with WVZ

1. What are activities of WVZ?
2. Identification of suitable livestock for the target group
3. Why livestock as a tool to reduce poverty?
4. Target group identification
5. Follow up/back up or support services for the beneficiary households
6. Feedback from the beneficiaries on training, distribution, effect on household income/food security
7. Improvements for future livestock/goat projects?
8. Identification of provider of livestock and training
9. Identification of curriculum
10. Materials provided
11. Effect of training

Annex 4: Photo gallery



