Networking, Social Capital and Gender Roles in the Cotton System in Benin

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To Amirath, Redouane, and Wakirath

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The seed for this more-than-four-years result was sown decades ago by my illiterate parents to whom sincere thanks are due for their open-mindedness. Being the second of the only two sons of my parents, and given that my elder brother was miles away from home to pursue his secondary education, I was not destined for western education. I accompanied my father in farming, which could hardly be combined with going to school. Because I got bored staying at home and, especially, having my friends leave me for school every time we played together, I demanded to be sent to school as well. My father accepted my demand. After these friends dropped out for various reasons, my father was criticized for having sent all his sons to school and was told that his last days would be hard. Despite the pressure my brother and I experienced, we did not drop out from school. Indeed, our father's strong opposition swiftly changed from initially cajoling to punishment to deter us from leaving school until we understood the benefit of studying. *"I would like you to study as far as you can"*, we were repeatedly told by our late father. Our mother had no authority to coerce us, but, instead, she would use the proceeds from food-processing to pay for our school needs. The dedication and strong will of our father, who at the time had been so bold as to send all his sons to school, and the sacrifices of our mother, paved the way to this PhD.

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Chapter 1

General Introduction

ABSTRACT: This chapter provides the background of the research and outlines its theoretical and conceptual foundation. The overall study design that generated the data is presented, and the chapter ends with an outline of the thesis.

1.1 Motivation and background

What prompted me to undertake my PhD journey about the topic of cotton production and management? Still a young student at a senior agricultural school, my academic calendar followed the agricultural production cycle. On a day in December 1992, while on holiday in my village, I witnessed a rather pathetic event. A farmer, who came to receive his payment from a village 2 km from the payment point, was deprived of his bike. His cotton production could not cover the costs of the inputs (fertilisers and pesticides) he had used to produce it. Fortunately, the value of his bike was estimated to be roughly equal to the debts. Therefore, the farmer could walk back home without being sent to jail. How would this farmer feel on his way back home and what would he tell his family? Since then, I developed a keen interest to investigate what cotton farmers do get in return for all the effort they invest in growing cotton.

From the late 1980s onwards, there has been a growing interest in the cotton crop. Cotton is a critical cash crop and plays a key role in Benin's economic growth, accounting for an important share in the State's revenues and the income of farming households. Cotton production has been progressively embedded into subsistence farming formerly dominated by food crops, transforming it into semi-subsistence farming. From having a marginal status during the 1970s and the first half of the 1980s, cotton grew in importance during the 1990s, both with regard to area covered and income generated, averaging 37 percent of the total cultivated area throughout the country, and representing up to 80 percent of rural household incomes (Gandonou, 2005; World Bank, 2003). The increase of cotton production went along with its growing economic importance, both for the State and for farmers. The share of cotton exports represented 75 percent of the country's total exports during the first half of the 2000s before it dropped to 40 percent in 2008. Meanwhile, the economic weight of cotton in the State fiscal revenues and the GDP rose to 25 percent and 6 percent respectively (World Bank, 2003). Thus, cotton production has shaped Benin's agriculture, thereby greatly shaping the country's economic system. These dynamics were nurtured by the emergence of farmer organisations, whose importance for cotton production steadily increased.

In this situation, the number of farmer organisations in Benin escalated. Their reputation spread during the cotton boom at the end of the 1980s. The organisations elapsed into a hierarchical network with a pyramidal shape, together creating what could be called a "cotton system" through which cultural capital was developed and farmer leaders were formed. The cotton sector became institutionalised, having its own rules and practices. Indeed, as the main cash and export crop, cotton production has shaped the agricultural sector, the farmers' movement, and the economy of Benin. Both economic and social benefits were noticeable at individual as well as at community level, through the development of infrastructures and the relative wealth of households (World Bank, 2003). However, inadequate agricultural policies combined with the mismanagement of the organisations have led to the indebtedness of

cotton farmers, a situation that was aggravated by a drop of cotton prices on the international markets and a steady increase of the costs of inputs during the early 2000s (Ferrigno et al., 2005; World Bank, 2003). As a consequence, from being the best organised agricultural sector in Benin the quality of the organisation of the cotton sector declined. This is the context for the research on which this thesis is based.

1.2 The country of Benin: some macro-level data

Located in West Africa, the Republic of Benin stretches over 750 km from the coast in the South to the Niger River at its northern border (Figure 1.1). Administratively, the country is divided into 12 provinces: Alibori, Atacora, Borgou, and Donga in the North; Collines and Zou in the Centre; and Atlantique, Couffo, Littoral, Mono, Oueme and Plateau in the South. With its 114,763 square kilometre, a projected population of about eight millions five hundred people in 2012 (INSAE (2009), and a GDP per capita of about US 1,508 Dollars (UNDP, 2011), Benin ranks 167 out of 176 on the Human Development Index (HDI). Poverty is quite widespread in rural areas.

According to IFAD (2010), Benin is an agriculture-dependent country with a poverty incidence of 47.3 percent. During the decade 1998-2008, the growth in agricultural employment was 33.7 percent, which is the highest increase of all economic sectors. About 54 percent of the active population engages in agricultural activities and agriculture accounts for 35–40 percent of Benin's GDP (FIDA, 2005; World Bank, 2007). Performed with traditional technologies, Benin's agriculture is mainly food-producing and is dominated by about 550,000 smallholder farmers with an average plot size of 1.7 ha (FIDA, 2005; MAEP, 2011). Food crops such as cereals, legumes, roots and tubers are the main products, playing a key role in the domestic economy as food as well as cash crops. However, the revenues they yield are rather marginal. It is cotton that played a key role as a cash crop throughout the country for the last two decades. Its share in the state's export revenues remained high and its contribution to the GDP kept steadily increasing from 1990 to 2005, which explains the interest of the State, private actors, and farmers in the crop.

Until recently, cotton was grown throughout the country, including in unfavourable areas. It was extensively cropped in ten out of twelve provinces, on a wide range of soils. Based on the agro-ecological conditions and vulnerability to pest infestation that determine the technical aspects of production, the national cotton research centre (RCF/INRAB) divides cotton-producing areas into roughly four large zones. The Soudan Savannah in the extreme North, covering Alibori province and the extreme North-east of Atacora province, comprises the zone that hosts the cotton belt and produces the highest share of cotton production. The Northern Guinean Savannah zone comprises the provinces of Borgou and Donga, the southern part of Atacora province and the northern part of Collines province. Although the zone is known as the food belt, it also produces a significant quantity of cotton. The Southern Guinean

Savannah zone covers the northern regions of the provinces of Zou, Couffo and Plateau. The more humid agro-ecological conditions in this zone do not favour cotton production. The Guinean Congolean Zone that covers most coastal provinces also produces a very marginal quantity of cotton (Sinzogan, 2006). So, cotton production is concentrated in the Soudan Savannah zone where a lower population density and more favourable agro-ecological conditions in terms of low rainfall and humidity make the zone the largest cotton producer.

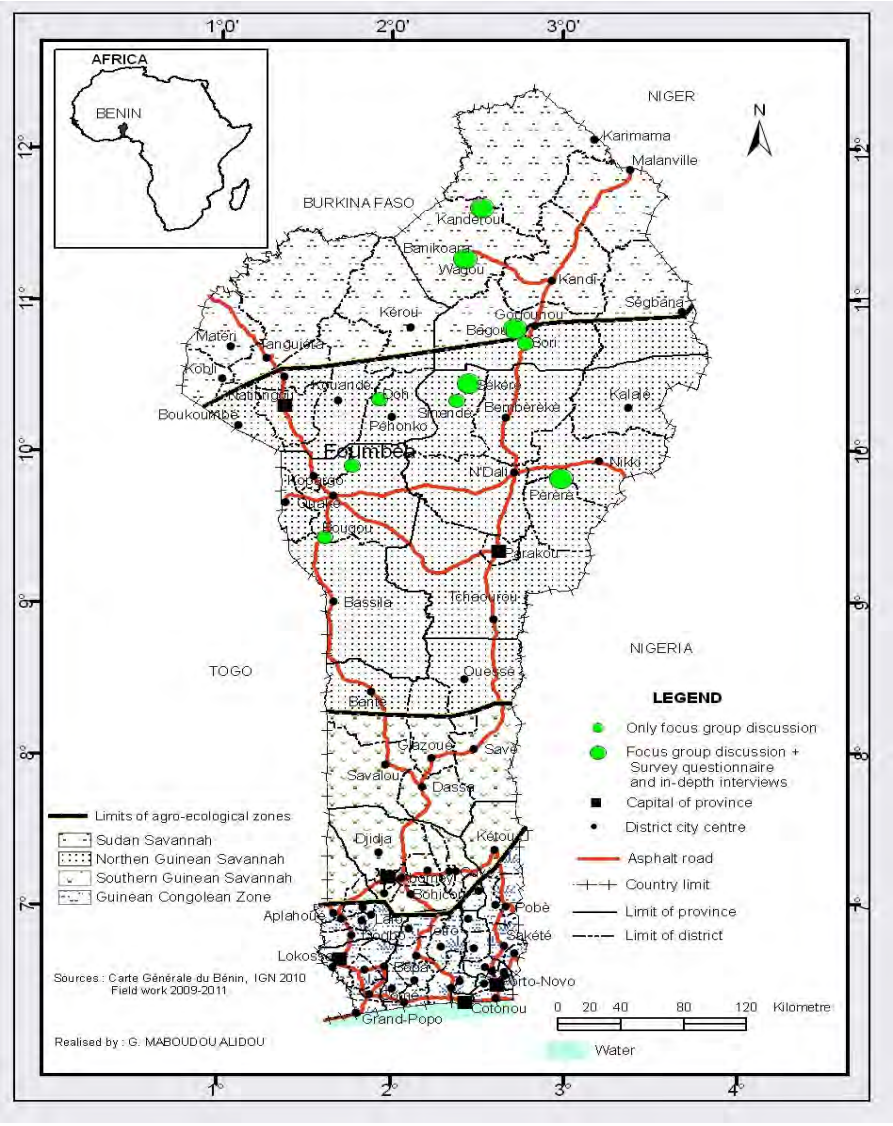

Figure 1.1 Map of Benin with the location of the research sites

The present research was implemented in the four northern provinces and covered two agro-ecological zones. It started in the four provinces and progressively focused on two provinces: Alibori and Borgou. These provinces are inhabited by many ethnic groups who have their investment in agriculture as the main economic activity, with cotton as the major cash crop, in common. More than 75 per cent of the cotton

produced in the country is sourced from these provinces. Consequently, all the cotton networks concentrated their actions in this region, vying to enlist as many farmers as they could and to control as much production as possible.

1.3 Problem statement and research questions

Farmer organisations have levered cotton production, being at the forefront of rural development policies since the revolutionary period when they were managed for political propaganda. In return, they have been shaped by the crop, and cotton became their lifeline. Originally village-based, farmer organisations developed according to the country's administrative structure, resulting in the forming of a hierarchical network up to the national level. With the boom in cotton production, these organisations had a *de facto* central role in community development, which they assumed and achieved with the financial returns they reaped from cotton production, thereby replacing the State at some points in time. They developed collective action at village level and promoted socio-economic development by providing the basic services that the State failed to supply in the fields of education, health, and rural infrastructures (World Bank, 2003). They also facilitated "mutual and solidarity practices among members" (Tama-Imorou et al., 2007: 108). The social cohesion and its corollary of collective action developed through cotton networking were extended to non-members, thereby building social capital at community level. But with the important resources generated by cotton, mismanagement practices crept in and added to the burden of the bureaucracy of the governmental agencies managing the sector. This situation seriously overwhelmed the sector, revealing the inefficiency of State management of the sector through costly bodies.

The reforms undertaken from 1990 onwards to liberalize the sector and tackle the problems of mismanagement and inefficiency did not only establish more democratic procedures within farmer organisations but also brought together the various stakeholders and new institutions, like cotton farmers, inputs suppliers, cotton ginners and banks, who together composed a huge and complex stakeholders network. Farmer organisations are central to this network because of their relations with all the other stakeholders, who courted them assiduously. Their leaders became very influential for holding both institutional and economic power, and attained a high social status. But while their leaders became empowered and enriched, farmers got indebted and impoverished. In practice, many farmers had arrears for up to two cropping seasons or were not paid back completely (Sinzogan et al., 2007). This situation created a tense and suspicious atmosphere among farmers and weakened the social cohesion within the network (World Bank, 2003). As a result, dissident networks emerged as breakaway organisations (Sinzogan et al., 2007). The process of breaking away started from the top of the pyramid and progressed downwards, resulting in atomised networks. The ensuing competition generated and reproduced never-ending conflicts that led to a decrease of trust within and between networks. Additionally, at the same

time farmers experienced a sharp drop in cotton prices, declining yields, and a steady increase of inputs prices (Sinzogan et al., 2007). This situation led to a strong decline of cotton production in the cotton belt. Ultimately, the process resulted in the abandonment of the crop by thousands of households (World Bank, 2003), entailing the loss of their major livelihood source. Most of the cotton growers who chose to give up their main cash crop, undermined their livelihood and faced the risk of impoverishment.

The general objective of the present research was to gain an in-depth understanding of the dynamics of the "cotton system", that is the interactions between the economic activity of cotton production and the structure of social relations from community to individual level in which the activity is embedded. To this end, the main question addressed in the research is how farmers' agency affected their organisations, cotton production, and the collective action that evolved around that crop. The research investigated the interactions between individual dispositions and actions (micro level) and the institutional mechanisms (meso and macro level), and the effect of such interactions on the livelihood systems of the households (the transformative mechanism). The investigation included an analysis of cotton production in Benin in the colonial past and in the contemporary context, exploring how the reform policies have shaped the sector, independently from international contingencies.

To achieve the general objective, the research was guided by sub-questions linked to the following overlapping research headings, which constituted the entry-points of the research:

Heading 1: Emergence of breakaway networks. This heading addresses the question about factors that differentiated leaders from grassroots (or ordinary) farmers in the creation of breakaway networks. The objective here is to analyse the social mechanisms leading to the emergence of breakaway networks. It is hypothesized that leaders of breakaway networks are more strongly embedded in social relations than ordinary farmers (H_1).

Heading 2: The decline of social cohesion and the squeeze of collective action. This heading constitutes an inquiry into the effects of the decline of social cohesion in cotton producing communities. The aim is to examine the effect of the decline of social cohesion that ensued from intra- and inter-group conflicts in cotton production and collective action. It is hypothesized that the decline of social cohesion resulted in the demise of collective action in cotton producing areas (H_2).

Heading 3: Livelihoods reconstruction after the demise of cotton production. The issues dealt with under this heading are the shifts in assets endowment and livelihood portfolios of rural households as a consequence of the demise of cotton production and how these shifts affected the gender relations within rural households. This heading helped testing the hypothesis that the loss of livelihoods consecutive to

the demise of cotton production modified the gender relations within cotton-producing households (H_3).

Figure 1.2 displays the different concepts and theories used throughout the research and their interrelations. The framework is intended to help the reader understand the connections between the theoretical concepts and the different chapters.

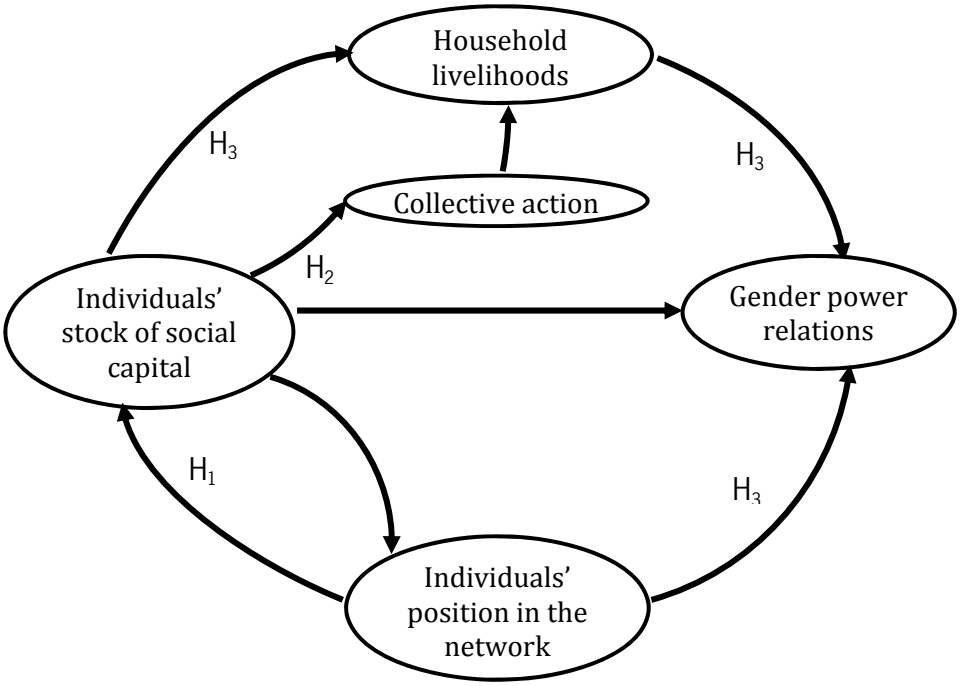

Figure 1.2 Conceptual framework and links between hypotheses

1.4 Theoretical and conceptual framework

This section presents the theoretical structure of the study and discusses the theoretical approaches used to investigate the dynamic relations between cotton production, the social capital of individuals and the livelihoods of households. The research attempts to unpack the black box represented by the cotton–people relationships, and to show how farmers' agency built and rebuilt farmer organisations, which to farmers are very relevant institutional structures. Ultimately it aims to uncover the social changes resulting from the interactions between people, institutions and technical elements through the meanings attached to them. More specifically, the research deals with the dualism structure–agency in social change in the context of cotton production. The analysis was based on two broader theoretical approaches: Actor-Network Theory (see Chapter 3 in particular) to highlight the pivotal role of cotton, and the actor-oriented approach (see Chapters 4, 5, and 6) that has the human actors' logic as its point of departure. Chapter 2 combines the two approaches.

1.4.1 Structure, actor and agency

Theorizing about the constitution of society and the reproduction of the social order over time has been done by opposing schools of thought such as functionalism and structuralism. Their proponents argued about the relevance of the concept of evolution for the analysis of the structure and functioning of social systems (biological analogies). Despite their differences, however, functionalism and structuralism converged on the pre-eminence of the social whole over its individual parts (Giddens, 1984: 1). In his attempt to find out "how the concepts of action, meaning and subjectivity should be specified and how they might relate to notions of structure and constraint", Giddens (1984: 2) formulated structuration theory. Early structural functionalists "assumed that institutions and social roles mesh together to form patterned and predictable social arrangements" (Hier, 2005: 7). Social actors were considered to take advantage of the means given in particular situations to achieve particular goals. For Parsons (2005) relationships are interactive and actor situations cannot be understood scientifically if they are conceived independently of actors' orientations. To transcend the agent–structure or individual–society opposition, structuration theory emphasises the interpenetration and the interactional dynamics of individual and collective action, thereby pointing out the important role of agency. This focus underlies both the actor-oriented approach and actor-network theory, two contemporary seminal contributions to the study of social action that were used in this research.

The actor-oriented approach deals with bridging the individual day-to-day logic of action (micro level) and the structural context (macro level) of the society. The approach entails "exploring the critical interfaces that depict the points of contradiction or discontinuity between the different (and often incompatible) actors' life worlds, including not only 'local' actors but also 'intervening' institutional actors or other stakeholders" (Long, 2001: 240). Therefore, it positions the social actor at the centre of the action. Long (2001: 13) posits that:

> Social actors [...] must not be depicted as simply disembodied social categories (based on class or some other classificatory criteria) or passive recipients of intervention, but as active participants who process information and strategize in their dealings with various local actors as well as with outside institutions and personnel.

A social actor can be an individual person, a group, an organisation or an institution. In other words, any social entity "that can be said to have agency in that [it] possesses the knowledgeability and capability to assess problematic situations and organise 'appropriate' responses" (Long, 2001: 241). The properties of knowledgeability and capability imply that a social actor is endowed with the ability to exercise strategic choices, thereby suggesting that the notion of agency is central to that of power. Agency is about "the knowledgeability, capability and social embeddedness associated with acts of doing (and reflecting) that impact upon or shape one's own and others'

actions and interpretations" (Long, 2001: 240). Agency can be conceived as the individual's or the organisation's power to and power over other individuals or organisations, and "represents the processes by which choices are made and put into effect" (Kabeer, 2005: 14). Applied to the specific case of cotton networking in Benin, both individual cotton farmers – either leaders or grassroots farmers – and entire networks could strategically interact with each other to make choices in the process of building and rebuilding cotton networks. These actors are not foreign to the tumultuous cotton networking and its consequences for cotton production, which – instead – can be seen as the outcome of their various choices (see Chapters 4 and 5).

Actor-Network Theory (henceforth ANT) originates from the need for a new social theory to connect with science and technology studies. Considered controversial at its inception, ANT has increasingly gained ground as a sociological approach used in various social and human sciences (Alcadipani & Hassard, 2010; Law, 1992). ANT surpasses the actor-oriented approach in its analysis of social interactions as it aims at "accounting for the very essence of societies and natures", using some principles of social network theory and focussing on human relations in social and natural worlds (Latour, 1996: 369). In designing the theory, the endeavour was to bring together non-humans (objects of science and technology) and humans, making the former "social-compatible" too (Latour, 2005: 21). The central tenets of ANT are the material heterogeneity of networks, the symmetry of networks that implies their continuity, and the network ontology which concerns the essence of societies and natures. The heterogeneity of networks suggests that "society, organisations, agents and machines are all effects generated in patterned networks of diverse (not simply human) materials" (Law, 1992: 380). The core assumption of ANT is drawn from that property and it states that ordering and interaction are all essential and immutable.

The originality of ANT lies in granting a role to non-humans too, with no difference in kind between people and objects. The core concept of "actant" was coined to designate this role. An actant is anything without figuration that modifies the state of affairs by making a difference (Latour, 2005). In other words, anything human or non-human (like cotton in the present research) that causes an action with no need of a special motivation, neither of individual human actors nor of humans in general, is considered to bear the properties of an actant. Actants incorporate non-human, material and technical elements into the analytical framework of the social world and not just individuals (or institutions) with motives, in other words not just the "human intentional individual actor" (Latour, 1996: 372). Therefore, ANT presents a new type of network configuration, and it emphasises the linkages between the material, the phenomenological and the social components of any social situation. Implicit in ANT is the warning that one should not assume that "material and technical elements have no active role to play in social dynamics" (Callon & Law, 1997), and ANT recommends "exploring social effects, whatever their material form, if we want to answer the 'how' questions about structure, power and organization" (Law, 1992: 389). For ANT, neither humans nor objects have inherent qualities but they give presence to one

another through their networking relations, that is their "identity emerges – and changes – in the course of interaction" (Callon & Law, 1997). Thus, ANT enables a discipline like geography for example, a means of "navigating those dualisms, such as nature/society, action/structure, and local/global" (Murdoch, 1998: 357).

Both individual farmers and farmer organisations are social actors. They are always tempted by individual profit at the expense of other actors or the entire structure of which they are part. Farmers' deprival of resources consecutive to mismanagement resulted in tense situations between individual and collective rationality in the production and use of public goods. This suggests that the actant, cotton, and the actors, individuals and institutions, liaise with one another in the cotton system. One of the specific objectives of this study is to find out the different meanings that were attributed to cotton through time and what this meant for each of the actors. Indeed, cotton links various institutions, namely cotton farmer organisations, input suppliers associations, the syndicate of cotton transporters, cotton ginners associations, and the multiple regulatory bodies. How did the system comprised of institutions like those mentioned above, people (individual farmers and leaders), and the material element cotton become one network?

1.4.2 Further conceptual clarification

Investigating the social transformations involved by the dynamics between actors and structures required the use of certain concepts that need to be clarified beforehand. The process of building and rebuilding cotton networks reveals some connivance between network leaders on the one hand and inputs suppliers, cotton ginners, public officials and decision makers on the other. The 'illiterate' farmers (as they are seen by these parties) refer to decision makers and other literate actors as "intellectuals". Both farmers and leaders claimed relationships with and support from officials and decision makers in the creation of breakaway networks. Whereas most of the networks originated from either an inputs supplier or a cotton ginner, some emerged from the support from private actors, who, in turn, were reportedly acquainted with political leaders. Rival networks and groups of farmers competed for new members, thereby negatively affecting collective action. Therefore, it was posited that new leaders use their social connections to mobilize farmers in creating breakaway networks, which brings us to the concept of social capital.

Social capital is a special type of resource, which differs from financial, natural or human capital by its location in social relations. Its definition has varied over time. The concept and its operationalization is diverse and multidimensional, but two main perspectives can be identified, one looking at its effects at the individual level and the other at effects at group level (Lin & Erickson, 2008). In various definitions, trust and networks are perceived as its two key components, with a frequent mention of norms and reciprocity (Schuller et al., 2000). This shared understanding led to a consensus on what social capital consists of. Thus, social capital is commonly defined as "the

rules, norms, obligations, reciprocity, and trust embedded in social relations, social structures, and societies' institutional arrangements" (Moser, 2010: 392). Trust, particularly, induces fair behaviour and leads people to abide by laws and regulations, entailing reciprocity. In that sense, trust is a key constituent of social capital that facilitates cooperation and makes democracy work (Putnam, 1993). High levels of social capital in a given society or group increase the likelihood of cooperation and facilitate collective action (Ahn & Ostrom, 2008). Collective action is any concerted and jointly conducted action that benefits an entire community without exclusion.

Lin (2001: 24) defines social capital as the "resources embedded in social relations and social structure, which can be mobilized when an actor wishes to increase the likelihood of success in a purposive action." This definition guided the analysis in this thesis. Social capital depends on social networks and their interconnection implies a real difficulty to delineate them (Lin, 2008: 58). A social network is a social structure of relations between individuals or organisations tied by a specific type of inter-dependency such as values and norms that imply reciprocity. While "network analysis focuses on the relations among actors, and not individual actors and their attributes" (Hanneman & Riddle, 2005: 4), social capital addresses the investment of resources by individuals in social relations with expected returns (Lin, 2001). Thus, social networks pave the way to social capital building and appear to be more tangible than social capital, which is located in the relations among people (Coleman, 1988).

The interactions between social actors in the arena of cotton networking reveal women as particularly disadvantaged. They appear to be pawns in the male-dominated bargaining taking place in the context of the cotton system. The male hegemonic position is based on gender myths and stereotypes. Feminist "critiques of organized male power and the organisational forms in which it was expressed" gave birth to gender-and-organisations as a scholarly field of study (Acker, 2006). The concept of gender is often used as a short cut to refer to only women's disadvantaged position in society, while men can be affected in the same way. However, gender is a dynamic concept that refers to the socially constructed and culturally embedded character of men's and women's roles and positions in society. It is a "standardized marker" and one of the "most all-embracing criteria of the social identity" in all societies (Giddens, 1984: 85). Gender often operates through the "unquestioned acceptance of power" (Kabeer, 2005: 14). Gender poses serious problems of power relations, specifically the imbalance of decision-making power between men and women in society. Women's interaction with their husbands at household level is marked by gender inequalities. These inequalities also influence their interpersonal relations with men outside the household. The present research also investigated how the imbalance of power between men and women affects women's involvement in cotton organisations on the one hand, and the power relations within households undergoing (economic) shocks and in need of livelihood adaptation on the other.

When people's means of living are profoundly disturbed, they need to invent alternative ways of providing for their basic needs and obligations. Long (2001: 241) notes that:

> Livelihoods are made up of practices by which individuals and groups strive to make a living, meet their consumption necessities, cope with adversities and uncertainties, engage with new opportunities, protect existing or pursue new lifestyles and cultural identifications, and fulfil their social obligations.

The strategies of finding alternatives ways can be glossed as livelihood adaptation. Livelihood adaptation often constitutes a challenge due to the constrained contexts in which it occurs. Davies and Hossain (1997: 5) defined livelihood adaptation as a dynamic process by which choices made by individuals or groups "either enhance existing security and wealth or try to reduce vulnerability and poverty." Using the concepts of structure and agency to analyse adaptive decision-making processes, Carr (2008: 690) showed that "individual decisions take place in a social context that is beyond the control of the individual decision-maker." The dysfunctioning of the cotton network and the overall cotton sector induced the decline of cotton production and weakened farmers' livelihoods. The consecutive changes in cotton networking are observed at three interrelated levels: individual, household and community. The household is of particular interest, because it is simultaneously the site of production and consumption and, consequently, constitutes the appropriate unit of observation for livelihood analysis (Niehof, 2004).

1.5 Study design and methodology

1.5.1 Study design

This research was conducted from January 2009 to April 2011 in the four northern provinces of Alibori, Borgou, Atacora and Donga (see Figure 1.2 above), which together roughly cover four agro-ecological zones. The area hosts many ethnic groups, who all have agriculture as their main economic activity with cotton as the major cash crop. More than 80 per cent of the cotton produced in the country is sourced from these provinces and all the cotton networks concentrated their action in this area.

The research was set up in two main phases. The first phase was exploratory and consisted of a series of focus-group discussions with groups of farmers in ten villages. The second phase combined in-depth interviews with a survey among network leaders and grassroots farmers using a semi-structured questionnaire, which was elaborated from the results of the focus-group discussions. National network leaders from nine networks were purposively selected and interviewed individually. These interviews were done all over the country, because these leaders do not always live in

their communities but in cities far from the farmers they represent. Farmers were interviewed in five villages in the two largest cotton-producing provinces: Borgou and Alibori.

During the exploratory phase, an institutional mapping at local level was conducted. Data were collected about farmers' perceptions of their organisations, the causes of conflicts and the motivation of leaders in breaking away, using a check-list of issues as headings. This first phase resulted in an insight into cotton farmers networking and guided the development of the survey tools.

The second phase was divided into two sub-phases: interviews with leaders and interviews with grassroots farmers. At the leaders' level, the investigation focussed on the discourse used by the new leaders to create their networks, the evolution of their personal social networks, and their management strategies. At the household level, data were collected on farmers' socio-economic characteristics, their motivation to join a network, factors influencing the decision to give up cotton production, the effects of the decreasing profit from cotton production on farmers' livelihoods and how farmers and households coped with these effects. Data were concomitantly collected at village level, where the focus was on conflicts within and between networks and how these affected inter-personal relations among cotton farmers and collective action within cotton-producing communities.

The sampling combined a purposive sampling with random selection, and was done in a three-step cluster process: first choosing the villages, second the networks, and then farmers. The power of purposive sampling resides in the selection of information-rich cases for an in-depth investigation of the phenomenon at study (Clark et al. 2008). During the exploratory phase, ten villages were selected in the four provinces on the basis of criteria such as the extent of cotton production, the location, and the presence of at least one operating network in the village. The villages selected were: Perere, Sekere, and Sinende in Borgou province; Bagou, Sori, Kanderou, and Wagou in Alibori province; Bougou and Foumbea in Donga province; and Doh in Atacora province. Five villages comprising six networks were selected from these villages for the focus-group discussions: Bagou, Wagou, Kanderou, Sekere and Perere. The selection was based on criteria like the presence of at least two networks in the village, their level of organisation, the extent of cotton production, and location and accessibility of the villages.

As for the individual interviews, a purposive sample of leaders was first constructed. The three to four most influential board members of selected networks were selected: the president, the secretary, the treasury, and the coordinator or the manager when necessary. Thus, 33 leaders from nine cotton networks were interviewed. Then, 115 grassroots farmers were randomly selected through a systematic sampling from the lists of farmer groups members of the selected networks. Due to the poor availability of complete member lists, alternative data bases were used for the selection, such as input distribution lists, cotton payment lists, etc. In some cases, the women on the lists

were systematically selected to increase the proportion of women in the sample and reduce the gender bias. The combination of the two selection methods yielded a sample of 148 cotton farmers for the individual interviews.

1.5.2 Methods of data collection and analysis

The field research adopted a mixed modes approach (Creswell & Clark, 2008; Johnson et al., 2007; Morse & Niehaus, 2009), combining the use of qualitative and/or quantitative methods to collect the data throughout the process. While their respective merits can cumulate for accuracy and the scientific value of the research, their limitations can also add up to hinder the benefits deriving from their combination. The solution resides in the design and the interpretation of the results (Scrimshaw, 1990). The data collection comprised, in chronological order, the following partly overlapping and mutually cross-cutting methods:

Literature search. The literature search was done by means of a desk study using qualitative document analysis on published and unpublished sources. An important objective of the literature search was the historical reconstruction of the cotton system in Benin, also in comparison with other West African cotton-producing countries.

Secondary data collection. This concerned published and unpublished statistics from governmental and non-governmental sources dealing with cotton production, and data from local cotton organisations. The secondary data from written sources included data on cotton production by district and network over the last decades, the evolution of cotton networks in terms of membership and coverage of area, the evolution of the inputs credit allocation by district, laws, orders and decrees that have been regulating the cotton sector, the network-related documents such as the registration number, other reports, and so on.

Focus group discussions. The focus groups were organised in ten villages during the exploratory phase. The discussions consisted of interviews with groups of farmers with no pre-established relationships, using a check-list of cotton-related issues. The discussions were held separately with male farmers and female farmers. This was done to facilitate women's expression and reduce gender bias. Sometimes, the discussions were organised one after the other, but more often simultaneously. In total, there were ten focus groups of men and nine groups of women (due to the unavailability of women in the tenth village).

Survey. A survey was conducted among networks leaders and grassroots farmers in five villages. The surveys targeted the heads of households, either male or female, managing the cotton production in their household unit.

Oral history, life history and in-depth interview. These methods were used throughout the research process to unravel both the individuals' and communities'

relationship with cotton production. Narratives on important events and developments relating to cotton in the Borgou and Alibori provinces were collected and analysed. The life history method was applied in particular to understand what helped women leaders achieve their leadership positions.

Key Informants interview. These interviewed were done throughout the fieldwork whenever a key informant was discovered among extension service agents, network leaders or ordinary farmers. The key informants were interviewed not only to give insight into issues of their expertise, but also to get their account of stories about which no written documentation was available.

Table 1.1 presents the combination of data collection techniques throughout the fieldwork process in chronological order.

Table 1.1 The process of data collection

Phases	Periods	Data collected	Methods &Techniques
Literature search	Cross-cutting but particularly during May 2008 – April 2009	Both qualitative and quantitative: - Insight into Benin cotton sector - Statistics about cotton production	- Desk studies - Qualitative Documents Analysis (QDA)
Exploratory phase	January 2009	Qualitative: - Institutional mapping of villages - Insight into cotton production and farmers networking	- Focus-group discussion - Observation
Survey	October 2009 – April 2011	Quantitative: - Cotton production - Networking trajectories	- Interview Questionnaire - Household survey
In-depth qualitative phase	February 2010 – April 2011	Both quantitative and qualitative: - Life histories - Networking experience	- Oral history, life history, in-depth interview - Observation
Key informant interviews	Cross-cutting	Insight into all aspects of cotton production and management	- Interview - Observation

All interviews, with both individuals and groups were recorded after obtaining the consent of the individuals or groups concerned. The interviews were transcribed when necessary.

Texts (secondary data) were analysed by qualitative documents analysis (QDA), which is a technique used when dealing with unstructured and unwieldy data. According to Ritchie and Spencer (1994: 176), qualitative data analysis consists essentially of

"defining, categorizing, theorizing, explaining, exploring and mapping" of meaningful elements among such a big and often messy amount of information. QDA enables understanding internal structures, creating typologies, finding associations, seeking explanations, and developing new ideas, theories or strategies.

The qualitative data collected during the focus-group discussions were submitted to textual analysis (Fairclough, 2003) to find out how social practices (mobilising discourses and particular behaviour) were related to social structures (emergence and multiplication of cotton networks). As for the quantitative data, they were analysed through descriptive statistics and multivariate analyses using SPSS.

1.5.3 General description of the instruments

The two basic instruments used to collect the data are the discussion guide for the focus-group discussion sessions (see Appendix 1) and the semi-structured questionnaire for the individual interviews (see Appendix 2). The emergence of breakaway networks was a key issue in both.

The discussion guide started with the institutional mapping of the village (i.e. listing the organisations operating in the village). Thereafter, the importance of cotton and the interactions between cotton and non-cotton organisations were discussed. Then the types of conflicts occurring within and between cotton farmers' networks were addressed, including the impact of inter- and intra-group conflicts on collective action. Farmers' motives in creating a breakaway network and factors that determined their decision to join or stay with a network were listed. The discussion ended by eliciting suggestions of reform actions to be implemented for the revival of cotton production.

Data from the focus-group discussions was analysed using descriptive statistics to assess the frequency of different factors cited in villages. These factors were categorised for the semi-structured questionnaire. This questionnaire was first submitted to network leaders and then to grassroots farmers during individual interviews, and dealt with cotton production and household livelihood issues. Respondents were visited at their place, either at home or on the farm. The order of questions depended on the respondent's answers. This facilitated a fluent interview that followed the reasoning of the respondent in order to obtain an in-depth understanding of the logic behind the respondent's actions and choices. The interviews were carried out when respondents were available, but some interviews had to be spread over two to three days.

The semi-structured questionnaire consisted of several sections. The first one dealt with the socio-economic and socio-demographic characteristics of the respondents, namely their level of instruction, the composition of their households. The next one focused on the respondents' cotton network membership history, including the description (when applicable) of how the respondents got board positions. The respondents' membership of other organisations and their eventual responsibilities

were enlisted in that section too. Subsequently, the relations between the respondents' membership to other organisations and their cotton networking were explored. The sections that followed concerned the push and pull factors to atomisation, the types of conflicts that occurred within the networks, and the interactions between the multiple cotton networks. Questions in these sections included the motives for creating breakaway networks, ties that provide the better support in creating networks, etc. Then, issues of collective action within cotton-producing communities and their impact on households' livelihood were addressed in the next section. A section about the respondents' household livelihood followed suit. Questions in this section dealt with the household's livelihood assets, how the households faced the decline of cotton income, the evolution of spouses' contribution to the household budget, etc. These issues were investigated with the main two cotton producing periods as reference: during the prime time and after the decline. This lead to the section about the likelihood of the cotton sector to revive and the respondents' views on some suggested reform actions. The village's characteristics with regard to cotton production and cotton networking (where applicable) were explored in the last section.

Many of these variables were ranked according to farmers' perception of their importance. For the ranking questions, all variables were listed beforehand and the respondents were requested to rank them from most to least important. The literate respondents could read the options in the questionnaire and indicate their ranking.

1.5.4 Ethical issues and methodological challenges

On the first page of the semi-structured questionnaire it was stated that the research was a purely academic and non-commercial activity, and that the data would not be disclosed to any third party apart from those directly involved in the research. Having told the respondent this, the interviewer asked permission to record the interview. All names used in the thesis are pseudonyms.

Most of the challenges faced during the data collection process were related to meeting specific informants and discerning relevant and non-exaggerated statements from the often long discussions we had with some respondents. Getting an appointment with private actors other than farmers turned out to be difficult. Specifically, inputs suppliers and ginners were little inclined to make time for an interview. Respondents in the companies were so busy that they rarely replied to our demand for an interview. The only inputs supplier who finally agreed to an interview categorically refused to have it recorded in spite of our assurance about its confidentiality and its strictly academic use. During the interview, he turned out to be seriously critical of his colleagues (inputs suppliers) and decision-makers.

A challenge we regularly faced is what we called the trap of the knowledgeable. We were usually introduced to farmers by the local leaders of their networks to ease the

contact. But most of them often went beyond their role. They interfered by answering questions that were not meant for them and steering the answers of the famers, instead of limiting their role to establishing the contact between the interviewee and the interviewer. Less experienced interviewers fall into the trap of letting themselves be guided by these leaders during the interview, sometimes hardly succeeding in stopping them, which biased some interviews. Some leaders did this intentionally to show off and exhibit their importance, thereby valorising their leadership to the farmers.

During the research, we also benefited from farmers' enthusiasm about being listened to on their core problem: cotton issues. This advantage was a double-edged sword. On the one hand, farmers felt it was time to voice their grievances and were talkative. Consequently, they made statements that needed to be considered with care. This required some experience in interviewing, and some standing to challenge those farmers who sought to impress the interviewer. On the other hand, many farmers addressed the investigators as decision makers. *"Write down in your note book: we, we have enough of your cotton"*, said a farmer to the researcher, warning to abandon cotton production if the 'intellectuals' [including the researcher] would not find a solution for their problems. Dealing with such situations is delicate and needs tact to prevent the interview turning out to be passionate but with little focus.

Furthermore, the victims of conflicts we had to interview were more concerned by issues pending at court and their chances of being indemnified for their lost properties, than responding to the inquiries of the research. Thus, a victim of conflict challenged the researcher, asking at the outset of the interview why the objective was not to find solution to their predicament resulting from the destruction of their properties. Another leader who was interviewed in prison turned around the roles, transforming the interviewer into the interviewee and vice versa. He answered questions with questions, always trying to discharge himself although the interview was not about what had landed him in jail. Additionally, he spoke loudly in the prison hall to prove that he was innocent of what he was accused of.

Another difficulty was assessing the relative validity of different sources when the information was contradictory. This was a problem in most of the case-studies of conflicts in which actors who were previously partners had separated and stated their case by using strong arguments, to the extent of denying the fundamental things that made them collaborate in the past. In such cases we resorted to third parties who knew both parties well and then we tried to triangulate the information.

The last challenge that is worth mentioning is an ethical issue. Some respondents refused to have the interview recorded, despite our assurance of confidentiality and anonymity. During the interview, some used lots of quotes of others to refer to situations and actors or digressed at length to avoid talking about critical issues. But after the interview was declared finished and the recorder turned off, they voluntarily

addressed critical issues provided it was off the record. The use of the information collected in such cases – information that we tried to transcribe right after we got back home – poses a serious problem of ethics, since the person interviewed was clearly against recording the statements. However, the richness of the information collected in this way made its use mandatory, though with preserving anonymity.

1.6 Outline of the thesis

This thesis comprises seven chapters. Five of them deal each with a particular aspect of the research problem. The subsequent chapters are organised as follows.

Chapter 2 is a historical overview of cotton production in Benin. It aims at understanding the development of cotton production and how from a profitable activity it turned into a nightmare for the actors. The chapter shows how the meaning of cotton for farmers and the State has shifted over years, changing from a colonial symbol to white gold and then to pest. Subsequently, it analyses the policy reforms implemented to liberalise the sector. Given the shortcomings of these policy reforms, the chapter concludes that what is actually going on in the sector are the logical outcomes of flawed policies.

Chapter 3 analyses the emergence of the breakaway networks in cotton production through the history of cotton networking in Benin and investigates the drivers of cotton networks disintegration. Using social capital theory and the social network approach, the chapter investigates how the breaking away from cotton farmers groups resulted in atomised networks.

Chapter 4 explores the resources and conflicts generated by cotton production. Using group dynamics theory, the chapter first shows how cotton-producing communities drew resources from cotton production to avail themselves of basic services through collective action. The chapter uses case studies to investigate how interpersonal and intra-organisational conflicts disrupted the social fabric in the cotton production areas. Then, it looks at conflicts that occurred in communities and between individuals in cotton production, and analyses how the decline of social cohesion led to the disruption and the freeze of collective action.

Chapter 5 addresses the issue of women's under-representation in cotton networks and the constraints the few women who reached the boards of organisations faced. It investigates the gender roles in the cotton system, linking the exclusion of women from board positions – regardless of women's acknowledged contribution to cotton production – with gender stereotypes.

Chapter 6 examines how the cotton-producing households adapted to or coped with the decline of income consecutive to the decrease of cotton production. It applies the household livelihood approach to investigate whether women's increased contri-

bution to the household's provision for daily needs changed the power relations within the household and what the men's perceptions about these issues are.

Chapter 7 synthetises the overall findings by answering the research questions and verifying the hypotheses. Then it stresses the added value of the thesis with regard to policy implications for the cotton sector.

Chapter 2

Changing Farmers' Perceptions in Benin's Cotton Production: From White Gold to Pest

ABSTRACT: Industrial cotton production in Benin is intertwined with colonialism. The pressure on Benin farmers to produce cotton after Independence in 1960 generated resistance in some parts of the country, which resulted in riots that led cotton to acquire a negative image. Thanks to various incentives, however, cotton became a "white gold" during the 1990s when it provided up to 80 per cent of the income of about 45 per cent of rural households. Cotton production also generated an important amount of fiscal revenues for the State. But from the mid-2000s onwards, incoherent national cotton policies caused farmers to being deprived of their incomes. Cotton production became problematic, which resulted in a sharp decline of production. This chapter aims at understanding the development of cotton production in Benin from colonial to modern times, with a special focus on farmers' perceptions. The chapter shows that farmers are more rational than often assumed and that they grow the crop as long as it is a source of livelihood and food security. The results also indicate that liberalisation in the agricultural sector can be harmful rather than beneficial when the State fails to play a coherent role during a shift from State monopoly to private interest.

Keywords: Cotton production, liberalization, farmers' perceptions, Benin.

A shortened version of this chapter will be submitted to *The African Studies Review* under the same title, by the authors Maboudou Alidou, G., Huijzendveld, F.D. and Niehof, A.

2.1 Introduction

Because of cotton production, a child has no father anymore !
Because of cotton money, a child has no father anymore !
A child has grown his cotton and bought a motorbike without a father's contribution !
A child has grown his cotton and celebrated his wedding without a father's contribution !
Because of cotton production, a child has no mother anymore !
Because of cotton money, a child has no mother anymore !
A child has grown his cotton and bought a motorbike without a mother's contribution !
A child has grown his cotton and celebrated his wedding without a mother's contribution !

This song sang by women during one of our focus-group discussions sessions in Banikoara, the heartland of cotton production, showed the importance of cotton in rural Benin, and some cultural changes in parent-child relationships. It is about a young man's autonomy in decision making vis-à-vis his parents; autonomy that was gained from his financial independence provided by cotton production. The song is based on the true story of a young boy who did not care anymore about his parents' views, because by growing cotton he became capable of availing himself of what was supposed to be provided by his parents, like the arrangement of his marriage and marital gifts. Songs like this and many proverbs and sayings could be heard in northern Benin, where rural households depend heavily on cotton, because the cash function became largely vested on it.

From Independence in 1990 to the early 1990s, cotton production multiplied by 35, and quadrupled between 1990 and 2005 before dropping again to the 1990 level. Having a marginal status during the 1970s, cotton steadily grew in importance to become the backbone of Benin' economy during the 1990s. Cotton dominated agricultural policies, being the main cash crop and a critical livelihood asset until the mid-2000s. The crop was then grown by over 350,000 farmers representing 35 per cent of the households country-wide, and it covered 37 per cent of the total cultivated area (Gandonou, 2005). The sector directly or indirectly offered a source of living to million of people (AIC, 2006). In fact, the cotton industry still represents 60 per cent of the country's industrial sector with eighteen ginning factories, five textile mills, two factories for cotton oil extracting, and one factory manufacturing cotton for medical use (AIC, 2008). It accounted for an important share in the State's revenues and in farm households' cash earnings, providing up to 80 per cent of rural households' incomes, mainly in the North. In the period 1995-2000, cotton exports accounted for about 80 per cent of the country's total agricultural exports and generated 25 per cent of fiscal revenues (AfDB & OECD, 2008), as a results of profound reforms.

From the early 1990s onwards, the cotton sector underwent many reforms to liberalise it and facilitate the transition from a "monopolistic and centrally

administered system to a more competitive one" (World Bank, 2003: 59). These reforms brought new dynamics to the sector and played a key role in making it more profitable. As a result of all the policy actions implemented during the 1990s, and for that matter the 1980s, Benin is "the country that has witnessed the most impressive increase in cotton acreage over the last thirty years", offering to the country the most significant jump in agricultural outputs (World Bank, 2003: 58). The cotton sector in Benin became widely considered a success story and regarded as a poverty reduction sector (World Bank, 2003). But the reforms had some dark sides as well. In fact, the liberalization of the sector and the subsequent competition between private companies encouraged the multiplication of dissident organisations among actors (cotton farmers, inputs suppliers, and cotton ginners). This rendered the management of the sector more complex and made the reforms difficult to control.

In addition, subsidies to cotton farmers in the developed world combined with these somewhat internal constraints to worsen the predicament of cotton farmers in Benin. Indeed, cotton subsidies are deemed to be the most important trade-distorting interventions that depressed the prices on international market. For example, the losses caused to Mali and Benin by the United States' cotton subsidies are higher than the aid they receive from this country (Minot & Daniels, 2005). In Benin, a 12 per cent increase of poverty in cotton producing area was linked to the fall of cotton prices in 2001/2002 (UNDP, 2005). However, European subsidies to their handful of cotton farmers are the highest per kilogramme of cotton produced, and have been pointed out as more destructive to cotton producers from francophone Africa (Cattaneo, 2003; Fok, 2010; Seuret, 2009). Removing them from cotton production, mainly those from the United States, still remains a point of dispute between the developed world and developing countries (Alston et al., 2005; Badiane et al., 2002; Minot & Daniels, 2005; Pesche & Nubukpo, 2004). These subsidies further burdened the cotton sector, which was transformed into a nightmare for farmers, leading to abandoning the production or devising adaptation strategies.

It should be noted that cotton production was unequally distributed over a wide range of soils throughout the country. Cotton was extensively cropped in ten out of twelve provinces, but the production was concentrated in the North. The region overlapping the limits between three of the northern provinces, Alibori, Borgou, and Atacora forms what is known as the cotton belt, accounting for more than 90 per cent of the national production. The central and the southern provinces, which are under more demographic pressure and have a more humid climate, contributed to less than 10 per cent of the national production during the 1990s (Gergely, 2009: 10), and has now moved from a very low to a marginal production.

The aim of the chapter is to describe the development of cotton production in Benin from colonial to modern times, with a focus on the farmers' perspective. The chapter is organized into eight sections. After describing the data sources and analysis in Section 2.2, the section that follows presents a brief history of cotton production in the

West African context. Section 2.4 browses instances of resistance after Independence, with occasional references to the situation in colonial times and in other African cotton-producing countries. Subsequently, the outcomes of the reforms implemented in Benin are discussed, with reference to neighbouring countries, such as Mali and Burkina Faso. Section 2.6 examines farmers' responses to the later developments in cotton production that made the reforms failing to live up to the expectations. Sections 2.7 deals with cotton farmers' perceptions of the prospects of the sector, followed by the conclusion in Section 2.8.

2.2 Data sources and analysis

The present chapter is a historiographical research of cotton production in Benin from the early 1900s to 2010. The chapter addresses the question to what extent the liberalisation policy implemented in the cotton sector at the beginning of the 1990s can explain the current situation of the sector in Benin. It is based on a research that combined an extensive literature review with fieldwork. The data set comprises written records, including historical articles about cotton production before, during and after colonial times, complemented with empirical data about farmers' perceptions on various aspects of cotton production. The research was conducted from 2009 to 2011. It used both quantitative and qualitative methods to gather primary data as well as secondary data. The research area spanned the four provinces of northern Benin, covering the driest agro-ecological zones of the country that constitute the most suitable areas for cotton production. The research focussed further on the area known as the cotton belt (Figure 2.1).

The focus group discussions were organised in ten villages in three provinces, along with key informant interviews. A survey was conducted among 148 individual farmers in five villages, covering nine cotton organisations. The sample included grassroots farmers and leaders. For a better understanding of the socio-political dimensions of cotton production, a specific conflict in the past was explored. For the case study, key informants were interviewed. Thus, five eye-witnesses of and actors in the conflict in the village of Perere in eastern Borgou and the chief commander of the army in that area. In spite of its importance and the extent to which it affected the actors, there were no written records on the case. Hence, the statements of the interviewees could not be cross-checked, but there was no reason to doubt the plausibility of their stories. To get a better grasp of the implications of the reforms, private actors in inputs supply chain were interviewed as well.

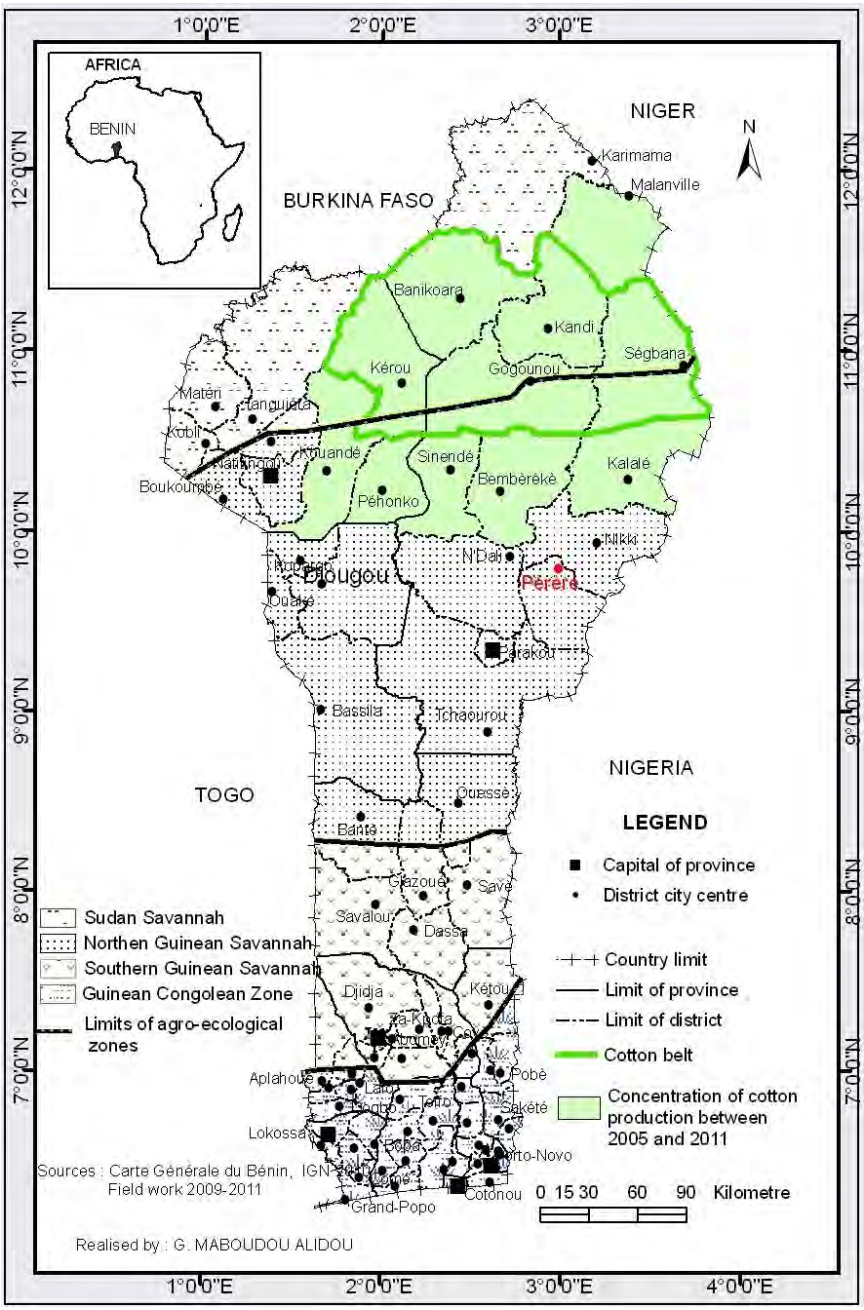

Figure 2.1 Location of the cotton belt

Perere is the city-centre of the district with the same name. The district is one of the eight districts of Borgou province, located in north-east of Benin, at the South of the present cotton belt. The district has a population of about 62,391 inhabitants and stretches up to 2,150 km² (Commune de Pèrèrè, 2010). The city centre itself has a population of 14,559 including the surrounding villages. Perere's performance in cotton production is among the lowest in the province. It ranges between 3,000 and 4,000 tons a year and contributes for about 10 per cent of the district's revenues, far behind the contribution of roots and tubers (66%) and cereals (14%). The district has also registered one of the highest rates of farmers abandoning cotton production.

The qualitative data were analysed through an interpretative lens. Log-linear analysis and t-test were used to analyse the quantitative data.

2.3 Historical overview of cotton production and marketing in West Africa

2.3.1 Cotton production and European settlers

Industrial cotton production in Sub-Saharan Africa is linked with colonialism (see Bassett, 2001; Isaacman & Roberts, 1995; Levrat, 2008; Moseley & Gray, 2008; Roberts, 1996), though cotton had been grown and used in handicraft in Africa for hundreds of years, before the contact with Europeans and the existence of written records (Metcalf, 1987). However, many authors converge on the difficulty of reconstructing this old African history of cotton, in spite of evidence provided by various disciplines using different materials in their attempt to trace it (Kriger, 2005).

Investigations by botanists and archaeologists in West Africa, for example, suggest that the crop had been widely grown there for its fibre-bearing properties (Kriger, 2005). Handicraft comprising a wide variety of cotton related activities – from spinning, weaving, dying, tailing and embroidery – developed in West Africa before the beginning of the Atlantic slave trade. During the early sixteenth-century, travellers praised the high quality of Mandinga and "Slave Coast" cotton cloth that was found all along the west coast of West Africa (Thornton, 1990). Furthermore, as reported by early European voyagers and explorers to Africa, distinct forms of cotton, ranging from raw fibre to hand-woven textiles, were among the goods that were bartered in the Akan markets during the 1770s (Metcalf, 1987).

Before the colonization, Europeans had made a number of 'ill-fated' attempts to produce plantation-grown cotton in the West African coastal zones by trading companies, individual merchants and governments (Ratcliffe, 1982). The first attempts were made by the Portuguese and British. As early as 1500, the Portuguese imported cotton seeds from America and tried to develop its cultivation on the islands of Cap-Verde and on the African mainland, exchanging garments for slaves (Maier, 1995). The British were the first to introduce large-scale cotton production in their colonies, making the United States the largest producer worldwide. Both the French and the British experimented with cotton production in Ouidah (an important historical slave trade fort in Benin) during the first half of the nineteenth century. "Cotton must be to Africa its gold-diggings", said Buxton in 1852, who was one of the influential proponents of the plan to suppress the slave trade. John Duncan, the British Vice-Consul at Ouidah, backed the plan to cultivate cotton in Dahomey. The cotton scheme failed for lack of "familiarity with tropical agriculture, African farming systems in general or cotton cultivation in particular" (Ratcliffe, 1982: 98). Furthermore, the African Aid Society, founded by an American organisation convinced of the cotton-

exporting potential of West Africa, "directed its major efforts to weaning the king of Dahomey from the slave trade by persuading him to grow cotton in its stead" (Ratcliffe, 1982: 95). The experience gained from these previous attempts to promote cotton production guided the colonial cotton policy that impacted contemporary cotton farming in West Africa.

Nowadays, cotton has become a commodity "that is situated in an international web of economic transfers reflecting historical and contemporary power structures" (Moseley & Gray, 2008: 3). The crop not only links farmers to the international market but also contributes to African States having a voice in international negotiations. Cotton is an important African product in the globalized arena. It is featured in international discourses and debates on privatisation, poverty alleviation, agricultural subsidies, and sustainable development. But unlike gold or oil, cotton grows from the efforts and sweat of millions of small-scale farmers, with households and entire communities depending on it. Additionally, cotton has internally given power to the voiceless and allowed them access to the decision-making process (Roy, 2010). Externally, it has provided African leaders with a clear agenda on World Trade Organization rounds of negotiations, showing them as "the heralds of the battle against poverty" (Pesche & Nubukpo, 2004). Far from being just a raw material, cotton acts as the medium that links multiple stakeholders from national to international level. Unfortunately, as in most West African countries, the cotton sector in Benin is burdened with internal contradictions and conflicts, which make the country powerless in the international markets.

2.3.2 Cotton production from the Colony of Dahomey to the Republic of Benin

The French policy to develop cotton cultivation in Dahomey for export started in 1905 with six fields of a new variety cultivated in the centre of the colony (Manning, 1982). The results improved throughout the following years, thanks to an increased knowledge of prevailing agro-ecological conditions, the requisition of labourers, and the financial incentives given to chiefs to encourage them to promote cotton production among local farmers. Notwithstanding the ambiguous success, the experiments continued and progressively spread southwards, due largely to the high demand for the new variety by local chiefs (Manning, 1982). This led to the construction of the first cotton mill in 1908. The export to France increased gradually from nine tons of fibre in 1905 to 130 tons in 1909. From 1910 to 1924, Dahomey remained the most promising French West African colony for cotton production and export. Only Togo, one of the trust territories administered by France after World War I, produced more cotton than Dahomey, thanks to the infrastructures left by the Germans (Levrat, 2008). Figure 2.2 compares the trends of cotton exports to France from its colonies from 1910 to 1930, based on the sparse statistics available.

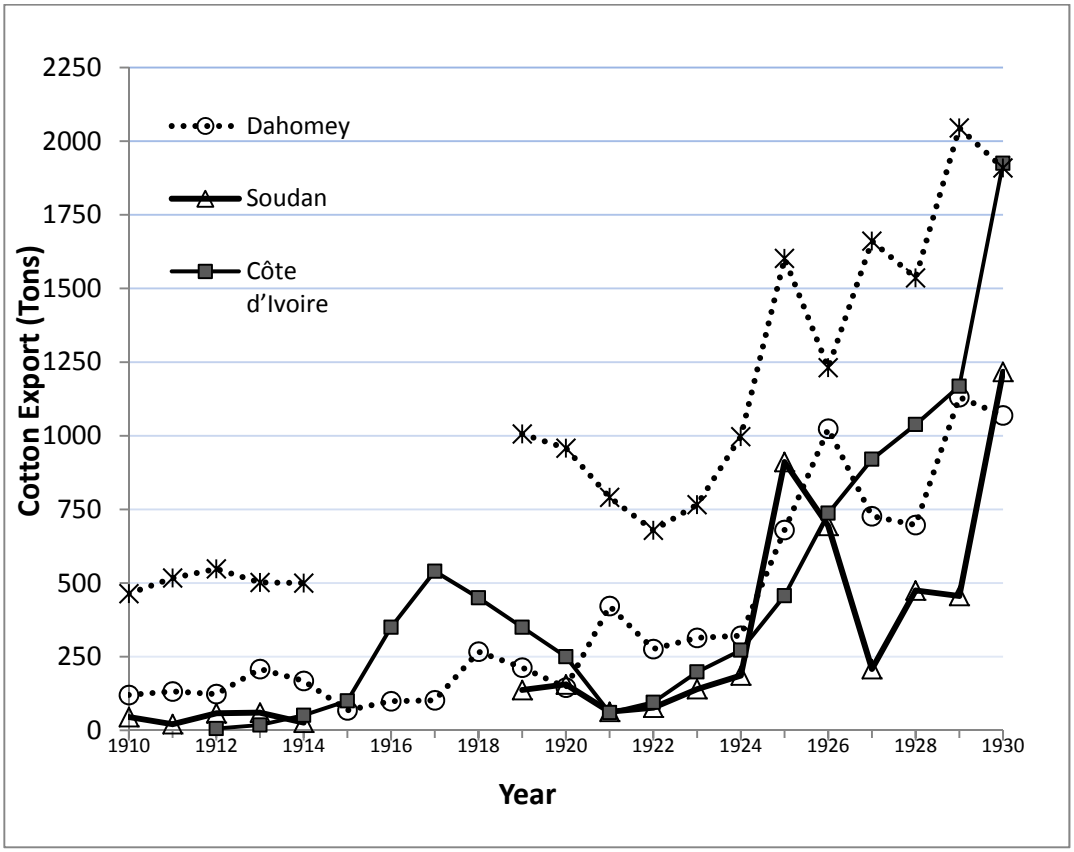

Figure 2.2 Evolution of fibre export from French West African colonies to France (1910–1930).

Source: Compilation by authors of data from Bassett (2001); Isaacman and Roberts (1995); Levrat (2008); Roberts (1996).

This relative success of cotton production in Dahomey was the result of the colony's good quality of the fibre, a dense network of roads, and the "goodwill of farmers" (Adekunle, 1994; Kuba, 2000; Levrat, 2008: 83). The production started to decline after the creation in 1932 of the *Office du Niger* in charge of irrigated cotton production in Sudan (present-day Mali) (Roberts, 1996). In addition, more attention was given to Côte d'Ivoire, where the introduction of a new variety and the increased administrative coercion resulted in many peaks in cotton exports during the 1930s (Bassett, 2001).

The 1929 economic crisis and World War II, however, seriously weakened the growing French textile industry. The French textile industry suffered from an erratic and chaotic supply of cotton during the war. Until 1943, the production from the West African colonies was exported to France for the Vichy Government. After 1943 the cotton supply from the French colonies of Central Africa was diverted to the Allies when the colonies joined the Free France Government (Levrat, 2008). In the aftermath of World War II, a new scheme of cotton development was implemented in the French African colonies. The implementation of the scheme started with the foundation

between 1946 and 1951 of a research institute and a textile company[1]. The goal of the new institutions was to reduce the dependency of the French textile industry on supplies from the United States (Levrat, 2008). Cotton development became the concern of colonial administrators who, in tandem with cotton companies and research institutes tried to make it a success. In Dahomey, the reorganisation of the production started curiously in the South where the production proved to be marginal because of inadequate agro-ecological conditions that resulted in low yields. Apparently, the relative success of the early 1900s was not capitalised by the colonial authorities until Independence in 1960, when cotton production was extended to the North by the *Compagnie Française pour le Développement des Textiles (CFDT).* The French cotton parastatal led the cotton sector in Dahomey until the beginning of the 1970s when it lost the control in the aftermaths of the military takeover in 1972. The political elite had a Marxist-Leninist ideological orientation and rejected all things that were considered colonial symbols, including cotton. Hence, cotton was left without any incentive. The country witnessed a steep drop in production that plummeted from 50,000 tons in 1972 to less than 2,000 in 1978.

Analysing the dynamics of national cotton policies during the years 1895-2008 through the path dependency theory, Kpade and Boinon (2011) identified four periods based on the "critical junctures" in the process, defined by Mahoney (2001) as the choice points when a particular option is adopted from among two or more alternatives. These critical junctures are the results of previous policies, including international policies as the present situation of cotton in Benin illustrates. Five periods can be characterised in the development of cotton from its industrial cultivation (Table 2.1): i) colonial times, ii) from Independence in 1960 to 1972, iii) the revolutionary period, iv) from the 1990s up to the mid-2000s, and v) from the mid-2000s up to now. The distinction is based on the status attributed to cotton by both farmers and policy makers, the incentives for the production, and the resulting production.

[1] The *Institut de Recherche du Coton et des Fibre Textiles (IRCT)* and the *Compagnie Française pour le Développement des Textiles,* founded respectively in 1946 and 1951 to replace the *Union Cotonnière de l'Empire Français*, created in 1941 on the ashes of the *Association Cotonnière Française*.

Table 2.1 Historical phases of cotton development in Dahomey and Benin

Phase	Colonial Times (1895–60)	Aftermath of Independence (1960–72)	Revolutionary Regime (1972–90): Cotton as a symbol of colonialism	Prime time (1990–05): Cotton as a white gold	The decline (2005–Now): Cotton as a pest
Policies	Development of industrial cotton production, based on: - Experience from the mid-1800s, - Dahomey's potential and comparative advantages: good agro-ecological conditions, dense network of roads, goodwill of farmers, - Use of coercion.	Colonial policy continued by French research institutes and cotton parastatal. - Creation of the first farmer organisations in form of cooperative for cotton in the North. - First resistances to cotton production. A riot put off by the army in the North.	- The Marxist-Leninist regime rejected cotton as a symbol of colonialism, - Later nationalisation of production structures, - Creation in 1975 of a network of agricultural extension headquarters in the six provinces, - Foundation in 1982 of the Société Nationale pour la Promotion Agricole (SONAPRA), a corporation for agricultural promotion, - Over-production in 1986 and first cotton crisis.	Production and management systems improved: - Advent of democracy and political pluralism, - Complete liberalization of the sector - CFA devaluation, - Empowerment of farmer organisations with the building of an hierarchical network, - Cotton shaped agricultural policies and transformed into a political instrument, - Stiff competition between private actors.	Profound crisis and scramble of cotton production: - Over-regulation and over-politicization of the sector - Rise of conflicts and atomisation of farmers' networks, - Shift to private monopoly, - High rate of cotton abandonment and shrinking of production area.
Production & Price to farmers	- Production grew from 135 tons in 1914 to 3,000 tons in 1960. - Cotton bought at FF 0.5/Kg (French Franc) until 1908, and 20 FCFA/Kg (US$ 0.04[2]) in 1960.	- Production steadily increased from 3,000 tons in 1961 to 47,000 tons in 1972. - The prices passed from FCFA 20/Kg (US$ 0.004) in 1961 to FCFA 28 (US$ 0.0056) in 1972. - Yield climbed up to 0.9 ton/ha, thanks to the use of subsidized fertilizer.	- Production fluctuated before stabilising at the end of the 1980s: ✓ Sharp decline to 1,400 tons in 1978; ✓ Jump to 88,000 tons in 1985, and pic to 133,000 tons in 1987 to create the first cotton crisis by over-production. - Yields increased from 0.9 to 1.1 ton/Ha. - Prices doubled within two decades.	- Production quadrupled from 105,000 tons in 1990 to 427,000 tons in 2005. - Yield stayed around 1 ton/Ha. - Prices doubled due to CFA devaluation from FCFA 100/Kg in 1991 to FCFA 225/Kg in 1999 (US$ 0.2 - 0.425). - Over-ginning capacity: 600,000 tons # 350,000 tons of production.	- Production declined from 427,000 tons to 158,000 tons in 2010. - Yield decreased with big contrast among zones. - Prices more or less stable around FCFA 210/Kg.

Source: Adapted from AIC (2008).

[2] *Franc de la Communauté Financière d'Afrique* (West Africa) or *Franc de la Coopération Financière en Afrique centrale* (Central Africa), common currency to 14 French former colonies: € 1 = FCFA 655.957 (standard exchange rate).

2.4 Resistance to cotton production: From colonial to present times

2.4.1 Forced work as a common labour policy in colonial times

As Beckert (2005: 506) pointed out, "[...] cotton and imperial expansion went hand in hand from the beginning, not only for Germany but also for France, Russia, Great Britain, and even Portugal, Belgium, and Italy." The worldwide cotton crises in 1861-1865 and 1901-1903 caused a severe shortage of cotton supplies, resulting in soaring prices that threatened the survival of the European textile industry. The crises shed light on the industries' critical dependence on supplies from the United States, which spurred them to look for alternative sources of supply (Onyeiwu, 2000; Roberts, 1996; Sunseri, 2001). Cotton came to be seen as a strategic raw material during the early twentieth century. The quest for cotton thus became an overriding concern of colonial powers in Africa. The colonial regimes progressively made cotton production obligatory throughout their territories, with diverse results. In Mozambique, the Portuguese put local chiefs in an awkward position by demanding them to oversee the imposition of cotton production and, at the same time, maintain social order when farmers protested (Isaacman, 1992). The British enforced the "Cotton Ordinance" in most of their colonies, starting with Uganda in 1908 (Onyeiwu, 2000). The policy of forced communal labour in the production of cotton with a negligible compensation to farmers in 1905, triggered the "Maji-Maji"[3] rebellion in German East Africa, which caused hundreds of thousands of casualties (Iliffe, 1967; Sunseri, 2001).

The French scheme to establish cotton exports from Africa started in the early 1800s in Senegal where it failed. They renewed the scheme during the 1860s, but had the same disappointing result (Levrat, 2008; Roberts, 1996). In the late 1890s, the "*politique cotonnière*" was extended to the remaining colonies of West Africa, this time with more engagement. France battled unsuccessfully to establish cotton production in these colonies, from where it could barely meet one to three per cent of its textile industry's needs of cotton fibre (Moseley, 2002). Among the obstacles in the development of export-oriented cotton production in West African colonies were ignorance of tropical agriculture and African farming systems, the demand of longstanding and dynamics local markets in cotton-related products, and farmers' disdain for the export market (Bassett, 2001; Roberts, 1996). The obstacles constituted by the local markets turned out to be the most challenging constraints for the colonial administrators. The vitality of local markets, where cotton could always meet the demand and was sold at higher prices, made the supply for the metropolitan industry very erratic. To deal with these constraints, two opposing views prevailed among the French main cotton actors. One camp was in favour of promoting the age-old traditional cotton cultivation and

[3] Maji-Maji refers to a 'water medicine' given to rebels, which was supposed to have magical powers that would protect them against bullits.

using market incentives to benefit from local dynamics, while the other camp advocated for the imposition of the industrialised cotton production, using irrigation for a rapid development and growth of the production. This divide is what Roberts calls the "two worlds of cotton" (Roberts, 1996). The internal contradictions prevented cotton actors from effectively joining their efforts to implement any policy, except the use of coercion. Cotton became a forced-crop[4] in all French colonies. Labour was not only forced but also unpaid or underpaid by the colonial power to increase the economic returns. The "stick of colonialism came to be as important as the carrot of the world market" (Manning, 1982: 156). A cotton cultivation enforcement scheme determined the quota of acres to be cultivated in Upper Volta (Levrat, 2008)[5]. In Western Sudan, the colonial cotton policy led to riots among farmers who refused to plant the crop or to hand over their production to the colonial administration (Roberts, 1996). In Côte d'Ivoire, "repeated attempts to intensify cotton cultivation were never realized in a sustained and satisfactory manner." (Bassett, 2001: 51-52).

In the colony of Dahomey, farmers were more receptive to cotton production than in most of the West African colonies, where there was a direct resistance. They were said to be full of goodwill for cotton production (Levrat, 2008), in spite of the series of resistance actions[6] against the colonial power throughout the colony, which led a Governor to qualify the situation as Dahomean imbroglio. Yet, most of these revolts were reactions against the social and economic policies, namely the forced military recruitment, the forced work on roads, the collection of individual taxes, and the transgression of customs (Garcia, 1970; Manning, 1982). The introduction of cotton started strategically from the more receptive areas in the South, which corresponded to the territory of the pre-colonial kingdom of Dahomey before it was dismantled. Agriculture was there so organised at that time that there existed a minister of agriculture (Manning, 1982). Nevertheless, local farmers were subjected to forced labour that was part of the cotton policy. All these contributed to the relative success of cotton development.

In general, the early colonial times were characterised by exports highly correlated with the level of coercion exerted by colonial officials on farmers like in 1930, 1938 and 1942 in Côte d'Ivoire. The use of coercion, the mode of payment, and the management of local markets were continuously debated. The questions and dilemmas centred on cotton were simultaneously about politics, administration, economics, culture and everyday social relations (Bassett, 2001).

[4] *"La culture du commandant"* as the cotton cultivation was named in French West African colonies.
[5] About *"le champ collectif obligatoire de coton à superficie proportionnelle à l'effectif démographique (4 ha pour 100 habitants)"* in Haute Volta.
[6] The French faced a fierce resistance from the *"Holli"* people (Southeast), the *"Kaba"*s insurrection in Atacora (Northwest), and the revolt of *"Bio Guera"* in Borgou (Northeast) until 1917.

2.4.2 Post-Independence resistance in Benin

After Independence in 1960, the colonial policy of cotton production in Dahomey continued under the control of the French CFDT and SATEC. The production was performed on cooperative blocs, rarely on individual plots, with subsidized fertilisers to promote export that could boost the State's revenues. But for cotton growers, no or few improvements could be discerned regarding the fairness of the redistribution of cotton revenues. In areas such as Perere, cotton incomes given to chiefs would not always reach the producers. At that time, hardly anyone would have contested the use of the yields by local chiefs. Thanks to Independence, famers started voicing their grievance against cotton production in March 1963 at Perere, leading to the first open resistance against cotton production in the fledgling Republic of Dahomey. Farmers in the village refused to grow cotton anymore, braving the warning and threat from authorities. Weeks of negotiations to bring the population to change its mind did not result in compliance. Meanwhile, the people prepared themselves in advance to respond to any military intervention. Their apprehension of a military intervention to settle the revolt was confirmed. An armed intervention occurred late at the dead of night when the city was asleep. A contingent of gendarmes sent to put down the resistance started secretly arresting the leaders. Riots soon broke out after the leaders reacted promptly by trumpeting to wake up the population. Protesters scurried off to fight, with traditional weapons and tools on hand, such as poisonous arrows, swords, and machetes. The confrontation went from dawn to dusk with several arrests. The attempt from villagers to free their arrested peers resulted in two people shot and seriously injured. The confrontation was finally ended by the intercession of the Minister of Interior, a half native from the village, who warned the protesters of the risk of opposing the State. But in Perere that year, no cotton plant grew.

The military attached low importance to the revolt and qualified it as a *"simple operation to maintain social order"*, according to the army commander. Conversely, the people of Perere refer to it as *"the cotton war"*. The event is committed to the repertoire of collective memory. First, because people consider the resistance with bare hands and traditional weapons against armed forces a daring achievement. They withstood a heavily armed contingent of gendarmes and deterred them from arresting more farmers. Second, as one of the first acts of resistance against the new authorities after the colonial regime ended, it raised the people's awareness of the nature of political power whoever exercises it. The riots resulted in the migration of some leaders and young contesters to Nigeria, for fear of arrest. Some stayed abroad for a short to middle term and others never returned at all.

For the majority of people who stayed in the village, the revolt and its subsequent repression worsened the reputation of cotton. Beba was one of those people. He was also among the leaders who were arrested. Deeply embittered, Beba framed his feeling in a statement that is often quoted: *"If you see a plant of cotton on my farm, the seed has been laid by a bird, if birds eat cotton."* Nobody could expect such a farmer to

cultivate cotton anymore, knowing that birds do not peck at cotton. Cotton was progressively abandoned in the village, in favour of food crops. It was grown only in more rural neighbouring villages until the boom occurred at the end of 1980s. Even so, farmers in Perere remained hesitant about the crop at the outset of the boom, reinforced in their scepticism by some farmers' disillusionment with the results of their cotton season. Indeed, during the early boom, unsuccessful farmers could be deprived of their bicycles or other belongings when these were seized to compensate for their inputs debts. Farmers from Perere caught up later on during the 1990s, when cotton regained undeniable profitability. Even the leaders of the former protest movement started growing cotton again, including Beba. When Beba was reminded of his former statement, he replied that "*the city moves, the word does so even more."* The statement is inspired by the *Baatombu's* (the autochthonous and dominant ethnic group in the region) tradition of moving entire settlements after being hit by an epidemic or a disaster, to exorcise and avert bad fate. Beba expressed the logic of the typical cotton farmer, who changes his rhetoric of cotton production according to its profitability.

2.5 The prime time of cotton: 1990–2005

2.5.1 The cotton sector reforms

The end of the 1980s witnessed the inefficiency of State interventions in different economic domains. This inefficiency resulted from the involvement of the State in the management of the sector through costly bodies that overwhelmed the sector with debts. In Benin, the sector functioned as a single channel, with the State company exerting a full monopoly until 2000. The State controlled the inputs supply, provided extension services, and controlled the ginneries through the State parastatal SONAPRA (Figure 2.3).

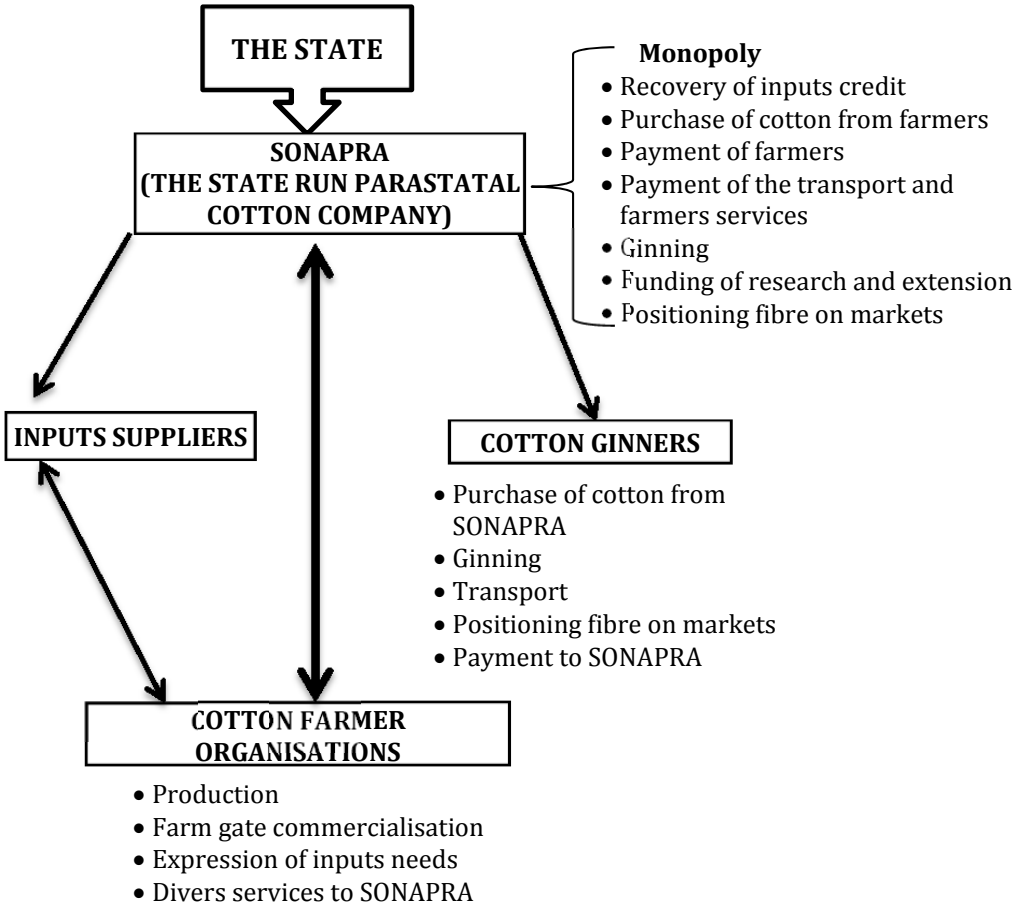

Figure 2.3 Framework of organisational linkages in cotton production before 2000 (Adapted from CIPB (2008)).

Policy reforms to privatise the cotton sector became necessary. A reform is defined as a "consciously chosen change in the fundamental organization of a sector and related changes in the 'rules of the game' under which stakeholders operate" (Tschirly, 2009: 8). As such, eastern and southern African cotton producing countries underwent reforms in the early 1990s by either eliminating the single channel or by privatizing cooperatives of ginners. West and Central Africa countries engaged in that process slowly for subsidies and related-market distortions reasons (Gergely & Poulton, 2009). The issue of reforming the Francophone African cotton sector was debated between the World Bank on the one hand and the French Agency for Development and Cooperation and the CFDT on the other hand. While the World Bank advocated for a complete liberalization of the cotton sector to make it more competitive, the French institutions lobbied for the "*filière intégrée*", the single-stranded relationship between producers and cotton companies, regulated by State intervention (Hugon, 2005). The latter option guarantees sustainable inputs credits but also entails heavy operating costs for farmers. In Benin, after two decades of military rule with a socialist-oriented system of which the drastic economic and social consequences were still prevailing, the new authorities could not do less than adopting the World Bank option of a

complete liberalization. The choice of that option of 'aggressive liberalisation' was also influenced by the World Bank background of the Head of the State at the time (Heinisch, 2006).

Thus, Benin led the cotton sector reforms to liberalise the sector in francophone Africa. A phased withdrawal of the State from the cotton sector was set up in a five-year plan that transferred competencies to private actors. The institutional reforms, set up in four phases, began in 1991 by the empowerment of farmer organisations. Thirty-three village groups and seven district unions constituted the pilot units. Gradually, by 1996, about 1,300 village groups and fifty-one district unions were covered. Meanwhile, the *Fédération des Unions de Producteurs du Bénin (FUPRO)* was created in 1993 (AIC, 2008). This farmer federation was the first one in West and Central Africa. Such a federation was only created in 1997 in Burkina Faso and in 2000 in Cameroon, whereas the process is still on-going in Mali (Gergely & Poulton, 2009). In 1992, the second phase of the reforms was enacted with the entry of privates companies in the inputs supplying chain. From 1994 onwards, the growing cotton production convinced decision makers to issue agreements to eight private companies to install their ginning mills as the third phase. In 1999, the fourth and last phase of the reforms was achieved by the creation of the *Association Interprofessionelle du Coton (AIC)*, the first cotton inter-professional committee in West and Central Africa. It comprised cotton farmers, inputs suppliers and ginners, and was expected to enhance the efficiency and transparency of the sector. Burkina Faso and Mali followed suit in 2006 and 2008 respectively (Gergely, 2009). Complementary measures were taken to strengthen the reforms. The first consisted of the suppression in 2000 of the State cotton parastatal's monopoly in the management of cotton. The same year witnessed the creation of the *CSPR*, the French acronym for Agency for Guaranteeing Payment and Credit Recovery. This agency was set up as the regulatory platform among private cotton stakeholders. To keep control of the process of inputs supplying and combat irregularities at the level of farmer grassroots associations, the farmer federation created its own body in charge of issuing procurement to private companies. The implementation of these institutions was accompanied by laws, decrees and orders to purposefully regulate their interactions within the cotton inter-profession.

2.5.2 Institutional development and linkages

The liberalisation of the sector and the privatisation of the commercial functions implied that the role of State was limited to legislating and regulating the interactions between private actors. Indeed, the process brought together many stakeholders and nurtured a new dynamic (AIC, 2005). Specialised institutions were settled to facilitate the interactions between actors, resulting in an institutional arrangement and functional relations among them (Figure 2.4).

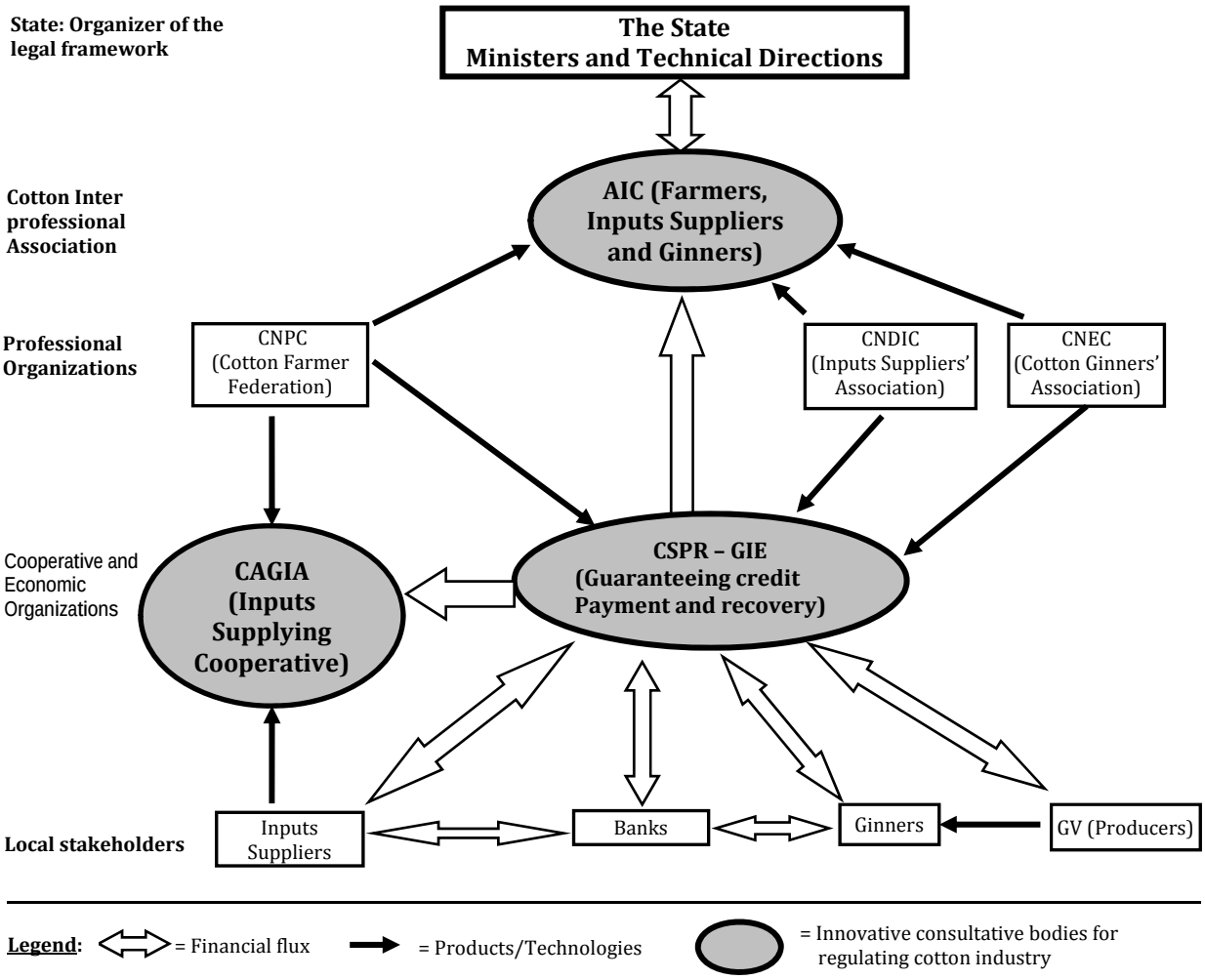

Figure 2.4 Institutional linkages in cotton sector after the reforms (Adapted from AIC (2005)).

The reforms went smoothly and rapidly. The cotton sector in Benin then became highly institutionalised and was hailed as a model of inventiveness and success. This, at first, enhanced the efficiency of the sector and increased the returns to farmers and the State. Farmers praised cotton production and the positive social changes occurring in rural areas, where both economic and social benefits were noticeable at household as well as community level. The African premier export crop, the "mother of poverty" and the most unpopular crop among peasant cultivators during colonial times (Isaacman et al., 1980; Waller, 1997), became the mother of wealth in Benin. All these boosted the production, as displayed in Figure 2.5.

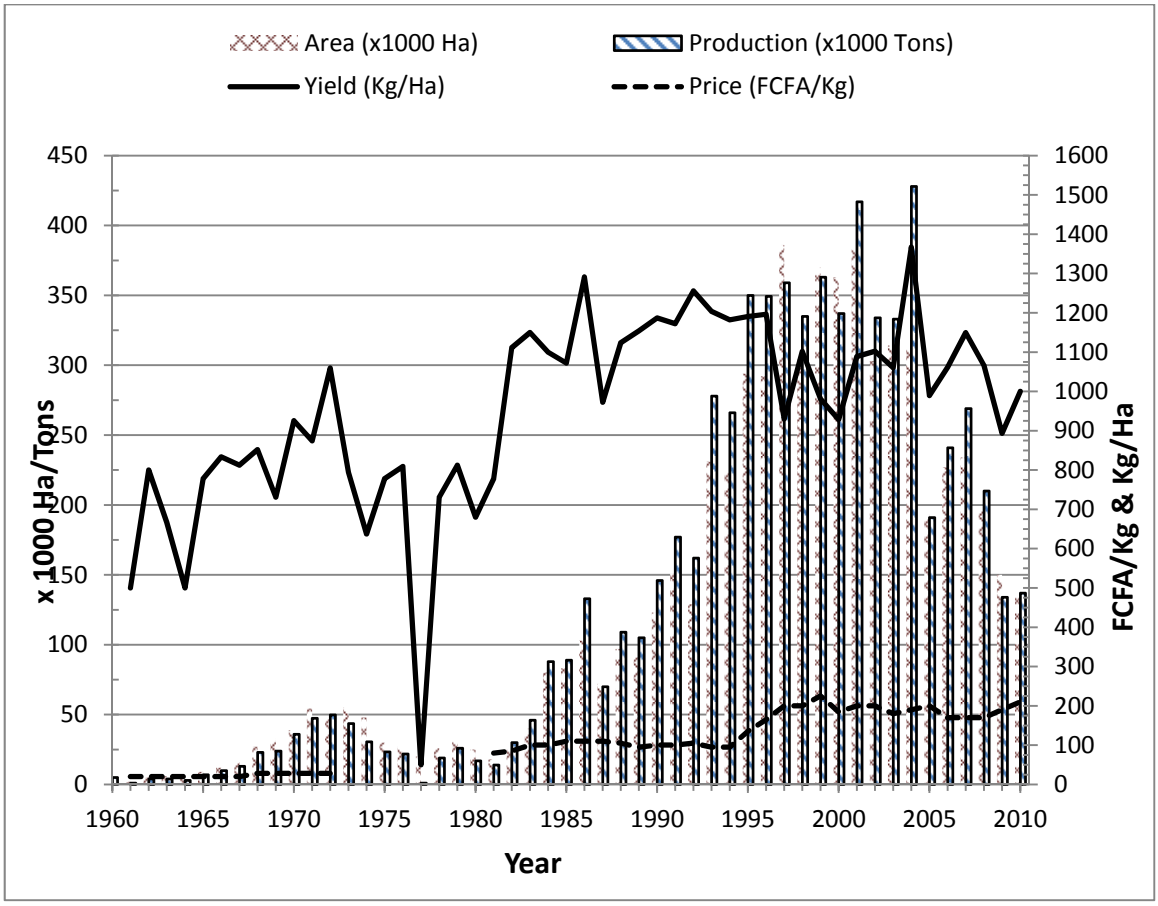

Figure 2.5 Development of cotton production with regard to price fluctuations

Source: Compilation by the author of data from AIC (2007, 2008) and unpublished statistics from the Ministry of Agriculture of Benin.

Thanks to a regular payment of their produce, farmers' relationship with cotton remained strong. The trends of cotton production were only slightly correlated with the changes in prices. Even the decline of farm gate prices consecutive to the drop of prices on international markets at the end of the 1990s did neither affect the production nor the ever-growing farmer organisations.

2.5.3 Farmer organisations: From farm to cities

The most common feature to West and Central African cotton sectors are the flourishing farmer organisations. In all countries, farmer organisations were transformed into rather powerful organisations that played a critical role in the boom of cotton production (Bingen, 1998; Bonnassieux, 2002). In spite of these similarities, some specificities of the situation in Benin are worth mentioning.

From the early 1990s, the reforms provided a new dynamic to farmer organisations and, shortly thereafter, the village-based groups came to be organised into one hierarchical network up to the national level. Both the organisations and their leaders had their influence limited to rural areas. Thanks to the boom of the production and the reforms, both farmers and their organisations started playing an important role at

meetings and forums on the implementation of agricultural policies, though they had hardly been involved in the design of the reforms. Organisations leaders were brought closer to executives and political decision makers. Many disputes among farmers were settled at cabinet level. These contacts gave their leaders a sense of importance, and increased their awareness that they also held power. The organisations were henceforth extended from farm to cities. Many leaders became urban dwellers to increase their visibility among institutions. Farming had been transformed into entrepreneurship and reached its apogee at the World Trade Organization (WTO) summit at Cancun. The representatives of cotton farmer organisations from Benin, Burkina Faso, Mali and Chad, known as Cotton-4 countries (Minot & Daniels, 2005; Woodward, 2007), backed up by international NGOs advocating for fair trade, stayed in the limelight of trade talks on cotton subsidies throughout the summit and long after. This increased the confidence of the leaders and contributed to improving the power balance between farmers and private actors. The change could be noticed in the strong position of farmer organisations when controversies about the quality of pesticides arose in 2005/2006. Farmers voiced their discontent largely in the media to keep the public opinion informed. As a result, the Minister of Agriculture was ousted. But these controversies have persisted and became part of the demise of cotton. The farmers' voice lost effect, because their organisations were weakened by the shift from the State monopoly to private interests.

2.5.4 Major flaws in the reforms

The major goals of the reforms policies were competitiveness and effectiveness of the sector. Due to many flaws in the reforms, however, the achievement did not result in lasting effects. In addition to the dysfunctions of the system resulting from the lack of clarity about the hierarchical relationships between the regulating bodies (AIC, 2008), there were among other flaws, an over-politisation of the sector, an over-ginning capacity of the country, and an over-regulation of the system. By the mid-2000s, the dynamics of the sector started showing some weaknesses.

A stiff competition arose among the private actors for the control of some domains of the sector. It started in the inputs supply chain, where farmer organisations at district level could choose among the many registered suppliers. Farmer leaders at district level were subjected to too much attention from inputs suppliers looking for the intention to purchase, a constituent part of the procurement commission. The chase after farmers' support led to irregularities and unfairness, which were explicitly attested by the deputy director of a company previously operating in the sector:

> *We have had a painful experience. Farmers are, of course, fraudsters, but the other inputs suppliers usually corrupted the network leaders. The network leaders are all guilty.*

He considers his company to have been kicked out of the system by the company that acquired the monopoly and exerted it until recently. The contestations of the results of tenders for inputs supply worsened the situation. The cotton sector representatives admitted that "the inputs supply chain [was] characterised by [...] repetitious controversies and the non-compliance with the legislation pertaining in the supply chain." (AIC, 2006: 9). Dissidence occurred among the inputs suppliers' and led to multiplying their organisations. The types of pesticides multiplied and some were imported without any agreement and with disregard of the hazards involved in their handling and use.

The State played an ambiguous role in regulation (Kpade, 2011). For instance, a private cotton mill owner, the CEO of Marlan's Cotton Industry, was at the same time an advisor of the Head of State. He managed to get supplied with cotton outside the official system for three years without paying back the farmers. Without any agreement, he imported and redistributed inputs in the districts under his control, encouraging other inputs suppliers to break the rules as well. Court sentences and cabinets decisions from the Ministry of Agriculture against his company were suspended by authorities at the Head of State's office where he had easy access (Saizonou, 2008). Furthermore, while the country's production capacity of about 350,000 tons of seed cotton was reasonably balanced with the 312,000 tons of ginning capacity, private companies had been issued licences to install cotton mills for about 275,000 tons of ginning capacity. This stepped up the number of cotton ginning factories from ten to eighteen and brought the overall ginning capacity up to 587,000 tons (AIC, 2006). This over-ginning capacity triggering the scramble for cotton by the ginning companies. Privates ginners excelled in breaking rules and bribing farmer leaders in order to get more cotton supplies. These deals were backed up by their political acquaintances. Political connections emerged between private companies' owners, decision and policy makers, and farmers, thereby frustrating any enforcement to abide by the regulations. Additionally, with the important resources generated by cotton production and the number of people involved throughout its production chain, cotton became a political instrument that many politicians wanted to control.

The competition between private actors encouraged the emergence of dissident cotton networks that escalated in number. In the end, it became customary to attribute each of the cotton networks to either a ginner or an inputs supplier, connected with political mentors: the original network (ANPC) to Talon (formerly inputs supplier and now also ginner), AGROPE to FRUITEX and CSI (inputs suppliers and occasionally cotton ginners), AGROP to Rodriguez (ginner), FENAPROC to Da Silva, an inputs supplier and eminent member of the political party of the Minister of Rural Development at the time, and FENAGROP to the SONAPRA (the former State-run parastatal cotton company). In addition, until the early 2000s (when they had to be named as cotton organisations), the organisations were named without any reference to cotton, even though they were dealing exclusively with cotton, in contrast to neighbouring countries where cotton-related activities were reflected in the names of

cotton farmer organisations. This encouraged a mix of genres, with farmer's leaders playing, theoretically, all kinds of roles for any crops.

Ultimately, the economic and financial losses caused by all these flaws amounted to several billions of CFA at the expense of farmers. The operation costs of the main three institutions created for regulating the sector amounted to 2 billion CFA (≈ € 3 million) (Macrae, ND). These constituted additional costs mainly paid by farmers and, to some extent, by ginners. Nowadays, the negative impacts of the reforms are dominant (AIC, 2007). Although the State continues to issue decrees, orders and new rules, there is little improvement. The incoherence of policies and the growing discontent of farmers are continuously pulling down the production.

2.6 Farmers' responses

Cotton farmers have been facing multiple constraints for almost a decade: soaring inputs prices, the drop in world cotton prices, the bad quality of inputs, delays in payment, etc. For instance, between 2000 and 2005, the costs of pesticides per hectare alone rose by 80 per cent (Ferrigno et al., 2005) while cotton prices at the farm gate rose by only 5 per cent. In addition, the low ratio in weight of seed by fibre of the new variety of cotton that is being grown for some years, compared to varieties previously used, makes farmers the losers of that innovation. The announcement of the weight of their production convinces them that they are indebted and will have to find money from other sources to pay back for the inputs they used. The disappointment makes them feel dizzy and they stagger, often knocking over the scale used to weigh cotton ballots, hence the expression "*kilo kurukara*" in the local language, an euphemism meaning to run over the scale. "*If you stumble over the scale, your effort and sacrifices are your only benefit"*, said a woman in Banikoara. All these combined to result in a low return of the investments on cotton production. This low return has a depressing effect on the production, which is now being squeezed into the cotton belt and the surrounding areas, comprising nine districts that still produce more or less 5,000 tons a year. These are Banikoara, Kandi, Gogounou, Segbana and Malanville in the province of Alibori, Kerou and Pehunco in the province of Atacora, and Kalae and Sinende in the province of Borgou (see Figure 2.1). As displayed by Figure 2.6, their share in area and production is growing at the national level. During the 2007/2008 season, the nine districts represented 68 per cent of the area covered by cotton and 83 per cent of the production, reaching 88 per cent and 91 per cent respectively in 2010.

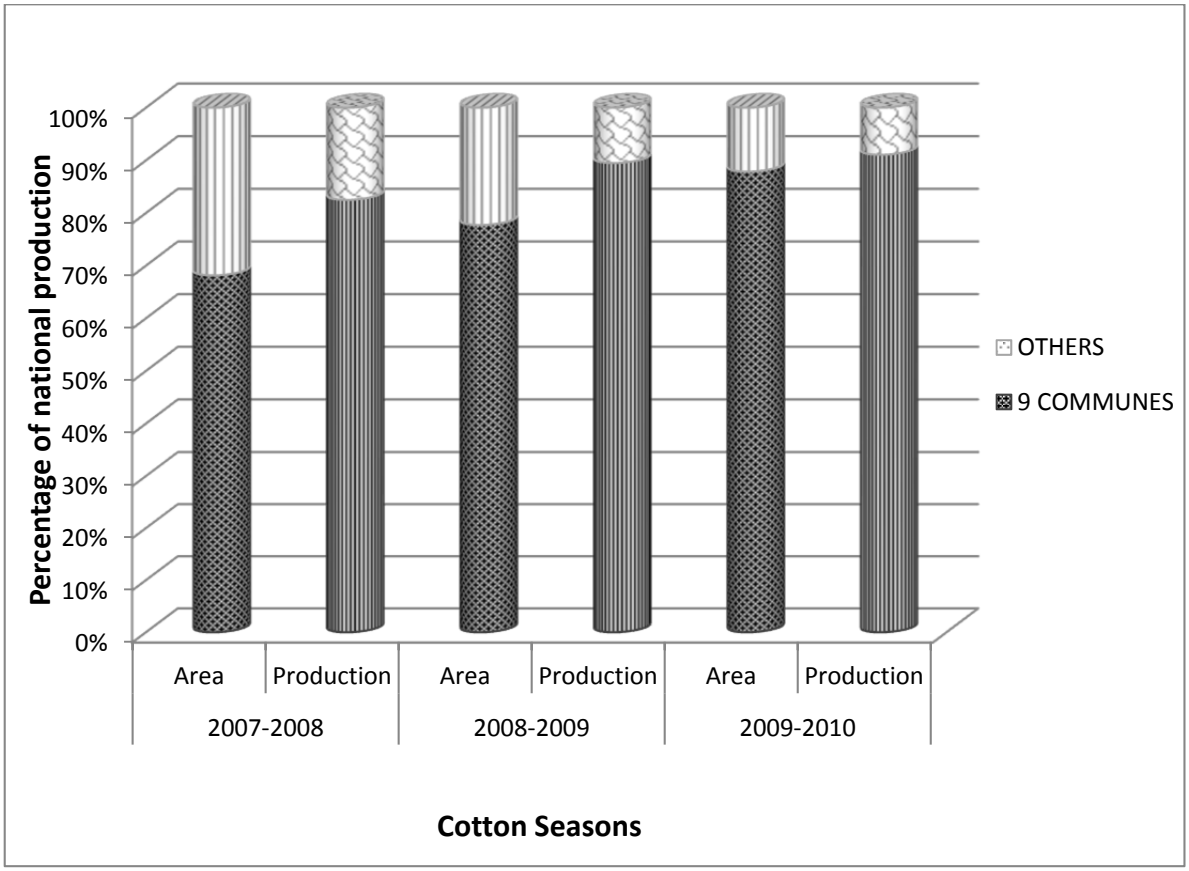

Figure 2.6 National cotton production share of the nine districts largest producers (2008–2010).

Source: Figure constructed from unpublished statistics from CSPR (2000–2011).

The inadequacy of certain reforms, combined with the multiple production constraints led to farmers being deprived of their incomes. Therefore, they devise strategies to make ends meet. Nowadays, for many cotton farmers in the main producing areas, the purpose of growing cotton is shifting from earning revenues to accessing inputs, mainly fertilizers, for food crops. In the absence of specific fertilisers for food crops, fertilisers received for cotton are diverted to maize and other food crops, or sold for cash. As a consequence, the inputs consumption progresses more than the cotton production. From 2000 to 2006, the ratio inputs credit by seed-cotton marketed climbed from about 31 per cent to 73 per cent (Saizonou, 2008), implying very low economic returns in cotton production. From 2005 to 2010, the inputs consumption of the largest district producer of cotton has increased in value by 23 per cent while the seed cotton produced has decreased drastically by 43 per cent. In 2011, this consumption has slightly decreased by 9 per cent but the production steeply decreased by 38 per cent. Therefore, the positive effects of cotton on farmers' livelihoods started to decline and in some cases reversed, as the World Bank (2003: 7) already noticed in 2003.

2.7 Farmers' perspectives on the revival of cotton production

2.7.1 Farmers' perceptions of cotton revival

Since the 2005/2006 season, cotton production has been undermined by the bad quality of pesticides, which triggered controversies. In spite of petitions sent up to the Head of State's office by farmer organisations and the dismissal of public executives including a minister, the problem persisted over the years, leading to a widespread discontent among farmers. Farmers' despair about the prospects of cotton got widely shared and is reflected in the survey results about farmers' perceptions of the revival of cotton production (Table 2.2). These perceptions were coded from 0 (pessimistic) to 2 (optimistic). Pessimistic reactions were of the kind '*I have no such hope*' or '*No, it is not possible*', while optimistic reactions were like '*Yes*' or '*Of course yes. Even more than before*'. The intermediary position was coded 1 (doubtful) and it included responses such as '*If things change from the top*', '*If they [decision makers and/or inputs suppliers] act for that*', '*If there are good quality inputs*', '*Only God knows*', and '*I do not know*'. Farmers' views were cross-tabulated with their leadership status and their network membership history. Both grassroots farmers and leaders were distinguished into those who have never changed their network membership (Stayers) and those who were a member of more than one network (Breakers). Grassroots farmers are cotton farmers who never had any leadership responsibilities in the network, as opposed to leaders who did have such responsibilities.

Table 2.2 Log-linear analysis of farmers' views on the revival of cotton production

Categories of cotton farmers		Overall View	Observed		(N=145)
			Count	Percentage	
Stayers	Grassroots farmers	Pessimistic	5	3.4	$\chi^2(2) = 1.69$ n.s
		Doubtful	11	7.6	
		Optimistic	4	2.8	
	Leaders	Pessimistic	3	2.1	
		Doubtful	6	4.1	
		Optimistic	6	4.1	
Breakers	Grassroots farmers	Pessimistic	15	10.3	$\chi^2(2) = 1.66$ n.s
		Doubtful	22	15.2	
		Optimistic	8	5.5	
	Leaders	Pessimistic	15	10.3	
		Doubtful	34	23.4	
		Optimistic	16	11.0	

Note: n.s = non-significant.

Source: Survey data (2009–2011).

The results indicate that there is a relationship between leadership status and breaking away from a network, indicating that leaders broke away more often than

grassroots farmers. Farmers' views depend also on their leadership status in the cotton production system. About 31 per cent of grassroots farmers are getting despondent about the future of cotton and are classified as pessimist against 23 per cent of leaders, while about 28 per cent of leaders are classified as optimist against only 18 per cent of ordinary farmers. The percentages of doubtful farmers about the revival of cotton production are almost alike among leaders and grassroots farmers: 50 and 51 respectively. With regard to breaking, stayers and beakers do not differ much in their views. About 30 per cent of stayers express optimistic views about the revival of cotton production against 22 per cent of breakers. The percentages of doubtful farmers in the two groups are also alike: about 50 for stayers and 51 for breakers. The figures show that the optimists constitute a minority. Many of both leaders and ordinary farmers have considerably reduced their cotton area. Some have suspended the production (when they expect the cotton environment to improve) and others have abandoned permanently. A former secretary of a farmer organisation in the cotton belt threatened: "*If they do not change the pesticide, the current season will be the requiem of cotton.*"

2.7.2 Measures for the revival of cotton production

A series of actions that farmers consider incentives to be implemented for the revival of cotton were listed during the focus-group discussions. The actions ranged from the provision of inputs to the payment on time of money after the commercialisation of their produce, including the extent of the State intervention in the management of the cotton sector. These actions were ranked according to their perceived importance by individual farmers (Table 2.3).

Table 2.3 Ranking of reforms actions envisioned by cotton farmers

Rank		Grassroots Farmers (N=58)	Leaders (N=71)	T
1	Improving the inputs quality and supply	2.4 (1.63)	2.9 (1.90)	-1.54
2	Payment on time	3.2 (2.61)	3.0 (2.10)	0.40
3	Lowering inputs prices	4.3 (2.53)	3.8 (2.45)	1.14
4	Raising cotton prices	5.3 (2.25)	4.4 (2.52)	2.05*
5	Eliminating the joint liability	5.2 (2.34)	6.2 (2.05)	-2.47*
6	Re-nationalisation of cotton sector	6.0 (2.36)	5.7 (2.72)	0.62
7	Sharing production risks between inputs suppliers and farmers	6.2 (2.74)	6.8 (2.16)	-1.28
8	Reducing cotton networks to 1	6.9 (2.54)	7.2 (2.78)	-0.73
9	Restoring refunds	7.8 (1.93)	7.1 (2.09)	2.03*
10	Suppressing farmers' cotton-related debts	7.7 (2.21)	7.9 (2.12)	-0.53

*= $p < 0.05$

Source: Survey data, 2009–2011.

In the overall classification, improving inputs quality came first, thereby confirming the high importance of inputs for farmers. This was followed by payment on time, lowering inputs prices and raising cotton prices. Restoring refunds and suppressing cotton debts were classified ninth and tenth respectively. There were differences in the ranking of only three actions between grassroots farmers and leaders. Leaders ranked raising of cotton prices and restoring of refunds higher than grassroots farmers, $t = 2.05$ ($p < .05$) and $t = 2.03$ ($p < .05$) respectively, while grassroots farmers ranked the elimination of joint liability higher ($t = -2.47$, $p < .05$), presumably because grassroots farmers suffered more from the consequences of the joint liability than the leaders who are in charge of its implementation. In fact, when the amount of money paid to an organisation is not enough for equitable redistribution among groups members, the leaders keep it for a while, and, according to grassroots farmers, they very often put it at their own disposal. Refunds were sometimes entirely used by leaders to cover the operating costs of the organisations, and other uncontrollable expenses of the organisation.

One additional measure was added, mainly by leaders during the individual interviews: the suppression of the cotton inter-professional committee (AIC) and of the agency for guaranteeing payments and credit recovery (CSPR), two institutions of which farmers are convinced of their uselessness. The two institutions are the main regulating bodies in the cotton production system and they cost yearly a huge amount of money to producers, thereby reducing the benefits of cotton production. The perception of uselessness testifies to the conflicting interests between leaders who represent farmers and the executives of the regulating bodies. Executives of these institutions are encroaching on the prerogatives of farmer leaders, according to the latter.

2.8 Conclusion

Industrial cotton production in Benin dates from colonial times when farmers in Benin appeared to be more collaborative in cotton production than in other colonies. Just after Independence, incidents of farmer resistance gave cotton a negative image. A few years later, the regime, with its Marxist-Leninist oriented ideology, considered cotton production a relic of colonialism, and progressively neglected it in favour of food crops. However, the perception of cotton improved during the 1990s when the production blossomed. It then became a white gold, regardless of the fluctuating prices in international markets. The change was made possible by the reforms undertaken from the early 1990s to liberalise the sector. But these reforms had some harmful impacts on the sector, due to flaws in their implementation. This led to recognise that "the outcome of reform[s] clearly fell short of expectations and resulted in a sharp decline of the sector's performance" (Gergely, 2009: 35). The cotton sector in Benin is actually burdened not only with technical problems but, in particular, with institutional and political constraints. The ensuing decreased profitability of the crop

has led farmers to consider cotton a pest, and its production to decline drastically. The purpose of the production has therefore changed. At present, for thousands of farmers, cotton production is no longer a way of making ends meet. It has become a last resort or, at best, a makeshift crop. Cotton is grown for accessing fertilisers, instead of earning incomes, trapping farmers in a vicious circle of indebtedness. Still yet, these constraints are not adequately addressed and the shift to private monopoly and the numerous new regulations implemented are not capable of reversing the trend. If cotton is still important, then cotton farmers are important as well and this view should be taken into account in decision making. As stated by Mako, a thirty-five year-old cotton farmer in Bagou, "*cotton will revive if only they [politicians and decision makers] listen to farmers and the policies meet farmers' needs.*"

Chapter 3

The Factors Behind the Emergence and Collapse of Cotton Networks in Benin during the 2000s

ABSTRACT: The liberalisation of Benin's cotton sector during the 1990s resulted in the emergence of an overarching cotton network which, however, soon broke apart (atomized) into conflicting smaller networks. This chapter assesses the major reasons for that atomisation of the cotton networks. Extensive fieldwork in Benin's cotton belt using a mixed-mode approach of qualitative and quantitative methods, indicated that the atomisation of cotton networks enhanced farmers' access to leadership positions. Although the quantitative results did not support the qualitative ones, it turned out that farmers' decision to break away depended foremost on the degree and type of social capital that farmers had at their disposal. Predictably, a greater stock of social capital was positively correlated with the duration of having a leaders' position on cotton network boards.

Keywords: Cotton networking; breaking away; atomisation; social capital; Benin

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3.1 Introduction

The last two to three decades have witnessed an increasing interest of agricultural policy makers in farmer organisations in Benin. Farmer organisations grew steadily in importance, along with cotton production, and became interconnected, elapsing into a larger and nationwide organisation. Indeed, cotton production has been at the centre of the institutional dynamics in agriculture and of the farmers' movement. Farmer organisations became the main instrument for cotton production, as a result of the reforms initiated in the early 1990s to facilitate the transition of the cotton sector from a "monopolistic and centrally administered system to a more competitive one" (World Bank, 2003:59). These organisations played a variety of roles, such as managing the production and marketing of cotton, facilitating farmers' access to credit, and developing collective action to promote farmers' inclusion (Tama-Imorou et al., 2007a). The organisations were hierarchically structured from village to national level, and developed into the first network in the agricultural sector in Benin. Because this network was beneficial for both farmers and the State, it was considered an important partner by both public and private development agencies. Therefore, it was at the centre of rural development programs. However, from the end of the 1990s onwards, several conflicts arose within the network that led to its disintegration (atomisation) and the formation of many rival networks, thereby triggering degenerative dynamics in cotton organisations.

The development and dynamics of social organisations is a central topic in the social sciences. Early work on this topic focussed on the development and the dynamics of small groups. During the 1970s, task-activity behaviour was distinguished from interpersonal behaviour. Both belong to the "realm of group behaviour", in which five critical stages can be distinguished: forming, storming, norming, performing, and transforming (Gilley et al., 2010; Shaw and Barrett-Power, 1998:1311; Tuckman and Jensen, 1977). These stages are not necessarily incremental, given that the occurrence of any conflict at a specific development stage can force the group to return to a previous stage for readjustments. Though larger groups witness similar trajectories of development, different theories apply to such groups, such as network theories.

The debates about the dynamics of larger groups and organisations focus particularly on social cohesion, social solidarity, and social differentiation. These concepts are widely acknowledged as important characteristics of group stability, and some of them have been used interchangeably. Social cohesion is a most vital feature of organisational survival and, therefore, is required the success of the group (Moody and White, 2003). However, cohesion can never be taken for granted, particularly when it concerns hierarchical structures like the cotton networks in Benin. Indeed, hierarchy leads to divergent orientations between sub-groups with opposite statuses (Dovido et al., 2009). While lower-status sub-groups are more motivated for change, those with a higher status tend to support the status quo. The latter are attracted by the advantages that accrue to leadership positions rather than by the responsibilities

pertaining to these positions. This affects intra-group interaction, which is so crucial to the structural cohesion of a group.

Network approaches to studies of social structure focus on actors' positions and highlight their relationships with other actors. Networks are sources of social capital. Their structure and size are important for their cohesion and the ability of members to cooperate (Moody and White, 2003; Poulsen, 2009). Kilduff and Tsai (2003) identified some fundamental and interrelated concepts in network approaches to organisations, among which the centrality of an actor and social capital. Centrality defines the social stratification of the network. It determines an actor's access to and control of resources within the network, thereby ascertaining his/her social capital.

The concept of social capital is multidimensional and diversely interpreted (Kampen, 2010; Lin and Erickson, 2008). There are three dimensions of social capital, all of which are located in the structure of social networks and their members: 1) the structural dimension such as network ties and configuration, 2) the cognitive dimension such as the discourse to build collective identities, and 3) the relational dimension such as norms and beliefs (Nahapiet and Ghoshal, 1998:243-244). Three types of social capital can be derived from this distinction (Burt, 1992; Cohen and Prusak, 2001; Granovetter, 1983; Putnam, 1995; Woolcock, 2001): 1) bonding social capital, referred to as strong ties that glue members within groups such as families or clans, making the group more than a collection of individuals, 2) bridging social capital that links members to outside networks, and are referred to as weak ties, and 3) linking social capital that connects an individual to others in a power position. These different types of social capital are linked to formal or informal networks (Ferlander, 2007), completing the classic distinction of strong and weak network ties by Granovetter (1983). This distinction means that there is a structural dynamic within groups, which entails interactions between members for access to and control of resources located therein, for the purpose of their (re)positioning (Bourdieu, 1990). Depending on the stock of resources embedded in members' social relations, the interactions can 1) maintain members at their position in the network, 2) raise their position, or 3) suppress the position of other members. Bourdieu sees social capital as enabling the reproduction of social inequality because it helps strengthening the dominant positions.

Referring to the specific situation in Benin in the 1990's (discussed in detail in the next section), the hierarchical shape of the original cotton farmers' network resulted in an uneven distribution of power and resources. Rapidly, within-network conflicts arose at all levels of the network in a battle to control these perks (power and resources). This has led to the network breaking apart and ending up in atomised networks. This chapter seeks to elucidate the driving factors behind the atomisation of the network of cotton farmers in Benin. It will analyse the interactions between individual actors within and between cotton networks. First, the history of the cotton networks in Benin will be sketched. This will be followed by a description of the

research hypotheses and methods. Then, the results are presented and discussed and a conclusion is formulated.

3.2 Historical background

3.2.1 Cotton farmer networks in Benin: From agency to associations

The history of what is commonly referred to as cotton farmer networks in Benin is firmly linked to the experience of farmer organisations from the late 1960s to the 1980s. Farmer groups were formed at the village level. With the boom of cotton production in the 1990s and the advent of democracy, not only the village-based groups gained more autonomy, they also extended their influence beyond villages. With the liberalisation of the cotton sector, farmer organisations became more formally structured, mirroring the country's four-level administrative division[7], which resulted into a hierarchical and professional network (Figure 3.1).

The core function of cotton farmer organisations is to supply their members with cotton inputs and market their production. At the village level, there were grassroots farmer groups, which could be further divided into sub-groups to ease the management of resources, depending on the size of the village and the volume of cotton production. The boards of village groups dealt with farmers' daily concerns with regard to cotton production. Farmer groups within a district were managed by a district union of producers. The district boards collected and centralised village groups' demands for inputs, and managed the marketing and transport of seed cotton from the farm markets to ginning factories. They selected and issued the licence to inputs suppliers and delivered the authorisation to the transporters for loading cotton. The district unions formed provincial unions, which were managed by a board elected among members of the district boards. The provincial unions of producers played the same coordinating role as the district unions, managing demands for inputs from the latter at a larger scale. At the national level, these unions became a federation that constituted a large network of cotton producers. This national apex was created in 1994. The national apex managed exclusively cotton organisations from the top of the hierarchy and represented cotton farmers in cotton bodies. It also focussed on lobbying and advocacy for farmers' interests in the national and international arena (Kouton et al., 2006).

Farmer organisations have depended on cotton levies, so that "producing cotton became a more stringent membership criterion and encouraged other [cash crops] producers to form their own groups" (Tama-Imorou et al., 2007b:113). Membership

[7] The village groups (GV) formed at the 77 district levels, the district unions of producers. In each of the six administrative provinces, the district unions are grouped in the provincial unions of producers, which in turn federated in a national apex called federation of producers' union.

guarantees farmers access to cash credit and inputs such as fertilizers and pesticides. In return, the members comply to deliver and sell their production through the organisation. Control over farmers is exerted through the joint liability of group members enforced by the board of the organisation. A mechanism to enforce compliance with the system that linked supply of inputs to cotton production and marketing between farmers, inputs suppliers and ginners was set up and known as the *"mécanisme de la CSPR*". This mechanism was monitored by the cotton inter-professional association, a body comprising the different institutional actors, to enforce the regulations related to the sector. It reinforced the hierarchical structure of farmer organisations for a long time, making cotton production for non-members impossible.

It should be noted that farmer leaders at all the levels of the hierarchy grew in importance, both economically and socially. But while the network board members knew each other across districts and provinces because of meetings convened for leaders, this did not apply to grassroots farmers. Sharing the membership of a cotton network rarely involved farmers from different villages in a joint production. Most members of the networks were hardly linked within the cotton networks that consequently contained "structural holes" (Burt, 1992:65). Hence, grassroots farmers were connected only through the leaders of their networks, with little interaction among themselves. Such networks need a high level of trust to function effectively (cf. Porta et al., 1997). The bottom of this pyramidal organisation was shapeless and lacking natural boundaries, in this way exhibiting one of the core characteristics of a social network (Deguene and Forsé, 1994:14; Latour, 1997).

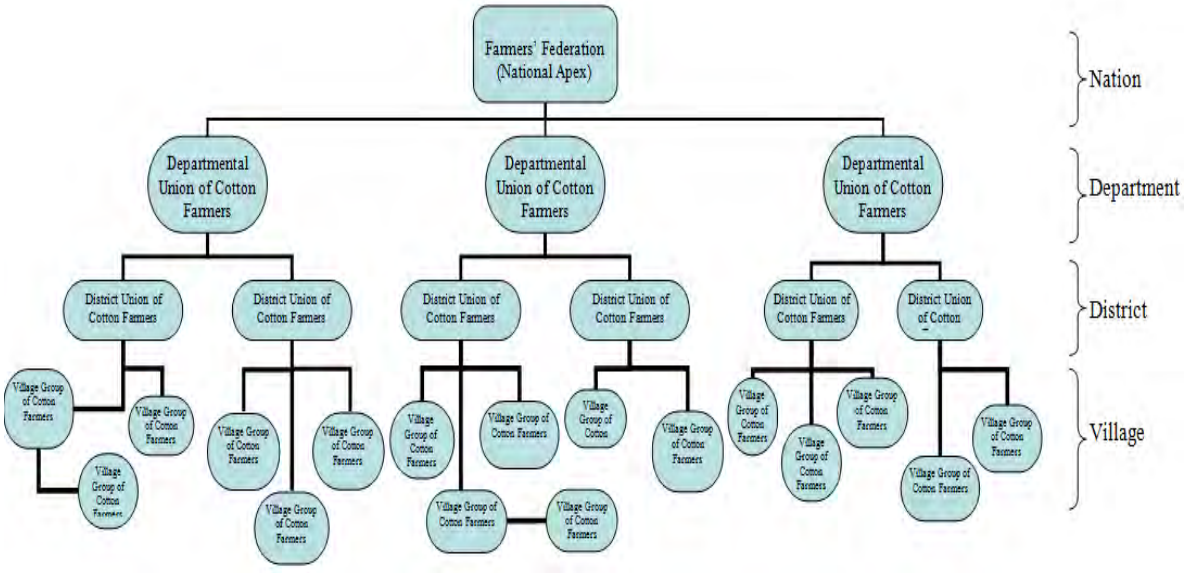

Figure 3.1 The hierarchical structure of cotton networks

3.2.2 Naming cotton networks: The war of words

By the end of the 1990s, the cotton farmer network was burdened by mismanagement and dysfunctioning. This caused long delays in payments to farmers that could amount to a year (World Bank, 2003). As a result, dissident networks emerged that challenged the monopoly of the federation (Sinzogan et al., 2007). The process of atomisation started from the top of the pyramid where access was still highly controlled and regulated, and then spilled over into its bottom at village level. Following the movement from the top, the village groups split in many wings belonging to different networks. The original federation created in 1994, fell apart to give birth in 2001 to the first breakaway network. Between 2001 and 2006, these two conflicting networks split up endlessly, generating more than ten other breakaway networks and raising the number of cotton networks to 14 (Table 3.1). Although the names of these organisations did not refer to cotton until 2005 when a legal reform imposed the focus on cotton to their naming, they had dealt mostly with cotton. Of the breakaway networks, four fizzled out. The nine remaining networks vied for farmers' support until 2010, when the central government decided to regain control of cotton production. Ironically, this lack of control in the reform process has been praised as the "dynamics of farmer organisations" (AIC, 2005:8). Similar to the terminology used in Chapter 2, farmers who changed their network membership will be referred to as *breakers*, while those who kept to only one network will be called *stayers*. Both categories can stay constant or change depending on their choice to join or create a network later on.

The process of atomisation stemmed from Gogounou, the third largest district in cotton production, where a leadership conflict led to the first dissident organisation. After that it spread to other districts. Gogounou led the contest for creating breakaway networks in the country thereafter. As a result, no less than six of the total of 13 breakaway networks emerged from there. The prominent place of the district of Gogounou in this process was pointed out by farmers during focus-group discussions and interviews, as illustrated by the following statement at Sinende: "*We did not know how to create dissidence. It is farmers from Gogounou who used to come here by night to cajole us to join these new networks."* Cotton farmers from Gogounou are still proud of this history and feel honoured to have their district qualified as the laboratory of cotton networking, an attribute that many of their leaders proudly claim. The atomisation of networks proceeded along with a marked shift in their structure. By fragmenting, they became smaller and more diversely structured. Only the original network exhibited the four-level structure with boards at village, district, province and national level. The breakaway networks showed a different structure with two to three hierarchical levels. The village groups were no more on a one-village basis. Instead, they became multi-village based and were therefore called producers groups. The top of the hierarchy was modified. It inflated with leaders, many farmers having changed their status and uplifted their positions. Consequently, the shape of the networks shifted from the "pyramidal shape" to a "vase shape".

Table 3.1 List of the active networks (2009–2011 survey data)

N	Acronym	Description (translated)	Creation[8]	Nature	Number of farmer groups (2008)	Operational Status
1	FUPRO (later on ANPC)	Federation of Producer Unions National association of cotton producers	1994 2005	Original network	2095	Functional
2	AGROPE	Association of producers' groups and businessmen	2000/2001	Breakaway Network (BN)	-	Broke apart
3	FENAPRA	National Federation of agricultural producers	2003 (May 2002)	BN	360	Functional
4	AGROP – Benin	Association of producers' groups	October 2003 (February 2003)	BN	203	Functional
5	FENAGROP	National federation of producers' groups	April 2005 (2004)	BN	161	Functional
6	AGROP – NV	Association of producers' groups – New vision	October 2006 (May 2005)	BN	115	Functional
7	AGROP – DEDE/RFC (later on ANACODEDE)	Association of producers' groups – Transparency/For the rehabilitation of cotton sector National association of cotton farmers Transparency	December 2004 (June 2004) May 2007	BN	69	Functional
8	FENAPROC	National Federation of cotton producers	May 2005 (December 2004)	BN	299	Functional
9	UNAPRO – B	National union of producers	2004 (2005)	BN	84	Functional
10	UPROCOB	Union of cotton producers	2006 (2005)	BN	116	Functional
11	ANCPB	National association of districts producers	-	BN	-	Fizzled out
12	WEWE – PEPE	"All white"	2006	BN	17	Fizzled out
13	URPCB	Regional union cotton producers	2006	BN (a union of n° 4, 5, 6, 7, 8 and 9)	-	Fizzled out
14	–	National syndicate of producers of Banikoara	-	BN		Fizzled out

[8] Years in brackets are dates when the networks started operating before their official registration.

Dissidence among networks often emerged in the middle of the cotton growing season. When that happened, breakers would have marketed their products through a network different from the one that had provided them with inputs. As a consequence, most breakaway networks operated for at least one cotton season before their official registration. For example, during the 2004-2005 season, dissidents from the three pre-existing networks generated three more networks that marketed their products separately, before being officially recognised in 2005. Figure 3.2 pictures the configuration of networks based on the date of their official recognition.

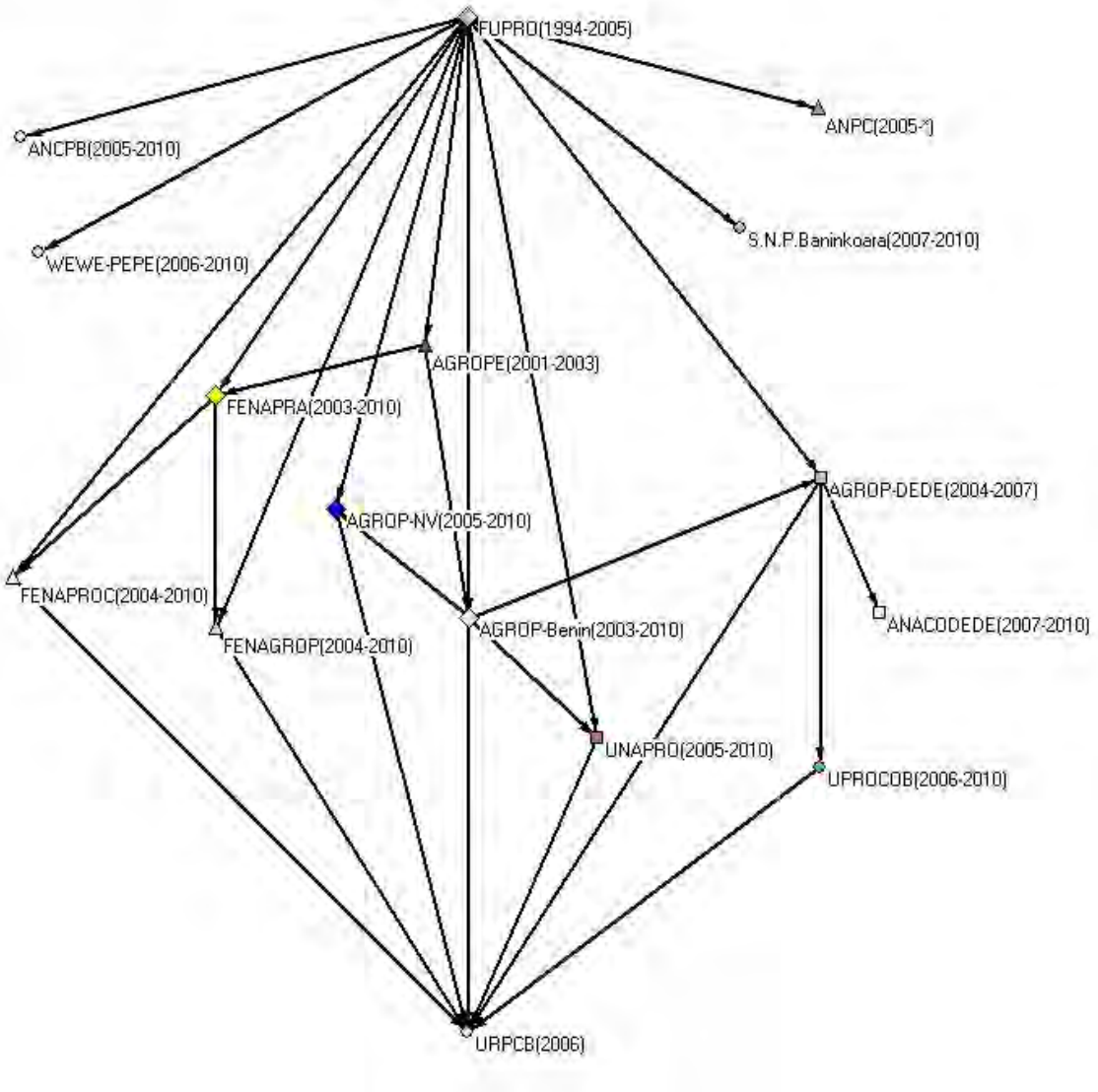

Figure 3.2 Emerging relationships between cotton networks

Thus, disputes regularly arose over the use of network names between the conflicting wings. The disputes were settled by adding suffixes to the acronyms. Illustrations of such practices are the networks derived from AGROPE: AGROP-BENIN, AGROP-NOUVELLE VISION, and AGROP-DEDE. The second suffix refers to "new vision", while the third symbolises "transparency". They all kept the prefix AGROP, the French

acronym standing for association of producers. By doing so, they aimed to benefit from the credit gained by the first breakaway network AGROPE, which lived up to the expectations of some farmers before it fell apart.

3.3 Research hypotheses and methods

3.3.1 Research hypotheses

The present chapter addresses the factors that affected the interaction between the "cotton system" and the structure of production relations in the process of atomisation. It is intended to shed light on the process through which farmers, who had greatly contributed to the boom in cotton production through effective organisations, weakened and atomised their cotton networks. Hypotheses were formulated by applying the theoretical perspectives to the factors that influence the dynamics of networking to the specific situation of Benin's cotton sector. The central hypothesis is that different backgrounds and attitudes of farmers combined with networks characteristics led farmers to make different decisions with respect to staying within (remnants of) cotton networks (*stayers*), leaving them to join other networks (*joiners*), or creating new ones (*creators*). Hence, three categories of farmers with regard to atomisation were distinguished: stayers, joiners, and creators. Factors that influenced the phenomenon of atomisation (backgrounds and motives) were grouped into push factors and pull factors. Push factors for atomisation are causes, either real or perceived, that forced or persuaded farmers to leave networks. Pull factors into atomisation are those, either real or perceived, which determined farmers' decision to join other networks or to becoming involved in the creation of new networks. A third group of factors that could have influenced the process of atomisation of cotton networks comprises the social networks of cotton farmers in the form of supportive ties. Indeed, social relations constitute the vehicle of social capital and have been revealed to be important in various domains, such as community development, job attainment, and entrepreneurship (Moerbeek and Flap, 2008; Nancy et al., 2002; Putnam, 1993). The following framework guided the research.

3.3.2 Study design and sampling

The research was conducted in the main cotton-producing provinces of Benin, Borgou and Alibori in the North, from where more than 75 per cent of the cotton produced in the country is sourced. All the registered cotton networks are concentrated in this region, vying to control as much production as possible. However, the production is unequally distributed within the region and the cotton belt is quite distinctive. Most breakaway networks were concentrated in that cotton belt and some exerted their influence in only a few villages.

The fieldwork was conducted in two phases between October 2009 and April 2011. It combined quantitative and qualitative research methods to investigate the process of cotton networks atomisation. The first phase consisted of an exploratory survey through focus-group discussions with farmers, and key informant interviews. During the second phase individual interviews were conducted that combined in-depth interviews and survey interviews with network leaders and grassroots farmers, using a semi-structured questionnaire. The questionnaire was submitted first to individual network leaders and then to grassroots farmers.

The sampling design combined purposive and random sampling. During the exploratory phase, the sample consisted of ten villages purposively selected and unevenly distributed throughout the provinces. The selection criteria were, among others, the level of cotton production and the presence in the village of at least one operating cotton network. In the second phase, the sample was constructed in a three-step process: first choosing the village, second the networks, and then the farmers. Four villages and nine networks were purposively selected from the villages where the focus-group discussions had been conducted. Then, 33 network leaders at national and provincial levels were interviewed. The first three to five most important board members were selected. According to the networks' statutes and regulations, the boards should have 11-13 members. In practice, only the first three positions – the president, secretary and treasurer – and those of their deputies matter. About these positions conflicts occurred more often because of the power and resources attached to them. In the daily management, however, deputies are mostly put aside and left with an empty shell. The main position-holders are omnipresent in order to keep control of resources and opportunities. Therefore, we selected the first three board members and their deputies where available to participate in the individual interviews. In addition, of some networks the coordinators and the managers were interviewed when available. The holders of these positions were added to the sample because of their knowledge of networks' activities and membership development. While coordinators were board members, managers were mostly recruited as employees of the network. However, most managers of the breakaway networks were also among their proponents. Finally, a systematic sampling procedure was used to select 115 grassroots farmers from the lists of village groups' members of selected networks to complete the sample of farmers. In the end, this resulted in the covering of nine operational networks, which are listed in Table 3.1 where their operational status is stated.

3.3.3 Data collection methods

Focus group discussions and open interviews. The focus-groups discussion sessions were organised in ten villages distributed over four provinces. The discussions used a guide of fifteen items that addressed various aspects of cotton networking. The guide started with the institutional mapping of the village. Thereafter, the importance of cotton, the interactions between cotton and non-cotton

organisations, and collective action in the village were discussed. Then the types of conflicts occurring within and between networks were addressed, including the profile of leaders, and the impact of inter- and intra-group conflicts in collective action. Factors that determine farmers' decision to break away from and to join networks were discussed. In addition to the focus-group discussions, open interviews were carried out with some key actors of the sector, such as agricultural extension workers, employees of cotton bodies as well as experienced farmers. Data from the focus-group discussions were analysed using descriptive statistics to assess the frequency of different factors cited in villages. The frequencies indicated the prevalence of the factors and the extent to which they were shared throughout the cotton production zones. Based on farmers' reasoning, the factors were grouped by similarity for the semi-structured questionnaire.

Questionnaire. A semi-structured questionnaire was first submitted to network leaders at national level and second to grassroots farmers and leaders at the district and village levels. Respondents were visited at their place, either at home or on their farms for face-to-face interviews that lasted for about one-and-half to two hours on average. To facilitate a fluent interview that flowed according to the reasoning of the respondents, the order of the questions depended on the respondents' answers.

The content of the questionnaire was to a high extent governed by the results from the qualitative research, i.e. the emergence of cotton networks and problems that overwhelmed their functioning, and resulting in their breaking apart. The most important causes for breaking away were identified in the previous qualitative research. These are the lack of payment to farmers (which constrained farmers' investment projects), the mismanagement of resources (including unequal re-distribution of inputs, and the manipulation and corruption of networks leaders by private actors), and the expansion of villages (including the subsequent increase of cotton production). These hardened the management of the village-based groups. The questionnaire was built on these factors, of which the most frequently mentioned were submitted to individual farmers for a ranking.

The questionnaire consisted of eight sections (see Appendix 2). The first section dealt with the socio-economic and demographic backgrounds of farmers, such as age, education, marital status of the household head and size of the household. Other data included the experience in cotton farming, the hierarchy of income sources, and the place of cotton in agricultural income. Data on cotton production during the last five years in area and tonnage were also collected, followed by the farmer's current status in cotton production (whether s/he was still producing or had abandoned cotton permanently or temporarily). Respondents were also requested to list their member-ship of organisations other than cotton and explain the relations between these organisations and cotton networks. A further question concerned the different positions the respondent had in these organisations and their duration. Questions in the second section were about the emergence of the network the respondents

currently belonged to: the context of its creation, its size at different stages, etc. The third section concerned the respondents' networking trajectory, followed by the ranking of factors that might have influenced this trajectory such as personal qualities, the sources of support they benefited from, etc. The causes for breaking away and the motives for joining other networks were also discussed. In the fourth section, the relationships between network proponents (instrumental in the creation of networks) were explored. The fifth section ended the interview by the ranking of suggested reform actions that were identified during the focus group discussions. For the interview with grassroots farmers and lower levels leaders, the sections four to six were slightly modified. The part on relationships between proponents was replaced by questions about the ranking of conflicts occurring within networks with regard to their frequency and severity.

Changing network membership was assessed by factors termed perceived causes for breaking away, which were ranked according to their importance for farmers. The set of causes contained seven statements which were ranked from 1 (most important) to 7 (least important) by all the respondents. The statements of which the importance for leaving a network had to be ranked included "lack of payment", "manipulation", and so on. Determinants of farmers' decisions to join or create networks were measured in the same way. Eight driving factors were put to the farmers as statements for ranking. They included "payment on time" and "expectation of profit", etcetera. Additional factors that could motivate farmers to join or create were the perceived sources of support in joining or creating networks. These sources, ranked by farmers according to their respective contribution to joining or creating networks, contained seven statements like "kinship as a source of support" and "professionals of cotton as a source of support". For the ranking questions, all the factors were put as statements to the farmers, who were then requested to rank them from most to least important.

3.4 Findings from the qualitative research

3.4.1 Emergence of breakaway networks

The starting point of the atomisation of cotton networks was a leadership conflict about the control of a district cotton union within the cotton belt. The conflict was backed up by local political leaders on the ground that the current leadership dragged on for years. The resulting dissident network emerged as an acceptable solution since the country's political system guarantees freedom of association. This first-ever dissident network put an end to the full control of the former federation over the management of farmer organisations. Indeed, opposing the leaders was risky because it would deprive the dissidents from accessing inputs. Proponents of the first dissident network experienced such coercive measures that they were forced to resort to non-official suppliers to get inputs during their first year. For that they eagerly claim that

"nobody raised his hand to contest the former leaders before we did so." From this point onwards, the federation could be circumvented by cotton farmers to access production inputs. Farmers were offered alternative solutions to staying into remnant networks: either joining other existing networks or creating new ones. Thus, breaking away and creating new networks became a contest among cotton farmers in the cotton belt, from where more than three quarters of the breakaway networks emerged.

The multiplication of cotton networks went along with an increase of mismanagement, which the leaders tried to cover by blacking out communication. Particularly, new leaders turned out to behave more selfishly than the former leaders they contested. For many farmers, however, the atomisation was exacerbated by external actors to cotton organisations. Among these are inputs suppliers and cotton ginners, the crucial partners of farmer organisations, as well as political leaders and local "intellectuals", as the farmers qualify the last category. Cotton farmers accused these actors of connivance and of manipulating and corrupting farmers in the process of atomisation. The accusations derived from the central role of the board secretaries, whose lack of transparency in their management of cotton organisations contributed to the farmers' indebtedness. Cotton farmers contested the status of being the only proponents of breakaway networks. Executives of the cotton companies, both private and the State-owned one, were involved in this as well. Thanks to the growing influence of inputs suppliers and private ginners in the wake of the liberalisation process, they controlled the cotton production of many networks. In addition to disturbing the cotton supply to the State-owned cotton company, which previously had the monopoly on cotton ginning, private companies also resorted to breaching the rules regulating cotton production. To counter the "unfair" competition and secure cotton supplies for their ginning mills, executives of the State parastatal company promoted their own networks. Taking advantage of their strategic position, they put together farmers from different districts who hardly knew each other and could not have created a network themselves.

As with the first breakaway network, most of the later ones also emerged because of intra-group conflicts, but this time of a different nature. The conflicts were about lack of payment resulting from mismanagement of network resources. Consequently, being paid on time and getting inputs adequately remained farmers' main motives for joining other networks. At the back of the conflicts, however, was the objective of farmers to take control over the contested resources for more profit. To achieve this, they needed legitimacy, which they sought not only in bonding but also in bridging ties. The search for legitimacy was also reflected in the discourse used by leaders to convince fellow farmers to join them and in the dominant relationships among members of the network's stronghold. The discourse used by leaders included not only addressing farmers' needs by promising better management and payment on time, but also denigrating the contending networks in order to increase trust in their own. As for the types of relationships, they differed according to the network involved

and the context of its emergence. While some proponents of networks were supported at the outset by bonding ties (kin and members of their ethnic group), others got their first support from bridging ties or from linking ties (people in power positions).

3.4.2 From weak ties to linkages

When the first breakaway network (AGROPE) was emerging, the lack of payment prevailed on a small scale in a few organisations as a consequence of mismanagement practices, and was looming in others. The proponents of the new network, who originated from one village, extended their campaign to many other cotton producing districts from where they also selected some leaders for board positions. The network was an hybrid organisation that included transporters, inputs suppliers and ginners, hence its denomination as an "association of producers and businessmen". Through the businessmen, the network proponents gained support from political leaders in power position, who had a great stake in the emergence of new networks. This complex membership made the network a mix of actors where only few were related through kinship or friendship, though geographical proximity could have also played a role. "The only thing that brought us together is cotton production", said one of the proponents who was leading another breakaway network.

A virtual advantage of this lack of initial social ties was the increased likelihood of extending the network throughout producing areas. Each of the proponents could use his/her social ties to make cotton farmers join and facilitate the growth of the network. Additionally, the new leaders strategically adopted the practice of immediate payment upon selling the cotton, which in some regions raised enthusiasm among cotton farmers to massively join the breakaway network from its outset. Most of the cotton networks referred to by respondents in this research followed this pattern. However, the divergence of the interests (e.g. profiteering on input supply against making a living by producing cotton) inhibited cohesive action within the network. With the increasing financial stakes, leadership conflicts inflated and weakened the network, which ended up falling apart. Mismanagement practices escalated and became a critical cause for breaking away. Thus, most farmers linked the emergence of new networks to mismanagement practices. In all cases, farmers from different districts joined their effort to "*combat these practices*" and to achieve their common purpose: the profitability of cotton production. These dynamics show the importance of strong ties for new networks.

3.4.3 From strong ties to weak ties

One network (UPROCOB) of the nine breakaway networks included in this research is known as an ethnicity-based network. It emerged in a village from the initiative of one person. Its prominent leader purposively mobilised farmers from his *Gando* ethnic group and "*did all the necessary administrative procedures*", according to the current president of the network. While the network exerted its influence first in its village of

birth and among the members of this particular ethnic group, the necessity of getting broadly accepted and being considered a network instead of a farmer group forced the proponents to extend the network beyond the village. But still, the districts and villages targeted were those with populations dominated by the same ethnic group. Although there was no (open) ethnic-based competition for leadership of cotton networks, the leaders of this network used in their discourse the sensitive issue of ethnicity to attract members on the ground of defending their interests. This communication strategy got them more members. Indeed, the leaders were easily trusted by the farmers, who till that time had hardly come across a leader from their own ethnic group. In the area, members of this ethnic group are known as hard-working farmers, and they are perceived as being at the lower end of the local social hierarchy (Jones, 1998; Lombard, 1998). Thus, the success and cohesion of this particular network seems to be based mainly on resorting to relational social capital, i.e. the ethnic solidarity, and its subsequent homogeneity. Later on, the network spread to socio-demographically (and ethnically) different villages.

3.4.4 Preliminary conclusions based on the qualitative research

The results from the qualitative research allowed for generating a number of preliminary conclusions regarding the reasons for the breaking up of cotton networks. These were used to formulate hypotheses that could, at least partly, be tested in the survey research. The internal network dynamics were influenced by several identifiable factors, causing and shaping the process of atomisation. Causes that increased the likelihood of farmers to break away from their network were identified as *push factors*. These include: the lack of payment, mismanagement of resources, poor communication, intra-group conflicts, manipulation, the expansion of villages, and imitation. These push factors can be grouped into internal and external ones. Internal push factors are those related to network management (the first four push factors); external push factors are those that originated from outside-network actors (the last three push factors). From the emergence of the first breakaway network onwards, farmers had been offered more networking options. They could either join operating networks, create new networks, or stay in the remnant ones. The following sections provide an overview of these preliminary conclusions and the corresponding hypotheses.

Push factors. Delays in payment for cotton yields often lasted longer than expected and often resulted in lack of payment, which pushed farmers to leave their networks in search of a better managed one. Therefore, the lack of payment should positively influence the probability of breaking away, given that earning income is the main purpose of cotton production. Mismanagement and unsettled conflicts can result in selfish and opportunistic behaviour. Indeed, the mismanagement of network resources (both inputs and financial outcomes) led to distrust and probably increased the likelihood of opportunistic behaviour (see Svendsen and Svendsen, 2004:28). The more resources were mismanaged, the more network members would have been

inclined to break the rules as a counter-reaction. Therefore, mismanagement can also be expected to be positively correlated with breaking away. Also, intra-group conflicts should positively affect breaking away. Finally, good communication is another important internal factor that would make members more collaborative and the network more cohesive. Close communication within a network allows enforcement of sanctions against individuals who violate shared beliefs or norms of behaviour (Burt, 2000:374). The extent to which network leaders communicated with grassroots farmers indicated the quality of their management and would have made the network tighter and more successful. Oh et al. (2006) correlated the overall effectiveness of groups with leaders' ability to connect to various sub-groups. Additionally, good communication would enhance the accountability of leaders and the control exerted by their constituents. It has been demonstrated that "organisations that are more member-accountable are likely to deliver greater economic and social benefits to their members" (Smith-Sreen, 1996).

The liberalisation of the cotton sector brought progressively together private actors (inputs suppliers and cotton ginners). These private operators vied for the farmers' favour for different purposes. For example, inputs suppliers permanently sought for contracts to supply inputs to networks, while cotton ginners looked for agreements with networks in order to be supplied with the cotton they produced. This competition inflated unfair behaviour, such as manipulation, which is expected to positively influence breaking away. With the multiplication of internal problems, grassroots farmers in search of information from other groups and networks communicated through formal and informal networks. Farmers from different villages and different networks would have shared information and learnt how the other dealt with similar problems. Theories on farmers' behaviour such as adoption of agri-cultural technologies have contended that contact is critical in the process of adoption, given the human tendency to imitate fellows (Rogers, 1995). Therefore, imitation should positively affect breaking away.

In short, while both internal and external push factors can be expected to be positively correlated with breaking, with regard to network cohesion in general and the farmer's well-being in particular the internal factors may be assumed to be more harmful than the external ones. Hence, when asked to rank the push factors according to their importance for breaking away, it seems probable that farmers will rank internal push factors higher than external ones. Based on this logic, and granted that the farmers' socio-economic and socio-demographic backgrounds may also play a role in the relative assessment of the push factors, it seems likely that:

> Hypothesis 1. Farmers rank internal push factors for breaking away higher than external push factors.

It will further be inquired whether stayers, joiners and breakers (see section 3.1) ranked these factors in a different way.

Pull factors. Comparable to the decision to break or not, three alternative options of choice corresponded to different motives identified as *pull factors*: staying in the remnant network, joining another existing (operating) network, or creating a new network. The pull factors were defined as the motives for joining other networks. These factors include: payment on time, the facility of getting inputs, trust in board members, the size of network, the hope for board positions, the expectation of profit, kinship, and the taste for novelty. Within the pull factors, network efficiency factors can be distinguished from personal aspiration factors.

Timely payment of network members, as opposed to lack of payment that push farmers to break away, would pull farmers towards better managed networks. Payment on time is expected to be positively correlated with atomisation of networks and to be ranked higher by joiners than by stayers and creators. Like the financial outcomes, the question of inputs supply has remained central to cotton production. Input supply was also crucial to food crops, to which an important part was diverted. Therefore, inputs facilitation is expected to be positively correlated with networks atomisation, and to be ranked higher by joiners and stayers than by creators.

Meeting the two criteria above (payment on time, getting inputs) that constituted farmers' overriding concerns attests to the network effectiveness and was expected to increase the trust in its board members. Trust serves as a lubricant for cooperation (Misztal, 1996). With the prevalence of mismanagement-related conflicts within and between networks that had increased distrust, trust in cotton board members would increase from incentives such as effective supply of inputs. Trust would be ranked higher by joiners and creators than by stayers and positively affects the atomisation of networks.

Personal aspiration factors are assumed to positively affect the likelihood that more networks emerge. To get a leadership position (hope for board positions) and earn more than income from own production, farmers tended to engage in creating break-away networks. Therefore, the expectation of profit and the hope of occupying a board position should be ranked higher by creators than by stayers and joiners. Also, it is expected that in situation of no or little available information, farmers would prefer to join networks where they knew people whom they could trust, such as kin.

Both network efficiency-related factors and personal aspiration ones are likely to affect positively the atomisation by increasing the number of networks. The likelihood of staying within a network, joining another one or creating a new network is expected to be affected by a farmer's perception of these pull factors. Farmers who perceive some efficiency in an existing network would join it, while those with higher personal aspirations would decide to create a new network. Others would choose to keep the status quo by staying in their original networks. For instance, while joiners (and stayers) may value network efficiency, creators may assign more importance to personal aspiration (e.g. making more profit, becoming a leader) than to network

efficiency. Due to the membership contest after the emergence of breakaway networks, leaders tried to increase the efficiency of their networks. However, due to creators' tendency to selfishness, leaders in general face a common dilemma, which leads us to the following set of hypotheses:

> Hypothesis 2a. Farmers rank network efficiency factors higher than personal aspiration factors.
>
> Hypothesis 2b. Controlled for socio-economic and socio-demographic background, creators assign higher importance to personal aspiration factors than stayers and joiners.

In sum, personal aspiration factors should motivate breakers to create "their own networks" rather than join existing networks.

Social ties and cotton networking. Creating a breakaway network is a joint endeavour, the completion of which requires the use of social relations to extend the network. The stiff competition between breakaway networks also demanded the support of existing social ties to make new networks successful. Ties in an individual's social network are believed to be of great benefit for successful networking (Granovetter, 1973). Leaders would resort to kin, friends, fellow farmers, and other members of their social networks to enlarge their cotton networks and make these prosperous.

Social ties are thus expected to act as pull factors as well, by providing relational support for joining or creating new networks. These social ties can be based on friendship, kinship, ethnicity and religion, called "strong ties", or can encompass cotton professionals, public officials, and politicians, which are called "weak ties". All these ties contain social resources that correspond to what Wellman and Kenneth (2001:233) termed the network capital. According to Plickert et al. (2007:408-9), "kin are [...] the most likely network members to be densely interconnected, fostering communication about the needs and norms of providing help."

Weak ties have a greater contribution in extending networks than strong ties, because they bridge actors to others located in different social networks (Granovetter, 1983). During the cotton boom, cotton production and farmer networks had become political instruments that many political leaders sought to control. Thus, political groups were obviously important sources of support that would increase the creators' efficiency in the process. Similarly, political leaders, professionals of cotton (private inputs suppliers and ginners and executives of the State cotton company) played an important role too. Cotton network leaders needed to interact with these actors given that cotton production depends on the inputs being supplied. In return, cotton professionals had a great stake in supporting breakaway leaders in creating networks as a strategy to secure their activities.

Though both types of ties are important for networking, it is speculated that:

> Hypothesis 3a. Cotton farmers rank the importance of the support of weak ties higher than the support of strong ties.

If weak ties are expected to provide farmers with critical support for the creation of breakaway networks, their bridging to new members will be positively correlated with atomisation. Therefore,

> Hypothesis 3b. Controlled for socio-economic and socio-demographic background, creators rank the importance of support of weak ties higher than stayers and joiners.

Similar to the creation of networks, accessing leadership positions in cotton networks requires the mobilisation of resources embedded in an individual's social network. Indeed, cotton networks have been the largest type of networks of their type within the cotton-producing villages and they encompass members of many other social networks. Resorting to real social networks would increase the likelihood of getting a leadership position on cotton boards, either by election or by unanimous designation. According to Lin (2001), actors in possession of valued resources are more likely to be involved in decisions-making processes. In addition, the "selection of occupants [of positions in hierarchical structures] favours those who are socialized and trained to carry out [the] rules and procedures" (Lin, 2001:34). Consequently, the membership of associations other than cotton would distinguish leaders from grassroots farmers.

The escalation of leadership conflicts in cotton networks led to never-ending plots between leaders to overthrow one another. Some succeeded in holding their leadership positions longer than others, either within the same network or in new networks they helped to create. All other things remaining equal, this difference between leaders may result from resources embedded in their social networks. Indeed, social networks are potential sources of social capital, and resources facilitating action (Adler and Kwon, 2000). Leaders' status in their social networks and their degree of responsibilities would accrue to their stock of social capital and help them hold on to their leadership positions on cotton boards. The number of positions occupied and that of the social networks would have a cumulative effect on the leaders' stock of social capital, defined by Burt (2005:4) as "the advantage created by a person's location in a structure of relationships." This brings us to the last set of hypotheses:

> Hypothesis 4a. The larger the number of social networks a farmer is involved in, the more likely s/he is to be a leader.

> Hypothesis 4b. The greater a leader's stock of social capital, the longer s/he is appointed at board positions.

3.5 Findings from the quantitative research

3.5.1 Operationalization of concepts

This section discusses the quantitative operationalization of the hypotheses proposed in Section 3.4.4. These hypotheses were tested through a range of statistical analyses applied to the quantitative data using SPSS. For that purpose, a number of variables were constructed and combined with farmers' socio-economic and socio-demographic background data to understand the process of atomisation. The emergence of break-away networks was pivotal to all the instruments used throughout the process of data collection. The push and pull factors were

Definition of atomisation. The process of atomisation consists of a sequence of decisions made by farmers in their networking trajectory with regard to their membership of cotton networks. The first decision of farmers regarded leaving or staying in a network. Correspondingly, a dependent variable called BREAK was constructed taking the values '0' for farmers who have belonged to a single network during their entire cotton network life (stayers), and '1' when they broke away from their original network at least once during their cotton career (breakers).

A second decision of farmers related to their choice to either join another existing network or (help) create a 'breakaway' network. Ultimately, the process of atomisation of cotton networks resulted in three statuses. The derived dependent variable measures the likelihood that farmers' choices increase the number of networks, either by staying into remnant networks, by joining existing networks, or by creating new networks. It is named ATOMISE and has three values: '0' for stayers, '1' for joiners, and '2' for creators. The push and pull factors interacted with farmers' socio-economic and socio-demographic backgrounds to shape this process of atomisation. Farmers' perception of the effects of push and pull factors was measured by ranking them from most to least important. The factors were ranked from 1 (most important) to 7 (least important). In case farmers could not decide on the relative importance of two causes, these causes may occupy the same rank (ex aequo).

A third decision of farmers regarded their ambition to obtain a leadership position, which went along with the process of atomisation. This decision led to a dependent variable called LEADSTAT about farmers' leadership status, assigning the values '0' for farmers who had never been appointed as board members and '1' otherwise.

Operationalization of the research hypotheses. The hypotheses formulated in Section 3.4.4 were tested as follows. For hypotheses 1, 2a and 3a, the mean of each push and pull factor and of each source of support was calculated. The factors were then ranked according to their respective mean for a paired-t-test.

To further hypothesis 1 and check for differences between the three-level outcomes of the atomisation, an analysis of variance was performed. The difference of the mean

ranks of push factors between stayers (M_i=0), joiners (M_i=1), and creators (M_i=2) regarding the pth ranked internal cause RIC_p is equivalent to the simple linear regression:

$$RIC_{ip} = C_p + M_i\mu_p + \varepsilon_{ip}, \quad (1)$$

where C_p refers to the model constant (in this operationalization, the mean rank for cause p); M_i denotes the atomisation status; and ε_i is an unexplained error term. The hypothesis is (partly) verified when differences exist between the three categories for at least one internal cause. However, it is still possible that socio-economic and demographic backgrounds are the main drivers for ranking the causes. Therefore, observed differences between stayers, joiners and creators may be caused by different backgrounds of the actors in these categories. In the multiple regression analysis performed, possible differences between stayers, joiners and creators were controlled for socio-demographic (SD) and socio-economic (SE) background:

$$RIC_{ip} = C_p + \sum SD_i\beta_p + \sum SE_i\gamma_p + M_i\mu_p + \varepsilon_{ip}, \quad (2)$$

Hypothesis 1 is confirmed when at least one μ_p differs from zero. Incidentally, this linear model is equivalent to an ANCOVA (Neter et al., 1996: 663).

To test the hypotheses 2b and 3b the same procedure of following up was used as for hypothesis 1. An analysis of variance comparing the mean ranks of the pull factors into atomisation and those of the sources of support between the three-level outcomes of atomisation was first performed. An analysis of co-variance followed suit to deepen the test of the hypotheses, checking whether the mean ranks of personal aspiration factors and the importance assigned to perceived strong ties by creators resulted from their status only, or were influenced by their socio-economic and socio-demographic backgrounds.

Hypothesis 4a was tested through an analysis of covariance contrasting leaders with grassroots farmers regarding the number of social networks they were members of, and correcting for an extraneous influence of their socio-economic and socio-demographic backgrounds.

Finally, a linear regression was used to test for the relation between the leaders' stock of social capital and the duration of their appointment on cotton boards (hypothesis 4b). The total duration at leadership positions ($TOTYEAR$) of a farmer i is a function of his/her stock of social capital and the combination of his/her socio-economic and socio-demographic backgrounds. The function has the following form:

$$f(TOTYEAR_{ip}) = C_p + \sum SD_i\beta_p + \sum SE_i\gamma_p + SC_i\mu_p + \varepsilon_{ip}, \quad (3)$$

where SC represents the stock of social capital, which is the combination of the number of social networks of which the farmer was a member with the positions s/he

occupied in these social networks. Hypothesis 4b is confirmed when at least one μ_p differs from zero.

3.5.2 Empirical results of the survey

Description of the sample in term of socio-economic and socio-demographic backgrounds. In total, 148 cotton farmers from nine networks were interviewed, comprising 24 women and 124 men. With regard to breaking, the sample counted 36 stayers and 112 breakers. Tables 3.2a and 3.2b present the socio-demographic and socio-economic characteristics of the sample. Table 3.2a is a cross tabulation of farmers' level of education and age (in groups of 10 years) by gender, while Table 3.2b presents the farmers' profile with regard to the household features: size, the number of workers, the experience in cotton production, the share of cotton income in the total agricultural income, etcetera.

Table 3.2a Cross tabulation of farmers' level of education by age by gender

Gender	Level of education	Age groups (in 10-year increment)					Total
		<30	30–40	40–50	50–60	>60	
Female	No education	1	8	9	2	0	20
	Primary	0	0	0	0	1	1
	Secondary & more	0	2	0	1	0	3
	Total	1	10	9	3	1	24
Male	No education	5	14	17	18	9	63
	Primary	3	9	1	11	2	26
	Secondary & more	2	8	14	7	4	35
	Total	10	31	32	36	15	124
Total	No education	6	22	26	20	9	83
	Primary	3	9	1	11	3	27
	Secondary & more	2	10	14	8	4	38
	Total	11	41	41	39	16	148

Table 3.2b Characteristics of the sample (metric variables)

	Household size	Number of workers	Cotton experience	Share of cotton income (2005-2010)	Average cotton area (2005-2010)
N	147	147	148	133	147
Mean	16.35	10.27	20.16	45.15	2.60
SD	11.37	8.77	10.29	26.53	2.52
Median	14.00	8.00	20.00	46	2.00
Mode	14	3.50	20	.00	.00
Min.	1	1	0	.00	.00
Max.	100	83.5	46	1.00	14.80

***Source** (both tables):* Survey data, 2009–2011.

More than 50 per cent of farmers in the sample has no formal education. Educated women represent only 17 per cent of their category, while for men the ratio educated to non-educated is about 1. Hence, male cotton farmers are significantly more educated than their female counterparts. About 80 per cent of the farmers are in the ages of 40 to 50 years old, while 50 per cent of the women is under 40.The average household size is 16.35, with an average of 11 workers per household in male adult equivalents. Farmers' experience in cotton production ranges from 0 to 46 years, with a mean of 20 years and a standard deviation of 10. The income generated by cotton during the five years prior to the survey (2005-2010) was on average 45 per cent of the agricultural income, while agriculture is the main occupation and often the only source of income in the area. For the same period (2005-2010), the average cotton plot extended from 0 ha to about 15 ha with a mean of 2.6 ha. The minimum of 0 represents those who abandoned the production permanently or temporarily.

The process of atomisation resulted in about 20 per cent of stayers, 51 per cent of joiners, and about 28 per cent of creators (Table 3.3).

The results indicate a significant association between leadership status and the three atomisation statuses ($\chi^2(1) = 42.32$, $p < .001$). About 58 per cent of stayers in the sample are grassroots farmers against 42 per cent of leaders, while 40 per cent of breakers are grassroots farmers against 60 per cent of leaders.

Push factors. The means of the push factors for atomisation pointed out the lack of payment (M = 2.4, SD = 1.68) as the first push factor, followed by mismanagement of resources (M = 2.8, SD = 1.67). The lack of communication (M = 3.5, SD = 1.63), intra-group conflicts (M = 3.9, SD = 1.68), and manipulation (M = 4.3, SD = 1.89) rank third, fourth, and fifth, respectively. Expansion of villages (M = 5.5, SD = 1.62) and imitation (M = 5.6, SD = 1.36) occupy the last ranks.

Table 3.3 Farmer's leadership status by status in atomisation

Status in breaking away networks	Leadership status	Atomisation			Total	Chi-sq
		Stayers	Joiners	Creators		
Stayers	Grassroots farmers	18	3	0	21	$\chi(1) = 3.29$ $p = .141$
	Leaders	12	1	2	15	
	Total	30	4	2	36	
Breakers	Grassroots farmers	0	44	1	45	$\chi(1) = 36.57$ $p < .001$
	Leaders	0	28	39	67	
	Total	0	72	40	112	
Total	Grassroots farmers	18	47	1	66	$\chi(1) = 42.32$ $p < .001$
	Leaders	12	29	41	82	
	Total	30	76	42	148	

***Source**:* Survey data, 2009–2011.

The pairwise comparisons of the push factors (Table 3.4) show significant differences between lack of payment and mismanagement of resources ($p < .05$). Significant differences also exist between mismanagement of resources and lack of communication ($p < .01$), and between manipulation, and the expansion of villages ($p < .001$). These results provide enough evidence to confirm hypothesis 1.

Table 3.4 Paired differences of means ranks of perceived push factors for atomisation

Pair push factors	M (SD)	t	Diagnos-tic
Lack of payment - Mismanagement of resources	-.42 (2.40)	-2.09*	Different
Mismanagement of resources - Lack of communication	-.69 (2.55)	-3.25**	Different
Lack of communication - Intra-group conflicts	-.33 (2.50)	-1.57	Ex aequo
Intra-group conflicts – Manipulation	-.44 (2.79)	-1.89	Ex aequo
Manipulation - Expansion of villages	-1.21 (2.75)	-5.26***	Different
Expansion of villages - Imitation	-.13 (2.3)	-.65	Ex aequo

* = $p < .05$, ** = $p < .01$, *** = $p < .001$

***Source**:* Survey data, 2009–2011.

The analysis of variance (ANOVA) of the mean ranks of the perceived push factors for atomisation (Hypothesis 1) reveals in Table 3.5 that only mismanagement (an internal cause) has a statistically significant effect on the outcome of atomisation ($p <.05$).

Table 3.5 Mean ranks of perceived push factors for atomisation

		Lack of payment	Mis-manage-ment	Lack of communi-cation	Intra-group conflicts	Manipu-lation	Expan-sion of villages	Imitation
Stayers(N=27)		2.6	3.3	3.1	3.9	3.7	5.8	5.6
Joiners(N=75)		2.2	2.9	3.7	3.9	4.3	5.2	5.7
Creators(N=41)		2.7	2.3	3.5	3.7	4.6	5.8	5.5
Overall(N=143)		2.4	2.8	3.5	3.8	4.3	5.5	5.6
$F_{(2,142)}$		1.77	2.99	1.31	0.36	1.82	2.01	0.42
Significance		ns	p < .05	Ns	ns	ns	ns	ns
Correc-ted	$F_{(7, 135)}$	1.19	0.95	0.95	0.65	2.35	0.79	1.79
	Sig.	ns	ns	Ns	ns	p < .05	ns	ns

Note: ns = not significant.

***Source**:* Survey data, 2009–2011.

Controlling possible observed differences for socio-demographic and socio-economic factors, the corrected model shows a significant difference between the three categories of farmers only with regard to manipulation ($p < .05$), which is an external push factor for atomisation.

Pull factors. The first pull factor for atomisation is related to payment, similarly as for push factors. Payment on time (M = 1.6, SD = 1.04) was followed by the facility of getting inputs (M = 3.3, SD = 1.55) ranking second, and by trust in board members (M = 3.7, SD = 2.01) at the third position. On average, kinship was classified fourth pull factor (M = 4.8, SD = 2.04), and the hope for board positions fifth (M = 5.2, SD = 2.14). The factors that appeared as the least important ones were the expectation of profit (M= 5.4, SD = 1.73) ranking sixth, the size of networks (M = 5.9, SD = 1.68) ranking seventh, and finally the taste for novelty (M = 6.2, SD = 1.8).

The pairwise comparisons indicated significant differences between the mean ranks of three paired pull factors (Table 3.6).

The difference between the first two pull factors (payment on time and facility of getting inputs) is highly significant, showing farmers' clear preference for payment on time. Highly significant differences also exist between trust in board members and kinship. A border-significant difference exists between expectation of profit and the size of networks ($p < .05$). The classification above and the pairwise comparisons of the mean ranks confirm hypothesis 2a.

Table 3.6 Paired differences of means ranks of perceived pull factors for atomisation

Paired pull factors	M (SD)	t	Diagnostic
Payment on time – Facility of getting inputs	-1.66 (2.00)	-9.82***	Different
Facility of getting inputs – Trust in board members	-.40 (2.64)	-1.80	Ex aequo
Trust in board members – Kinship	-1.18 (3.08)	-4.52***	Different
Kinship – Hope for board positions	-.33 (3.16)	-1.23	Ex aequo
Hope for board positions – Expectation of profit	-.21 (3.02)	-.82	Ex aequo
Expectation of profit – Size of networks	-.53 (2.61)	-2.41*	Different
Size of networks – Taste for novelty	-.26 (2.70)	-1.129	Ex aequo

* = $p < .05$, *** = $p < .001$

***Source**:* Survey data, 2009–2011.

The means of two perceived pull factors for atomisation were significantly different between stayers, joiners and creators (Table 3.7).

While trust in board members (a network efficiency factor) was differently ranked by the three categories of farmers ($p < .05$), the hope for board positions (a personal aspiration factor) was ranked higher by stayers than by joiners and creators who assigned a similar rank to that factor ($p < .05$). The control for observed differences with socio-economic and socio-demographic background confirms the difference about trust in board members ($p < .05$). The control reveals an additional difference between stayers on the one hand and joiners and creators on the other hand with regard to the expectation of profit ($p < .05$). Therefore, hypothesis 2b is confirmed.

Table 3.7 Mean ranks of perceived pull factors for atomisation

	Pay-ment on time	Facility of getting inputs	Trust in board members	Kin-ship	Hope for board positions	Expectation of profit	Size of networks	Taste for novelty
Stayers (26)	1.5	3.8	4.8	4.7	3.8	5.2	6.3	5.8
Joiners (75)	1.6	3.1	3.7	4.7	5.5	5.4	5.7	6.2
Creators (38)	1.6	3.2	2.8	5.2	5.5	5.4	6.0	6.3
Overall (139)	1.6	3.3	3.7	4.8	5.2	5.4	5.9	6.2
$F_{(2,136)}$	.18	2.06	8.13	.74	7.12	.12	1.31	.71
Significance	Ns	ns	p<.001	Ns	p<.001	ns	ns	ns
Corrected $F_{(7,122)}$	1.01	1.44	1.92	0.98	1.39	1.88	0.83	1.03
Corrected Sig.	Ns	ns	p < .05	Ns	Ns	p < .05	ns	ns

Note: ns = not significant.

***Source**:* Survey data, 2009–2011.

Table 3.8 Paired differences of the mean ranks of perceived sources of support for creating networks

Paired sources of support	M (SD)	T	Diagnostic
Professionals of cotton – Kinship	-.25 (2.89)	-1.00	Ex aequo
Kinship – Friendship	-.82 (2.22)	-4.33***	Different
Friendship – Public officials	-.08 (3.04)	-.31	Ex aequo
Public officials – Ethnicity	.91 (2.91)	-3.69***	Different
Ethnicity – Political groups	-.26 (2.84)	-1.08	Ex aequo
Political groups – Religion	-.13 (2.76)	-0.56	Ex aequo

***= p < .001

***Source**:* Survey data, 2009–2011.

Social networks of cotton farmers. The overall ranking of the social support ties yields a weak tie that ranks first. Professionals of cotton (inputs suppliers and cotton ginners) appear to be the most important sources of support (M = 2.7, SD = 1.70) and kinship (M = 2.9, SD = 1.74) as the second. Friendship (M = 3.7, SD = 1.80) and public officials (M = 3.8, SD = 2.00) are classified third and fourth, respectively. Religion (M = 5.1, SD = 1.68) is ranked last, preceded by political groups (M = 5.0, SD = 1.95) and ethnicity (M = 4.7, SD = 1.63) as, respectively, the fifth and sixth source of support. However, the paired comparison reveals differences between only two pairs. Differences of the mean ranks between kinship and friendship, and between public officials and ethnicity are highly significant (Table 3.8). However, the overall ranks of weak and strong ties lead to rejection of hypothesis 3a.

Significant differences between stayers, joiners and creators were found for the mean ranks of three perceived source of support (Table 3.9).

Table 3.9 Mean ranks of perceived sources of support for creating breakaway networks

		Cotton professionals	Kinship	Friend-ship	Public officials	Ethnicity	Political groups	Religious groups
Stayers (N=27)		3.0	3.1	3.8	4.4	4.4	4.4	4.9
Joiners (N=73)		2.8	2.9	3.9	3.4	5.1	5.1	4.9
Creators (N=38)		2.3	2.8	3.4	4.3	4.3	5.3	5.7
Overall (N=138)		2.7	2.9	3.7	3.8	4.7	5.0	5.1
$F_{(2,136\text{-}141)}$		1.54	.23	1.16	4.38	3.71	1.92	3.33
Significance		ns	ns	ns	$p < .05$	$p < .05$	ns	$p < .05$
Corrected	$F_{(7,130)}$	0.73	0.69	0.85	2.31	2.26	0.97	1.76
	Sig.	ns	ns	ns	$p < .05$	$p < .05$	ns	ns

Note: ns = not significant.

***Source**:* Survey data, 2009–2011.

Joiners assign higher importance to public officials (a weak tie) than stayers and creators ($p < .05$). Also, while stayers and creators rank ethnicity higher than joiners ($p < .05$), stayers and joiners rank religion higher than creators ($p < .05$). The control of observed differences for socio-economic and socio-demographic background confirms the differences between the three categories for the public officials ($p < .05$) and ethnicity ($p < .05$). Because all farmers rank professionals (a "weak tie") highest, hypothesis 3b is rejected by these data.

To test hypothesis 4a, a 2 (leadership) × 2 (gender) × 3 (education) ANCOVA design was performed with the membership of social networks as the dependent variable and leadership, gender and education as the independent variables (Table 3.10). The covariates are age, the household dependency ratio, the share of cotton income, the extent of cotton production. The preliminary evaluation of the homogeneity of regression slopes indicates a non-significant relationship between the covariates and the independent variables ($p = .72$).

Leadership is significantly associated with the number of social networks farmers are a member of ($p < .01$, $\eta^2 = .06$), confirming hypothesis 4a. Planned contrast reveals that being a leader slightly increases the number of networks a farmer is a member of, compared to being a grassroots farmer ($p < .05$). Also, male farmers have somewhat higher membership of social networks than female farmers ($p < .05$), and a greater share of cotton income is associated with more membership of social networks ($p < .05$).

Table 3.10 Analysis of covariance for farmers' membership of social networks by their leadership status by gender and education

Parameters	$F_{(1,110)}$	B (SE)	t	Partial η^2
Intercept	6.39*	1.85 (0.60)	3.10**	.06
Age	2.94	0.01 (0.01)	1.71	.03
Household dependency ratio	2.63	-0.29 (0.18)	-1.62	.02
Share of cotton income (%)	7.20**	-0.97 (0.36)	-2.68**	.06
Average cotton plot (ha)	0.54	-0.02 (0.02)	-0.73	.01
Leadership Status (0=Grassroots Farmers)	7.28**	-1.53 (0.69)	-2.22*	.06
Gender (0=Female)	2.01	1.59 (0.69)	2.30*	.02
Education (0=No education)	-0.29	-0.65 (0.28)	-2.36*	.05
Education (1=Primary school level)		0.11 (0.28)	0.40	.00
Interaction Leadership*Education	2.24			.04
Corrected Model: R^2 = Square = .29, Adjusted R^2 = .20, $F_{(13,110)}$ = 3.38***, η^2 = .29				

* = p < .05, ** = p < .01, *** = p < .001

***Source**:* Survey data, 2009-2011.

The linear regression of the duration of appointment at leadership positions in cotton boards confirms the effect of social networking (Table 3.11, Hypothesis 4b), thereby confirming hypothesis 4b.

Table 3.11 Linear Regression of determinants of the duration of appointment on boards

	Model 1			Model 2		
	B (SE)	T	ß	B (SE)	t	ß
Constant	1.92 (4.63)	0.42		0.01 (4.49)	0.00	
Secondary level and more	2.72 (1.18)	2.31*	0.35	2.07 (1.15)	1.79	0.27
Index of social capital	-	-	-	0.52 (0.20)	2.61*	0.37
N = 71, R^2 = .12, ΔR^2 = .10, $F_{(8,62)}$ change = 6.80, * = p < .05,						

***Source**:* Survey data, 2009-2011.

Farmers' socio-economic and socio-demographic backgrounds were again controlled to test for the effect of social capital, which was added in the second model of the regression. While education (above the primary level) is border-significant in the first model, it is not in the second model. The stock of social capital has a significant and positive relationship with the duration of appointment on boards. The R^2-change of 10 per cent attests to the relatively important contribution of social capital to the model.

3.6 Discussion

When distinguishing farmers into breakers and stayers on the one hand, and grassroots farmers and leaders on the other hand, it was found that more than three quarters of cotton farmers broke away from their original network at least once during their cotton cropping career, either actively or passively. This implies that a large proportion of cotton farmers in the cotton belt were involved in the process of atomisation. The results also show that more than one in two cotton farmers had a leadership position at, at least, one of the four levels of cotton networks. It can then be inferred that, as a consequence of the atomisation of networks, leadership positions are well distributed and that many farmers were able to get such positions. However, leaders of cotton networks were more likely to break away than grassroots farmers. The results further tell us that the creators of new networks are more likely to be leaders than stayers or joiners. The aforementioned results confirm that by breaking away, farmers increased their chances of getting leadership positions.

The perceived push and pull factors that influence the dynamics of cotton farmers leaving from and joining networks are related not only to the management of networks, but also to social ties. The importance of these ties is strongly supported by the results from the qualitative analysis. The quantitative analysis, however, did not yield much evidence of a strong relationship between the process of atomisation and the perceived push and pull factors.

3.6.1 Push factors

The four sub-groups of causes for breaking away as determined by the pairwise comparison imply a varied perception of the push factors for atomisation by farmers. Farmers made a clear difference between mismanagement of resources and the lack of payment. Earning income being the main purpose of growing cotton, lack of payment, which became acute as internal problems escalated, affected farmers more than any other cause. Lack of payment pushed them to break away, principally when it clearly resulted from mismanagement. Mismanagement of resources by leaders affected both the inputs used for cotton production and the income derived from the produce. It increased free-riding behaviour from grassroots farmers who sought for compensation. In the end, mismanagement burdened farmers with debts, and blocked their access to information. The lack of communication could be perceived in two ways: first as a strategy of covering mismanagement practices, and second as the lack of consideration from leaders. The fact that lack of communication, intra-group conflicts and manipulation were put into the same sub-group of push factors implies that their effects are correlated and that one factor could result from the other. However, manipulation was highly rated by stayers, who accused breakers of being manipulated by inputs suppliers. The results of the analyses of variance and covariance, however, attest that all these causes could affect farmers regardless of their status in breaking away networks.

With regard to the overall ranking of the push factors, internal push factors for atomisation appeared to be more important in farmers' decision to break away than external factors. Consequently, they have a negative relationship with staying into remnant networks. However, the differences in the ranks assigned to these push factors with regard to the three-level outcome of atomisation are hardly significant, except for manipulation. The high rank assigned to this factor by stayers echoes their argument that manipulation by outside actors plays a crucial role in pushing farmers to leave their networks. The lack of significant difference of the mean ranks of push factors between stayers, joiners and creators means that the outcome of atomisation did not depend on these factors, which may have affected all the farmers similarly. Indeed, all networks comprised the three categories of cotton farmers, including the original network from which some members broke away before they came back. Thus, all networks were affected by the phenomenon of breaking away. The analysis of covariance confirmed this lack of significant difference in the ranking of the causes.

3.6.2 Pull factors

The lack of any significant difference between stayers, joiners and creators regarding the mean rank of payment on time testifies to its similar importance to all these categories in pulling them towards other networks. Similarly to the pushing force of lack of payment in the process of breaking from a network, payment on time exerted a strong pulling effect on farmers. The facility of getting inputs and trust in board members formed a relevant sub-group. Indeed, the inputs for cotton production as well as for the production of food crops are of critical importance, and getting inputs determines trust in board members. Kinship, the hope for board positions, and the expectation of profit, which all belong to the same sub-group as a result of the pairwise comparison, were rated lower than network efficiency factors. This result was confirmed by the overall ranking, which revealed that the three categories of farmers assigned a higher importance to network efficiency than to personal aspiration.

Trust in board members was the most significant pull factor, of which the mean rank confirmed the difference between stayers, joiners and creators after the control. Also, the hope for board positions and the expectation of profit showed a significant difference between stayers who ranked them higher on the one hand, and joiners and creators who ranked them lower on the other hand. These relations suggest that i) creators perceived those who join their network as trusting the board members, and ii) stayers perceived the hope for board positions as an important motive for those joining breakaway networks, which is an explanation of joiners' and creators' behaviour.

3.6.3 Social capital and cotton leadership

Cotton professionals (inputs suppliers and cotton ginners) turned out to provide critical support in the process of atomisation. This role of weak ties was acknowledged by farmers throughout the discussions and interviews. Cotton professionals were perceived as the most important source of support for the emergence of cotton breakaway networks by the three categories of farmers, regardless of their leadership status. This type of bridge was therefore crucial in building a large cotton network, given that they facilitate access to more and further ties. As the cornerstone of networks atomisation, inputs suppliers and cotton ginners triggered and masterminded the process until they lost control. Kinship and friendship also played an important role as strong ties in cotton networking, contrary to expectations. The significant difference between the mean ranks assigned to public officials and to ethnicity shows a similar perception of stayers and creators, which is different from the rank assigned by joiners. This differences implies that joiners might have been more oriented by public officials in their movement than stayers and creators, whereas the latter value ethnicity in expanding their networks. Indeed, public officials are important when creating breakaway networks because they know the official procedures, which they can apply in a more or less flexible manner, and because they can provide the networks and their proponents with various materials. The significant effect of ethnicity and religion (strong ties) shows that they constitute secure sources on which leaders could base their action. However, the overall ranking did not reveal any pre-eminence of weak ties over strong ties.

The significant and positive relationship of the number of social networks farmers belonged to with the leadership status implies that the more social networks a farmer is involved in, the more likely s/he will become a leader. This association was further supported by the results of the regression of the length of appointment on boards. Indeed, being a member of a social network is not enough to generate resources for instrumental action. Being a leader therein increases the value of these resources that can be derived from investment into the network activities. It provides opportunities of extending one's social relations, thereby strengthening one's social capital. According to the strength-of-position proposition (Lin, 2001:65), access to social capital is linked to higher positions in social structures. Thus, the interaction of the number of social networks with the number of positions occupied within these networks other than cotton had a significant and positive relationship with the duration of appointment as leaders. The more experience and contacts a farmer accumulated from his/her social networks, the longer s/he might have stayed in leadership positions. Therefore, previous leadership experience in social networks is as important as a higher membership of these networks. Thus, it can be inferred that previous relations and experience in social networks constitute a resource that leaders use to strengthen their positions in cotton boards. The stock of social capital embedded in an individual's social relations plays an important role not only in

building a (new) network (Wellman and Kenneth, 2001), but also in getting into leadership positions and being able to hold on to those positions.

3.7 Conclusion

This chapter investigated the emergence of breakaway networks in Benin's cotton production and how this process elapsed into atomising the original organisation. It attempted to combine the strengths of qualitative and quantitative research, but unfortunately the results did not support each other. The qualitative research aimed to understand and identify factors of atomisation, whereas the quantitative approach aimed to find out the relative importance of the factors for atomisation by ranking them and verifying a number of explanatory mechanisms.

Farmers' agency and cotton networks influenced one another, shaping the process of networks atomisation in Benin. The major drivers of atomisation were problems with payment and problems with resources such as the facility of getting inputs (fertilisers and pesticides). Payment-related issues had been given a primacy in cotton networking. Thus, whether farmers were paid and how timely this payment was done could push breakers to leave their networks or pull them into other networks, regardless of whether they were joiners or creators. The results further suggest that the atomisation of cotton networks basically revolves around two dimensions of social capital: the structural dimension, through farmers' membership of social networks, and the cognitive one, relating to the discourse the networks proponents resort to for mobilising farmers. The main pattern is that breakaway networks emerge through weak ties. Resorting to strong ties was an exception, which implies that the relational dimension of social capital was of marginal importance. In addition, farmers' socio-economic and socio-demographic background made little difference with regard to their decision of leaving or joining a network. Further results show that a majority of farmers at one point became leaders in new networks, indicating that becoming a leader could be a major hidden incentive for atomisation. In addition, a greater stock of social capital was correlated with the length of leaders' appointment on cotton network boards.

This type of research is of course prone to the weaknesses of both qualitative and quantitative approaches, i.e. subjectivity and reductionism, respectively. The first major limitation of this research pertains to the relatively small number of farmers selected for interviewing. The reality on the ground was that getting access to these farmers required considerable logistic effort due their geographical dispersion and the bad rural infrastructures. The degree to which the sample is representative of the total population can, despite our efforts to maximise it, only be determined in future research. Another limitation of the research relates to the fact that the same questions were asked to all categories of farmers, which made the answers to perception-related questions both an expression of one's own situation and a judgment of other persons' behaviour. As a consequence, the quantitative findings did not always support the

qualitative evidence. Further research to map the networking trajectory of cotton farmers could yield more insight into the dynamics pertaining to Benin's cotton sector for effecting a positive qualitative change.

Chapter 4

Generating Resources and Conflicts: Profitability and Social Cohesion in Benin's Cotton Sector

ABSTRACT: This chapter is based on field research in the northern Benin, West Africa. The research aimed to investigate how interpersonal and intra-organisational conflicts disrupted cotton production and froze collective action. Cotton has proven to be the lifeline for farmer organisations, and has driven collective action in rural areas. The struggle to control these organisations and their economic and social benefits generated mismanagement and free-riding behaviour. The greed for resources, in the end, led to hatred, disruption of ties, and conflicts within and between farmer organisations, which resulted in the decline of cotton production and the freeze of collective action. Results from case studies show that social relations based on kinship and friendship deteriorate when financial stakes are high, and that cooperation within large groups requires legal sanctions to be sustainable.

Keywords: Cotton production; Collective action; Social cohesion; Benin

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4.1 Introduction

For the last two decades, cotton has been the most important crop in Benin, both in terms of the percentage of the population involved in cotton-related activities and the income generated by the crop. The boom in cotton production from the end of the 1980s has impacted many other economic domains in the country. This boom owed not only to market incentives but also to the dynamics of the organisations that evolved around cotton production. The most important of these organisations are farmer organisations, which instilled new dynamics into the sector to make it successful. In turn, farmer organisations have been shaped by cotton farming and have depended on its levies for their functioning (Kouton et al. 2006). From the resources generated by cotton production, collective action was sustained in villages where communities provided themselves with basic services that were not supplied adequately by the state: education, health, roads, and other infrastructure. The success of the sector increased the visibility of cotton-related organisations and their leaders who grew in importance both economically and socially, at local as well as national level. But cotton as source of income also became a source of conflict, because of divergent interests. Cotton interests stirred appetites and attracted new entrepreneurs in cotton production who invaded the organisations under the pretext of improving the management. This led to conflicts within and between organisations and organisational breakdown, and inflated the number of organisations. The ensuing conflicts disrupted the social cohesion in the organisations and communities, and resulted in the decline of cotton production and the freeze of collective action. The ultimate consequence has been the loss by many small-scale farmers, of their main, or even their only source of income.

Studies investigating the causes of the demise of cotton production in Benin, however, have pointed at technical and trade issues. The latter, namely cotton subsidies in industrialised countries, are associated with the decline of cotton prices on the international market, causing important losses to producers in developing countries. A debate about the removal of these subsidies opposed the two groups of countries in international forums. The attention focussed on the outcomes of the debate, to the extent of overlooking the dark side of the internal institutional dynamics in cotton organisations. While in Benin, farmer organisations have been pictured by some as enabling social inclusion (Tama-Imorou & Wenninck, 2007; Tama-Imorou et al., 2007), others (e.g. Sinzogan et al., 2007) saw them as pawns caught into heavy institutional arrangements and enduring the externalities of global policies. The problem of the atomisation of farmer organisations that subsequently occurred was not seen in relation to the inter-personal and intra-organisational conflicts that increasingly affected cotton farming. Indeed, far from undergoing passively the effect of external contingencies, cotton farmer agency in Benin has impacted the trend of cotton production. Therefore, to revive the sector a closer look should be taken at the critical issue of the organisational dynamics of the sector.

The purpose of the present chapter is to investigate how interpersonal and intra-organisational conflicts have disrupted cotton production and frozen collective action. The research was conducted through focus group discussions, key informant interviews, and in-depth interviews with 148 farmers including both grassroots farmers and organisation leaders. The chapter first discusses the theoretical perspective used in the research and then pictures the cotton system in the cultural setting of the study area. In the following sections, the emergence of collective action in the study area is described and an analysis is presented about how conflicts and violence expanded throughout the cotton production zones and were manipulated by traders and intellectuals to enter cotton organisations, resulting in the disruption of social cohesion and the demise of collective action. Two cases will be presented to highlight these processes. The chapter concludes with a brief discussion on the implications for cotton production.

4.2 Theoretical perspective

The issue of group dynamics has been approached through a focus on the production and use of resources and the management of interpersonal relations. Both affect the cohesion of groups, thereby determining their ability for cooperation. Cohesion and cooperation within a group determine its ability to overcome internal difficulties as well as threats from outside.

Experimental studies of cooperation stem from the so-called 'Prisoner's Dilemma' model, from which the concepts of the "public goods dilemma" and the "resources dilemma" originated. The two concepts were grouped together as "social dilemmas" (Kollock, 1998; Komorita & Parks, 1995). A social dilemma is defined as "a situation in which a group of persons must decide between maximizing selfish interests and maximizing collective interests" (Komorita & Parks, 1995: 190), leading to "tension between individual and collective rationality" (Kollock, 1998: 183) in the production and use of public goods. The use of public goods, in contrast to their production, puts actors in the 'commons dilemmas' or a 'social trap', a situation in which individuals are tempted by an immediate benefit of which the cost has to be shared by all users of the resource. The problem of cooperation in social dilemmas poses a critical issue of trust.

The role of trust in organisational settings is widely acknowledged by numerous researches in various disciplines. Trust represents "a positive assumption about the motives and intentions of another party [and] allows people to economise on information processing and safeguarding behaviours" (McEvily et al. 2003: 92-93). Misztal (1996: 18) defined it as "the willingness of other agents to fulfil their contractual obligation that is crucial for cooperation". Trust has two key features: the psychological and the behavioural (Kramer, 1999). The psychological feature, associated with cognition, entails the trustor's perceived vulnerability, while the

behavioural one pertains to the interactions between actors. Trust has three functions: the integrative function, the reduction of complexity, and the lubricant for cooperation (Misztal, 1996). The lubricant function makes cooperation for collective action possible and ensures group cohesion. Cohesion, as the sense of belonging of group members, is determined by incentives found through membership. The "collectivity is structurally cohesive to the extent that the social relations of its members hold it together" (Moody & White, 2003: 106).

The present research hypothesised that the demise of collective action in cotton-producing areas resulted from the decline of social cohesion within cotton organisations. It aims at understanding how the social dynamics of cotton organisations fizzled, in spite of incentives provided by the sector that should allow an enduring cooperation for the benefit of the whole.

4.3 The cotton system

4.3.1 The socio-cultural setting of the cotton zone

In Benin, the provinces heavily impacted by cotton production are those of Borgou and Alibori in the North. Between 1990 and 2010, these provinces together accounted for 48 to 80 per cent of the national production (AIC, 2008a). Alibori is considered the cotton belt of the nation, while Borgou is the food belt though also producing an important share of cotton. Together they formed the Benin part of the pre-colonial kingdom of *Borgu*, dominated by the *Baatombu* (Jones, 1998).

Before the partition of 1898 *Borgu* was a kingdom, stretching from North Benin to North-west Nigeria (Kuba, 2000). The term *Borgu* designates a socio-cultural, political and economic space with complex and diverse power relations between the different ethnic groups (Boesen, Hardung, & Kuba, 1998). It also comprised other ethnic groups, namely the *Boo,* the *Mokole*, the *Fulani,* cattle breeders and herdsmen, the *Gando,* and the *Dendi*, migrant traders descending from the *Wangara* of Mali (Brégand, 1998). The *Baatombu*, the *Boo* and the *Fulani* are considered the indigenous groups, the *Baatombu* being land owners (Jones, 1998). The large majority of the other ethnic groups, however, speak *Baatonum*, the language of *Baatombu.*

Borgu's economy was "land-based, with few resources to attract external trade" (Adekunle, 1994: 1), though it was located at the crossroads of important commercial networks between the *Yoruba* and *Hausa* states of Nigeria and the former Songhay empire (Kuba, 1998). Due to colonisation, the kingdom disintegrated politically and economically. In addition, urbanization and modernization have transformed *Baatombu* society and have weakened community cohesion and some practices of solidarity. But even so, contemporary Borgou exhibits the hierarchical structure of the ancient *Borgu*, quite "complex and rigid" with the noble or aristocratic *Wassangari* at the top, and commoners who are cultivators and hunters at the lower end (Lombard,

1960, 1998). In spite of its ethnic diversity, Borgou is socially integrated through cultural practices and processes that aim at peace keeping. Among them is the joking relationship, which involves cross-cousins, kin of alternate generations, different craftsmen, and neighbouring ethnic groups. It forms a harmless outlet for social tensions within and between groups (Brydon, 2010). By joking people avoid open and destructive antagonism due to jealousy or competition" and give "proof of solidarity with every joke they gamely endure" (Schottman, 1998: 159). Neither the socio-cultural customs and beliefs nor the historical links between the different ethnic groups have completely disappeared. These links are alive across borders and ethnic consciousness among the *Baatombu* sub-groups is still strong (Akinwumi, 1998). The social organisation of the society in chiefdoms around the central kingdom still plays a role. Each *Baatombu* society has several layers of historical titles and political offices that are still locally relevant and conserve their attributes of power (Alber, 2004; Harneit-Sievers, 2002).

4.3.2 The first cotton elite: The rise of school dropouts

During the Marxist-Leninist era in the 1970s, farmer organisations were purposefully promoted throughout the country by the military regime as a form of village associations. These associations were used to infiltrate and control the grassroots populations. This logic is reflected in their name: *Groupement Révolutionnaire à Vocation Coopérative (GRVC)* (Maboudou Alidou, 2002). The revolutionary cooperatives served as the basis for the process that took place from the end of the 1980s onwards, i.e. the networking among farmer organisations. But where the GRVC had almost no freedom of action and was constrained by political control, the present *Groupements Villageois* (GV) are autonomous. Belloncle, cited by Tossou (1993) contended that the emergence of new forms of farmer organisations coincided with the appeal for a real dialogue between farmers and developers after the rural development approaches of the 1960s and 1970s failed to live up to expectations. The shift of status also benefited from the advent of democracy when the 1990 National Conference put an end to the socio-political unrest of the second half of the 1980s. This policy shift gave the new forms of organisations a level of importance that previous organisations never had. It also led to the emergence of a new elite: that of school dropouts.

Northern Benin was characterised by a low rate of literacy and, apart from primary school teachers, rarely did intellectuals live in the villages. The first rural literacy program in Benin started in the province of Borgou during the 1970s, to train the GV managers in reading and counting in the local language. The acquired skills were used in cotton production to report inputs distribution among members, and in cotton commercialization (Abou-Moumouni, 2011). But the skills turned out to be insufficient when cotton production became really important. School dropouts then started taking over the daily management of the GVs. The little literacy they had constituted a highly appreciated asset for farmer organisations, where they would

occupy the positions of secretary on the board. Later on, the secretaries turned out to be crucial board members, due to the critical importance of their role in the redistribution of inputs, the commercialisation of cotton, and payment. Until recently, in many farmer groups the two other important board positions, namely that of president and treasurer, were occupied by virtually illiterate persons. This enabled secretaries to encroach upon the responsibilities of the president and the treasury. With the atomisation of cotton organisations, this pre-eminence of the secretaries led members to equate the organisation with the secretary. The most common answer to the question about which organisation a farmer belongs to is: "*I am in the organisation of Secretary X or Y*", X and Y standing for the name of this secretary.

The development of cotton production paralleled the capacity building of rural organisations. Leaders of organisations were earmarked for all kinds of training. Their acquired skills would allow them to relate directly to donors and other outsiders, mediating for their populations (Olivier de Sardan, 2005). Thanks to the booming cotton production and the huge outputs the sector generated, farmer leaders grew in importance, both economically and socially, thereby becoming role models for young people in the villages. Leaders of cotton farmer organisations formed a distinctive social class in their localities. They were blessed with various social and economic privileges that distinguished them from the others. Inter-connected from village to province, they tended to self-reinforce the system by putting in place institutional arrangements, irrespective of what was stated in statutes and laws. Lack of control allowed the leaders to manage public resources as their own. By staying on the board infinitely, some of the leaders used the power they held not only for the community but also for themselves. As a result, their social ascension led to power abuses and mismanagement that escalated free-riding behaviour.

4.4 Cotton production and collective action

There were three constituent functions of the village associations: driving up agricultural production, including food crops; facilitating access to credit and tools; and serving as the basis for the emergence of a cotton elite (Roy, 2010). These functions are assumed mainly by agents at positions of authority, who are in charge of promoting solidarity within the group and collective action for the benefit of group members and the community at large.

The ancient *Borgu* is characteristic of the collective action that stemmed from cotton production. Through a combination of community- and hierarchy-based approaches (Kiser, 1997) rules and institutions were created within cotton production communities, endorsed by the State's assistance policy to promote collective action. Despite the low level of literacy of the organisations' leaders, collective action was effective there and benefitted the communities, as is still visible in villages. It seems probable that the success of collective action in this area was boosted by certain socio-

cultural values. In *Baatombu* society, selfishness was strongly detested and sacrifice for the group highly appreciated. Studies of Borgou's socio-cultural characteristics have revealed the importance of an orientation towards others, "shown to be of crucial importance for grasping the dynamic social construction of group identities, and the various power and exchanges relations between populations groups" (Breusers, 2000: 311-312). With regard to the sociological argument that cultural and structural factors are the determinants of collective action (Kiser, 1997), it can be inferred that the society bears some of the requirements for the emergence of collective action. Communities availed themselves of basic services that were not adequately supplied by the state. Collective action driven by cotton production concerned a wide range of domains going from education to the maintenance of roads, as summarised in Table 4.1.

Because the provinces of Borgou and Alibori were known for their low levels of school attendance, collective action first backed up education at local level. Communities built schools and recruited teachers who were paid from cotton levies. This community support for education became a phenomenon known as "*Enseignants communautaires*" that spread throughout the country. Until recently, farmer unions at district level used to pay the tuition fees for school girls sent to the provincial boarding school. Residences were also built on the university campus to house students from districts like Banikoara, Gogounou and Sinende. The example convinced other district unions to do the same and inspired students from other cotton-producing districts to claim similar benefits from the cotton levies their district earned.

In addition, farmer unions built lodging houses in most of the districts where such infrastructure and services could hardly be found. Municipal buildings and leisure centres were built in villages, making the farmers proud, as illustrated by the following quote: "*This building where we are meeting actually is not built by a Minister; it is built by our own hoes and effort*." (Source: Focus group discussion, Sekere, January 2009). This shows how farmers were empowered, availing themselves of basic services that are supposed to be provided by "ministers". These achievements made the deprived villages in the region more appealing and lively. But because of power abuse, cotton production became troublesome and deprived rural populations of their potential for development.

Table 4.1 Collective action in the study area

Types	Infrastructure	Level (Village or District)
Social and community infrastructure	Agricultural inputs stores	Both
	Schools (buildings or entire schools)	Both
	Residence for school directors	Village
	Students residence at university (Cotonou)	District
	Water pumps/wells	Both
	Rural roads	Both
	Health centres	Both
	Leisure centres	Both
	Equipment for modern music orchestra	Village
	Lodging centres	District
	Municipal buildings	Both
	Public lightening	Both
	Kerosene selling points	Village
	Football fields	Both
	Rural Radio	District
	Mosques	Village
Payment	Salaries for community teachers	Both
	Assistance to students	Both
	Assistance to the municipal council	Both
	Contribution for the realisation of infrastructure by partners	Both
Maintenance	Maintenance of community infrastructure	Both

***Source**:* Focus-group discussions, January 2009.

4.5 The rise of conflicts and violence

The dynamics of farmer organisations have always been idealised, overlooking their weaknesses that undoubtedly hampered the sustainability of the cotton system. Evidence from other West African cotton producing countries, however, showed that cotton farmers played a role, directly or indirectly, in the way the process of cotton development unfolded (Bassett, 2001). Far from being passive actors, Benin cotton farmers have greatly influenced cotton production through their agency. First, positively, by their contribution to the increase of production, and second, negatively, by the confrontational way into which the management of their organisations lapsed.

4.5.1 Typology of conflicts in cotton farmer organisations

From the end of the 1990s, the cotton sector in Benin has been overwhelmed by various conflicts that undermined the cohesion of cotton organisations. These conflicts were identified and ranked by farmers during focus group discussions according to their frequency. The ranks range from 1 (most frequent) to 9 (least

frequent). Table 4.2 shows the ranking of the conflicts according to farmers, and the comparison of mean ranks between grassroots farmers and leaders.

Table 4.2 Rank of conflicts in cotton organisations according to their frequency

Nature of conflicts	Grassroots farmers (N=62)	Leaders (N=46)	t
Inputs allocation	3.0 (2.07)	3.2 (2.14)	-.43
Lack of payment	3.5 (2.31)	3.7 (2.17)	-.53
Application of joint liability	3.7 (2.07)	3.7 (2.18)	.13
Mismanagement of resources	4.7 (2.27)	3.9 (2.11)	**2.16***
Commercialisation of cotton	4.6 (2.07)	4.5 (2.07)	.19
Leadership	5.5 (2.39)	4.6 (2.32)	1.88
Lack of commitment to group work	6.5 (2.18)	6.2 (1.91)	.64
Outlets for inter-personal arguments	6.6 (2.58)	7.4 (1.68)	-1.97
Payment of membership fees	6.9 (1.88)	7.9 (1.49)	**-2.84****

N=108; * = p < .05; ** = p < .01

***Source**:* Survey data, 2009–2011.

The mean ranks of the frequencies of two types of conflict sources showed significant differences between grassroots farmers and leaders. Leaders ranked mis-management-related conflicts higher than grassroots farmers (p<.05). Indeed, of the nine breakaway organisations investigated, seven reported mismanagement-related conflicts. Also leadership-related conflicts were ranked higher by leaders than by grassroots farmers, but the difference was not significant, indicating similar importance of this cause to all categories of farmers.

Having a leadership position gave access to material and financial benefits that improved the livelihoods of leaders and enhanced their visibility in the community. This explains why conflicts about inputs allocation are ranked first in the overall ranking. This first position ascertains the critical importance of fertilisers and pesticides in cotton production. Controlling inputs gave enormous power to farmer leaders, who could use these for purposes even unrelated to cotton. The payment of membership as a cause of conflicts was ranked significantly higher by grassroots farmers than by leaders (p<.01). Farmers struggled to control their organisations and the social processes and power play involved. These processes were aggravated, how-ever, by new types of actors who invaded cotton production.

4.5.2 The first uprising: "Orou Bagou" vs. "Orou Sori"

The district of Gogounou witnessed the first inter-community conflict resulting from the 1990s production boom. The conflict resulted in the emergence of the first cotton dissident organisation. It opposed farmers from two villages: Sori and Bagou. Both villages were important cotton producers and participated in the management of the district farmer union, on which board Bagou held more power than Sori. A native from Bagou was appointed as a vice-president and destined to take over the lead of the union. The president at the time, who was then also leading the national federation of farmers, was controversial on the grounds of being illiterate, being involved in mismanagement, and extending his 'reign' for years. The contestation was led by natives from Sori, who requested him to step down. Sori, the most urban village in the district, had been contesting the position of Gogounou as the district capital for some time. Therefore, Sori could not accept to be deprived of certain positions by the village of Bagou, which cotton farmers were accused of connivance with the controversial president in the mismanagement of union resources. Farmers from Sori decided to resolve the matter by taking control of properties of the union.

In October 1997, tens of farmers filled up a truck and invaded the village of Bagou to seize selected properties of the union controlled by the vice-president, thereby triggering a violent conflict between the two villages. A pitched battle opposed the two groups of farmers at midday, resulting in a lot of destruction and hatred. It was the first and most violent conflict between the two neighbouring villages since they grew cotton. Therefore, the opposed parties were nicknamed "*Orou Bagou*" and "*Orou Sori*", referring to the camps of Bagou and Sori respectively, the term "*Orou*" being the *Baatombu's* birth rank name assigned to the first son (Schottman, 2000). Although there were no casualties, the protagonists want to forget about the conflict because of its violence and the dire consequences it generated. None of the men in the male focus group discussions in the two villages mentioned it; but the women in the female focus group discussions did. They timidly stressed its violence and referred us to the men if we wanted more details. Silencing the conflict appeared to be a "shared denial of painful realities" (Cairns & Niens, 1999). Cotton had become a nightmare, and some wondered why they ever went so far in their disputes. At the time of the fieldwork, the conflict was still pending at the court, like many other conflicts in cotton production. Nevertheless, the contesters succeeded in creating the first breakaway organisation in cotton production, supported by traders and businessmen. This tumultuous experience that unfolded in the district of Gogounou inspired the claim of its producers to be the "laboratory of cotton networks".

4.5.3 Political interference and the advent of traders and intellectuals in cotton organisations

The success story of cotton production contributed to a great extent to improving people's perceptions of agriculture. Before cotton became a critical livelihood asset, agriculture was not highly valued and being a farmer had a lower social status. Thanks to the boom in cotton production, this status improved and agriculture became a new type of entrepreneurship. The wealth generated by cotton to formerly deprived farmers attracted new farmers. With the number of people involved in its production, cotton also became an instrument that political leaders sought to control for electoral purposes. The contestation of cotton "illiterate leaders", voiced on the ground of embezzlement, became politically motived. Indeed, two succeeding Ministers of Agriculture, activists from different political parties that were strong-holding one of the largest cotton-producing districts, supported opposing wings within the farmer union to get control over the organisation for electoral purposes. This struggle between local politicians is captured in the following quote from the agricultural advisor to the Head of the State:

> *The profound but unsaid motive of the conflict and the atomisation of cotton networks was political. Every politician in the area wanted to have the farmer federation under his sway. Therefore, they backed up the emergence of dissident networks*.
>
> ***Source:*** Key informant interview, Banikoara, January 2011

Meetings to settle the disputes convened as high as the Presidency yielded no or little result, because leaders of cotton organisations became aware of their importance. To the Head of the State, who asked the contested leader to step down, the latter dared replicate: "*If it were so easy to step down, why did you refuse when you were requested to do so*", referring to the President's refusal to step down at the 1990 National Conference to end the country's socio-political unrest of the 1980s. To resolve the tense situation, the President asked whether the contesters could create their own organisation, which, according to witnesses, triggered the atomisation of cotton organisations. Henceforth, the best solution to disputes within an organisation has become the creation of "one's own organisation". As a consequence, the local conflict within a district union resulted in the fragmentation of the national federation. The conflict was also fuelled by rivalry about a farmer's wife who was allegedly snatched by a leader, showing how some leaders abused their power. Traders and retired civil servants skilfully used the discontent to engage in a struggle for a "better management" of the organisations. They started practicing cotton production, however marginally. These new farmers were termed "farm goers" instead of farmers by the leaders of the original federation, arguing that they were simply attracted by the profits. In addition, inputs suppliers and cotton ginners relying on their political contacts, encouraged dissidence among farmers and actively supported the new

entrepreneurs to create dissident organisations. About 29 per cent of the promoters of breakaway organisations in the sample were newcomers in cotton production. Leaders of this category represented about 16 per cent of the total leaders. Their influence can be grasped by observing their level of involvement in the organisations. They all occupied positions at the highest level in the hierarchy from where they could attend important board meetings and influence the process of decision-making. Though some had been moonlighting as farmers, many others had never planted cotton. Some started cultivating cotton from their involvement in the organisations, growing the minimum necessary to be considered a cotton farmer. A retired leader said: "*I cultivate cotton because I am on the board of the network.*"

Being a cotton farmer was no longer a condition for membership of cotton organisations, which shed doubt on the intention of the new leaders to improve the management of organisations. Their main motive was to gain financially from the crop. A former federation leader contended that "*creating cotton organisations has become a business to cheat farmers and be enriched*". Therefore, the intrusion of traders and intellectuals is seen by farmers and their former leaders as the main source of the trouble the sector and its actors have been experiencing. About the atomisation of cotton organisations and its corollaries of tension, a farmer expressed his grievance as follows:

> *You [intellectuals] are the only ones responsible for conflicts within and between cotton organisations. Our woes originate from the top and the solution may come from the top. Write down on your note book: We are disgusted by your cotton.*
>
> ***Source:*** Focus group discussion, Sekere, January 2009

Indeed, pensioners and traders led and masterminded the emergence of seven of the nine dissident organisations. But trust usually collapsed after a short collaboration. The promoters started accusing one another of secretly negotiating contracts with input suppliers and receiving money from ginners before the cotton was produced, thereby subordinating the organisations to the whims of businessmen. The most frequent accusations were mismanagement of resources, illicit enrichment, bad social behaviour, and the denial of legality and a pronounced taste for racketeering. The vocabulary used by the former proponents who soon became opponents was rich with words such as 'illiterate', 'bandit' or 'crook'. The scramble to take control over these organisations and their resources resulted in never-ending inter-personal and intra-organisational conflicts.

4.5.4 The Altruist and the Saint

Anda is a retired agricultural engineer who gave himself the title of "*itinerant benevolent advisor to cotton networks*". He considers himself an experienced authority

on cotton and he wanted the cotton farming community to benefit from that. Having headed an agricultural extension agency for years and having worked in the Ministry of Agriculture and Rural Development, Anda still has connections within the ministry. Because of that, he took it upon him to provide proofs of embezzlement and to confront the "illiterate leaders", during the conflict between "*Orou Bagou*" and "*Orou Sori*". He worked together with his friend Segue, a retired primary school teacher. Anda and Segue jointly led the contestation that resulted in the emergence of the first breakaway organisation. They wrote the statutes and Anda's home served as office. The organisation, however, was led by another newcomer, a trader who funded the initial activities. Both friends held a position on the board, Segue as the secretary and Anda as the advisor. But a year later, they could not trust their leaders, whom they accused of racketeering. Consequently, they created "their own organisation", always sharing roles on the board. But while Anda "*never has cropped a plant of cotton*", Segue grows cotton.

At the end of their first cotton season, Anda and Segue had a dispute about the redistribution of huge amounts of money, about which both have a different story. According to Segue, Anda would have claimed a percentage for advising the organisation. But according to Anda, Segue would have used the resources for personal purposes. While Segue considers himself a saint who "*never has misused one franc*", Anda assumes he is "*hated for his righteousness*". After they had masterminded and headed two dissident organisations, the once "best friends" ended up in exchanging correspondence in which they accused each other of greed and mis-conduct. Anda was finally thrown out of this second organisation. The two friends had a different interpretation of the experience. Segue acknowledged that they "*were the best friends in the world*", whereas Anda denied their previous friendship.

4.5.5 The brothers-in-law

Sidi and Boni are brothers-in-law. Boni is a farmer, and Sidi a trader. When Boni was approached to lead a breakaway organisation backed up by executives of the State cotton parastatal company to "*thwart the actions of private companies and secure supplies to the State cotton ginning mills*", he contacted Sidi to help spreading the new organisation throughout the cotton belt. As Sidi said:

> *I was a trader and I did not grow cotton. They involved me in this nightmare. I was at home when they knocked on my door. They said they wanted to create a cotton network that would be profitable and asked for my financial support. Who would refuse the promise of profits?*

As promoters of the organisation, they shared the roles on the board. Boni became the president and Sidi the secretary. They vied with contending organisations to get farmers adhere to theirs. But quarrels about the redistribution of production

outcomes and other benefits broke the trust that had prevailed at the outset of the endeavour. Sidi then plotted to overthrow Boni from the lead. With the newly appointed leader, he signed a deal by which the organisation was engaged to reimburse a private credit he got using his position as secretary. But Boni made a successful come-back as the president on the board. The credit scheme was discovered and Sidi was sent to jail. The former allies are now mutually accusing each other of falsification, theft, and money grabbing.

4.6 The decay of "caution solidaire" and the demise of collective action

The "*caution solidaire*" is a collective commitment to pay for cotton inputs allocated to groups by all the affiliated members and is based on the joint liability mechanism. The mechanism was first used by the Grameen Bank to overcome traditional banking policies of lending that require physical collaterals and could not be applied to disadvantaged poor people (Ghatak & Guinnane, 1999; Rai & Sjöström, 2004). The formulae became popular in developing countries to give poor people access to credit. Among the reasons mentioned by scholars for its success are the reduction of "transaction costs", the "peer-pressure", and the use of "social capital" (Ghatak & Guinnane, 1999).

In Benin's cotton production, the *caution solidaire* allowed farmers access to basic inputs for cotton production without any collaterals. The mechanism contributed to the production boom by protecting farmers from the incertitude of affording inputs. The *caution solidaire*, however, was misinterpreted and showed its limits later on due to its misuse. In its implementation, the only requirement to get credit was membership of an organisation. Therefore the only guarantors were the boards of the organisations, and not individual farmers. In addition, the organisations were so large that members hardly knew one another. As a result, all actors involved drew unduly huge advantages from the scheme. Inputs suppliers made profits by over-supplying inputs to farmer organisations, regardless of their real needs. Leaders in turn misused the stocks of inputs by giving inputs to acquaintances who were neither members of an organisation nor producing cotton. Entire villages and organisations used more inputs than they needed and could afford. Because the mechanism entails the deduction of inputs credit before farmers are paid, cotton repayment became erratic. Free-riding behaviour of farmers trying to compensate their arrears increased, rendering the inputs credit recovery more problematic. Henceforth, self-interest prevailed, at the expense of the group, inflating the indebtedness of organisations. As more positive attitudes and cooperation derive from higher levels of trust (Dirks & Ferrin, 2001), it can be asserted that lower levels of trust result in more negative attitudes and lower levels of cooperation and performance. As a solution, the *caution solidaire* was extended from village level to district and province level, a strategy termed the communalisation and departmentalisation of the *caution solidaire*.

The extension of the *caution solidaire* aimed at securing the repayment to inputs suppliers, ignoring the problems of farmers. Indeed, with the departmentalisation of the *caution solidaire*, a village or an organisation could reimburse for an unknown village or organisation without the consent of its members. This aggravated the indebtedness in the sector by delaying the payment and increasing inter-organisational conflicts. Mismanagements affected common resources that were meant for collective action, leading to their scarcity. Thus, collective action was drastically reduced and frozen in many districts. Joint actions by multiple organisations became impossible, their relationships being dominated by distrust. Leaders mutually accused one other of mismanagement and plotting against their respective organisations, providing that fear and greed inhibit behaviour that contribute to public goods (cf. Komorita & Parks, 1995).

4.7 Conclusion: Killing the goose that lays golden eggs

Cotton production yielded important amounts of resources, which allowed rural and semi-urban communities to avail themselves of the basic infrastructure the State failed to supply them with. The early stage of the boom in cotton production revived the hope of a better life in rural areas. However, the resources generated stirred the appetite of traders and intellectuals who skilfully took over control of farmer organisations. But these new cotton entrepreneurs turned out to be more greedy and self-interested than the former leaders. The lack of enforcement of rules combined with the decline of some cultural values such as unselfishness, encouraged mis-management practices that remained mostly unpunished. As a consequence, mistrust and its corollaries of free-riding behaviour and lack of cooperation increased, freezing collective action. Cotton, previously considered the most profitable crop and a cash cow, became troublesome for individuals and communities. The dynamics showed that both the psychological and the behavioural components of trust are indispensable for an effective cooperation within groups. This is easier to realise within smaller groups, where members can exert more control on one another and feel personally committed to their obligations. Hence, enforcing limits to the size of cotton farmer organisations would improve their functioning and preserve the public goods.

Chapter 5

Gender Roles in Cotton Production and Management of Cotton Organisations in Benin

ABSTRACT: Women's productive roles have nurtured important debates, heuristic as well as practical, in the scientific and development community. In Benin, women farmers are playing a key role, particularly in cotton production, where they are involved throughout the production process. Only a negligible portion of them, however, is involved in the management of farmer organisations. The present chapter aims to identify factors that constrain or enable women's representation in the management of cotton organisations. It uses survey data and the life history method. The latter was applied to two women leaders who are exceptions to the rule, and their experience as board members of the organisations was documented. Both were cajoled and pressed into their position, and experienced a similar end by being ousted. The results suggest that gender myths and stereotypes are critical in women's involvement in managing organisations. Furthermore, men's motives for involving women in the management appear to be questionable.

Keywords: Cotton farming; gendered division of labour; women leadership; Benin.

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5.1 Cotton production in Benin and the division of labour

The persistence of gender disparities in Benin and its ensuing inequalities in access to and control of economic and social resources is hindering the country's economic and social development (World Bank, 2002, 2003). The prevalence of these disparities is in part favoured by traditional codes overlapping with legal dispositions about gender, which are still governing the beliefs and behaviour of a large part of the population (Falen, 2008). Women are often "treated as minors with most of their rights coming through their relationships with men – fathers, husbands, and brothers" (World Bank, 2002: 17). Gender disparities are acute in rural areas, where agriculture is the main source of employment and where traditional practices reproduce women's subordinate position. Indeed, about 80 percent of the active population in Benin engages in agriculture, which constitutes an important source of employment for 69 percent of women and 66 percent of men. According to the World Bank (2007: 320), women's contribution to agricultural activities is at least as important as that of men, and their share in the agricultural labour force amounted to 46 percent in 2003-2005. The increase of women's participation in agriculture is the result of changes in production patterns such as the extension of cash crops, namely cotton (World Bank, 2002).

Before the 1990s, the cotton sector was under a state monopoly. Its production was mostly men-business and its revenues were marginal (Gandonou, 2005; World Bank, 2003). At that time, women were involved in cotton production by working as casual labour for men's cooperatives, the main instrument of cotton production (Albert, 1993). From the early 1990s onwards, cotton has become the most important cash crop in Benin, thanks to the liberalization of the sector and the consecutive boom in production. It provided up to 80 percent of rural households' income and it was also responsible for 40-45% of the total foreign exchange earnings of the State (Gergely & Poulton, 2009; Hahonou, 2011). Cotton constituted the only agricultural value-chain of which the production was organized into a marketing channel (Nissanke & Mavrotas, 2010; World Bank, 2003). A network of institutional stakeholders managed the sector under the control of an inter-professional association. Of these stakeholders, farmer organisations turned out to be one of the most important. Individually or as groups, farmer were producers of raw cotton and constituted the largest stakeholders, though qualified as weak (Sinzogan et al., 2007). For the management of the inputs and the marketing of the outputs, farmers were organized from village to national level in accordance with the three-level administrative division of the country. At village level there were farmer groups, grassroots organisations that formed a farmer union at the districts level. District farmer unions formed a union at the provincial level, and the latter formed a farmer federation at national level, a huge network of farmer organisations. Each level of the organisation was governed by a board where members were elected or appointed. Membership in grassroots organisation, however, was the basic criterion of accessing the boards at

any hierarchical level, given that the boards of these grassroots organisation were the departing point of the hierarchically structured network.

Since the economic significance of cotton increased and cotton became critically important for rural welfare, its production moved from being primarily men's business to becoming a concern of both men and women (Baffes, 2004; World Bank, 2002). As a consequence, women could have their own cotton plot, independently from that of their husband. However, only those who were heads of households could be registered individually in the organisations and married women operated under the authority of their husbands (Tama-Imorou et al., 2007). But still, women were virtually absent from the boards of organisations. From the end of the 1990s, intra- and inter-group conflicts arose, leading to the atomisation of the large network, which broke apart into many conflicting networks. Some boards started having women as board members. Even so, women are still critically underrepresented therein. Cotton management is overly male-dominated, exhibiting a huge discrepancy in comparison to women's important contribution to its production. The gendered division of labour in cotton farming follows the traditional pattern: heavy tasks for men and the lighter ones for women (World Bank, 2002). Tasks requiring physical strength, such as ploughing, and activities that pose health risks or require specific knowledge, such as the application of pesticides, are considered unsuitable for women. Insecticides treatment is deemed to be particularly more harmful to women than to men (World Bank, 2002). Tasks such as sowing, fertilizing and harvesting, are done by all the household members on the main plot, which is prioritized to any personal plot. Additionally, food has to be prepared for the workers, although this is rarely mentioned as a cotton-production related task. Taking this all into consideration, the World Bank (2002, 2003) estimated that women spend more time in cotton production than men and that the time they devote to agricultural work could be under-estimated by official statistics.

The present chapter analyses the bottlenecks to women's representation in the management of cotton organisations as well as factors enabling their representation in the specific setting of Benin. It addresses the following questions. Why are women underrepresented in cotton farmer organisations in spite of their increasing contribution to cotton production? What is the profile of women who do become board members of cotton organisations and what kind of constraints do they face? In the sections that follow, we introduce the theoretical approach, after which we describe the study area, particularly with regard to the gendered division of labour, and provide information on how the research was conducted. The results are presented according to the methods of data collection. Finally we discuss the findings, simultaneously drawing some conclusions and implications for policy.

5.2 Gender and leadership

Women's reproductive functions have been always more acknowledged than their productive roles in society (Sprague & Kobrynowicz, 1999). This has nurtured important intellectual debates, heuristic as well as practical, within the scientific and development community, leading to theories, approaches, and concepts about women's position and needs in society (eg. Molyneux, 1985; Moser, 1989, 1994). Thus, Molyneux (1985) coined the concept of women's interests that pertain to the shared concerns of women ensuing from their female nature. However, this concept glosses over the differences among women, and is different from the concept of gender interests that are "those arising from the social relations and positioning of the sexes and therefore pertain [...] to both men and women" (Molyneux, 1998). Gender interests can be either practical or strategic (Molyneux, 1985; Moser, 1989). Practical gender interests are "interests based on the satisfaction of needs arising from women's placement within the sexual division of labour", such as access to safe water for domestic production, while the strategic ones relate to "those involving claims to transform social relations in order to enhance women's position and to secure a more lasting re-positioning of women within the gender order and within the society at large" (Molyneux, 1998: 232). The latter, therefore, include gender equity and reducing women's subordinate position.

Gender equity is perceived to be beneficial to the society as a whole, and can result from modernization, when "socio-economic development brings systematic changes in political, social, and cultural life" (Inglehart & Welzel, 2005: 46). Recent progress in gender equity is reported in domains such as economics and politics (World Bank, 2012). Gender differences in political participation in Sub-Saharan Africa may be smaller thanks to institutionalised forms of participation, which constitute "safer arenas for women to participate" (Coffe & Bolzendahl, 2011: 259). However, this formal equality and political representation hides an exclusion from leadership roles. Most organisations may still exhibit gender disparities because of their failure to change (Ely & Meyerson, 2000). For instance, based on informal practices and subjective criteria of competence, for a long time it has been conventionally understood that managerial jobs are for men and not suitable for women (Billing, 2011; Ely & Meyerson, 2000). In addition, women have a lesser voice than men in decision-making both in the private and public sphere and are poorly represented in the public sphere (World Bank, 2012). Such a paternalistic organisational culture is blocking women's access to leadership positions. Particularly in rural areas in developing countries, women's emancipation seems to be constrained by myths and customs that are still thriving and deprive women of their rights, which undermines the achievement of their strategic needs. For those who reach leadership positions, they have to conform to male stereotypes of leadership to be able to lead, or they have to resign (Painter-Morland, 2011). Among factors that motivate some of them to resign voluntarily from their positions are the "exclusion from male social networks" and "values clashes". Thus, "organisations are failing to retain their executive female

talent because of their paternalistic organisational culture, the poor quality of management and their inability to accommodate the needs of their top female performers" (Clark & Kleyn, 2011: 203). Quoting Gardner (1995), Werhane and Painter-Morland (2011: 1) argued that defining leaders as "individuals who significantly influence the thoughts, behaviours, and/or feelings of others" may affect members' mindsets and results in a "demeaning" authority relationship. Instead, leadership should be conceptualized as an interactive and complex interrelationship between various individuals or individuals and leaders of organisations. To better understand the gender role in leadership dynamics within organisations, Werhane and Painter-Morland (2011) raised the point of why so few women rise to top leadership positions within their organisations. The answers lay in persistent myths about leadership and issues of the site where leadership is enacted, the structures it requires, and the individuals who participate in it. In society, the low representation can be self-perpetuating, with women unable to convey their ability to lead (World Bank, 2012). The present research sought to find out why so few women get into leadership positions in cotton organisations and whether these positions empowered the women who did.

5.3 Research design and data management

The data used come from a research project about cotton networking that was carried out from January 2009 to April 2011 in the north-eastern provinces of Benin, Borgou and Alibori from where the bulk of the cotton produced in the country is sourced. As in other provinces of the country, traditional codes govern the gender-related beliefs and behaviour of a large part of the population in the region, which overlap with legal dispositions. The region is characterized by many ethnic groups among which the *Baatombu* are dominant. *Baatombu* society has a patrilineal kinship system, virilocal residence, and a patriarchal culture. Historically, however, women could have many noble titles as important as head of a chiefdom[9]. Few of the honorary ones can still be inherited nowadays. Contrary to the achieved titles of men, these women titles are ascribed. One of the most important titles is that of *"Yonkogui"*, the Queen Mother who chairs the name-giving ceremony by shaving and bestowing a "baptismal name" on young descendants from noble families (Mama Debourou, 2009; Schottman, 2000: 94). But still, women's productive functions are constrained by their limited entitlement to landed property. Land is, indeed, mostly community property in this region, and agricultural land inheritance is regulated by customary patrilineal codes. As a result, women's "rights are contingent on status" and they depend upon men for the location of their personal fields, which is often not the best land (Gray & Kevane, 1999: 18; World Bank, 2002).

The research used both qualitative and quantitative methods of data collection, which were applied in three main phases: i) an exploratory phase of focus group discussions

[9] Key informant interview with Babou, griot (storyteller), Parakou, March 16th 2011.

with farmers in ten purposively selected villages; ii) individual in-depth interviews in five villages with 148 respondents selected from nine cotton organisations; and iii) key informant interviews that were done whenever a potential key informant was identified. The focus group discussions used a check list, while the in-depth interviews were carried out by means of a semi-structured questionnaire to simultaneously collect quantitative and qualitative data. The questionnaire was constructed based on the outcomes of the focus group discussions. It addressed more specific gender issues, such as the division of labour in cotton production, and women's dependency on their husbands during and after the cotton boom. Part of the data was collected using the life history method (Angrosino, 2002; Hagemaster, 1992), which was applied to two women leaders. We used their life stories as the primary data source (Shacklock & Thorp, 2005), but complemented them with individual in-depth interviews for a better understanding of the full complexity of their lives (Pamphilon, 1999). Issues addressed included the women's family of origin, their own family, their involvement in cotton production, their trajectory as board members, and the challenges they faced as well as the favourable factors that helped them getting on the board.

For the individual interviews a sample of 148 cotton farmers was constructed, combining purposive and random sampling. A total of 33 leaders at the top of the organisations' hierarchy, of which only one was a woman, was purposively selected for the first round of interviews. The remaining 115 farmers were selected by systematic sampling from farmer group membership lists at village level. These included 23 women, which raised the number of women in the sample to 24 (16%). In search of women leaders in the organisations, we were informed of three other women who had occupied board positions. The first was the wife of a leader, who had appointed her to be "in charge of women's affairs." She left the position a few years ago, after she divorced her husband. The other two were appointed as treasurers in different villages, but both stopped many years ago and could not be reached. Therefore, as the only recently active women on cotton organisations boards, the two women leaders were targeted for the life history method.

Quantitative data were analyzed using SPSS Statistics 19.0 for a t-test and a chi-square to compare men and women with regard to their characteristics in cotton production, and a binary logistic regression to assess factors that affected farmers' leadership status in cotton organisations. Qualitative data were interpreted through a narrative analysis. The life stories of the two women leaders were transcribed for a discourse analysis (Shacklock & Thorp, 2005).

5.4 Results

5.4.1 Gendered profiles of cotton farmers and the division of labour

The t-test for equality of means (Table 5.1) and the chi-square (Table 5.2) ran to compare cotton farmers' profile according to gendered-groups, revealed significant differences between women and men with regard to selected characteristics.

Table 5.1 Comparison of men's and women's cotton profile (t-test for equality of means)

Variables	Gender		t
	Female	Male	
Farmer's household dependency ratio	1.51 (.31)	1.55 (.44)	-.36
Experience in cotton production (Years)	14.17 (6.98)	21.32 (10.49)	-3.22**
Cotton production in Ha (mean 2006-2010)	.96 (1.13)	2.91 (2.60)	-3.61***
Share of cotton income (%)	36.10 (19.91)	46.66 (27.26)	-1.62
Cotton organisational membership history	1.67 (.70)	2.15 (.78)	-2.78**
Number of board positions occupied	.29 (1.08)	1.02 (.95)	-3.38**
Duration of appointment on boards (Years)	.67 (2.70)	4.62 (4.66)	-4.02***

Note: ** = p<.01, *** = p < .001; Figures in parentheses are standard deviations of means.

***Source**:* Survey data, 2009–2011.

On average, men had longer experience in cotton production (M = 21.32, SD = 10.48) than women (M = 14.17, SD = 6.98), with the mean difference significant at p < .01. Moreover, men's cotton area was larger (M = 2.91, SD = 2.60) than that of women (M = .96, SD = 1.13). This difference was highly significant at p < .001.

Table 5.2 Cross-tabulation of gender and education

Level of Education	Gender		χ^2
	Female	Male	
No education (0)	20 (83.3%)	63 (50.8%)	9.05*
Primary school (1)	1 (4.2%)	26 (21.0%)	
Secondary school (2)	3 (12.5%)	31 (25.0%)	
University (3)	0 (0.0%)	4 (3.2%)	

Note: * = p < .05. Percentages appear in parentheses

***Source**:* Survey data, 2009–2011

With regard to the membership history in cotton organisations, women had been members of fewer cotton organisations (M = 1.67, SD = .70) than men (M = 2.15, SD = .78), with a significant difference at p < .01. There was also a significant difference at p < .01 between the average number of board positions occupied by men (M = 1.02, SD

= .95) and by women (M = .29, SD = 1.08). A highly significant difference ($p < .001$) also existed between the average duration of appointment on boards of men (M = 4.66, SD = 4.66) and that of women (M = .67, SD = 2.70). In addition, the cross-tabulation of gender and education showed a significant association between the level of education and gender.

When asking about the division of work in cotton production, the answers reflected the taken-for-granted gendered division of labour that underrates women's share. Thus, men spontaneously and widely cited harvesting as exclusively a women's task. Ploughing and pesticides treatment were listed as exclusively men's tasks, while sowing and fertilizing were identified as shared tasks. However, to avoid delays in the work on their cotton farms, certain women household heads are forced to perform tasks that were deemed unsuitable and risky for women, such as ploughing and pesticides treatment. Even so, there were always men claiming inferiority of women to men. During a discussion about the gendered division of labour, a former organisation leader alluded to women's inferiority as follows:

> *Is it not you intellectuals who have decreed that women are equal to us men? You ignore the common first inquiry after a birth. Which child [sex] is it? "Tònkuro" [a girl], meaning someone who is going to leave the home, or "Tònduro" [a boy], meaning the one who is coming into the house. How can you equate the two?*

In addition, women were less involved in the management of cotton production at household level compared to men, and this was reflected in the level of accuracy of cotton-related information they provided. While men were likely to record cotton production data in the area and could specify tonnage over the past years, women rarely did so. The figures the latter were able to provide were mostly the amounts of money they received from their production. To shorten the attempt to recall the exact production records, a woman admitted: "I do not go to the cotton market. It is our husband who goes there and brings back home what is left after the deduction of the inputs costs."

5.4.2 Women and cotton organisations

Women figured in the organisation lists and represented about 20 percent of the random sample. However, they still lacked control over their membership and often did not know the name of the organisation they belonged to. A divorced woman said: "I am member of the organisation of which my brother is a member." As a result of this lack of control, she could not freely change organisation as long as her brother was a member, though she had been growing cotton for three years without being paid. When the brother finally decided to step out, she felt deeply disappointed and abandoned cotton growing.

Women's absence from cotton marketing could generate tension among couples. A cotton farmer swore not to have received the money from the last cotton season, neither for himself nor for his wife. But the wife did not believe him. "She has been accusing me of having spent her money without telling her", complained the farmer. A woman farmer had a different experience with her husband. At the end of the 2007/08 season, she had quite a good harvest and was expecting some cash. Meanwhile, her husband was indebted. Applying the principle of joint liability for debts reimbursement between members of the same organisation, the board used the financial outcome of the woman's production to compensate for her husband's debts, without her consent. She could not accept that "as a woman, one grows cotton to pay for a man's debts". Because of her husband's incapacity or unwillingness to reimburse, she decided to separate and to go back to her family of origin. There were, however, married women who grow cotton in shared plots with their husbands. They were mostly not registered in cotton organisations in their own name. After marketing, they receive their share of the proceeds from their husband. In polygamous households as we found in a remote village in the heart of cotton belt, the redistribution is done according to each wife's contribution to the production as estimated by the husband. A head of a polygamous household, husband of three wives, assumed that "this collective way of growing cotton is more beneficial for wives because they earn more than they could have got from a separate plot."

The low involvement of women in organisation management was captured by another woman in the following statement: "We women, we do not know the answers to your questions because we are not involved in the management of the organisation. So you should ask our husbands." Despite this complaint, a woman stated that "it is not worthwhile to be a board member as a woman because you will always be left out from activities with no information." This is because of the lack of consideration from men who rarely judge it necessary to involve women. "When a woman is invited", it would be just symbolic, because "men would agree first among themselves before inviting you as a woman", argued another woman, assistant to the councilor of a village.

The absence of women from cotton boards came out as one of the causes that triggered lengthy discussions with women when investigating the causes of conflicts within and between farmer organisations. Indeed, the binary logistic regression, with leadership as the dependent variable that takes the value “1” for leaders and “0” otherwise, revealed a positively significant effect of gender ($p < .01$) on leadership status (Table 5.3).

Table 5.3 Logistic regression of factors affecting the access to leadership positions in cotton organisations

Variables	B (SE)	Exp(B)
Farmer's household dependency ratio	-.25 (0.64)	.78
Experience in cotton production (Years)	.04 (0.02)	1.04
Cotton production in Ha (mean of the past 5 years)	.06 (0.10)	1.06
Cotton organisational membership history	1.01** (0.34)	2.74
Gender	3.05** (1.13)	21.07
Level of education	1.82*** (0.37)	6.18
Constant	-6.29*** (1.73)	.00
N = 148; R^2 = .56; Model $\chi^2(6)$ = 79.52; Prediction power = 78.9%; ** = p < .01, *** = p < .001		

***Source**:* Survey data, 2009–2011

Education and cotton membership history were also significant at p < .001 and p < .01 respectively. The model $\chi 2(6) = 79.52$, it had also a good prediction power of about 79%, with an R^2 = .56.

5.4.3 Life histories of women leaders

The life history method was applied to investigate the life experience of the two women leaders accessed during the research.

Case 1: Rita the 'iron lady'

Birth and childhood. Rita is a 57-years-old woman, living in a remote village in the northwest of Benin. Although Rita's father was extremely poor, she was sent to school at the age of six. Rita was still at primary school and nine years old, when – from money she had saved herself – she paid the taxes for her father, who was arrested because he could not afford paying them. After the father was released, he declared, in tears: *"If it were possible to change the sex of a child, I would have transformed you into a boy to stay with me forever."* When Rita was in the third year of secondary school, her father could no longer afford her education and took her out from school. Rita then stayed with a religious foster family, where she took up petty trade. She used to sell at the church, where she met her husband who was the pastor. The pastor was amazed by her diligence and hard work and expressed his love for her.

Own family life. A few months after Rita got married to the pastor, he was assigned to a remote village where *"life was hard",* according to Rita. But her experience of the economic hardship she had suffered as a child helped her facing the situation. She combined farming and petty trading to make her family's living more comfortable. The relative wealth of the family made the church hierarchy decide to send them twice to places where they would not have the opportunity to cultivate or trade. After the third assignment, Rita had an argument with her husband who would not let her farm anymore because he did not want to be moving constantly. However, Rita managed to

acquire a piece of land and started farming, in combination with petty trading. The resources generated by her activities allowed them to build the house they currently live in. *"I am proud of these achievements. We have no salary but God blessed us!"*, she said.

Rita is a mother of twelve children, of whom only her eldest daughter got a baccalaureate, but she refused to continue with her studies. On the ground of that refusal and the ensuing behaviour, they had a strong argument that led to a breach of contact between the mother and the daughter.

Cotton farming and related-organisations activism. Rita started growing cotton at the end of the 1980s, after the third assignment of her husband. In 1998, she was elected as the treasurer of the district farmer union, *"against a man",* she proudly specifies. From 2001 onwards, after Rita resigned from the organisation, she had led the implementation of three cotton dissident organisations in the district. She was successively appointed as in charge of women's affairs, deputy treasurer, and general secretary in the respective boards. She always battled for better management of these organisations.

In the third organisation she was a member of, the private cotton ginner they supplied with their production at their second season brought in several million FCFA to the organisation. The few board members who collected the money from the businessman kept it for themselves and denied having received it. Among the frustrated board members, Rita was the only one who dared to confront them on the issue at stake. She declared them guilty at a meeting. The other male colleagues afterwards congratulated her: *"We really appreciated your courage, and we would like you to join us to create our own organisation."* But she straightforwardly notified the men of her fears, saying that she preferred to stay at home to take care of herself instead of suffering for people *"who will leave me out from the redistribution of the benefits."* But they promised her that such things would not happen. The initial meeting was organized at her place, where they decided to create a new cotton organisation and assigned board positions to the creators. The organisation operated for four years before an extraordinary assembly was convened. Rita refused to attend because she was informed very late and had to travel far for the meeting. In addition, she could not leave while her husband was on travel. At the meeting, partial changes were made in board membership positions and Rita was ousted for "unknown reasons". About her not having reacted to being ousted, Rita explained: *"I decided to keep quiet to avoid controversies, though they have never notified me of any fault of mine for being ousted in that way."*

Being successively a member of many cotton organisations boards, Rita attended the most important meetings and negotiations with inputs suppliers, most of whom she accused of being inclined to corruption. She said that many times she had been offered important amounts of money, directly or through intermediaries. She felt quite proud

to never have succumbed to the temptation. She also faced all kinds of gender stereotypical naming, because *"men have never accepted me as a full member capable of achieving something"*, she commented. Her commitment earned her the nicknames 'iron lady' from her fellow board members and 'crusher' from inputs suppliers. *"They thought that by nicknaming me, I would be upset and give up, but I did not mind"*, she said. Rita still recalls how some people tried to discourage and demobilize her followers when she promoted the breakaway organisations, saying: *"You are silly! Otherwise you would not follow a woman. Do you want to be ruled by a woman?"* But she did not give up and many followers trusted her. For that, she judged her participation on the boards as a success and continues growing cotton. She said:

> *If I stop producing cotton now, farmers would think that I betrayed them. They acknowledge my contribution in defending their interests and usually say: 'Without that woman who halted other board members' theft, we would have been in a lot of trouble for a long time'. I am grateful for such an acknowledgment.*

Membership in organisations. Rita is also a member of many organisations other than cotton, on the boards of which she has positions like president (of a women's group) and treasurer (on the board of the district civil society organisation). For over ten years she has kept her leading position in the women's group. When it comes to renew the board members, *"women say 'It is you we prefer' and they do not want to replace me"*, she argued. Rita also has a political life, though with no affiliation to a particular political party. In 2008, she headed an independent list and ran unsuccessfully for a position at a municipal council.

According to Rita, her domestic responsibilities rarely impede her activism. *"My husband encourages me in my organisational activities [...]. He is not like others"*, she said. Replying to the question as to why she has been appointed on some many boards and how she deals with the duties, Rita contended: *"You know nobility is not given; it is deserved."*

Case 2: Gnon the 'libertine'

Birth and family of origin. Born as the eldest of a family of five brothers and four sisters, Gnon is a 37 year-old widow, living with her siblings, together with their widowed mother. She takes care of the family with the help of her unmarried younger brother. However, it is rather the brother who acts as the head of their household. Gnon dropped out from school when she was in the third grade, because she was ashamed to have to repeat the class while her friends went to a higher grade. *"It was due to ignorance. If it were now, I would have simply redone my class.",* she regretted. After Gnon dropped out, she was trained as a seamstress. Soon after getting the diploma, she got married.

Own family. Gnon married into a large household of seven married brothers, sharing domestic tasks with many "co-wives". She gave birth to four children. Her matrimonial duties did not impede her organisational activism, in spite of the gossip going on at the time because of her multiple travels for training. Her husband was regularly confronted with statements such as: *"You an illiterate farmer, you have a drop-out wife travelling everywhere [...] Make her stop these activities".* But he would answer: *"Only her father knows how much he expended to educate her. I am not willing to spoil her job. I even like her to continue because what she finds belongs to my family."* This husband died prematurely, much to Gnon's regret.

After her husband's death, she and all her children returned to her family of origin. However, she continues cultivating the land of her late husband, and which is owned by her family-in-law. Five years after the husband's death, the eldest brother-in-law asked her to leave this plot of land, of which the yields were used to raise her children. Allegedly, the brother-in-law declared: *"A woman cannot inherit land from her husband!"*

Cotton farming and the cotton organisation experience. Though Gnon started producing cotton with her husband, her involvement with cotton boards started after her husband's death. As a widow and relatively free in a society full of stereotypes about unmarried woman, Gnon first served as the person in charge of weighing cotton in a farmer group. When the fourth breakaway organisation emerged in the village, its local president could not find a man to be the secretary, due to a violent conflict he was involved in. He approached Gnon and tried to convince her to accept the position. She refused. He asked Gnon's parents to intercede for him, explaining that he pressed their daughter to 'save him from shame' but that she refused. Gnon's father obliged her to accept the position, ordering *"to go and help him doing what he wanted."* According to Gnon, her presence on the board made the group steadily grow in size. She recalled new members saying: *"As it is a woman who is the secretary of this group, the group should be trustworthy because women are not contaminated by hypocrisy."* However, she also challenged sceptics who were waiting to see how a woman would be able to manage cotton marketing and pay farmers. She proudly added: *"I marketed cotton as any man could do. I had no debts and no arrears."* To the question what made her leave the organisation, she answered: *"If a husband who courted you does not accept you anymore, better leave him and go your way..."*

Indeed, at the end of their second cotton season, the organisation decided to allocate motorbikes to some leaders. Gnon's was selected among those leaders because *"our only lady is so brave and hard-working that she deserves a motorbike"*, some of her men colleagues would have argued. But a few days before the allocation of the motorbikes, a board meeting was convened by the president. The president would have introduced the meeting straightforwardly:

> *At the point we are now, the government [...] said that it is time for change. You Gnon, as I see you, you will not be able to do the work pertained by that change in cotton management; it is beyond a woman's capabilities.*

Replying to the question as to why this work would be beyond a woman's capability, Gnon commented: *"Because change has come, our president said [...] and only men would be members of their board."* In spite of her disenchantment, Gnon respectfully knelt in front of the president, saying with loquacity:

> *Daddy, thank you. When you needed me to run the organisation, I was not an incapable woman. But I will tell you one thing: this is a 'white power' [a modern power]. If it were the traditional title I am entitled to inherit, you would never have been able to oust me without fear for your life. Thank you and only God will pay you back.*

And she left the meeting. When Gnon got back home, she reported to her parents what had just happened:

> *You remember that the president told me a gourd of honey was hanging on and on the day it would be mature, I would benefit greatly from it. Today this honey is mature, but he broke the container and poured all the honey on the floor before I could enjoy it.*

She explained how she was just ousted from the cotton board and held her father accountable for that outcome. The father argued that a board position is not an inherited title and that God would requite the president for what he had done.

Membership in organisations. Gnon is a very active woman who participates in diverse activities. Apart from sewing, she is the secretary of a women's group, the only woman literacy teacher in the village for ten years, and a community volunteer for health promotion. Gon's membership in organisations other than cotton started a few months after she got her diploma, when she was appointed as the secretary of the group without her knowing. But despite being busy with all these duties, she has misgivings about being a 'free woman'. She feels people's eyes on her because they think that she does not want to marry again to keep her freedom. "*I am really concerned about getting a husband, but I am not lucky*", she concluded.

Men's reaction to women's ousting

Men were not inclined to comment on the way the two women leaders were ousted. The president of Rita's organisation, who was ousted together with her, explained that he did not attend the meeting because he decided to stay far from cotton, which had become a troublesome business. He said he did not know why Rita was ousted and

was not "*willing to comment on it*". The newly appointed president argued that the former board, of which he was also a member, "*did not report to network members*". As for the leader of Gnon's organisation, he found one peccadillo of Gnon to justify her ousting: "*You know she is not so clean morally*."

5.5 Discussion and conclusion

The random selection of women from the list of the organisations reveals that women's membership of cotton organisations has progressed and that they can actually be registered as members in their own name. This could be (partly) a result of the atomisation of organisations with its corollary of competition for membership. Hence, women's relatively recent investment in cotton production which limits the expression of their potential of production. Women's ignorance of their organisations of membership means that some of them might have been registered by their husband or other male relatives to increase the group size. The ensuing culturally underpinned division of labour has social implications by forcing women to adopt and adapt to men hegemonic views, even if they are not aware of that. Deeply entrenched myths and stereotyped images are internalized by women as well, although they are demeaning to them. This is what Bourdieu (1989: 18) called "construction carried out under structural constraints", a process through which even the most disadvantaged actors tend to perceive the familiar world as natural. This false consciousness justified the woman farmer's contestation of the (forced) use of her yields to pay for her husband's debts, on the ground of her "femininity". Such cognitive processes take place in everyday life. The significant differences between men and women with regard to the experience in cotton production, the area planted with cotton, and the organisation membership profile (membership history, number of board positions and the duration of the appointment) are certainly rooted in these processes. In this instance, harvesting is widely considered a women's task in cotton production, because it is presumably easy. In reality, harvesting is a tiring activity. It is very time-consuming and requires concentration. In addition, performing tasks in cotton production has revealed a blurred boundary between 'heavy and risky tasks' and 'light tasks' since the labour constraints force women to perform tasks that are supposedly men's preserve. As a result, women's participation in cotton production actually runs throughout the complete production cycle. This shows how women's tasks are underrated, while men are reluctant to do them. A similar observation has been made in Uganda where a systematical perceptional bias against work performed by women, which then becomes de-skilled and/or de-valued, undermines women's ability to be fairly remunerated (Lodin, 2012).

In spite of women's omnipresence throughout the production, they were found to be largely absent from the cotton market, where the produce is weighed and payments are made, thereby lacking the control over the yields. Women were deprived of essential information and had limited autonomy in decision-making within cotton

organisations. They accepted the money from their own production given to them by their male representatives more by resignation than by trust, as it was shown by the disputes between the two farmers and their respective spouses described above. This lack of control of women in the public sphere originates from cultural practices that strongly shape women's position in the private sphere, and that affect their strategic as well as practical interests. For instance, economic and consumption needs made both Rita and Gnon the *de facto* heads of their respective households, though with different entitlements. While Rita's role in the household was acknowledged, Gnon was not entitled to head hers, though in fact she was doing so. Her younger brother was seen as the head of the household, due to social and cultural norms that prevent a woman from heading a household where there is a man (Moser, 1994). Also, the society at large seems to resist to women's autonomy, as illustrated by the stereotypical reasoning the two women leaders faced in their family and cotton networking experience. Women exercising their agency hardly manage to overcome the hurdles that block their aspirations. Consequently, when meeting practical gender needs is the overriding concern, meeting their strategic gender needs can be put beyond women's reach and becomes mortgaged.

Women have a poorer cotton organisational membership history than men. The high effect on and positive correlation of cotton membership history with leadership in cotton organisations means that the more cotton organisations a farmer has been a member of, the more likely s/he would be a board member. The odds of becoming a board member was about 3 for an increase by 1 of the number of organisations a farmer has belonged to. Leadership in cotton organisations was also highly affected by gender, and by education that women were less endowed with. Less than one fifth of women in the sample had formal education against one of two men. However, the World Bank (2012: 80) identified education as one the main factors to reduce gender gaps in the developing world. Moreover, the positive correlation of education and gender with leadership in cotton organisations implies that their effects had been cumulatively undermining women's position therein. The odds ratio of 21.07 for gender means that for each shift from 0 (female) to 1 (male), a farmer was about 21 times more likely to become a leader in cotton organisations. This likelihood for one level different in education was about 6. These illustrate how women are excluded from cotton organisations. Crenshaw (1991) coined the concept of intersectionality for such interactions.

The research showed that Rita and Gnon were exceptions. Both exhibited exceptional features that many other women lacked, and which might have come into play in favouring the emergence of their leadership. Rita and Gnon were relatively well educated women in their respective villages. At household level, both Rita and Gnon were fortunate to have open-minded husbands whom they both qualified as 'different from the other men'. Rita's hardworking caused her family to be moved from one place to another by the church hierarchy. As for Gnon, her capabilities were acknowledged by her late husband who rejected the gossip going on about her,

although his attitude seems rational in view of the benefits for the household of his wife's extra-domestic activities. Men may be inclined to give more freedom to women's activities when they find them rewarding for themselves. Consequently, picturing gender equity as being in men's interest could help to have it gain more acceptance among the male community in rural areas.

Rita and Gnon were quite active as members of and having responsibilities in many organisations, which might have justified why they were among members with a richer membership history in cotton organisations. Rita's initiative and assertiveness enabled her to confront her male board mates with their embezzlements. Thus, she appeared to be a natural leader by interacting effectively. This is why she was referred to by many farmers, including men, for agricultural issues even before she was appointed as the treasurer of the district union. As a result, she benefited from the ordinary farmers' support and, in turn, was concerned about being continuously trusted by these farmers, to whom she felt obliged. As Werhane and Painter-Morland (2011: 3) stated, "leadership is not necessarily restricted to individuals appointed to positions of authority, but is a dispersed capacity of the organisation as a whole." Rita herself concluded the interview with a meaningful statement about the deserved character of nobility.

The fate of the two women leaders within their respective organisations confirms the male stereotypical denial of women's capabilities to lead, although men individually admitted these capabilities. Paternalistic culture is still dominant, causing men to deny certain principles at group level while personally acknowledging them. However, the reaction of Rita and Gnon to the unfair way they were ousted uncovers some differences of perception between men and women about organisation-related conflicts. Gnon's reaction shows how the same reference to traditional noble titles is negotiable, offering a different perspective. Considering the position on the board as an elected and a non-ascribed title implies, regardless of how she was ousted, that she understood that as a board member one is replaced by somebody else at some point in time. Rita's reaction was to keep quiet and not to stir trouble, while cotton organisations in Benin have been characterized by a stiff leadership competition. Indeed, most male leaders were known for their reluctance to leave their positions on boards, referring to traditional ascribed titles to justify their behaviour. Thus, the women's reaction to group conflicts contrasted radically with that of the men. As indicated by Carli (1989), while men focus more on disagreements, women are more likely to voice agreements. The women's presumption that their presence on the boards could reduce intra-groups conflicts does not seem to be entirely unfounded, although in this case the two women leaders were disempowered. Consequently, "the socialized differences between men and women" that are captured in the concept of gender should highlight the value of the female nature for an "effective and much-needed management style" (Ely & Meyerson, 2000: 108-109).

Chapter 6

Rural Households' Responses to the Cotton Crisis

ABSTRACT: Relying on one source of income puts the livelihood system of rural households at risk. Cotton production in Benin has long been the core cash crop of rural livelihoods, until the mid-2000s when multiple constraints led to the demise of cotton. The present chapter investigates rural households' responses to the economic shock resulting from the decrease of income from cotton. The results reveal that households diversified their sources of income on-farm, with food crops gaining increasingly a cash function. However, because the production system heavily depends on cotton for access to fertilisers and other inputs for food crops, farmers continue to grow cotton despite its present low returns. In addition, because of their multiple extra-domestic activities women seem to be less vulnerable than men when it comes to coping with livelihood shocks. Hence, their contribution to providing for household needs increases in time of crisis. Further results suggest that decision making and certain diversification strategies of young adults move from the centre of the household to its periphery and loosen household boundaries.

Keywords: Cotton production; income shortage; livelihood diversification; rural Benin

A shortened version of this chapter will be submitted to a suitable journal under the same title, by the authors Maboudou Alidou, G. and Niehof, A.

6.1 Introduction

Cotton production has for long been a vital livelihood activity for rural households in Benin where it constituted a smallholder cash crop for the last three decades (see Chapter 2). It was critically important to rural welfare, since about 45 per cent of rural households depended on cotton revenues, which constituted a source of livelihood for more than 325,000 rural households, i.e. about three millions of people (Baffes, 2004; UNCTAD, 2008; World Bank, 2003). Cotton is grown in rain-fed lands with high use of agricultural inputs (Baffes, 2004). During the 2000s, one third of the farm households in Benin grew cotton, allotting about 18 per cent of the total cultivated area to cotton (Kherallah et al., 2001). In the north-eastern and central provinces of Borgou and Alibori that are the main cotton producing areas, cotton farmers had on average 2.62 and 3.15 hectares of cotton (Kpade, 2011). During the cotton boom of the 1990s, the average acreage allotted to the crop steadily increased to 37 and 64 per cent of the total cropped land, respectively (Gandonou, 2005; Minot & Daniels, 2005).

During the 1990s, cotton provided up to 80 per cent of the income to over 45 per cent of rural households (Minot & Daniels, 2005; World Bank, 2003). The income generated by cotton has the comparative advantage of being received in important amounts at once, which provides money for large expenditures as construction of a house, weddings, school fees, motorcycles and cars. These features of cotton revenues made cotton a critical crop for poverty alleviation among poor rural households, and created a large dependency of those households on cotton incomes for their livelihoods (Baquedano et al., 2008; Woodward, 2007). Minot and Daniels (2005: 460) found that a 40 per cent fall in the cotton prices resulted in 8 per cent rise of the incidence of poverty, resulting in about 334 thousand additional people falling below the poverty line. Thus, the cotton sector constituted the backbone of the country's economy. However, about two decades after the boom in the production started, with the ensuing increased prosperity of cotton farmers, signs of crumbling appeared.

From the mid-2000s onwards, the positive benefits of cotton have completely reversed (World Bank, 2003), due to a combination of multiple constraints that overwhelmed the production. Among other constraints were the fall of cotton prices on international markets, the mismanagement of cotton-related organisations, and payment arrears to farmers. A 40 per cent decrease of prices resulted in a 61 per cent increase of poverty (Minot & Daniels, 2005). The World Bank (2003) and the UNDP (2005) linked 12 per cent of the increase of the incidence of poverty in the North during the early 2000s to the decline of cotton prices on international markets. Therefore, cotton had become an erratic and insecure source of living, especially in the north-eastern provinces where an 18 per cent reduction in per capita income resulted in an equivalent increase in the incidence of poverty. As a consequence, farmers became disenchanted and massively abandoned cotton production, thereby narrowing drastically the basis of their livelihoods. To the growing disillusionment of producers, the State offered no or very few solutions (World Bank, 2003). The alternatives explored to remedy the country's high dependency on (conventional)

cotton and to release both the State and farmers from their woes were diversification of agriculture and exports and organic cotton production (MAEP, 2011). The first, diversification, seemed an empty shell, since farmers have always diversified their agricultural production despite their dependency on cotton for cash. Rural households always possessed diverse livelihood portfolios to absorb social, economic and environmental shocks, implying that especially among poor rural households, diversification is the norm (Barrett et al., 2001; IFAD, 2010).

Since 1996, organic cotton production is being promoted by NGOs in particular as a sustainable solution to the numerous environmental side effects imputed to conventional cotton. Organic cotton production is also used in the lobby against genetically modified cotton (Tovignan & Nuppenau, 2004). However, not all actors believe in its potential. The relatively higher price compared to that of conventional cotton does not compensate for its lower yields. Hence, organic cotton turns out to play a marginal role. Instead, based on their traditional modes of production, households deploy various strategies to respond to the decline of cotton revenues in order to make ends meet.

The objective of the present chapter is to identify farmers' strategies to deal with the shortage of income consecutive to the demise of cotton in the north-eastern and central provinces of Benin. How do households adapt to or cope with the decline of cotton revenues? How did changes in income patterns modify men's and women's contribution to the provision for their households' daily needs and how did this affect the gender relations within the household? The following section of the present chapter first sets out the theoretical perspective of livelihoods and households before describing the study area and study design in Section 6.3. In Section 6.4, the results are presented and discussed. The chapter concludes with a final discussion and the formulation of agricultural policy implications derived from the findings.

6.2 Livelihoods and households

During the past decades, unravelling the logic of family and household production and consumption has received increasing attention from scientists and policy makers. In an attempt to uncover the dynamics of urban economies in Africa, two types of approaches have been documented: the informal sector approaches and the survival approach. The informal sector approaches use three dominant perspectives – the reformist, the institutionalist, and the neo-Marxist – to shed light on the economic situation of people classified as active in the informal sector, but these approaches failed to capture the interplay of simultaneous informal and formal sector employment. However, the approaches "played a crucial role in drawing attention to the poverty and the plight of people involved in such activities, the employment potentials of the sector, and the creativity and entrepreneurial skills of informal sector participants who make it amidst inappropriate state regulations" (Owusu, 2007: 451). While formal sector approaches focus more on economic activities than on the people

performing these activities to make their living, informal sector approaches capture the variety of people concerned and their activities. Indeed, the constraints of the formal sector have forced many employees to join the informal sector as an "income-supplementing and/or income-diversification strategy" (Owusu, 2007: 452).

The survival strategy approach, on the other hand, has the merit of analysing both people's responses to economic hardship and the context of their decision-making processes. The survival strategy approach is mostly applied to rural contexts and exclusively to poor people, who are attributed a rationality in risk minimization. It has been widely used to analyse people's strategic responses to economic crises, showing its value "for exploring the dynamic nature of the environment in which livelihood decisions are made" (Owusu, 2007: 452). The limitation of this approach stems from the fact that people with more assets and, consequently, not poor, are more able to "strategise" than poor people who are limited in their strategic choices. This implies that analysing adaptation to economic crisis cannot be limited to survival strategy but should be extended to capital accumulation strategies by richer people. In fact, the assumption of rational choice is only justified when an individual has multiple options. Because of these conceptual limitations livelihood approaches gained momentum.

Compared to the previous approaches, livelihood approaches are more encompassing, since they are directed at discovering the interactions between the domestic unit and its environment and integrate institutionalist and neo-Marxists views (Owusu, 2005). Livelihood approaches provide a model that helps apprehending the many ways of raising extra income through additional activities. The unstable and adverse economic conditions in many parts of sub-Saharan Africa have led households to search for additional income by engaging in multiple activities (Owusu, 2007). Although the practice blossomed among public civil servants as one of the direct consequences of the structural adjustment programs during the 1990s (Owusu, 2005), it constitutes a historical strategy among vulnerable rural populations (Ellis, 1998; Niehof, 2004). Unfavourable natural conditions, such as low and erratic rainfall, droughts, poor and infertile soils, are considered severe constraints to the improvement of the situation of rural communities (Frost et al., 2007), forcing them to strategize to improve their household livelihood. Relying on more than one source of income is, therefore, neither the prerogative of public sector employees nor of a social class.

Livelihood is a complex and "multi-faceted concept, being both what people do and what they accomplish by doing it, referring to outcomes as well as activities" (Niehof, 2004: 322). Livelihood refers to "the mix of individual and household strategies, developed over a given period of time, that seeks to mobilize available resources and opportunities" (Owusu, 2007: 452). According to IFAD (2010: 52), "the livelihoods of poor rural households reflect on the one hand the opportunities and constraints characterizing the areas where they live [...] and on the other, their own profiles and characteristics as households."

The household constitutes the "locus" of the livelihood system (Niehof, 2004), because it provides the immediate context for the strategic management and allocation of resources to provide for daily needs. As a consequence, most studies about livelihood diversification use the household as the unit of analysis, which conceptualisation has changed over time. Unitary models previously used to apprehend the household perceived it as "a collection of individuals who agree over the broad principles of intrahousehold resources allocation" (Akram-Lodhi, 1997: 28). But in these models, the interaction between household members and their different power positions and logic tended to be glossed over. Alternative models of household conceptualisation were proposed that led the concept to undergo some changes. Niehof (2011) notes that contrary to the family, the household has fluid and adaptable boundaries and that household ties are not underpinned by law, which makes them more fragile and makes the exit option relatively easy. The collective or joint utility model of the household succeeded in shedding more light on the internal dynamics of household as unit of consumption (Maurizio, 2007), but the assumption of joint utility failed to take into account the agency of household members as social actors who face the dilemma of cooperation and conflict in household production and livelihood generation (Sen, 1990; Wallace, 2002). The bargaining approaches put the focus on power relations in the distribution and allocation of resources within the household (Agarwal, 1997; Holger Seebens, 2007). Following Rudie (1995: 228), we see the household as a family-based co-residential unit that takes care of resource management and the primary needs of its members. We also acknowledge the points made by Sen (1990) and Agarwal (1997) that household members may have conflicting interests and unequal power positions, which necessitate bargaining and can result in household members leaving the household temporarily or permanently.

Conceptualising the household livelihood has led to the emergence of two closely related concepts: diversification and adaptation. Though not synonymous, the two concepts are sometimes used interchangeably, both being referred to as strategies. Evidence has shown the strategic role of diversification in rural livelihood systems (Niehof, 2004). Diversification is defined as "the process by which rural families construct a diverse portfolio of activities and social support capabilities in order to survive and to improve their standards of living" (Ellis, 1998: 4). In this process, not only income but also social institutions, gender relations, and property rights that contribute to a standard of living, are included. Diversification should not be limited to only sources of income, as many studies do, but includes diversification of assets as well (Ellis, 1998). Diversification as an individual or a household level strategy is neither a rural phenomenon nor the preserve of only developing countries (Barrett et al., 2001; Ellis, 1998; Wallace, 2002). It can occur as a purposive strategy or an involuntary response to a crisis. The latter is equated with coping: diversification out of necessity, or for 'bad' reasons (Niehof, 2004). The first is diversification by choice, which aims at strengthening the livelihood, accumulation of assets, and risk management. In the economic model of the rural households the on-farm returns to labour time can be compared to the returns of off-farm or non-farm earning

opportunities (Ellis, 2000: 292). Hence, livelihood diversification can be realized through farm, off-farm and non-farm activities, thereby generating different types of incomes and assets. Barrett et al. (2001: 368-369) used a three-way classification of rural households' sources of income and use of productive assets: by sector (e.g. farm vs. nonfarm), by function (wage vs. self-employment), and according to space (local vs. migratory). Abdulai and CroleRees (2001) found that income of poorer households is less diversified due to their lack of capital, which offers them fewer opportunities in non-farm work.

Livelihood adaptation is perceived as adjustments of individuals' or households' consumption and production patterns in response to observed or expected economic and social hardship such as income decline. Ellis (2000: 298) defines livelihood adaptation as the continuous process of "changes to livelihoods which either enhance existing security and wealth or try to reduce vulnerability and poverty." The concept of adaptation is broader than that of diversification, because it offers more opportunity for including activities outside the traditional domains of the targeted group. Adaptation can be by choice (positive) or of necessity (negative), the latter being constrained by limited options. Ellis (2000: 290), argued that the distinguishing features of rural livelihood strategies in poor countries are the "maintenance and continuous adaptation of a highly diverse portfolio of activities." The scope for diversification and adaptation depends on the vulnerability of the individual or household concerned. Vulnerability is dynamic and multidimensional, capturing the response to changes over times. Household vulnerability is determined by external threats and internal assets. Consequently, vulnerability "measures the resilience against a shock [and] is primarily a function of a household's asset endowment and insurance mechanisms" (World Bank, 2000: 139).

This chapter analyses the ways in which farm households in the study area strategise to deal with the economic shock to their livelihoods caused by the decline of cotton profitability. It focusses mainly on on-farm income diversification as the main strategy of the rural households, given the scarcity of non-agricultural income-earning opportunities.

6.3 Research area and data sources

The provinces where the field work was conducted cover two agro-ecological zones in the north-eastern region of Benin: the "cotton zone" and the "north-central zone", also called the "food belt". The relatively low rainfall, the types of soil, and the relatively high temperature in the area, made it suitable for cotton production. Throughout this region, households have been always heavily dependent on cotton for their livelihoods, due to the high share of cotton income in their overall income. Siaens and Wodon (2008: 174) argued that "cotton producers fared relatively well" over the 1990s. They found a 7 per cent reduction in the probability of being poor for cotton producing households compared to non-producing ones. Therefore, people are

reluctant to abandon cotton. Additionally, in the study area there are fewer alternative income-generating opportunities than in the southern part of the country.

Four villages were selected as the research sites in three of the largest cotton producing districts: Banikoara, Gogounou and Sinende. Banikoara contributes up to 45 per cent to the national production, which makes the district the heartland of the cotton belt. Gogounou represents the third biggest producer, while Sinende is the largest cotton producer within a region that is considered the food belt. In 2004, Banikoara and Gogounou together supplied 64 per cent of the national cotton production, while the production of the north-central zone comprising Sinende represented 29 per cent of the national production (Gergely, 2009). The research was carried out during 2009-2011. This was a few years after the precipitous decline of cotton production had set in. The relatively huge amounts of subsidies invested to repay various debts in the sector had little or no effect on this trend that was triggered in 2005. This led the government to envision (re)managing the sector, which had been completely left to private monopolies since the beginning of the 1990s.

The districts and villages were selected purposefully to cover zones of high and middle levels of cotton production, areas of low and high abandonment of cotton production, and both accessible and remote villages. As respondents in the survey, a sample of 148 cotton farmers was selected by systematic sampling from member lists of farmer groups. These farmers, both male and female, were also household heads. Prior to the household survey, qualitative data were collected through focus group discussions conducted with groups of cotton farmers. The household survey was done by means of a semi-structured questionnaire. It addressed household livelihood issues, such as the composition of the household, production and management of food and cash crops, the place of cotton in the livelihood portfolio during the boom and after the decline of cotton production, the evolution of household income sources during the same period, and spouses' contribution to the household needs (see Appendix 2) for the complete questionnaire). Only the heads of households were interviewed about household strategies and to provide information on all household members. Household membership included all persons participating in the household's daily life for at least one year**.**

For analytical purposes, we distinguished the prime time of cotton production from the decline. The cotton prime started from the boom at the beginning of the 1990s and ended in the mid-2000s. During this period, cotton production had high economic returns, although some inputs, such as family labour, were not taken into account. The decline began in 2005, when farmers experienced ineffective inputs, mainly bad quality pesticides. This resulted in low yields and led to indebtedness.

Although there was a high ratio of male to female respondents in the sample (124/24), it was tried to avoid masculism (Blais & Dupuis-Déri, 2011) or the mistake of using a male perspective. Farmers' perceptions of changes in the respective contributions of husbands and wives to the provision for household needs between

the period of cotton prime and the time of the decline were investigated and are presented by gender. The gender subjectivity in appreciating the spouses' contributions could thus be documented. For example, in the appreciation of wives' contribution to household provision, the men said that during the cotton prime their wives' contribution was nil, while according to the women they did contribute.

6.4 Results and discussion

Agriculture remains the main economic activity in the study area. Raw agricultural products and some locally-processed foods constitute the bulk of the items sold in the many rural markets organised in villages. Few local farmers engage in (informal) business activities. Manufactured products are mostly sold by traders coming from nearby urban centres or by foreign traders who settled in the villages. For the indigenous population, agriculture remains the cornerstone of their livelihoods, often providing their total income, with cotton as the major cash crop.

6.4.1 Demographic and household characteristics

Regarding education, the literacy rate among the male heads of households is higher than that of the female heads of households. While there were no women farmers with university level education about 3 percent of men in the sample had higher education. In both groups however, secondary school level education represented the largest category. The difference between men's and women's education was significant ($p < .05$).

Table 6.1 offers an overview of the characteristics of female and male-headed households in the study area. It shows that male-headed households are significantly ($p<.001$) larger than female-headed ones. Overall, the mean household size is high, which corroborates the general opinion that northern Benin has the largest households in the country (INSAE, 2004). Minot and Daniels (2005) also found that cotton-growing households in Benin had more dependants than households that do not grow cotton. The larger household size could be due to the agricultural orientation of the region, since agriculture has a high labour demand. The number of workers in the households was calculated in male adult equivalents using the conversion table by Norman (1973). According to this table, women's contribution to agricultural labour force represents three quarters of that of men's. Based on observation in the field, however, it was decided to assign equal weights to men and women. Cotton is very labour-intensive and requires the involvement of all able household members, particularly that of women (cf. Chapter 5). In addition to their agricultural work, women also prepare the food for those working on the farm. The success of farm activities is, therefore, related to the performance of domestic activities. Moreover, female heads of households are solely responsible for their (cotton) farms, on which they have to perform all the work. Male-headed households have significantly ($p<.001$) more labour available than female-headed households. The prevailing

tradition of polygyny in the region, where men often have more than one wife, even among Christians (Falen, 2008; Mandel, 2004), is part of the explanation. No significant difference was found in the household dependency ratio between male and female-headed households.

Table 6.1 Characteristics of surveyed households

Description of variables		Female-headed (n=24)	Male-headed (123≤n≤124)	χ^2 and t
Education of the head (level)	No education	20 (83.3%)	63 (50.8%)	9.05*
	Primary school	1 (4.2%)	26 (21.0%)	
	Secondary school	3 (12.5%)	31 (25.0%)	
	University	0 (0.0%)	4 (3.2%)	
Household size (person)		11.33 (5.62)	17.33 (11.96)	-2.40***
Labour available (male adult equivalents)		6.75 (3.33)	10.96 (9.32)	-2.18***
Dependency ratio		1.70 (0.39)	1.70 (0.54)	.096
Experience in cotton production of the head (years)		14.17 (6.98)	21.32 (10.45)	-3.22**
Ratio of the head's experience in cotton production by his experience in agriculture		0.86 (0.16)	1.17 (.92)	3.48**

Note: * = p < .05,** = p < .01, *** = p < .001. Figures in parentheses are percentages and standard deviations of means.

***Source**:* Survey data, 2009-2011.

Men have significantly (p < .001) more experience (factor of 1.17) in cotton production as part of their agricultural experience than women. This relatively high ratio of men's to women's years of experience in cotton production could be greater than the ratio relating to experience in agriculture in general. Experience refers to years of autonomy in decision-making about the production system and about the use of the yields. Since cotton is a cash crop and the main source of income, young men start growing cotton early on. Already during adolescence, boys have their own cotton plots, independently from the main plots of the household, which they fully control from the sowing and planting to harvesting and the use of the yields. The young men's interest in cultivating food crops usually starts later, when they are heads of their own household. It is household headship that confers the right to control all household production. Women have on average fewer years of experience in cotton production as part of experience in agriculture (factor 0.86) and their control over cotton plots is on average more recent than that of men. Indeed, young girls rarely own a plot for cropping before they get married.

Some particularities need to be mentioned here in order to shed light on the dynamics of some households that reflect the often complex structure of the household in this modern-rural context. Multiple arrangements could be identified based on criteria such as the place(s) where the household members live, the mode(s) of production, and processes of decision-making and household management. This complexity gives the household as a productive unit a blurring shape that overlaps with the family and

its holdings and with the household as a unit of consumption (cf. Niehof, 2011). Basically, three types of households can be distinguished in the study area: (i) the nuclear family household with one male adult head, his wife(ves) and dependants, (ii) a household where brothers share a homestead that is headed by the eldest brother with limited autonomy for the younger brothers, and (iii) households where two or more brothers live at different locations and share some resources, produce jointly but are relatively autonomous in managing the non-food outcomes. The following two cases illustrate the variety of household configurations.

Case 6.1: Dari is co-heading a household of 22 dependants with his younger brother. There are two homesteads, one in the village where the household head is living, and the other on the farm, which is managed by the younger brother. The latter homestead was installed to be closer to the farm and ended up becoming a permanent homestead, with the brother living there having little autonomy of decision making. The practice of setting up homesteads on the farm emerged during the cotton boom. The growing scarcity of land for cotton, the intensity of cotton activities, and the necessity to protect the inflammable crop from bushfires, led some households to partly transfer the household to the farm. Dari's household is an example of a case where the intensity of cotton farming and the distance to the home made the stay at the farm much more frequent and, in the end, permanent. The two components of the household then coordinate their functioning. While the homestead at the farm is the centre of production, the one in the village is where decisions come from or are made and resources are managed. Both cash crops and food crops are cultivated together. Cotton is produced on the collective farm cared for largely by the younger brother. The resources generated by cotton production are particularly used for big investments. The yields of the jointly produced crops are jointly managed, but with a pre-eminent role in decision making of the elder brother. Cotton still remains the household's main source of income, though its falling profitability and the erratic payment of cotton money have led the household to diversify with maize and rice. The production of these crops demonstrates, however, some exceptions in resources pooling strategies. Maize for example, which is primarily a food crop with a considerable cash function, is cultivated together. Rice that is considered a cash and food crop too but has primarily a cash function, is cultivated separately for private cash needs. In addition to the common farm, however, the elder brother owns a small cotton plot near the village, for his "personal purposes". Indeed, most of the household members live in the village with the household head, including the younger brother's school-age children. Dari looks after their basic needs, education and health, asking assistance from their father only when really necessary. To do this, Dari uses the money from his private plot.

A common granary for food crops is located on the farm, from which each homestead can freely draw the food needed. Most resources and outcomes are pooled because *"dividing the yields of our production will weaken the family"*, according to the head of

the household. Figure 6.1 portrays the arrangements of this household and the flow of resources between the two homesteads.

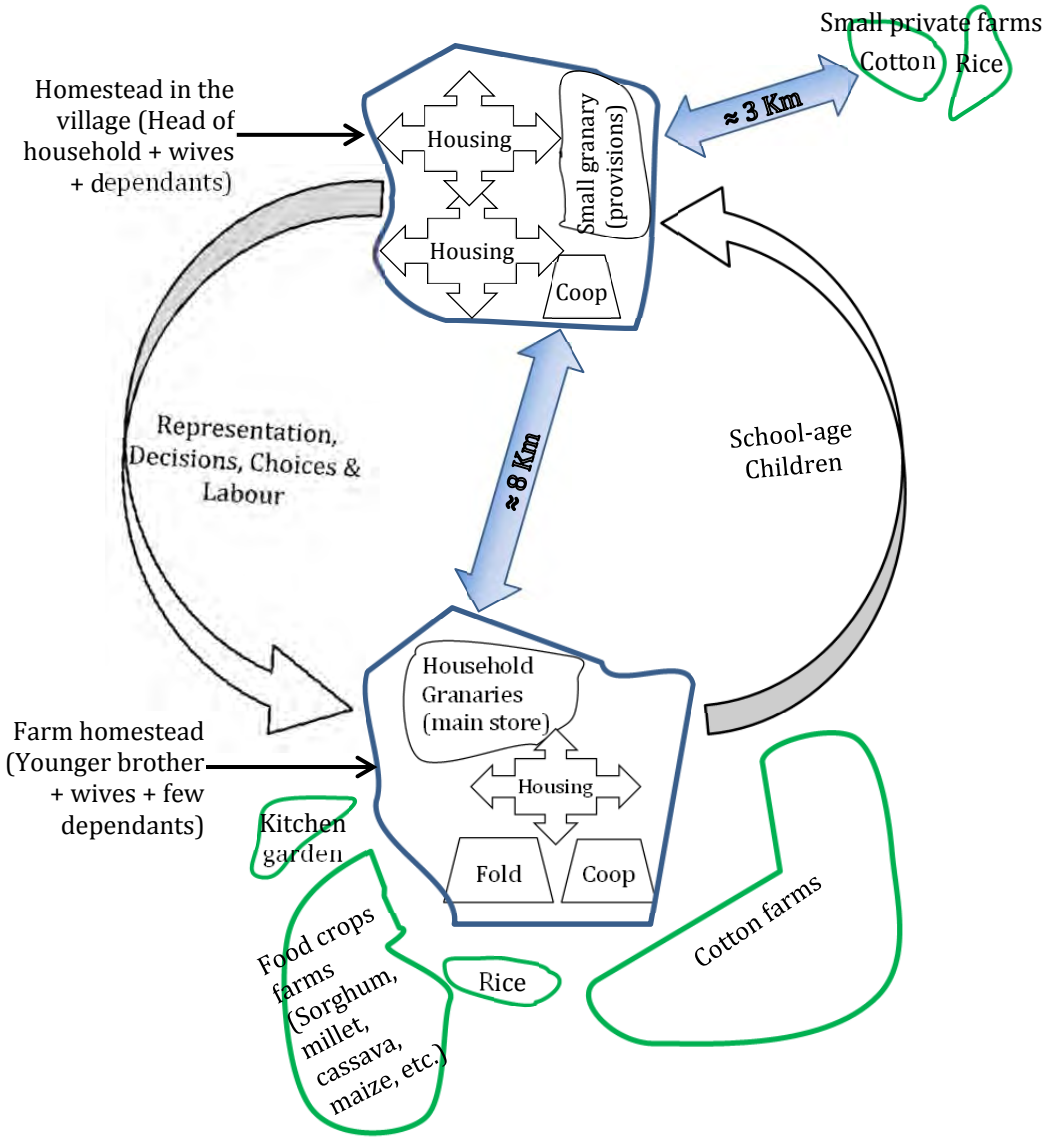

Figure 6.1 Household and homestead arrangement of Dari's household

Case 6.2: This household of 36 members is composed of four brothers with their six wives and 26 dependants. The brothers live the same homestead. The wives share the domestic tasks, cooking in turn for the entire household. The household is headed by Gounou, the eldest brother, who decides to certain extent on behalf of his younger brothers. They grow all the necessary food crops together and maintain a common granary to feed the members of the household. Their cotton farms are on a block of land, where they all have a bounded plot (Figure 6.2).

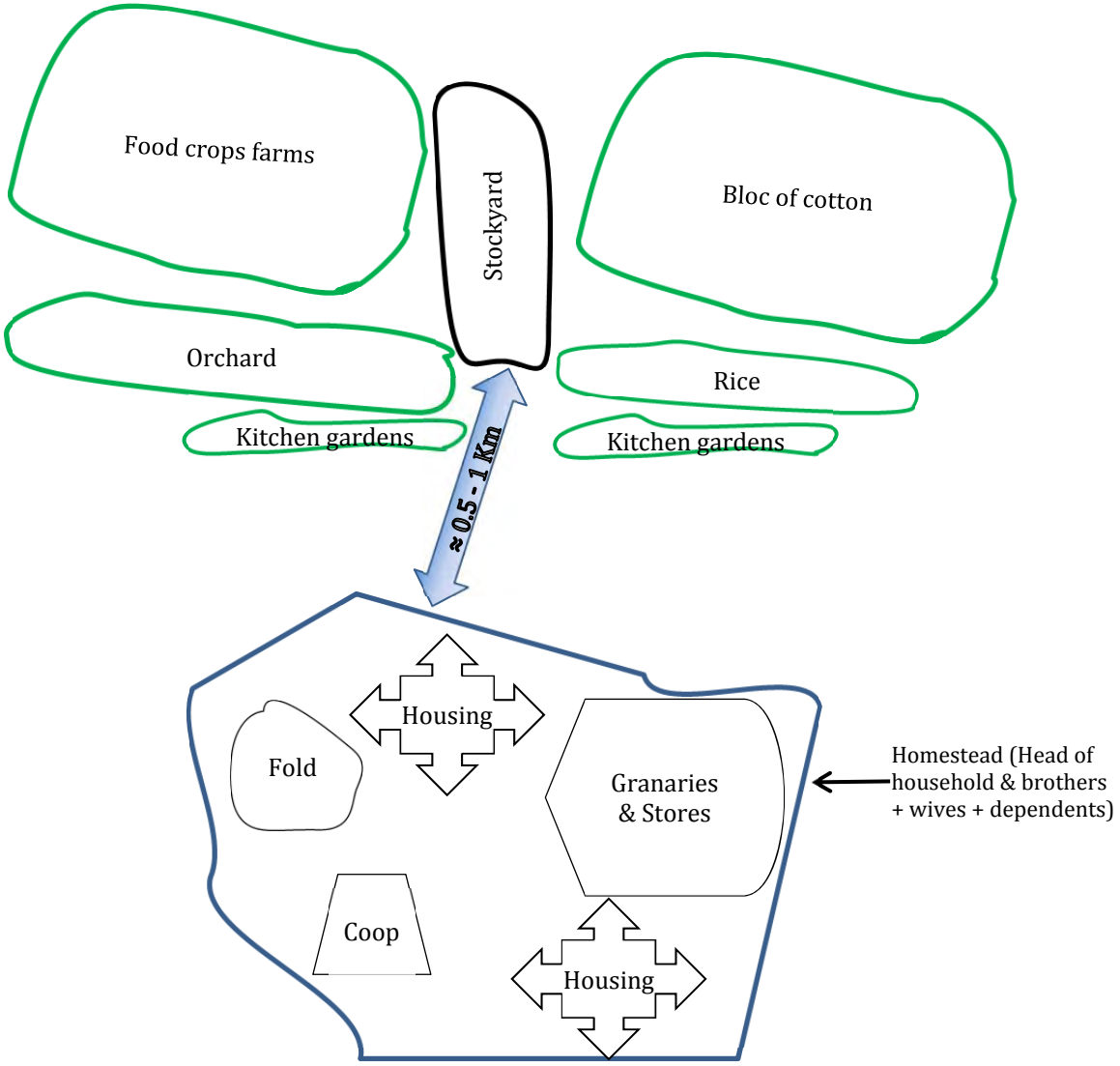

Figure 6.2 Household and homestead arrangement of Gounou's household

The arrangement allows the household to join efforts in growing the labour-intensive crop of cotton. The sizes of the respective cotton plots reflect birth rank. The size decreases from the eldest to the youngest brother, regardless of how hardworking the owner is. Harvesting is done collectively but the produce is displayed separately and sold accordingly. Each of the wives is attached to her husband with regard to the entitlement to cotton yields. A younger brother cannot have a bigger farm than his elder brother. The youngest and unmarried brother has no plot within the block. Instead, he is under the eldest brother. *"It is like that because as the eldest, I have to deal with their matters",* said the eldest. These arrangements allow for a minimum level of autonomy for each brother. *"Each of us has his private financial issues to deal with, together with his wife(ves). And money issues are difficult to settle nowadays",* said the eldest brother who acts as the head of the household. Big investments such as wedding ceremonies, or issues that engage directly the honour of the family, are dealt with in the group in which the eldest has a prominent voice. The decline of cotton

profitability affected only slightly the land devoted to the crop, which has remained almost constant from 2005 to 2010. Until now, cotton is the most important cash provider, which is why it is still the main crop in Gounou's household, although its share has drastically declined from about 75 percent to 40 per cent. However, more effort is now put in cultivating groundnut, rice and maize, to compensate for the reduction of cotton income.

The two examples above illustrate the central position of kinship ties, the preservation of which is an important concern for all types of households. Ties are strengthened through regular interaction. One way of preserving these ties is to work together in food production and share the granary. The criterion of co-residence in the definition of household that was used (see above) does not necessarily imply living under one roof. However, the proximity of household members has to be such that they share – at least a major part of – household resources and daily activities, of which eating from the same granary is fundamental. Applied to the households in the study area, this entails that different domestic units in one homestead or different homesteads in one domestic unit can, in fact, constitute one household, provided they share at least a type of resources and jointly manage them to provide for their primary needs. A household can therefore be defined as a group of people who eat from the same granary, pool the necessary basic resources, and abide to some extent by a power holder's decisions about the management of resources.

6.4.2 Land allocation to cotton

Of the sample of 148 cotton farmers, about three quarters were still producing cotton against one quarter who declared to have abandoned cotton production. However, the dynamics of cotton production make it difficult for farmers to abandon it completely. Indeed, about 58 per cent of those who abandoned cotton production (about 14 per cent of the total sample) were willing to resume it when the conditions of production would improve. Because during the past three years incentives were implemented to revive cotton, e.g. the revocation of the private monopoly in inputs supply and the suspension of the main cotton bodies, many farmers are now resuming the production. However, many others remain suspicious of the strategy. These dynamics testify to the economic importance of cotton, which played a crucial role in the monetisation of the rural economy from the beginning of the 1990s onwards (World Bank, 2003). Despites this importance, a decline of the average level of cotton production between 2006 and 2010, along with a net decrease of the average cotton plot size within the same time frame could be observed (Table 6.2). This overall decrease points to a general trend of cotton abandonment during 2006-2010, as a consequence of the troubles witnessed by the sector from the beginning of the decade.

Table 6.2 Evolution of cotton production between 2006 and 2010.

Production parameters	N	M	SD	Min.	Max.
Household's cotton plot in 2006	132	3.67	4.50	.00	30.00
Household's cotton plot in 2010	146	2.27	2.37	.00	12.00
Household's cotton production in 2006	127	5.15	8.03	.00	60.00
Household's cotton production in 2010	134	2.38	2.53	.00	10.00
Average area of cotton plot (2006 - 2010)	147	3.30	3.70	.00	30.00
Average cotton production (2006 - 2010)	132	4.48	5.71	.00	49.20

Source: Survey data, 2009–2011.

6.4.3 Structure of cotton farmers' income

Among the wide range of sources of income of farmers in the study area are kitchen gardens, breeding of animals, processing of agricultural products, food crops trade, (petty) trade such as selling of condiments, handicraft, and salaries and pensions. There was no statistically significant difference between male- and female-headed households with regard to the average number of sources of income (Table 6.3). The number of income sources in each category of households indicates that an average household has at least two sources of income.

Table 6.3 Structure of income sources of male- and female-headed households

Parameters	Men (111≤N≤124)	Women (19≤N≤24)	*t*
Mean number of sources of income	2.02 (.71)	2.13 (.68)	0.69
Average percentage of agricultural income in total income	73.83 (31.01)	65.17 (24.76)	-1.26
Average share of cotton in agricultural income	47.78 (26.18)	36.43 (19.77)	-1.80

Note: Figures in parentheses are standard deviations of means.

Source: Survey data, 2009–2011.

However, while men can be limited in the number of livelihoods activities, women's livelihood portfolio is richer. In addition to agricultural-related activities, breeding of animals, and handicraft, in which both men and women are involved, food processing and food products trading are exclusively women's activities. More women than men are engaged in small trade of items like condiments or groceries. This gives women more opportunities of adaptation than men. Of all activities, agriculture has remained the main income-generating activity, providing about 74 per cent of income to male-headed households and 65 per cent to female-headed households (difference is not significant). Cotton now represents 36 per cent of agricultural income of female-headed households and 48 per cent for male-headed households, making the latter more dependent on income from cotton than the former. The present figures

represent a steep decline from the share cotton income had before 2006. However, the averages hide considerable differences between households. Some still earn up to 100 per cent of their income from cotton, while others reported that cotton provided them no longer with income although they continue growing it. The reasons for the decline are the lesser profitability of the crop and the problems in getting paid for the produce (see Chapter 3).

6.4.4 Importance of cotton for strengthening the household's asset base

Cotton production brought much wealth and well-being to the North of Benin during the 1990s and the early 2000s and was valued as "white gold" (see Chapter 2). It has been critical for both men and women, not only for the regularity of its income, but also for the relative importance of the amounts of money received at once. This made cotton income the means for big investments, such as construction of a house, acquisition of cars and motorbikes, lasting equipment like grinding mills, for wedding ceremonies, etcetera. Most of the surveyed households reported improved living conditions, which they acknowledged to originate from cotton production. Concrete houses, roofs of corrugated sheets, agricultural equipment, motorized transport, and all sorts of equipment and appliances, were reportedly financed from cotton income (Table 6.4). Cotton had become the backbone of the country's economy and the source of rural households' assets.

The economic growth of the country during the 1990s is largely imputed to the cotton boom. By contributing to assets and resources endowment, cotton has had enduring effects for individuals, households, and communities in the North, and, at national level, for the State. An increase of houses with corrugated roofs, a symbol of "rural ease", and the construction of community infrastructures are, among others, the visible improvement of farmers' living conditions driven by cotton production (World Bank, 2003). Through this substantial contribution to the livelihoods of rural households, cotton production shaped people's life for a long time. Following the soaring prices of inputs and lower yields from cotton, hundreds of farmers abandoned or drastically reduced the area planted with the crop. The World Bank (2003) identified low returns to labour as one of the risk factors to individual and household poverty. About 14 per cent of farmers reported halting the construction or enhancing the quality of their house as a consequence of the decline of cotton production. Another 16 per cent of farm households had to reduce their provision for animal traction and agricultural equipment for the same reason. The incidence of prestigious funerals and memorial ceremonies, which inflated during the cotton boom and were organised after farmers had received their cotton income, has reportedly declined as well. For many farmers, the reduction of cotton income by 50 per cent meant halving their income.

Table 6.4 Improvement/reduction in households' assets endowments with regard to cotton production (percentage of households)

Assets			
Categories	**Types**	**Acquisition during Cotton prime (N=115)**	**Reduction in quantity/quality after the decline (N=115)**
House	Concrete (or half) with corrugated sheets	39.13	23.91
	Clay with corrugated sheets	33.91	6.38
Agricultural equipment	Animal traction	80.87	10.58
	Tractor	1.74	0.00
Means of transportation	Motorbikes	61.74	07.35
	Cars	2.61	0.00
Home and "luxurious" equipment	Table, chairs, sofa, etc.	86.96	09.18
	TV, CD player, etc.	75.65	11.50
	Fridge, generator, grain mill	12.17	7.70

Source: Survey data, 2009–2011.

Orou is a 65 year-old cotton farmer, heading a household of 26 members in Sekere. The household earns hundred per cent of its incomes from agriculture of which cotton represents up to 90 per cent of the yearly income. Because of this paramount importance of cotton to his livelihood, Orou maintains a constant production and he is one of the largest producers in his farmer group. But he resents the problems overwhelming the sector that forced many farmers to reduce their land allocation to cotton. Orou's woes result from the lack of payment for his produce that squeezed his livelihood and reduced the household assets. *"All my assets come from cotton production, and therefore the deterioration of my living conditions comes from the cotton problems"*, he contends. He points at an unfinished building that was intended for his three sons of whom two are married but still not independent. Clearly, the high dependency on cotton has shown its limits and necessitated farmers individually as well as collectively to devise new ways of generating income.

6.4.5 Adapting to and coping with the cotton crisis

The causes of diversification as well as its outcomes are affected by location, assets, incomes, opportunities and social relations (Ellis, 1998). Three types of livelihood assets are relevant and critical to rural areas for people's adapting and coping strategies. These are natural, social and human capital, in addition to the social norms and rules regulating the access to these assets (Scoones, 1998). These assets are the main instruments for diversification of income and resources. Multiple motives such as the reduction of risk, the experience of shocks, and the use of opportunities drive the choice of diversification (Barrett et al., 2001). In the cotton zone of Benin, the fall of prices and the erratic payment for cotton yields resulted in a shortage of income that created an economic shock. Consequently, both cotton producers and those who (pretended to) have abandoned it, have to adapt to and cope with the new context, diversifying to various degrees to compensate for the reduction of income (Table 6.5).

Table 6.5 Patterns of adaptation and coping strategies in cotton zone

Adaptation (Choice)	Coping (Necessity)
- Commercial food crops production	- Reduction of cotton area
- Increasing economic importance of marginal cash crops	- Diversion of fertiliser to food crops
- Emergence of organisations around food crops production	- More freedom for wives' entre-preneurship - Seasonal migration of teenagers

Source: Survey data, 2009–2011

The main strategies of adaptation and coping are shifting agricultural production patterns, migration, and granting de facto more freedom to women, to mitigate the economic shocks or to reduce the risk of failure. The changes in agricultural production patterns are exemplified by: (i) the shift of the purpose of cotton production, (ii) the growing economic role of previously marginal cash crops, and (iii) the changing status of food crops that have gained a cash function, and which have become particularly profitable after the food crisis of 2008. However, whether these strategies are sustainable remains a question.

Adaptation and coping: on-farm diversification. The first two adaptation strategies are all a diversification by choice, and aim to manage the risk. They consist of conferring a primary cash function on food crops, such as maize, sorghum, yam, cassava, and cowpea, which in the past were produced exclusively for home consumption, and of which only the surpluses were sold. Rice, which was produced both as food and as cash crop, soybean, and groundnut have seen their marginal cash function increasing (Table 6.6).

About 69 per cent of the respondents cited a food crop as their actual first income-generating crop, of which maize represents more than half, followed by groundnut and soybean. Rice and sorghum follow suit as income-generating crops. This implies that about less than one third (31 per cent) of farmers still has cotton as their first cash crop. Maize also dominates as second income generating crop, followed by rice and groundnut.

Table 6.6 On-farm income diversification among cotton farmers

Crops	Frequency (% of farmers)			
	1st rank	2nd rank	3rd rank	4th rank
Maize	60.9	28.7	4.3	1.7
Groundnut	2.6	12.2	16.5	8.7
Rice	2.6	13.9	20.0	7.8
Sorghum	1.7	3.5	7.0	8.7
Soybean	0.9	3.5	10.4	9.6
Yam	-	6.1	4.3	-
Cowpea	-	3.5	1.7	3.5
Cashew-nut	-	-	1.7	1.7
TOTAL	68.7	71.3	67.0	41.7

Source: Survey data, 2009–2011.

Cultivating these crops provides additional income and contributes to compensating for the loss of income from cotton. Thus maize, sorghum, yam, and to some extent cowpea, previously produced primarily for own consumption, are now largely sold for cash. However, their growth needs fertilisers that until recently were hardly accessible for non-cotton producers. Those who can afford fertilisers on the black market, or through their social networks within the formal cotton organisation, have completely given up cotton production in favour of maize. The production is rarely sold locally but transported to trans-border and urban markets, though with no guarantee of higher returns. Those who cannot access fertilisers through the cotton system continue to grow cotton, albeit in small quantities. In this way, they continue to receive fertilisers that are subsequently partly or fully diverted to food crops. Therefore, the primary purpose of cultivating cotton has strategically changed from earning income to accessing inputs. But following the disqualification of farmer organisations in managing cotton production, a close control of inputs is exerted by the extension services. This has led to strategic behaviour to access the critical inputs in the context of the decreasing land fertility, showing a combination of adaptation and coping strategies.

The strategies to access inputs (coping) aim at increasing the effectiveness of the diversification of income sources (adaptation). In the case of a full diversion of cotton fertilisers to food crops, the yields of the food crops benefitting from that diversion are expected to cover the inputs debts. However, this does not always work out as planned. Whenever there is an over-production of maize and concomitant low prices, or when the agricultural season experiences torrential rains or another natural contingency occurs, farmers become heavily indebted. Up to half of the maize produced may be used to pay back such debts. There is a high covariate risk (Ellis, 2000) between these alternative cash crops, due to the fact that they all belong to the farm sector. When fertilisers are partially diverted, farmers drastically reduce the cotton surface to the extent they expect to produce enough to cover the inputs debts. But this strategy is not always successful. If cotton does not benefit enough attention

to yield well, farmers have to use the total production of the food crop to pay for the inputs, thereby reducing the returns of the alternative crop.

Youth male migration as non-farm diversification. Out-migration has been identified as an important strategy for improving livelihood systems in Africa. In stimulating out-migration, factors such as the reduction of employment prospects, the increase in poverty, and the pressure on natural resources are intertwined with social dynamics (de Haan, 1999; de Haan et al., 2002; Francis, 2002; Mosse et al., 2002). Rural-urban migration has long been identified as the dominant migration flow and was used to explain the growth of African cities. But a flow in the opposite direction can be observed as well (Beauchemin, 2011). For example, Bigsten and Kayizzi-Mugerwa (1992) found that urban households may let members migrate to rural areas and to remit food to the members left behind. However, migration is rarely a first choice or preferred option. Farmers resort to migration when the available opportunities of diversification on-farm do not result in any prospect of improving their well-being.

Rural-urban (or semi-urban) migration was observed in the village of Sekere (district of Sinende), where seasonal migration of teenagers has become an emergent phenomenon and de facto part of the livelihood system. On-farm diversification has failed to live up to farmers' expectations of earning income to improve their livelihoods. Foods crops, of which the production has shifted in purpose, cannot generate enough income to meet all needs, particularly those arising from the modern aspirations of the youth to have motorbikes and mobile phones. To be relieved from this pressure, some households let their boys temporary migrate to Nigeria. About nine per cent of surveyed households had up to three members who were on migration simultaneously. The migration to Nigeria is nurtured by clandestine networks of traffickers[10], who may have no previous direct connection with these teenagers whom they recruit by chance.

Two types of decision-making were observed that shaped the migration of young people in Sekere, where about 62 per cent of the heads of households interviewed reported to have had (a) migrant child(ren). The first and most common pattern is migration as the outcome of the migrant's personal decision, as happens in about 78 per cent of the cases. A farmer described how they leave as follows:

[10] Thanks to a stop on my way back from Sinende in 2010, I came across a scene of dispute in the village of Guinagourou at the Nigerian border. A car driver carrying a group of eight teenagers, who turned out to originate from Sinende, was arrested by vigilantes. None of the teenagers gave any name of who contacted or helped them. Instead, the older one, approximately 15 years old, said they were relatives and friends and argued they were on a visit to their mother. The driver succeeded to escape and left his car, driven along with the teenagers to the nearest police office.

> *They usually leave the village in small groups by night and their absence is noticed the following morning. Sometimes, it is after many days that the parents become convinced that their child(ren) have migrated.*

The second pattern is joint decision-making and concerns those who inform their parents of their decision to migrate. Because informing is different from getting permission, two sub-types can be distinguished. The first one includes the cases where parents accept the proposal against their will, because they cannot afford giving their children what they want. Therefore, they accept with resignation and can be qualified as passive actors in the process. The second sub-type differs from the first by the fact that parents discuss the issue with their children and advise them. Although not providing the means for transportation, in this case the parents have an active role.

In all cases, the migration was a trans-border movement that led the young migrants to Nigeria for a while. The average duration of the migration is six months. During this period, parents are usually ignorant about the whereabouts of their children and do not know when and whether the children intend to return. They are commonly known to work primarily in agriculture and, in the second place, in construction. Probably they are involved in illegal employment in high-risk domains such as mining as well. At the end of their stay, young migrants reappear at the parental home in small groups, just as when they left, each of them riding his motorbike. They travel overnight on rural roads like smugglers, to avoid being arrested by custom officers who would fleece them, requesting substantial amounts of money.

The motorbikes they returned with are exhibited at the edge of the village square where parties are organised in the evening and where young migrants stage rallies with their motorbikes. This display of their acquisitions contributes to nurture migration. Thus, the principal motive behind this temporary migration of youths is acquiring a motorbike, which in their view helps them to maintain a prospect for life. The boom in the cotton sector had engendered aspirations that could no longer be realized after its decline. To keep their expectations of modernity while living in a rural area, the young people want to cultivate a modern lifestyle, which forces them to migrate temporarily (cf. Ferguson, 1994; 1999).

The migration of youth in Sekere differs from both circular and seasonal migration (Hampshire, 2002; Rogaly et al., 2002). Unlike in the case of seasonal migration, the youth migration from Sekere can take place at any time of the year. The migrants send no remittances and have no contact with their parents till they are back home. This migration is also not cyclical. Instead, the reproduction of the process is fed by new migrants. Successful and experienced migrants recount their adventures to their peers who then decide to try it themselves, using or not the same itinerary. In contrast to commonly known processes of migration in which the flow is maintained by a network of social relations (cf. de Haan, 1999), in this case the temporary migration

revolves out of established networks. Although it does not provide the household with direct cash, it constitutes a diversified source of income if assumed that it is the head of household's duty to supply the young members with assets such as motorbikes. When this requirement is not met, out-migration becomes an option for boys to afford their needs. Although their absence from home for several months implies a deficit of labour, their return home in possession of what they wanted, releases not only them but also the parents from a pressure on the household means. Therefore, this strategy supports the household. In addition, the divergence of interests between children and parents, and the shift of power relations between them, implies that this temporary migration involves implicit bargaining through the processes of decision making from which it takes place (cf. Agarwal, 1997; Sen, 1990).

While the shortage of income and social pressure are push actors, the demand for the services that can be delivered with the acquired asset constitutes a pull factor for coming back. The use of the motorbikes is manifold. In addition to the psychological feeling of achievement they bring to the owners, the motorbikes are used for "taxi-moto", an important contemporary means of transportation in the country. Taxi-moto nowadays is an income-generating activity that can generate substantial amounts of money to it practitioners. It ensures easy traffic in rural areas where other means of transportation are not always available. The migrants also help the household members travelling by motorbike when necessary.

Institutional diversification as livelihood adaptation strategy. Cotton organisations have lost their pre-eminent position of yesteryear, being in competition with farmer organisations that focus on other crops, which emerged from the quest for new opportunities of added value. Their emergence also benefited from the support of NGOs that are not interested in cotton production, apart from those lobbying for organic cotton. Commercial as it is, cotton production is highly regulated and fully controlled by economic lobbies that do not leave any space for NGOs. Thus, organisations (pretending to be) specialised in the production of maize, rice, groundnut, cashew-nut, cassava, soybean, or beekeeping, emerged in the villages to compete with the declining cotton organisations that were overwhelmed by debts and mismanagement. Pre-existing associations that were on the edge of collapse for lack of time or lack of interest, such as those of traditional dancers and craftsmen, benefitted from the development. The membership of cotton organisations made farmers familiar with organisations. Being a member of an organisation became part of their lives. Farmers who were involved in managing cotton organisations began to use their experience to structure and lead the new organisations.

It can be concluded that although cotton production has declined and cotton organisations are fading, cotton has contributed to building human capital, a resource that farmers use to organise themselves in other areas of production. The new organisations, therefore, contribute to improving farmers' livelihoods, given that participating in a wide array of associations increases the ability to smooth livelihood fluctuations (Grootaert et al., 2002). In addition, leading an organisation gives

opportunities of mediating between donors and NGOs on the one hand and fellow farmers on the other (Olivier de Sardan, 2005). It also entitles leaders to manage common resources of which the use can be diverted from public needs to private purposes, as happened in cotton production. Although farmers are complaining about the low income-generating capacity of these diversified sources of income, not having to deal with cotton anymore satisfies some of them. As a farmer said:

> *For sure, the decline of cotton production is not hurting me, as long as maize is profitable. Instead, we will benefit from this situation because the extension agents will stop disturbing us.*

6.4.6 Effects on intra-household resource allocation and gender roles

The decline of cotton production has modified the share of men's and women's contribution to provision for household needs and expenditures. Men's higher dependency on cotton income led them to being more deprived of alternative income sources than women. As a consequence, their purchasing power compared to that of their wives has been drastically reduced. This decreased purchasing power of husbands is automatically reflected in their contribution to the household needs, which is not without consequence for the spousal relationship. As a wife said:

> *During the prime of cotton, we gave money to our school children without any concern of being paid back by our husbands. But now, because of the decline of cotton production, we are always quarrelling with the husbands about money.*

Table 6.7 Evolution of wives' contribution to household needs (%)

Women's perspective (N=24)		**High**	**Average**	**Low to negligible**
Schooling fees	During the cotton prime	21.7	43.5	34.8
	After the decline 2005	26.1	56.5	17.4
Clothing	During the cotton prime	59.1	18.2	22.7
	After the decline 2005	68.2	18.2	13.6
Health care	During the cotton prime	9.1	9.1	81.8
	After the decline 2005	31.8	13.6	54.5
Daily feeding	During the cotton prime	22.7	22.7	54.5
	After the decline 2005	40.9	22.7	36.4

Source: Survey data, 2009–2011.

Women's purchasing power, however, is sustained because of the wide range of income-generating activities they perform during a long period of their life. Women in Benin are economically very active and start to earn their own income as early as at

the age of 15 and continuing to work into their 70s (Mandel, 2004; World Bank, 2002). Therefore, their contribution to providing for the household's basic needs increases relative to men, who have fewer opportunities to earn income. Table 6.7 presents the changes in the contribution of wives to the provision for household needs from the wives' perspective.

The demise of cotton has resulted in women having more freedom to perform their own income-generating activities. But although wives contribute more to the provision for household needs, they are not as empowered as could be expected. The process of decision-making within the household is still unbalanced. Husbands still have a pre-eminent voice because of cultural practices and social beliefs that not only impose on them to provide their wives and children but also endow them with rights over the wives. Although to the young generation this may seem old-fashioned, the culturally underpinned subordination of wives to husbands turns out to be thriving. The paternalistic culture that subordinates women to men and the unbalanced power relations in decision making between men and women within the household are reinforced by the unequal allocation of resources to enable men to perform their 'natural duty' as providers. The married women who were interviewed said that their autonomy to decide on matters without referring to the husband is not positively affected by their increased contribution to the provision for household needs. They always refer to their husband for their own resources allocation. A male head of a cotton-farming household strongly believed that: *"It is not because a wife contributes to clothing or feeding the children at home that she and her husband will have an equal status."* The statement shows how strong cultural values on gender in northern Benin still are. However, there is also bargaining within households, which is neither a formal negotiation of rights and entitlements nor an open conflict for control of resources. It is a permanent repositioning of household members for mutual respect and self-esteem. And rarely do men in the area publicly acknowledge the superiority of wives over their husbands (see Chapter 5). Nevertheless, the important part taken by wives in households' economic life confirms that women act as a shock absorber in times of economic hardship (Molyneux, 2002), and entails a tacit handover of some space of power to women within households.

6.5 Conclusion

"The household is a complex phenomenon. In rural areas such as northern Benin where patrilineal kinship ties are strong, the household follows the contours of the joint family in which brothers have limited autonomy to manage and use income for their own family independently from the joint-family household. This attests to the importance of kinship as the fundamental element in establishing a household and helps gaining a sense of how the pooling of resources is far more important than the location of the homesteads. The household feature of co-residence can also be strategically reduced to sufficient proximity when, as in this case, the household is dispersed over more than one homestead to increase the efficiency of production and

management of resources. In the area, people refer to this phenomenon as 'split families'. Therefore, the core criteria for being a household member are eating from the same granary and abiding – to a certain extent – by the prominent role in decision-making of the eldest brother who is considered the household head. Households in the study area are large, with often many married adults, which characteristic is a sign of wealth. This situation contradicts the perception that relying mostly on farm and agricultural labour is a characteristic of poor rural households that tend to be large and have a higher dependency ratio than non-poor households (IFAD, 2010).

The decline of cotton production and the ensuing shortage of income, resources and livelihood assets have brought about shifts in decision making on the diversification of sources of income. When an economic shock occurs, farmers first tend to devise strategies by using the resources available on the farm. They only look beyond the farm when on-farm opportunities do not turn out to be an adequate response to the shock. Both on-farm and non-farm diversification took place within households in the study area. But the heads of households control on-farm diversification because of their control over land allocation to household members. Off- and non-farm diversification that aims at complementing on-farm income can therefore escape their control. Time is allotted to extra-domestic activities by wives to a certain extent, and young dependants can decide when and where to migrate to meet their needs as well. This made these categories of household members less vulnerable to the shock than men, thereby increasing their contribution to the provision of household needs and expenditures.

In spite of the wide range of activities performed by rural households to make their living, the low average number of incomes sources attests to the relatively poor livelihood portfolio at household level, or, in other words, to the precariousness of the livelihood systems. Food crops are of paramount importance in diversification strategies and they actually outnumber the traditional cash crops in providing incomes to rural households. Most notably maize, of which consumption has grown steadily, has gained a cash function in addition to its food function and is now ranked higher than cotton with regard to its ability to generate income. But this double function as food and cash crop and the covariate risks existing between maize and other alternative cash crops limit its ability to fully replace cotton. The income from cotton still is the main on-farm cash revenue for many farmers. As a consequence, cotton is grown as a coping strategy to make the diversified crops more profitable, in spite of its decreasing importance in providing income. Therefore, when farmers rely heavily on one crop for their livelihoods, they can always invent new ways of cultivating it to make their living, even when it is not financially profitable anymore. To make the food crops profitable and to reduce the dependency on cotton, policy makers should give more attention to the supply of inputs for promising food-and-cash crops and to improving their marketing options.

The plurality of households' responses to the cotton crisis in Benin explains why there is no ideal type of diversification. Diversification is dynamic and this makes possible

for one household to adopt more than one diversification strategy. However, two strategies can basically be distinguished in the study area: first, on-farm diversification of income sources, and, second, allowing more household members to decide upon and engage in earning (additional) income.

Chapter 7

General Discussion and Conclusions

ABSTRACT: The present chapter discusses the overall findings of the research presented in the previous chapters. It addresses the central research question and the questions and hypotheses subsumed under the headings in the first chapter. This is followed by a theoretical reflection based on the outcomes of the research. The chapter ends with a look at the implications for policy and future research.

7.1 Shedding light on the research questions and hypotheses

Networking, social capital, and gender roles in the cotton system in Benin are of interest to the State, farmers and private actors because these issues influence not only the economic profitability of the sector but especially because they constitute the social dynamics that drive the cotton system and shape rural livelihoods in the cotton belt. The main question addressed by the research is how farmers' agency affected their organisations, cotton production, and the collective action that evolved around their activity. With cotton as the central focus, the interfaces between individual dispositions and actions (micro level) and the institutional and political mechanisms (meso and macro level), and their effects on household livelihood systems were investigated. The dimensions of the main research question were framed under three headings: the emergence of breakaway networks, the decline of social cohesion and the squeeze of collective action, and livelihoods reconstruction after the demise of cotton production. Subsumed under these headings research questions and hypotheses were formulated (see Chapter 1). The actor-oriented approach and actor-network theory were the main pillars of the theoretical framework that was used in the research and gender was a cross-cutting theme, even though in relation to some issues more pronounced (e.g. Chapters 5 and 6) than in others. In this part of the chapter the research findings will be discussed, aligned according to the three headings that were formulated. At the end of this section we come back to the main research question.

7.1.1 The emergence of breakaway networks

Breakaway networks started emerging from a local conflict within a district farmer union, before extending to national level, and resulted in atomised networks. The process of cotton networks atomisation lasted less than one decade. It concerned both grassroots farmers and network leaders, and resulted into more than 12 officially registered networks. The process revolved around push and pull factors, proceeding by constant movements of breaking away from networks, joining, or creating other networks, thereby yielding three categories of cotton farmers: stayers, joiners, and creators. Push factors to atomisation are causes that motivated farmers to leave their networks while pull factors guided their choices of actions and their new network of membership. The most influential push factors with regard to their overall ranking are the lack of payment, the mismanagement of resources within networks, intra-group conflicts, and manipulation of farmers by outside actors. However, only mis-management of resources and manipulation of farmers by outside actors exhibited mean ranks of attached importance that were significantly different between stayers, joiners and creators. When controlled for socio-economic and socio-demographic background, only manipulation had a significant effect on farmers' decision to break away from networks. As for the pull factors, the payment on time, the facility of getting inputs, and trust in boards members (network-efficiency factors) were overall ranked higher than kinship, the hope for board positions, and the expectation of profit

(personal aspiration factors). However, only trust in board members, and the hope for board positions exhibited mean ranks significantly different between stayers, joiners, and creators. When controlled for socio-economic and socio-demographic background, trust in board members and expectations of profit had a significant effect on farmers' decision and made a difference between staying in, joining or creating networks.

In this process, investigated in Chapter 3, farmers were backed up by various kinds of relationships, in particular by the professionals in cotton production such as inputs suppliers and cotton ginners, whose support was ranked high by all categories of farmers. Yet, support from public officials and from members of the same ethnic group members also had a significant effect on stayers, joiners, and creators when controlled for socio-economic and socio-demographic background. The significant effects of public officials and ethnicity show that strong ties as well as weak ties constitute secure sources of support on which farmers could base their actions. As for the public officials, they provide breakaway network proponents with support on the official procedures about creating and/or managing cotton networks. The role of social networks and the derived social capital in cotton networking are attested by the positive relationship between leadership and the number of social networks farmers had belonged to. Though breaking away gave cotton farmers more access to leadership positions, those who had more membership in social networks were privileged. Hence, the hypothesis postulating that leaders of breakaway networks are more strongly embedded in social relations than ordinary farmers is verified.

However, leadership in cotton organisations was correlated with gender and education, a field where women lag behind, which adds to the entrenched myths and stereotyped images about women's inferiority vis-à-vis men. Hence, women are trapped in the intersection (Crenshaw, 1991) of factors that create a gendered social order, of which the main feature remains the exclusion of women from public spheres. This social order creates a false consciousness among women that makes them accept their position, a process that Ridgeway and Correll (2004: 511) referred to as the "social relational context." This explains why women are excluded from cotton organisation boards in spite of their key position in the cotton production system at household level.

7.1.2 The decline of social cohesion and the squeeze of collective action

As Chapter 4 shows, most of the infrastructures realised in the cotton-producing communities during the 1990s and the early 2000s were achieved before the atomisation of cotton networks. The relatively strong cohesion prevailing within the organisations nurtured collective action through which communities compensated for the deficiencies of the central State, availing themselves of basic facilities that benefitted non-cotton farmers as well. Hence, through collective action cotton

networks produced public goods for the benefit of their entire communities (cf. Kollock, 1998). Furthermore, the social and economic privileges that came out from managing cotton resources enhanced the social status of leaders and made these leaders a role model at village level. This improved the overall perception of the value of agriculture and aroused the interest of new actors to invest in cotton either by farming or by supplying inputs.

However, collection action faded when the networks disintegrated due to mis-management and conflicts increased. Breaking away from networks first steered competition and mismanagement practices, which in turn generated payment problems and more conflicts. Indebtedness and the accumulation of arrears therefore transformed cotton production into a nightmare. Additionally, the despair of cotton farmers resulted in the decline of trust within and between network members. The temptation of free-riding increased the tension between individual and collective rationality, leading to the diminution of the public goods. Where once network leaders decided on relevant actions to undertake with cotton resources for the benefit of the community, now concerted action between leaders of contending networks became impossible. The demise of collective action ultimately resulted from this chain of reactions. This thesis revealed the intertwined relations between trust, reciprocity, cooperation, and collective action. Ordinary farmers felt fooled by their leaders and resorted to free-riding to compensate. Distrust can, therefore, be equated to the disappearance of the basic functions of trust: the integrative function, the reduction of complexity, and cooperation. Distrust among members of the networks created a situation in which no collective action could be initiated. Therefore, the hypothesis that the decline of social cohesion resulted in the demise of collective action in cotton producing areas is verified.

What deserves to be singled out too from Chapter 5 is the salient gender difference in the settlement of network conflicts. Men and women proved to have a different perspective on modern as compared to traditional power. As apparent from the reaction of the profiled women to their ousting from cotton boards, the perception of the legitimacy of power is gendered. Referring to the same traditional, ascribed titles that a holder can only lose when committing an immoral act, women tend to accept that this cannot be the case with modern power. Contrarily, men do not differentiate between the two sources of power. Although in the case of modern power access is achieved by election instead of ascription, men would tend to ignore the expiration of their term as if a board position were an ascribed title. This difference of perceptions made the settlement of conflicts easier with women than with men, with the former accepting the rules of the game, even at their own expense, better than the latter.

7.1.3 Livelihoods reconstruction after the demise of cotton production

While acknowledging the household as the locus of the livelihood system, the results presented in Chapter 6 make clear that the household follows the contours of the joint

family and that in the research area patrilineal kinship is the fundamental principle in household composition and decision-making. A household often comprises married brothers and their families. Its members are strategically located in different, sometimes distant places for the efficient production and management of resources. In spite of the spatial separation, specific types of resources are pooled. While some management autonomy is granted to individual adults, in the end all members abide by the authority of one among them, usually the eldest brother. The feature of co-residence that is part of classic definitions of the household (e.g. Rudie, 1995) proved to be of minor importance. In the study area, eating from the same granary and patrilineal kinship are the core constituents of the household.

Cotton producing households proved to exhibit a relatively large asset basis and amount of welfare. Siaens and Wodon (2008: 174) concluded that "cotton producers fared relatively well" over the 1990s, and they found a 7 percent reduction in the probability of being poor for cotton-producing households compared to other ones. Additionally, during the prime of cotton production when it still deserved the qualification of white gold, cotton nurtured young people's autonomy vis-à-vis their parents, and indirectly lightened for the latter the burden of proving for the young people's needs. The decline of cotton profitability brought about a livelihood shock, for which farmers envisioned institutional and technical remedies. Cotton farmers long to see the cotton sector revive, but the regains of cotton production are very erratic and the sector still continues to languish. The continuous decline of cotton returns triggered the adaptation capacity of these households through three types of strategies: changing agricultural production patterns, migration of male youth, and granting more freedom to women. These strategies are not the prerogative of any one type of household. However, the centre of the decision making about a given strategy varies within the household. In the shift in agricultural production patterns cotton is always included in the strategies, and the household heads are the decision makers. This shows that a long-term dependency on cotton production makes it difficult to abandon cotton in spite of its lost profitability. But this first strategy fell short of expectations and, in particular, failed to meet the 'modern' needs of young people. Youth migration then emerged as an additional strategy. Migration concerns exclusively young men, who decide on this and almost impose their decision on the head of their household. Granting more freedom to women in the households to undertake more extra-domestic income-generating activities is a solution that followed from women's increasing contribution to the household income when their husbands' income from cotton declined. Because of the traditional imbalance of power between husbands and wives within the household, however, women's increased economic contribution did not notably improve their bargaining power and they remained dependent on their husbands for decision making. Hence, the hypothesis that livelihood losses consecutive to the demise of cotton production would modify the gender relations in cotton-producing households had to be rejected.

7.1.4 Answering the main research question

The analysis of the process of atomisation from the micro to the macro level allows answering the main question of the research that was stated in Chapter 1, namely: *How did farmers' agency affect their organisations, the cotton production, and the collective action that evolved around that crop?*

It was found that breaking away from cotton networks enhanced the access to leadership positions and the advantages attached to these of previously ordinary farmers. However, it also turned out that social connections are needed to make cotton networks thrive, and that long-lasting leaders had more social connections than simple leaders. Accessing these positions on the one hand and holding on to them on the other, shows that the stocks of social capital farmers could mobilise from their social networks make the difference among them.

The major conclusion that transpires from all this is that farmers' agency is the key element in the process of cotton networking. Agency has two sides. It matters through its positive (the power to) and negative (the power over) manifestations (Kabeer, 2005). Both sides of the coin of agency are visible in the processes that were analysed in this thesis. The process of atomisation is the observable and aggregated result of individual farmers' choices in their constant movements of breaking from, joining, or creating networks. Their choices have modified not only the internal organisational dynamics, but also the goals of the networks. The choices weakened the previously prevailing trust and inhibited cooperation for collective action. These outcomes of the atomisation show that in the end, the agency of individuals was more determinant in modifying the networking trajectories than that of institutions and organisations.

7.2 Theoretical and conceptual reflections

7.2.1 Agricultural (and institutional) liberalisation

The cotton sector in Benin seems to be in a permanent flux. When the farmers' predicament wears off and signs of prospects become visible, another crisis appears. Such a cycle of recommencement has led cotton farmers to being disgruntled and worn down by the despair of making the cotton sector revive. The merit of liberalisation has been to help cotton farming gain an entrepreneurial status by putting together resources and people previously unconnected (Weik, 2011). Some new governance structures emerged. However, the slack regulation of the sector by the State did not promote compromise between groups of actors. It is assumed that "optimising individuals choose the most efficient institutional arrangement or governance structure for carrying out transactions in a specific environment" (Slangen et al., 2004: 104). Yet, the outcomes of the struggles for controlling resources were full of winner-loser situations, where parties endlessly seeking for equilibrium could hardly come to an agreement.

It also has to be noted that cotton networking in Benin has contributed to building and strengthening human capital in rural organisations, a trend that also was observed in a similar context in Mali (Roy, 2010). Individuals and communities became aware of the benefits of organising themselves, also around other crops and other causes, and gained much experience by doing so. As a consequence, after the decline of cotton production in the area, organisations flourished to replace the cotton organisations that had begun to wane. The permanently changing perceptions about the crop, however, shows that farmers are more rational than is often assumed, and that they continue growing a crop as long as they find some benefits in it.

7.2.2 Networking and social capital: building trust within organisations

The dynamics of cotton networking exhibit the features described by actor-network theory (ANT). Different social actors were interconnected through cotton production and marketing. Cotton commanded these interconnections and each of the actors involved attributed a particular meaning to the product, depending on their specific relationship with the crop at a certain time. Hence, cotton became an actant as defined by Latour (2005), changing its meaning in interaction with the actors. These relations and their meanings are illustrated in Figure 7.1.

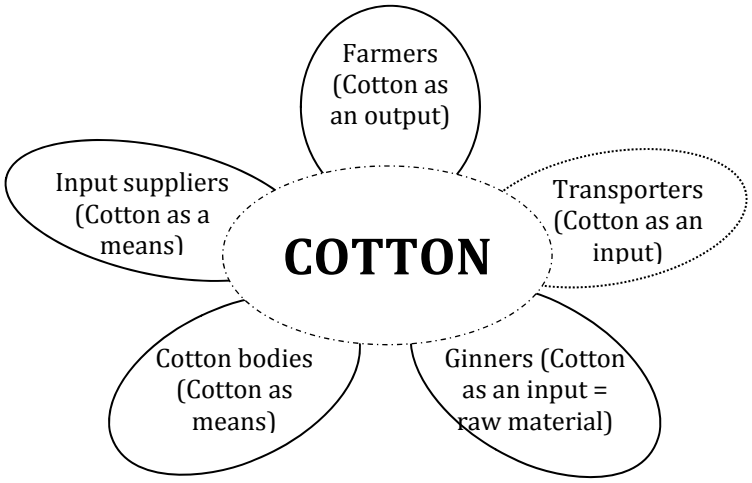

Figure 7.1 Changing meanings of cotton

In a spatial sense, cotton as an actant can be either output (for farmers), inputs (for ginners and transporters), or a means (for the State inputs suppliers and the regulatory bodies of the cotton platform). Seen from a temporal perspective, cotton changed meanings throughout the years, from being a colonial symbol (just after Independence) to becoming white gold (during the nineties), and later on (second half of the 2000s to the present) being deemed a pest, in spite of the amount of effort and resources put in to make it revive. The shift of meanings is nurtured by cotton profitability with its corollary of disagreements, conflicts, and the social divides it

generates among individuals and between individuals and institutions. The dynamics involved bring about a power play that unveils an imbalance in the decision-making process about the management of cotton and the direction of cotton-related policies.

An actor-oriented approach and actor-network theory together convey the message that objects, even inanimate and lacking will, should not be considered as exempt of action. While persons and their networks "attribute agency to various objects and ideas, which, in turn, can shape actors' perceptions of what is possible" (Long, 2001: 241), the actant is anything, human or non-human that induces an action (Latour, 2005). In addition, besides the interactions accounting for the life of the organisations, cotton leaders developed social relations that perhaps would not exist if there were no cotton. Networks leaders became role models and maintained a network of leaders with the cotton system, developing some cultural capital among them and "forming an elite structure" (Kilduff and Tsai, 2003: 22).

The complexity of exchange in cotton production and marketing requires trust, particularly in situations where legal frameworks are weak or fuzzy. The importance of trust as a critical input for successful organisations has been established for years. But the success of organisations is not only determined by trust. The types of institutions prevailing within a society influence that success for any organisation in the society concerned, because organisations are always shaped by the institutional arrangements prevailing in a society. The social structures of a given society are a cultural manifestation of that society. Hence, effective organisations emerge in societies with intense interactions, while those societies with poor interactions would produce ineffective organisations.

7.2.3 Gender leadership in rural organisations

In this study it was found that women are admitted on boards of organisations as long as they accept to play figurative roles defined for them by paternalistic culture. When they start standing for something that reduces the power and influence of men, they inspire reticence and distrust from their male colleagues. Men, therefore, see women's involvement in management as excluding real participation by decision making and resources distribution, which would never improve gender equity in the organisation. This points to an aspect of the gendered difference of management style as described by Rosener (2011), who demonstrated that participation reduces the likelihood of opposition to decisions within organisations. This study shows that women's under-representation in cotton organisation and their limited roles therein derive from their traditional subordinate position in society where men ascribe women only domestic roles, which bear a high potential of being a burden to them (Moser, 1989). The intertwined character of life spheres makes that inequalities and achievements in one sphere can be reproduced in another (Kabeer, 2005).

The struggle of the two women profiled in Chapter 5 shows that some women's agency is capable of modifying to a great extent their positions within their families

and improve their trajectory within men-dominated organisations. That agency, as shown by the World Bank (2012), has both intrinsic and instrumental relevance for women's quality of life and for actions that improve their well-being. Given the intersection of constraints that hinder women's advancement and empowerment in society at large, this agency is highly required if they "are to play an active role in shaping institutions, social norms, and the well-being of their communities" (World Bank, 2012: 115). Yet, generally, individual men exercise less negative power to curtail women's agency than their associations do. At individual level, men do acknowledge women's values and merits. To break the cycle of the reproduction of gender inequalities there is a need to: (i) lift up rural women's false consciousness (cognitive) by demonstrating that their disadvantaged position is not natural but socially constructed; and (ii) get the legitimacy of gender equity widely acknowledged at the individual level for its wider acceptance at other societal levels. Addressing these strategic gender needs of women requires (re)constructing gender as "a complex set of social relations enacted across a range of social practices that exist both within and outside of formal organisations" (Ely and Meyerson, 2000: 113), and as embedded in three societal dimensions: individual, interactional, and institutional (Risman, 2004).

7.2.4 Rural household and livelihood adaptation

The findings of this research question the classical definition of the household with a powerful head deciding on all issues of production and consumption on behalf of the dependants. The processes of decision making encountered show different centres of gravity with regard to domestic arrangements and decision making. Also, a household has an objective and a subjective dimension which makes the co-residence criterion problematic. Although members can be objectively separated and dispersed, either by living in different homesteads or by being a migrant, the head of the household would automatically list them as dependent members of the household. In spite of the often long absence of migrant members, they were considered household members by the heads of the households concerned, whereas those paid workers labouring and eating in the household were not perceived as household members. The same applies to brothers living in dispersed homesteads, who were listed as household dependants and considered themselves as members of a household whose head was living at a different place. This attests to the importance of the power of kinship relations. As Rudie (1995: 228) noted, "households are small units in which primarily familial loyalties have to come to terms with some requirements for efficient resources." In our case, the subjective (and cognitive) dimension of household outweighs the objective (and spatial) dimension.

Dispersed and spatially separated members of a household may still pool specific types of resources for the consumption and other needs of all household members. This is what (Elmhirst, 2008) called the multi-locality of livelihoods. In a study of migration in rural Nepal, Gartaula (2011) found a similar situation of households split up across different geographic locations but interacting through information and

communication technologies. He referred to this type of households as modified extended households.

To tackle the decline of cotton incomes, cotton-farming households diversified their sources of income and resources and developed adaptation or coping strategies. While adaptation strategies are exclusively on-farm strategies that include granting a cash function to or increasing the cash function of other crops, coping strategies primarily consist of changing the purpose of production to the crop in crisis. This suggest a temporal dimension to diversification strategies. The fact that cotton is still part of the coping strategies implies that these types of diversification are reversible, and that households that diversify by coping are highly likely to resume cotton production when the fundamental production parameters improve. In contrast, adaptation can turn out to be irreversible if the alternative sources of income yield as much income as the former crop and bear less constraints.

7.3 Conclusion and future research

The importance of cotton production to Benin's economy is undeniable. By shaping the country's production system over the last two to three decades, cotton has become the backbone of its economy. Decision makers became aware of the necessity to organise the sector and devised and implemented reform policies to effect changes and make the sector more efficient. These reforms aimed at suppressing the State intervention in the sector and granting full autonomy to private actors for joint management within their professional organisations. Yet, the implementation of the State's interventions intended to induce qualitative (and quantitative) changes into the fundamental organisational system of the sector proves to be inadequate. The reform policies as well as their implementation had flaws that hindered the sector's efficiency. Among these were the lack of coordination and the over-politicization of the sector, the surplus ginning capacity of the country, and the over-regulation of the sector. While the State legislated for liberalisation, it continues subsidizing the sector, on the grounds of ensuring minimum revenue to cotton farmers. Hence, relatively important amounts of money are invested to support inputs costs and sustain the cotton prices at the farm gate. These subsidies became sources of power play and conflicts. Furthermore, the institutions installed to enforce regulations in the sector were in their actions not backed up by clearly formulated rules. The highly regulated system implemented to control the interactions between actors turned out to be heavy and ineffective. The reforms therefore burdened the sector with institutional and political constraints in addition to the technical ones.

What this thesis shows is that due to the relatively high profitability of cotton sector, the necessity of diversifying agriculture has always remained a good intention. All the actors in the cotton production and management remain 'addicted' to the crop for the important amount of resources it generated. As a consequence, the State interventions in cotton are moulded by political motives and the technical aspects are overlooked.

The successive crises the sector has been undergoing since the mid-2000s are some of the outcomes of such a political management of a productive sector. Hence, reforms are being permanently implemented into the sector, the assessment of an on-going one followed by the implementation of new ones.

The present thesis went beyond the aggregate level to investigate the dynamics of smallholders' cotton production, providing micro-level data about the impact of the demise of the cotton system on farmers. Taking together the five empirical chapters highlights the saliency of the use of a mixed-methods approach for understanding the complexities of the interfaces between informal and formal structures. Indeed, the focus on the interaction between actors and structures offered room to explore how individual cotton farmers navigate through cotton networks in the context of atomisation. Human agency is always constrained by structures, which implies the necessity for individuals to integrate them into whatever their options are. At the same time, we have seen that individual agency through choices and actions also changes structures.

The demise of cotton production yielded negative as well as positive outcomes. The most significant negative effects are the drastic shrinking of livelihood assets and the freeze of collective action. Among the positive outcomes that could be blessings in disguise, is the strengthening of the human capital of farmers. Their struggle for representation provided them with invaluable experience that could be invested in organising the production of other crops. It is also important to mention the enlarged manoeuvring space for women and the increased autonomy of youth, which derived from their increased financial independence.

Cotton is special to Benin and has been specially managed for decades through unique structures. But the management of such a critical crop requires transparent and effective regulation. The findings of this research call for further policies and rules for their implementation on issues such as farmer organisations, gender equity, and livelihood systems. For their application to be sound and effect lasting changes, however, these policies would need further investigation of insufficiently explored issues. Below, three such issues are elaborated.

1. Returning to the cotton system, with regard to networks, it is imperative to impose limits on their size if multiple networks are admitted. Members should know each other in order to be able to exert control over their peers. That would leave less room for the malpractices that have created mounting competition for controlling the networks and their resources.
2. It would be highly relevant to do research on the ways of empowerment of women through their involvement in cotton management. The results of such research could further the possibility for women cotton farmers to register and be accountable in their own name, thereby deciding upon the use of their produce within the organisations.

3. Through longitudinal research, it could be investigated whether the dispersion of household members reduces their vulnerability to shock. This would provide a better understanding of how the adaptation and coping strategies complement each other and of how providing cotton-producing households with specific inputs for food crops would sustain their livelihood strategies.

REFERENCES

Abdulai, A., & CroleRees, A. (2001). Determinants of income diversification amongst rural households in Southern Mali. *Food Policy, 26*(4), 437-452.

Abou-Moumouni, I. (2011). *L'Alphabétisation dans les Rapports entre Organisations Paysannes et Etat Local dans la Commune de N'Dali.* (Mémoire de DEA), Université d'Abomey-Calavi, Cotonou.

Acker, J. (2006). Gender and Organizations. In J. Saltzman Chafetz (Ed.), *Handbook of Sociology of Gender* (Vol. 11, pp. 177-194). New York: Springer Science+Business Media, LLC.

Adekunle, J.O. (1994). Borgu and Economic Transformation 1700-1900: The Wangara Factor. *African Economic History* (22), 1-18.

Adler, P. S., & Kwon, S.W. (2000). Social Capital: the Good, the Bad, and the Ugly. In L. E. Lesser (Ed.), *Kowledge and Social Capital: Foundations and applications* (pp. 89–115). Boston: Butterworth Heinemann.

AfDB, & OECD (2008). African Economic Outlook 2008: Benin OECD (Ed.) (pp. 137-149). Retrieved from: http://www.afdb.org/pls/portal/docs/PAGE/ADB_ADMIN_PG/DOCUMENTS/ECONOMICSANDRESEARCH/BENIN_AEO2008_EN.PDF

Agarwal, B. (1997). ''Bargaining'' and Gender Relations: Within and Beyond the Household. *Feminist Economics, 3*(1), 1-51. doi: http://dx.doi.org/10.1080-/135457097338799

Ahn, T.K., & Ostrom, E. (2008). Social Capital and Collective Action. In D. Castiglione, J. W. van Deth & G. Wolleb (Eds.), *The Handbook of Social Capital* (pp. 70-100). New York: Oxford University Press.

AIC (2005). *Les réformes de la filière coton au Bénin*. Cotonou: MAEP.

AIC (2006). *Plan de campagne agricole cotonnière 2006–2007 et Perspectives 2007–2008*. Cotonou: AIC Retrieved from: http://www.aicbenin.org/index2.php?option=com_docman&task=doc_view&gid=25&Itemid=42.

AIC (2007). *Evaluation des Réformes Opérées dans le Secteur Agricole au Cours des 25 Dernières Années: Cas de la Réforme de la Filière Coton*. Cotonou: AIC.

AIC (2008a). *Plan de campagne agricole cotonnière 2008–2009 et Perspectives 2009–2010*. Cotonou: Retrieved from: http://www.aicbenin.org/index2.php?option=com_docman&task=doc_view&gid=25&Itemid=42.

AIC (2008b). *Privatisation/Libéralisation des Filières Cotonnières Africaines: Cas de la République du Bénin*. Paper presented at the 6th Annual Congress of the African Cotton Association (Privatization/Liberalization of the African Cotton Sector and Competitive Production), Lusaka (Zambia).

Akinwumi, O. (1998). Separatist agitation in Nigerian Borgu: A reflection on administrative groupings under colonial and post-colonial government. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 121–137). Paris: L'Harmattan.

Akram-Lodhi, A.H. (1997). The Unitary Model of the Peasant Household: an Obituary? *Economic Issues, 2*(Part 1), 27-42.

Alber, E. (2004). Grandparents as Foster-Parents: Transformations in Foster Relations between Grandparents and Grandchildren in Northern Benin. *Africa: Journal of the International African Institute, 74*(1), 28-46.

Albert, I. (1993). *Des femmes une terre: une nouvelle dynamique sociale au Bénin*. Paris: Harmattan.

Alcadipani, R., & Hassard, J. (2010). Actor-Network Theory, organizations and critique: towards a politics of organizing. *Organization, 17*(4), 419-435. doi: http://dx.doi.org/10.1177/1350508410364441

Alston, J.M., Sumner, D.A., & Brunke, H. (2005). Impacts of Reductions in US Cotton Subsidies on West African Cotton Producers. *Oxfam America*. Retrieved from http://www.oxfamamerica.org/newsandpublications/publications/research_reports/paying-the-price/Paying_the_Price.pdf

Angrosino, M.V. (2002). Conducting a Life History Interview. In M. V. Angrosino (Ed.), *Doing Cultural Anthropology: Projects for Ethnographic Data Collection* (1st ed., pp. 33-44). Illinois: Waveland Press.

Badiane, O., Ghura, D., Goreux, L., & Masson, P.R. (2002). *Cotton Sector Strategies in West and Central Africa*. IMF Working Paper No. 02/173. Working Paper. International Monetary Fund. Washington. Retrieved from http://ssrn.com/paper=880223

Baffes, J. (2004). "Cotton: Market Setting, Trade Policies, and Issues." World Bank Policy Research Working Paper 3218 (pp. xii+76). Washington: The World Bank.

Baquedano, F.G., Abbott, P.C., & Sanders, J.H. (2008). *The West African Cotton Reform Process: What Needs to be Done?* Purdue University. Purdue.

Barrett, C.B., Bezuneh, M., & Aboud, A. (2001). Income diversification, poverty traps and policy shocks in Côte d'Ivoire and Kenya. *Food Policy, 26*(4), 367-384.

Barrett, C.B., Reardon, T., & Webb, P. (2001). Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. *Food Policy, 26*(4), 315-331.

Barrett, S.R., Stokholm, S., & Burke, J. (2001). The Idea of Power and the Power of Ideas: A Review Essay. *American Anthropologist, 103*(2), 468-480.

Bassett, T.J. (2001). *The peasant Cotton Revolution in West Africa, Cote d'Ivoire 1880–1995* (2001 ed.). Cambridge: Cambridge University Press.

Beauchemin, C. (2011). Rural–urban migration in West Africa: towards a reversal? Migration trends and economic situation in Burkina Faso and Côte d'Ivoire. *Population, Space and Place, 17*(1), 47-72. doi: http://dx.doi.org/10.1002/psp.573

Beckert, S. (2005). From Tuskegee to Togo: The Problem of Freedom in the Empire of Cotton. *The Journal of American History, 92*(2), 498-526.

Bigsten, A., & Kayizzi-Mugerwa, S. (1992). Adaptation and distress in the urban economy: A study of Kampala households. *World Development, 20*(10), 1423-1441.

Billing, Y.D. (2011). Are Women in Management Victims of the Phantom of the Male Norm? *Gender, Work & Organization, 18*(3), 298-317. doi: http://dx.doi.org/-10.1111/j.1468-0432.2010.00546.x

Bingen, R.J. (1998). Cotton, democracy and development in Mali. *The Journal of Modern African Studies, 36*(02), 265-285.

Blais, M., & Dupuis-Déri, F. (2011). Masculinism and the Antifeminist Countermovement. *Social Movement Studies, 11*(1), 21-39. doi: http://dx.doi.org/-10.1080/14742837.2012.640532

Blumberg, R.L. (1998). Review: Field, Forest, and Family: Women's Work and Power in Rural Laos. By Carol J. Ireson. Boulder, Colorado: Westview Press, 1996. Pp. xxiii + 285. *The American Journal of Sociology, 103*(5), 1457-1459.

Boesen, E., Hardung, C., & Kuba, R. (1998). Introduction. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 11-20). Paris: L'Harmattan.

Bonnassieux, A. (2002). Filière coton, émergence des organisations de producteurs et transformations territoriales au Mali et au Burkina Faso. *Les Cahiers d'Outre-Mer, Filières de produits tropicaux*(220), 421-434. Retrieved from: http://com.revues.org/index961.html

Bourdieu, P. (1989). Social Space and Symbolic Power. *Sociological Theory, 7*(1), 14-25. doi: http://dx.doi.org/10.2307/202060

Bourdieu, P. (1990). *The logic of practice* (R. Nice, Trans.). Cambridge: Polity Press.

Brégand, D. (1998). Anthropologie historique des Wangara du Borgou. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 245-263). Paris & Montréal: L'Harmattan.

Breusers, M. (2000). Social Diversity and Identities: Review of Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine, by E. Boesen, C. Hardung & R. Kuba. 1998. Etudes Africaines. Paris: L'Harmattan. *The Journal of African History, 41*(2), 311-313.

Brydon, L. (2010). Review: Strength beyond Structure: Social and Historical Trajectories of Agency in Africa edited by M. de Bruijn, R. van Dijk & J.B. Gewald (Eds.). *Development and Change, 41*(1), 180-182. doi: http://dx.doi.org/-10.1111/j.1467-7660.2009.01624.x

Burt, R.S. (2000). The network structure of social capital. *Research in Organizational Behavior, 22*(0), 345-423.

Burt, S. R. (1992). *Structural Holes: The Social Structure of Competition*. Cambridge Massachusetts: Harvard University Press.

Burt, S.R. (2005). *Brokerage and Closure: An Introduction to Social Capital*. New York: Oxford University Press.

Cairns, E., & Niens, U. (1999). Book Review: The Politics of Denial. *Human Relations, 52*(9), 1225-1229. doi: http://dx.doi.org/10.1023/a:1016952112460

Callon, M., & Law, J. (1997). After the Individual in Society: Lessons on Collectivity from Science, Technology and Society. *The Canadian Journal of Sociology / Cahiers canadiens de sociologie, 22*(2), 165-182. doi: http://dx.doi.org/10.2307/3341747

Carli, L.L. (1989). Gender differences in interaction style and influence. *Journal of Personality and Social Psychology, 56*(4), 565-576.

Carr, E.R. (2008). Between structure and agency: Livelihoods and adaptation in Ghana's Central Region. *Global Environmental Change*(18), 689-699.

Cattaneo, O. (2003). Les lecons de Cancun pour l'Afrique: Le difficile apprentissage de la démocratie à l'OMC. *Afrique Contemporaine, 2003/4*(208), 81-99. doi: http://dx.doi.org/10.3917/afco.208.0081

CIPB (2008) Etude monographique sur le coton. Février 2008, 40 pp.

Clark, D., & Kleyn, N. (2011). Why Do They Leave? Voluntary Turnover of South African Women Executives. In H.P. Werhane & M. Painter-Morland (Eds.), *Leadership, Gender, and Organization* (pp. 185-207). London and New York: Springer.

Clark, V.L.P., Creswell, W.J., Green, D.O.N. & Shope, J.R. (2008). Mixing Quantitative and Qualitative Approaches: An Introduction to Emergent Mixed Methods Research. In S. N. Hesse-Biber & P. Leavy (Eds.), *Handbook of Emergent Methods* (pp. 363-387). New York & London: The Guilford Press.

Coffe, H., & Bolzendahl, C. (2011). Gender Gaps in Political Participation Across Sub-Saharan African Nations. *Social Indicators Research, 102*(2), 245-264. doi: http://dx.doi.org/10.1007/s11205-010-9676-6

Cohen, D., & Prusak, L. (2001). *In Good Company: How social capital makes organizations work.* Harvard Business School Press.

Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology, 94*, S95-S120.

Commune de Pèrèrè. (2010). *Plan de Développement Communal Deuxième génération, 2011-2015*. Pèrèrè: Mairie de Pèrèrè.

Crenshaw, K. (1991). Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. *Stanford Law Review, 43*(6), 1241-1299.

Creswell, W.J., & Clark, V.L.P. (2008). *Designing and Conducting Mixed Methods Research*. London: Sage publications.

Davies, S., & Hossain, N. (1997). Livelihood adaptation, public action, and civil society: a review of the literature Institute for Development Studies. *Working Paper No. 57 (pp* 51).

De Haan, A. (1999). Livelihoods and poverty: The role of migration - a critical review of the migration literature. *Journal of Development Studies, 36*(2), 1-47. doi: http://dx.doi.org/10.1080/00220389908422619

De Haan, A., Brock, K., & Coulibaly, N. (2002). Migration, Livelihoods and Institutions: Contrasting Patterns of Migration in Mali. *Journal of Development Studies, 38*(5), 37-58. doi: http://dx.doi.org/10.1080/00220380412331322501

Deguene, A., & Forsé, M. (1994). *Introducing Social Networks* (A. Borges, Trans. 1999 ed.). London: Sage Publications.

Dirks, K.T., & Ferrin, D.L. (2001). The Role of Trust in Organizational Settings. *Organization Science, 12*(4), 450-467.

Dovidio, J.F., Saguy, T., & Shnabel, N. (2009). Cooperation and Conflict within Groups: Bridging Intragroup and Intergroup Processes. *Journal of Social Issues, 65*(2), 429-449. doi: http://dx.doi.org/10.1111/j.1540-4560.2009.01607.x

Ellis, F. (1998). Household strategies and rural livelihood diversification. *Journal of Development Studies, 35*(1), 1-38. doi: http://dx.doi.org/10.1080/-00220389808422553

Ellis, F. (2000). The Determinants of Rural Livelihood Diversification in Developing Countries. *Journal of Agricultural Economics, 51*(2), 289-302. doi: http://dx.-doi.org/10.1111/j.1477-9552.2000.tb01229.x

Elmhirst, R. (2008). Multi-local livelihoods, natural resource management and gender in upland Indonesia. In B.P. Resurreccion & R. Elmhirst (Eds.), *Gender and Natural Resource Management: Livelihoods, Mobility and Interventions* (pp. 67-87). London: Earthscan.

Ely, R.J., & Meyerson, D.E. (2000). Theories of gender in organizations: A new approach to organizational analysis and change. *Research in Organizational Behavior, 22*, 103-151.

Engelen, B. (2010). Beyond markets and states: the importance of communities. *International Social Science Journal, 61*(202), 489-500. doi: http://dx.doi.org/-10.1111/j.1468-2451.2011.01773.x

Fairclough, N. (2003). *Analyzing Discourse: Textual Analysis for Social Research* (First ed.). London: Routledge.

Falen, D.J. (2008). Polygyny and Christian Marriage in Africa: The Case of Benin. *African Studies Review, 51*(2), 51-74.

Ferguson, J. (1994). Modernist Narratives, Conventional Wisdoms, and Colonial Liberalism: Reply to a Straw Man. *Journal of Southern African Studies, 20*(4), 633-640. doi: http://dx.doi.org/10.2307/2636977

Ferguson, J. (1999). *Expectation of Modernity: Myths and Meanings of Urban Life on the Zambian Copperbelt*. Berkley: University of california.

Ferlander, S. (2007). The Importance of Different Forms of Social Capital for Health. *Acta Sociologica, 50*(2), 115-128.

Ferrigno, S., Ratter, S.G., Ton, P., Vodouhê, D.S., Williamson, S. & Wilson, J. (2005). Organic Cotton: A New Development Path for African Smallholders? *Gatekeeper Series,* (120), 25. Retrieved from: http://www.povertymonitoring.go.tz/documents/IIED_on_organic_cottons_potential_in_Tz.pdf

FIDA (2005). République du Bénin: Evaluation du Programme de pays. (pp. 65). Cotonou: FIDA.

Fok, M. (2010). Cotton in Crises of Francophone Africa: Fatality or Challenge for Multi-dimensional Cooperation? In M. Nissanke & G. Mavrotas (Eds.), *Commodities, Governance and Economic Development under Globalization* (pp. 165-220). Hampshire, New York: Palgrave Macmillan.

Francis, E. (2002). Gender, Migration and Multiple Livelihoods: Cases from Eastern and Southern Africa. *Journal of Development Studies, 38*(5), 167-190. doi: http://dx.doi.org/10.1080/00220380412331322551

Frost, P., Campbell, B., Luckert, M., Mutamba, M., Mandondo, A., & Kozanayi, W. (2007). In Search of Improved Rural Livelihoods in Semi-Arid Regions through Local Management of Natural Resources: Lessons from Case Studies in Zimbabwe. *World Development, 35*(11), 1961-1974.

Gandonou, A.J.M. (2005). *Essays on Precision Agriculture Technology Adoption and Risk Management.* (PhD Thesis), University of Kentucky, Lexington USA.

Garcia, L. (1970). Les mouvements de résistance au Dahomey (1914-1917). *Cahiers d'Études Africaines, 10*(37), 144-178.

Gartaula, H. (2011). *The Other Side of Migration in Rural Nepal: Sociocultural Transformation and the Women Left Behind.* (PhD Thesis), Wageningen University, Wageningen, the Netherlands.

Gergely, N. (2009). 'The Cotton Sector of Benin' (Vol. World Bank Africa Region Working Paper Series No 125, Washington DC: The World Bank.

Gergely, N., & Poulton, C. (2009). Historical Background and Recent Institutional Evolution of African Cotton. In D. Tschirley, C. Poulton & P. Labaste (Eds.), *Organization and Performance of Cotton Sectors in Africa: Learning from Reform Experience* (pp. 31-44). Washington: World Bank.

Ghatak, M., & Guinnane, T.W. (1999). The economics of lending with joint liability: theory and practice. *Journal of Development Economics, 60*(1), 195-228.

Giddens, A. (1984). *The Constitution of Society* (1986 ed.). Cambridge: Polity Press.

Gilley, J.W., Morris, M.L., Waite, A.M., Coates, T. & Veliquette, A. (2010). Integrated theoretical model for building effective teams. *Advances in Developing Human Resources, 12*(1), 7-28. doi: http://dx.doi.org/10.1177/1523422310365309

Granovetter, M. (1983). The Strength of Weak Ties: A network theory revisited. *Sociological Theory, 1*, 201-233.

Granovetter, M.S. (1973). The Strength of Weak Ties. *American Journal of Sociology, 78*(6), 1360-1380.

Gray, L., & Kevane, M. (1999). Diminished access, diverted exclusion: Women and land tenure in Sub-Saharan Africa. *African Studies Review, 42*(2), 15-39.

Grootaert, C., Oh, G.T., & Swamy, A. (2002). Social Capital, Household Welfare and Poverty in Burkina Faso. *Journal of African Economies, 11*(1), 4-38. doi: http://-dx.doi.org/10.1093/jae/11.1.4

Hagemaster, J.N. (1992). Life history: a qualitative method of research. *Journal of Advanced Nursing, 17*(9), 1122-1128. doi: http://dx.doi.org/10.1111/j.1365-2648.1992.tb02047.x

Hahonou, E.K. (2011). Benin (Vol 6). In A. Mehler, H. Melber & K. van Walraven (Eds.), *Africa Yearbook*. Brill Online: ECAS 2011/Leiden: African Studies Centre.

Hampshire, K. (2002). Fulani on the Move: Seasonal economic migration in the Sahel as a social process. *Journal of Development Studies, 38*(5), 15-36. doi: http://dx.-doi.org/10.1080/00220380412331322491

Hanneman, R.A. & Riddle, M. (2005). Introduction to social network methods. Retrieved from http://faculty.ucr.edu/~hanneman/

Harneit-Sievers, A. (2002). Review: Modes of Power in Borgu. *The Journal of African History, 43*(2), 348-349.

Hier, S.P. (2005). Structural Functionalism. In S.P. Hier (Ed.), *Contemporary Sociological Thought: Themes and Theories* (pp. 7-10). Toronto, Ontario: Canadian Scholars' Press Inc.

Holger Seebens, J.S. (2007). Bargaining power and efficiency–rural households in Ethiopia. *Journal of International Development, 19*(7), 895-918.

Hugon, P. (2005). Les Réformes de la Filière Coton au Mali et les Négociations Internationales. *Afrique Contemporaine, 2005/4*(No 216), 203-225,. Retrieved from: http://www.cairn.info/revue-afrique-contemporaine-2005-4-page-203.htm. doi: http://dx.doi.org/10.3917/afco.216.0203

IFAD (2010). Rural Poverty Report 2011: New Realities, New Challenges: New opportunities for tomorrow's generation (pp. 317). Rome: International Fund for Agricultural Development.

Iliffe, J. (1967). The Organization of the Maji Maji Rebellion. *The Journal of African History, 8*(3), 495-512.

Inglehart, R., & Welzel, C. (2005). *Modernization, Cultural Change, and Democracy: The Human Development Sequence*. Cambridge: Cambridge University Press.

INSAE (2004). *Cahier des villages et quartiers de ville (RGPH3)*. Cotonou: Direction des Etudes Démographiques.

INSAE (2009). *Enquête Modulaire Intégrée sur les Conditions de Vie des Ménages 2ème Edition (EMICoV 2011): Rapport Préliminaire*. Cotonou: INSAE Retrieved from http://www.insaebj.org/2012/doc/Publications/Rapport%20pr%E9liminaire%20emcov%202011.pdf.

Isaacman, A. (1992). Peasants, Work and the Labor Process: Forced Cotton Cultivation in Colonial Mozambique 1938–1961. *Journal of Social History, 25*(4), 815-855.

Isaacman, A., & Roberts, R. (Eds.). (1995). *Cotton, Colonialism and Social History in Sub-Saharan Africa*. Portsmouth & London: Heinemann.

Isaacman, A., Stephen, M., Adam, Y., Homen, M.J., Macamo, E. & Pililao, A. (1980). Cotton Is the Mother of Poverty: Peasant Resistance to Forced Cotton Production in Mozambique, 1938-1961. *The International Journal of African Historical Studies, 13*(4), 581-615.

Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research, 1*(2), 112-133. doi: http://dx.doi.org/10.1177/1558689806298224

Jones, R. (1998). The Ethnic groups of the present day Borgu. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 71-89). Paris & Montréal: L'Harmattan.

Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender & Development, 13*(1), 13-24. doi: http://dx.doi.org/10.1080/13552070512331332273

Kampen, J. (2010). On the (in)consistency of citizen and municipal level indicators of social capital and local government performance. *Social Indicators Research, 97*(2), 213-228. doi: http://dx.doi.org/10.1007/s11205-009-9498-6

Kherallah, M., Minot, N., Kachule, R., Soulé, B.G. & Berry, P. (2001). Impact of agricultural market reforms on smallholder farmers in Benin and Malawi. Vol. 1, pp. 350. Washington DC: International Food Policy Research Institute (IFPRI).

Kilduff, M. & Tsai, W. (2003). *Social Networks and Organisation*. London: Sage Publications.

Kiser, E. (1997). Review of The Cooperator's Dilemma by Mark Irving Lichbach. *American Journal of Sociology, 102*(6), 1725-1727.

Kollock, P. (1998). Social dilemmas: The anatomy of cooperation. *Annual Review of Sociology, 24*(1), 183-214. doi: 10.1146/annurev.soc.24.1.183

Komorita, S.S. & Parks, C.D. (1995). Interpersonal Relations: Mixed-Motive Interaction. *Annual Review of Psychology, 46*(1), 183-207. doi: http://dx.doi.org/-10.1146/annurev.ps.46.020195.001151

Kouton, T., Yorou, G., Nouatin, G. & Wennink, B. (2006). Orienting research and development for cotton production: The national federation of producers' unions (FUPRO) in Benin. In B. Wenninck & W. Heemskerk (Eds.), Farmers' organizations and agricultural innovation: Case studies from Benin, Rwanda and Tanzania. In B. Shapland & J. Kampen (Series Eds.), *Developement Policy & Practice* (Vol. 374, pp. 47-54). Amsterdam: Royal Tropical Institute. Retrieved from http://www.kit.nl/net/KIT_Publicaties_output/ShowFile2.aspx?e=1561.

Kpade, C.P. (2011). *Adaptation de la coordination et nouvelles contradictions entre acteurs du système coton au Bénin face à la libéralisation économique.* (Thèse de Doctorat), Université de Bourgogne.

Kpade, C.P. & Boinon, J.P. (2011). Dynamique des politiques cotonnières au Bénin: Une lecture par la dépendance de sentier. *Economie Rurale* (321), 58-72.

Kramer, R.M. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual Review of Psychology, 50*(1), 569-598. doi: http://dx.doi.org/10.1146/annurev.psych.50.1.569

Kriger, C.E. (2005). Mapping the history of cotton textile production in precolonial West Africa. *African Economic History*(33), 87-116.

Kuba, R. (1998). Les Wassangari et les chefs de la terre au Borgou: Une histoire d'intégration mutuelle. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 93-119). Paris: L'Harmattan.

Kuba, R. (2000). Review of Commerce Caravanier et Relations Sociales au Bénin: Les Wangara du Borgou. By Denise Brégand. Collection Sociétés Africaines et Diaspora. Paris: L'Harmattan, 1998. Pp 272. *The International Journal of African Historical Studies, 33*(1), 201-202.

Latour, B. (1996). On actor-network theory: A few clarifications. *Soziale Welt, 47*(4), 369-381. doi: http://dx.doi.org/10.2307/40878163

Latour, B. (1997). On actor-network theory: A few clarifications. Retrieved from Cibersociologia website: http://cibersociologia.com/web

Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. New York: Oxford University Press.

Law, J. (1992). Notes on the Theory of the Actor-Network: Ordering, Strategy and Heterogeneity. *Systems Practice, 5*, 379-393.

Levrat, R. (2008). *Le coton en Afrique Occidentale et Centrale avant 1950: Un exemple de la politique coloniale de la France* (First ed.). Paris: L'Harmattan.

Lin, N. (2001). *Social Capital: A Theory of Social Structure and Action*. Cambridge & New York: Cambridge University Press.

Lin, N. (2008). A Network Theory of Social Capital. In D. Castiglione, J. W. van Deth & G. Wolleb (Eds.), *The Handbook of Social Capital* (First ed., pp. 50–69). New York: Oxford University Press.

Lin, N. & Erickson, H.B. (2008). Theory, Measurements and the Research Enterprise on Social Capital. In N. Lin & H. B. Erickson (Eds.), *Social Capital: An International Research Program* (1st ed., pp. 1-24). New York: Oxford University Press.

Lodin, J.B. (2012). Intrahousehold Bargaining and Distributional Outcomes Regarding NERICA Upland Rice Proceeds in Hoima District, Uganda. *Gender, Technology and Development, 16*(3), 253-278. doi: http://dx.doi.org/10.1177/0971852412459425

Lombard, J. (1960). La vie politique dans une ancienne société de type féodal: Les Bariba du Dahomey. *Cahiers d'Études Africaines, 1*(3), 5-45.

Lombard, J. (1998). Le modèle soci-politique des peuples du Borgou dans les sociétés d'Afrique Noire. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 27-37). Paris: L'Harmattan.

Long, N. (2001). *Development Sociology: Actor perspectives* (1st ed.). London and New York: Routledge.

Maboudou Alidou, G. (2002). *Le travail au sein des organisations paysannes: cas des groupements féminins de la Commune de Ouaké.* [Unpublished master thesis], Université d'Abomey-Calavi, Cotonou.

MAEP. (2011). *Plan Stratégique de Relance du Secteur Agricole (PSRSA)*. Cotonou: Ministère de l'Agriculture, de l'Elevage et de la Pêche. Retrieved from: http://www.insaebj.org/2012/doc/Publications/PLAN_STRATEGIQUE_DE_RELANCE_DU_SECTEUR_AGRICOLE.pdf.

Mahoney, J. (2001). Path-Dependent Explanations of Regime Change: Central America in Comparative Perspective. *Studies in Comparative International Development (SCID), 36*(1), 111-141. doi: 10.1007/bf02687587

Maier, J.E.D. (1995). Persistence of Precolonial Patterns of Production: Cotton in German Togoland 1800-1914. In A. Isaacman & R. Roberts (Eds.), *Cotton, Colonialism and Social History in Sub-Saharan Africa* (pp. 71-95). Portsmouth & London: Heinemann.

Mama Debourou, D. (2009). *La société baatonnu du nord-Bénin: son passé, son dynamisme, ses conflits et ses innovations, des origines à nos jours. Essai sur l'histoire d'une société de l'Afrique Occidentale.* (Thèse de Doctorat d'Etat), Université d'Abomey-Calavi, Cotonou.

Mandel, J.L. (2004). Mobility matters: women's livelihood strategies in Porto Novo, Benin. [Gender, Place & Culture]. *Gender, Place & Culture, 11*(2), 257-287. doi: 10.1080/0966369042000218482

Manning, P. (1982). *Slavery, colonialism and economic growth in Dahomey, 1640-1960*. Cambridge [etc.]: Cambridge University Press.

Maurizio, M. (2007). Household intertemporal behaviour: A collective characterization and a test of commitment. *Review of Economic Studies, 74*(3), 857-895.

McEvily, B., Perrone, V. & Zaheer, A. (2003). Trust as an organizing principle. *Organization Science, 14*(1), 91-103.

Meredith, M. (2005). *The State of Africa: A History of Fifty Years of Independence.* London: The Free Press.

Metcalf, G. (1987). A microcosm of why Africans sold slaves: Akan consumption patterns in the 1770s. *The Journal of African History, 28*(3), 377-394.

Minot, N. & Daniels, L. (2005). Impact of global cotton markets on rural poverty in Benin. *Agricultural Economics, 33*(3), 453-466.

Misztal, B.A. (1996). *Trust in modern societies: the search for the bases of social order* (First ed.). Cambridge: Polity Press & Blackwell Publishers Ltd.

Moerbeek, H., & Flap, H. (2008). Social resources and their effect on occupational attainment through the life course. In N. Lin & B. H. Erickson (Eds.), *Social Capital: An International Research Program* (First ed., pp. 133-156). New York: Oxford University Press.

Molyneux, M. (1985). Mobilization without emancipation? Women's interests, the state and Revolution in Nicaragua. *Feminist Studies, 11*(2), 227-254.

Molyneux, M. (1998). Analysing women's movements. *Development and Change, 29*(2), 219-245. doi: http://dx.doi.org/10.1111/1467-7660.00077

Molyneux, M. (2002). Gender and the silences of social capital: Lessons from Latin America. *Development and Change, 33*(2), 167-188. doi: http://dx.doi.org/-10.1111/1467-7660.00246

Moody, J. & White, D.R. (2003). Structural cohesion and embeddedness: A hierarchical concept of social groups. *American Sociological Review, 68*(1), 103-127.

Morse, J.M. & Niehaus, L. (2009). *Mixed Method Design: Principles and Procedures* (Vol. 4). California, USA: Walnut Creek, Inc.; Left Coast Press, Inc.

Moseley, W.G. (2002). Review: The Peasant Cotton Revolution in West Africa: Côte d'Ivoire, 1880-1995. *Annals of the Association of American Geographers, 92*(4), 801-803.

Moseley, W.G., & Gray, L. (Eds.). (2008). *Hanging by a Thread: Cotton, Globalization, and Poverty in Africa*. Athens, Ohio, Uppsala: Ohio University Press and The Nordic Africa Institute.

Moser, C. (2010). Moving beyond gender and poverty to asset accumulation: evidence from low-income households in Guayaquil, Ecuador. In S. Chant (Ed.), *The International Handbook of Gender and Poverty: Concepts, Research, Policy* (pp. 391-398). Cheltenham and Northampton: Edward Elgar Publishing Limited.

Moser, C.O.N. (1989). Gender planning in the third world: Meeting practical and strategic gender needs. *World Development, 17*(11), 1799-1825.

Moser, C.O.N. (1994). *Gender Planning and Developement: Theory, Practice and Training*. Routledge: London and New York.

Mosse, D., Gupta, S., Mehta, M., Shah, V., Rees, J.F. & Team, K.P. (2002). Brokered livelihoods: Debt, labour migration and development in tribal Western India. *Journal of Development Studies, 38*(5), 59-88. doi: http://dx.doi.org/10.1080/00220380412331322511

Murdoch, J. (1998). The spaces of actor-network theory. *Geoforum, 29*(4), 357-374. doi: http://dx.doi.org/10.1016/S0016-7185(98)00011-6

Nahapiet, J. & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review, 23*(2), 242-266.

Nancy, J., Ruth, S., & Lundy, M. (2002). *The importance of social capital in Colombian rural agro-entreprises*. CAPRi Working Paper, No. 26.

Neter, J., Kutner, M., Wasserman, W., & Nachtsheim, C. (1996). *Applied Linear Statistical Models*. Boston: McGraw-Hill/Irwin.

Niehof, A. (2004). The significance of diversification for rural livelihood systems. *Food Policy, 29*(4), 321-338.

Niehof, A. (2011). Conceptualizing the household as an object of study. *International Journal of Consumer Studies, 35*(5), 488-497. doi: http://dx.doi.org/10.1111/-j.1470-6431.2011.01026.x

Nissanke, M. & Mavrotas, G. (Eds.). (2010). *Commodities, Governance and Economic Development under Globalization* (1st ed.). Hampshire, New York: Palgrave Macmillan.

Norman, D.W. (1973). *Methodology and Problems of Farm Management Investigation: Experiences from Northern Nigeria*: Michigan State University.

Oh, H., Labianca, G., & Chung, M.H. (2006). A Multilevel Model of Group Social Capital. *The Academy of Management Review, 31*(3), 569-582.

Olivier de Sardan, J.P. (2005). *Anthropology and Development: Understanding Contemporary Social Change*. London: ZED BOOKS.

Onyeiwu, S. (2000). Deceived by African Cotton: The British Cotton Growing Association and the Demise of the Lancashire Textile Industry. *African Economic History*(28), 89-121.

Owusu, F. (2005). Livelihood strategies and performance of Ghana's health and education sectors: exploring the connections. *Public Administration and Development, 25*(2), 157-174. doi: http://dx.doi.org/10.1002/pad.337

Owusu, F. (2007). Conceptualizing Livelihood Strategies in African Cities. *Journal of Planning Education and Research, 26*(4), 450-465. doi: http://dx.doi.org/-10.1177/0739456x06298818

Painter-Morland, M. (2011). Systemic leadership, gender, organization. In H. P. Werhane & M. Painter-Morland (Eds.), *Leadership, Gender, and Organization* (pp. 139–165). London and New York: Springer.

Pamphilon, B. (1999). The Zoom Model: A Dynamic Framework for the Analysis of Life Histories. *Qualitative Inquiry, 5*(3), 393-410. doi: http://dx.doi.org/-10.1177/107780049900500306

Parsons, T. (2005). The Social System. In S. P. Hier (Ed.), *Contemporary Sociological Thought: Themes and Theories* (pp. 11-21). Toronto, Ontario: Canadian Scholars' Press Inc.

Pesche, D., & Nubukpo, K. (2004). L'Afrique du Coton à Cancun: les Acteurs d'une Négociation. *Politique Africaine, 3/2004*(95), 158-168. Retrieved from : www.cairn.info/revue-politique-africaine-2004-3-page-158.htm. doi: http://dx.doi.org/10.3917/polaf.095.0158

Plickert, G., Côté, R. R., & Wellman, B. (2007). It's not who you know, it's how you know them: Who exchanges what with whom? *Social Networks, 29*(3), 405-429.

Porta, R. L., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R. W. (1997). Trust in large organizations. *The American Economic Review, 87*(2), 333-338. doi: http://dx.doi.org/10.2307/2950941

Poulsen, A. (2009). Cooperation: evidence from experiments. In G. T. Svendsen & G. L. H. Svendsen (Eds.), *Handbook of Social Capital: The Troika of Sociology, Political Science and Economics* (pp. 36–56). Cheltenham and Northampton: Elgar, Edward.

Putnam, R. (1993). The prosperous community: Social capital and public life. *The American Prospect, 4*(13), 65-78.

Putnam, R. (1995). Bowling alone: America's declining social capital. *The Journal of Democracy, 6*(1), 65-78.

Rai, A.S., & Sjöström, T. (2004). Is Grameen lending efficient? Repayment incentives and insurance in village economies. *The Review of Economic Studies, 71*(1), 217-234.

Ratcliffe, B.M. (1982). Cotton imperialism: Manchester merchants and cotton cultivation in West Africa in the mid-nineteenth century. *African Economic History* (11), 87-113.

Ridgeway, C.L., & Correll, S.J. (2004). Unpacking the gender system: A theoretical perspective on gender beliefs and social relations. *Gender and Society, 18*(4), 510-531. doi: 10.2307/4149448

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & G. R. Burgess (Eds.), *Analyzing Qualitative Data*. (2002 ed., pp. 173-194). New York: Routledge.

Roberts, R.L. (1996). *Two Worlds of Cotton: Colonialism and the Regional Economy in the French Soudan, 1800-1946*. Stanford: Stanford University Press.

Rogaly, B., Coppard, D., Safique, A., Rana, K., Sengupta, A. & Biswas, J. (2002). Seasonal migration and welfare in Eastern India: A social analysis. *Journal of Development Studies, 38*(5), 89-114. doi: http://dx.doi.org/10.1080/00220380412331322521

Rogers, E.M. (1995). *Diffusion of Innovations* (4th ed.). New York: The Free Press.

Rosener, B.J. (2011). Ways Women Lead. In H.P. Werhane & M. Painter-Morland (Eds.), *Leadership, Gender, and Organization* (pp. 19–29). London and New York: Springer.

Roy, A. (2010). Peasant struggles in Mali: from defending cotton producers' interests to becoming part of the Malian power structures. *Review of African Political Economy, 37*(125), 299-314. doi: http://dx.doi.org/10.1080/03056244.2010.510628

Rudie, I. (1995). The significance of eating: co-operation, support and reputation in Kelantan Malay households. In W.J.B. Karim (Ed.), *Male and Female in Developing Southeast Asia* (pp. 227–245). Oxford, Washington DC: Berg Publishers.

Saizonou, J.N. (2008). *Gestion Interprofessionelle et Développement des Filières Agricoles: Cas de la Filière Coton au* (Master), Institut Universitaire du Bénin (IUB), Cotonou.

Schottman, W. (1998). The joking relationship as practised by the Baatombu of Bénin. In E. Boesen, C. Hardung & R. Kuba (Eds.), *Regards sur le Borgou: Pouvoir et altérité dans une région ouest-africaine* (pp. 155–171). Paris & Montréal: L'Harmattan.

Schottman, W. (2000). Baatonu Personal Names from Birth to Death. *Africa: Journal of the International African Institute, 70*(1), 79-106.

Schuller, T., Baron, S., & Field, J. (2000). Social Capital: A review and Critique. In S. Baron, J. Field & T. Schuller (Eds.), *Social Capital: Critical perspectives*. London: Oxford.

Scoones, I. (1998). Sustainable Rural Livelihoods: A Framework for Analysis (pp. 21). IDS Working Paper No. 72: Institute of Development Studies, University of Sussex, Brighton.

Scrimshaw, S.C.M. (1990). Combining quantitative and qualitative methods in the study of intra-household resource allocation. In B.L. Rogers & N.P. Schlossman

(Eds.), *Intra-household resource allocation: issues and methods for development policy and planning* (86-98). Tokyo: United Nations University Press.

Sen, K.A. (1990). Gender and cooperative conflicts. In I. Tinker (Ed.), *Persistent Inequalities: Women and World Development* (pp. 123–149). New York and Oxford: Oxford University Press.

Seuret, F. (2009). Mali: l'Or blanc transformé en plomb. *Alternatives économiques, 7/2009, No 282, 7,* 72-77.

Shacklock, G., & Thorp, L. (2005). Life History and Narrative Approaches. In B. Somekh & C. Lewin (Eds.), *Research Methods in the Social Sciences* (pp. 156–163). London: SAGE Publications.

Shaw, J., & Barrett-Power, E. (1998). The Effects of Diversity on Small Work Group Processes and Performance. *Human Relations, 51*(10), 1307-1325. doi: http://dx.doi.org/10.1023/a:1016942231656

Siaens, C., & Wodon, Q. (2008). Cotton Production, Poverty, and Inequality in Rural Benin: Evidence from the 1990s. In W. G. Moseley & L. Gray (Eds.), *Hanging by a Thread: Cotton, Globalization, and Poverty in Africa* (pp. 159–176). Athens - Ohio - Uppsala: Ohio University Press ; The Nordic Africa Institute.

Sinzogan, A.A.C. (2006). General Introduction. In *Facilitating learning toward sustainable cotton pest management in Benin: The interactive design of research for development* (pp. 1-13). Wageningen: Wageningen University and Research Center.

Sinzogan, A. A.C., Jiggins, J., Vodouhè, S., Kossou, D., Totin, E., & van Huis, A. (2007a). An analysis of the organizational linkages in the cotton industry in Benin. *International Journal of Agricultural Sustainability, 5*(2&3), 213-231. doi: http://dx.doi.org/10.1080/14735903.2007.9684823

Sinzogan, A. A. C., Jiggins, J., Vodouhè, S., Kossou, D. K., Totin, E., & van Huis, A. (2007b). An analysis of the organizational linkages in the cotton industry in Benin. *International Journal Of Agicultual Sustainability, 5*(2&3), 19.

Slangen, L.H.G., van Kooten, G.C., & Suchánek, P. (2004). Institutions, social capital and agricultural change in central and eastern Europe. *Journal of Rural Studies, 20*(2), 245-256.

Smith-Sreen, P. (1996). Accountability to members in grassroots organizations: Evidence from India. *Agriculture and Human Values, 13*(2), 13-23. doi: http://dx.doi.org/10.1007/bf01540689

Sprague, J. & Kobrynowicz, D. (1999). A Feminist Epistemology. In J.S. Chafetz (Ed.), *Handbook of the Sociology of Gender* (Vol. 11, pp. 25–43). New York: Kluwer Academic/ Plenum Publishers.

Sunseri, T. (2001). The Baumwollfrage: Cotton Colonialism in German East Africa. *Central European History, 34*(1), 31-51.

Svendsen, G.L.H., & Svendsen, G.T. (2004). *The creation and destruction of social capital: entrepreneurship, co-operative movements and institutions*. Cheltenham: Edward Elgar Publishing Limited.

Tama-Imorou, C., & Wenninck, B. (2007). ACooBéPA's role in pro-poor service provision in Benin. In B. Wenninck, E. S. Nederlof & W. Heemskerk (Eds.), Access of the poor to agricultural services: The role of farmers' organizations in social inclusion. In B. Shapland & J. Kampen (Series Eds.), Development Policy & Practice (Vol. 376, pp. 139-153). Amsterdam: Royal Tropical Institute. Retrieved from http://www.kit.nl/net/KIT_Publicaties_output/ShowFile2.aspx?e=1333.

Tama-Imorou, C., Wenninck, B., & Nederlof, E.S. (2007). UCPC's role in pro-poor service provision in Benin. In B. Wenninck, E.S. Nederlof & W. Heemskerk (Eds.),

Acces of the poor to agricultural services: The role of farmers' organizations in social inclusion (Vol. Bulletin 376, pp. 105-124). Amsterdam: Royal Tropical Institute (KIT).

Thornton, J. (1990). Precolonial African Industry and the Atlantic Trade, 1500-1800. *African Economic History*(19), 1-19.

Tossou, R.C. (1993). Le Groupement Villageois: un cadre de participation communautaire au développement ou un instrument de réalisation d'intérêts individuels et conflictuels. *Bulletin de l'APAD [En ligne], 5|1993*. Retrieved from Url: http://apad.revues.org/3173

Tovignan, D.S., & Nuppenau, E.A. (2004). *Adoption of organic cotton in benin: does gender play a role?* Paper presented at the meeting on Rural Poverty Reduction through Research for Development and Transformation, Berlin. http://www.tropentag.de/2004/abstracts/full/173.pdf

Tschirly, D. (2009). Introduction. In D. Tschirley, C. Poulton & P. Labaste (Eds.), Organization and Performance of Cotton Sectors in Africa: Learning from Reform Experience. In World Bank (Series Ed.) *Agriculture and Rural Development* (pp. 3-9). Washington DC: The World Bank. doi: http://dx.doi.org/10.1596/978-0-8213-7770-3

Tuckman, B.W., & Jensen, M.A.C. (1977). Stages of Small-Group Development Revisited. *Group & Organization Management, 2*(4), 419-427. doi: http://dx.doi.org/10.1177/105960117700200404

UNCTAD (2008, July 1, 2008). Market Information in the Commodites Area Retrieved July 4, 2008, from http://www.unctad.org/infocomm/index.htm

UNDP (2005). International Cooperation at a Crossroads: Aid, Trade and Security in an Unequal World *Human Developement Report*. New York: United Nations Development Program.

UNDP (2011). Sustainability and Equity: A Better Future for All. *Human Developement Report*. New York: United Nations Development Program.

Wallace, C. (2002). Household Strategies: Their Conceptual Relevance and Analytical Scope in Social Research. *Sociology, 36*(2), 275-292. doi: http://dx.doi.org/-10.1177/0038038502036002003

Waller, R. (1997). Review: Cotton Is the Mother of Poverty: Peasants, work, and rural struggle in colonial Mozambique, 1938-1961, by Allen Isaacman. *African Affairs, 96*(382), 137-141.

Weik, E. (2011). Institutional Entrepreneurship and Agency. *Journal for the Theory of Social Behaviour*, 41(4), 466-481. doi: http://dx.doi.org/10.1111/j.1468-5914.2011.00467.x

Wellman, B., & Kenneth, A.F. (2001). Network Capital in a Multilevel World: Getting Support from Personal Communities. In N. Lin, K. Cook & S. R. Burt (Eds.), *Social Capital: Theory and research* (pp. 233–273). New York: Aldine De Gruyter.

Werhane, H. P., & Painter-Morland, M. (2011). Leadership, Gender, and Organization. In H.P. Werhane & M. Painter-Morland (Eds.), *Leadership, Gender, and Organization* (pp. 1–8). London and New York: Springer.

Woodward, A.R. (2007). The Impact of U.S. Subsidies on West African Cotton Production. Available from Cornell University Food Policy for Developing Countries: The role of Governement in the Food System Retrieved July 8th, 2008, from Cornell University http://cip.cornell.edu/DPubS?service=Repository&version=1.0&verb=Disseminate&handle=dns.gfs/1200428204&view=body&content-type=pdf_1#

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research*(2), 12-22.

World Bank (2000). World Developement Report 2000/2001: Attacking Poverty. Washington DC: The World Bank.

World Bank (2002). Benin Strategic Country Gender Assessment (Briefing Note for the PRSP and the CAS) (pp. 35). Washington DC: The World Bank.

World Bank (2003). Benin Poverty Assessment *Human Development II* (pp. 186). Washington DC: The World Bank.

World Bank (2007a). World Development Report 2008: Agriculture for Development. Retrieved from http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf. doi: http://dx.doi.org/10.1596/978-0-8213-7233-3

World Bank (2012). World Development Report 2012: Gender Equality and Development. Retrieved from http://wdronline.worldbank.org//includes/imp_images/book_pdf/WDR_2012.pdf. doi: http://dx.doi.org/10.1596/978-0-8213-8810-5

World Bank (Ed.). (2007b). *Agriculture for Development.* Washington DC: The World Bank.

WTO (2005). Benin: Diagnostic Trade Integration Study (DRAFT ed., pp. xxxiv+128). Cotonou: World Trade Organization.

Appendix 1: Focus-group discussion guide

Province : **Date :**
District : **Discussion Group (Men/Women) :**
Village : **Surveyor (s) :**

<table>
<tr><th>N°</th><th>Topics</th><th colspan="4">Answers</th></tr>
<tr><td rowspan="2">I.</td><td rowspan="2">Institutional mapping (Social networks/organisations of all types operating in the village)</td><td colspan="2">Networks/Organisations</td><td colspan="2">Hierarchy</td></tr>
<tr><td colspan="2"></td><td colspan="2">1st
2nd
3rd
Etc.</td></tr>
<tr><td>II.</td><td>Meaning of association membership</td><td colspan="2"></td><td colspan="2"></td></tr>
<tr><td rowspan="2">III.</td><td rowspan="2">Cotton farmers organisations operating in the village (rank the most important)</td><td colspan="2">Networks/Organisations</td><td colspan="2">Hierarchy</td></tr>
<tr><td colspan="2"></td><td colspan="2">1st
2nd
3rd
Etc.</td></tr>
<tr><td>IV.</td><td>Possible links between farmers organisations and others social networks</td><td colspan="4"></td></tr>
<tr><td rowspan="2">V.</td><td rowspan="2">Importance of cotton production in the village</td><td>Economic</td><td>Social</td><td>Cultural</td><td>Other</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>VI.</td><td>Social constructs (songs, proverbs, etc.) about cotton and they meaning</td><td colspan="4"></td></tr>
<tr><td>VII.</td><td>Collective actions induced by cotton production (constructions of community infrastructures, supply of public services, etc.) in the village</td><td colspan="4"></td></tr>
<tr><td rowspan="2">VIII.</td><td rowspan="2">Types of conflicts within and between farmers organisations (leadership, redistribution of resources, etc.)</td><td rowspan="2">Conflicts</td><td colspan="3">Hierarchy (decreasing order)</td></tr>
<tr><td>Numerical importance</td><td colspan="2">Critical importance</td></tr>
<tr><td></td><td>1st
2nd
3rd
Etc.</td><td colspan="2">1st
2nd
3rd
Etc.</td></tr>
<tr><td>IX.</td><td>Consequences of conflicts for the organisations and for cotton production</td><td colspan="4"></td></tr>
</table>

<table>
<tr><td rowspan="2">X.</td><td rowspan="2">Causes of and motivation behind the creation of new organisations (rank)</td><td>Causes</td><td>Motivations</td></tr>
<tr><td>1st
2nd
3rd
Etc.</td><td>1st
2nd
3rd
Etc.</td></tr>
<tr><td>XI.</td><td>Profile of new organisations' leaders</td><td colspan="2"></td></tr>
<tr><td rowspan="2">XII.</td><td rowspan="2">Factors determining the decision to adhere to a given (new) organisation</td><td>Factors</td><td>Hierarchy</td></tr>
<tr><td></td><td>1st
2nd
3rd
Etc.</td></tr>
<tr><td rowspan="2">XIII.</td><td rowspan="2">Reasons of cotton production abandonment</td><td>Reasons</td><td>Hierarchy</td></tr>
<tr><td></td><td>1st
2nd
3rd
Etc.</td></tr>
<tr><td>XIV.</td><td>Consequences of the multiplicity of farmers' organisations for collective action at village level</td><td></td><td></td></tr>
<tr><td rowspan="2">XV.</td><td rowspan="2">Income-generating activities that substitute for cotton</td><td rowspan="2">Activities</td><td colspan="2">Hierarchy</td></tr>
<tr><td>Number of people involved</td><td>Amount of income generated</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>XVI.</td><td>Suggestions of reform actions for the revival of cotton sector</td><td colspan="2"></td></tr>
</table>

Appendix 2: Semi-structured questionnaire

Preamble (to the surveyors)

1. Present yourself as complete as possible;
2. Present the context and objectives of the research and ensure the interviewee that the information collected will be kept confidential and that the research has no-commercial purpose;
3. Solicit the permission to record the interview (try to convince the respondent in case there is any resistance);
4. Solicit the respondent's patience for the interview to be conducted to its end;
5. Invite the respondent to introduce him(her)self;
6. Then lead the interview.

I. SOCIO-ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENT

N°	Characteristics			Code	Answers
1.1	Name				
1.2	Gender			0=Female ; 1= Male	
1.3	Age				
1.4	Religion				
1.5	Ethnic group				
1.6	Marital status			1=Married ; 2=Single	
1.7	Level of instruction			0=Without any formal instruction 1=Primary school [1-6 years] 2=Secondary school [6-13 years] 3=University [+13 years] 4=Informal education (specify)	
1.8	Household size				
1.9	Number of household members at working age	8-14 years	Male		
			Female		
		15-60 years	Male		
			Female		
		> 60 years	Male		
			Female		
1.10	Residence status			1=Born in the village 2=Migrant	
1.11	If migrant, since how many years				
1.12	Experience in cotton production				
1.13	Experience in agriculture[11]				
1.14	Main incomes source				

		05-06		*06-07*		*07-08*		*08-09*		*09-10*	
1.15	Place of agriculture in incomes sources[12]	R	%	R	%	R	%	%	R	%	R
		05-06		*06-07*		*07-08*		*08-09*		*09-10*	
1.16	Place of cotton in agricultural incomes	R	%	R	%	R	%	%	R	%	R
		05-06		*06-07*		*07-08*		*08-09*		*09-10*	
1.17	Cotton production over the past 5 years[13]	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*

1.18	Membership status in a network	1=Excluded; 2=Dismissed; 3=Still member	
1.19	Status of cotton production	0=Abandon; 1=Still producing; 2=On	

[11] Consider the time from when the person has his own farm.
[12] R = Rank; % = contribution.
[13] A = Area in ha; P = production in tons.

		break	
1.20	Membership of a political party/movement	0=No ; 1=Yes	
1.21	Number of years of political activism		

II. EXPLORING THE CURRENT NETWORK OF MEMBERSHIP

2.1 Emergence and growth.

N°	Characteristics	Answers		
2.1	Name of the network			
2.2	Original network from which it derived			
2.3	Date of creation			
2.4	Place of registration			
2.5	Registration number			
2.6	Number of promoters			
2.7	Size of the first board			
2.8	Number of board official renewals since its creation			
2.9	Number of Presidents since the creation			
2.10	Farmer groups compositing the network	*At creation*		
		Now		
2.11	Number of network members	*At creation*		
		Now		
2.12	Maximum and minimum sizes reached by the network		***Farmers' groups***	***Members***
		Maximum		
		Minimum		

2.2 Relations between the proponenets.

	A	B	C	D	E	F
A	X					
B		X				
C			X			
D				X		
E					X	
F						X

2.3 How would you now qualify the creation of your current network, spontaneous or motivated from outside? Justify.

2.4 Relationships between the first board members.

	President	Secretary	Treasurer	Coordinator
President	X			
Secretary		X		
Treasurer			X	
Coordinator				X

III. NETWORKING DYNAMICS

3.1 Membership of cotton networks and board positions occupied.

N°	Cotton Network	Period (Year/month)	Positions	Period (Year/month)
N1				
N2				
N3				

3.2 Mapping farmer's personal network (with regard to cotton production).

N°	Organisations	Membership with regard to cotton production (1=Yes; 0=No)			Responsibility
		Before the prime	During the prime	After the decline	
A1					
A2					
A3					

3.3 Interactions between these associations/organisations and the cotton networks (0=No communication/no relation; 1=Exchange of inputs; 2=Support from cotton network; 3=Consultation for collective action).

Cotton Networks / Organisations	Network 1	Network N2	Network N3
A 1			
A 2			
A 3			

3.4 Rank the following causes of breaking away according to their importance.

N°	Factors	Rank	Remarks
1	Lack of payment		
2	Manipulation (and corruption)		
3	Mismanagement of resources		
4	Lack of communication		
5	Extension of villages		
6	Intra-group conflicts		
7	Imitation		

3.5 Rank the following motives/objectives in the creation of breakaway networks.

N°	Motives/Objectives	Rank	Remarks
1	Leadership		
2	Altruism		
3	Selfishness		

3.6 How did you become President/Secretary/Treasurer/Coordinator…? (For leaders)

3.7 Rank the following personal abilities/assets according to their importance in helping leaders to get position into network boards?

N°	Abilities/Assets	Rank	Remarks
1	Level of instruction		
2	Experience in a previous board		
3	Extend of cotton production		
4	Good morality (deserving trustworthiness & faith)		
5	Level of prosperity		

6	Mastery of cotton sector		
7	Relations with outsiders (inputs suppliers, etc.)		
8	Being an opinion leader (fame)		
9	Youthfulness		
10	Commitment and availability (for group)		
11	Courage		
12	Ability to negotiate		

3.8 Rank the following sources of support in the process of creating breakaway network.

N°	**Types of support**	**Rank**	**Remarks**
1	Family and Relatives		
2	Friends		
3	Religious groups		
4	Ethnic solidarity (sharing of cultural values)		
5	Political membership		
6	Professional groups (Producers, inputs suppliers, ginners, etc.)		
7	Personnel from administration		

3.9 Messages/discourses offered to the "supporters" by the leaders to convince them of supporting in the creation of the network.

3.10 Messages/discourses delivered to cotton farmers to decide them to join the network.

3.11 Rank the following determinants in farmers' decision to adhere to a network.

N°	**Determinant factors**	**Rank**	**Remarks**
1	Payment on time		
2	Expectation of profits		
3	Taste for novelty		
4	Trust in network board members		
5	Kinship		
6	Size of networks		
7	Facility of getting inputs		
8	Hope of occupying a board position		

3.12 Rank the following reasons according to their importance in farmers' decision to give up cotton production.

N°	**Reasons of abandonment**	**Rank**	**Remarks**
1	Absence of payment		
2	Decline of cotton profitability		
3	Generalization of the "*caution solidaire*" (joint liability mechanism)		
4	Late supply of bad quality inputs		
5	Inter- and intra-networks conflicts		
6	Imprisonment of farmers		
7	Decline of soil fertility and its corollary of low yield		
8	Incapacity to work (old age)		

IV. NETWORK CONFLICTS

4.1 Rank the following causes of conflicts within and between networks according to their frequency and the acuity of their related-conflicts.

N°	Types of conflict	Frequency	Acuity
1	Resources distribution		
2	Leadership		
3	Mismanagement of resources		
4	Cotton commercialization		
5	Absence of payment		
6	Extension of the "*caution solidaire*"		
7	Lack of commitment at work		
8	Payment of membership fees		
9	Outlets (Expression of other rivalries)		

4.2 Factors that make the conflicts critical (internal, external, etc.).
4.3 Ways/strategies of settlement and their relation with the types of conflicts.
4.4 Effects of the conflicts on the respondent (membership of networks, cotton production, etc.).
4.5 Effect of the conflicts on collective action (community level).

V. INTERACTIONS/RELATIONS BETWEEN COTTON NETWORKS

	ANPC	FENAPRA	FENAPROC	FENAG-ROP	AGROP BENIN	AGROP-NOUVELLE VISION	AGROP DEDE	UNAPRO-B	UPROCOB
ANPC	X								
FENAPRA		X							
FENAPROC			X						
FENAGROP				X					
AGROP BENIN					X				
AGROP-NOUVELLE VISION						X			
AGROP DEDE							X		
UNAPRO-B								X	
UPROCOB									X

VI. COLLECTIVE ACTION

6.1 Types of actions realised in the village from cotton resources.

N°	Actions		Realisation (0=No; 1=Yes)	Effects
1	Construction of community infrastructures	Agricultural inputs stores		
		Schools		
		Water digs		
		Bridges and rural roads		
		Health centres		
		Leisure centres		
		Football field		
		Municipal buildings		
		Public lightening		
		Kerosene selling points		

		Rural radio		
2	Payments	Compensation for infrastructures construction		
		Salaries of community teachers		
		Support to students		
		Support to municipal counsel		
3	Maintenance of infrastructure			

6.2 Way the collective action affected the household livelihood.
6.3 Continuity of such actions after the decline/abandonment of cotton production.
6.4 Effects on the households' daily life.
6.5 Adaptation strategies to face the freeze of collective action.

VII. HOUSEHOLDS' LIVELIHOOD AND GENDER RELATIONS

7.1 Labour division in cotton production.

N°	Tasks	Executed by (Men=1 ; Women=2 ; Children=3)	Time consumption (Low – Medium – High)	Observations (Other intervening worker)
1	Clearance			
2	Ploughing			
3	Sowing			
4	Expanding fertilisers			
5	Weeding			
6	Pesticide treatment			
7	Harvesting			
8	Transport			
9	Other			

7.2 Evolution households' income sources.

N°	Sources of incomes (Activities)	Performed by	Rank		Contribution (%)	
			During the prime of cotton	After the decline/abandonment	During the prime of cotton	After the decline/abandonment
1						
2						
3						
4						
5						

7.3 Households' livelihood assets.

N°	Assets	Evolution of assets with regard to cotton production		
		Before the boom	During the prime of cotton	After the decline/abandonment
1	Type of house			
2	Agricultural equipment			
3	Household's basic equipment			
4	Luxurious equipment			
5	Transportation means			

7.4 Evolution of spouses' contribution to household expenditures.

N°	Household needs	Spouses' Contribution (Low – Medium – High)					
		During the prime of cotton			After the decline/abandonment		
		Husband	Wife(ves)	Other	Husband	Wife(ves)	Other
1	Education						
2	Clothing						
3	Health care						
4	Food						
5	Access to public services						
6	Ceremonies (wedding, baptisms, etc.)						

7.5 Effect of the decline/abandonment of cotton production on the household livelihood.
7.6 Evolution of gender relations with regard to cotton production.

N°	Domains	Nature/intensity of relations (Low – Medium – High)	
		During the prime of cotton	After the decline/abandonment
1	Intensity of women's extra-domestic activities (Time devoted)		
2	Women's access to farming land		
3	Autonomy in decision making		

7.7 Which of the following cultures are used to substitute for cotton as provider of incomes.

N°	Cultures	Rank	Contribution to incomes (%)
1	Maize		
2	Soy bean		
3	Groundnuts		
4	Rice		
5	cowpea		
6	Sorghum		
7	Yam		
8	Cassava		
9	Shea butter		
10	Cashew nut		

7.8 Are rural exodus or migration an income earning means that substitute for cotton?
7.9 Members of household who migrated or went on exodus?
7.10 Place of exodus/migration and the process of decision making (where and when?)

VIII. PERSPECTIVES ON COTTON PRODUCTION AND RELATED-NETWORKING

8.1 Is it still possible to make the cotton sector revive? How?
8.2 Rank the following reform actions according to their likelihood to make the cotton sector revive.

N°	Suggested reforms actions	Rank	Remarks
1	Payment on time		
2	Improving the inputs quality and supply		
3	Lowering inputs prices		
4	Raising cotton price		
5	Re-nationalisation of the cotton sector		
6	Restoring the refunds		
7	Merging the networks in one		
8	Suppressing all cotton debts		
9	Eliminating the "*caution solidaire*" (joint liability mechanism)		
10	Sharing the risks between farmers & inputs suppliers		

IX. CHARACTERISTICS OF THE VILLAGE (For leaders)

N°	Characteristics	Answer					
4.1	Province						
4.2	District						
4.3	Village						
4.4	Main ethnic groups in the village						
4.5	Agro-ecological zone						
4.6	Evolution of cotton producers the last 5 years		***05-06***	***06-07***	***07-08***	***08-09***	***09-10***
		Men					
		Women					
4.7	Evolution of cultivated land in cotton the last 5 years	***05-06***	***06-07***	***07-08***	***08-09***		***09-10***
4.8	Evolution of cotton production the last 5 years	***05-06***	***06-07***	***07-08***	***08-09***		***09-10***
4.9	Distance from the village to the main city						
4.10	Accessibility of the village	1=Paved road ; 2=Rural track ; 3=Small track					
4.11	Number of cotton networks operating in the village						
4.12	Number of farmers' associations/organisations						
4.13	Number of NGOs operating in the village	**During cotton prime**					
		After the decline/abandonment					

X. WHAT DO YOU THINK ABOUT THE ON-GOING REFORM TO TRANSFORM COTTON FARMERS ORGANISATIONS INTO COOPERATIVES?

SUMMARY

Cotton production in Benin, West Africa, is intertwined with colonialism, which contributed to the transformation of the crop's production system from traditional to modern. Throughout the years, the importance of the crop for the stakeholders varied. The last decades have witnessed a growing interest in cotton of farmers, businessmen, and the State. From having a marginal status during the seventies and the first half of the eighties, cotton grew in importance during the nineties, both in terms of area covered and income generated, averaging 37 percent of the total cultivated area in the country. Thus, cotton has a critical cash function and plays a key role in Benin's economic growth, accounting for an important share in the State's revenues and farm households incomes. Indeed, the share of cotton exports represented 75 percent of the country's total agricultural exports during the 2000s, and the crop provided up to 80 percent of rural households incomes in the North. Though cotton is grown throughout the country, its production was always concentrated in the North, where it is embedded in a farming system formerly dominated by food crops. Hence, cotton transformed subsistence farming into semi-subsistence farming.

The central position of the crop in the country's economy, which loomed large at the beginning of the 1990s, led to agricultural and economic policies being greatly influenced by the crop for decades. The Structural Adjustment Program of the early 1990s prescribed the liberalisation of the cotton sector, which had huge effects on the sector. This resulted in an increased importance of cotton farmer organisations that elapsed into the first ever hierarchical network in the country, and the crop being put at the forefront of agricultural development programs. Enduring benefits for farmers, farming communities, private actors, and the State were derived from that evolution. This gained cotton the status of 'white gold'. However, the institutional dynamics that followed in the wake of liberalisation and their corollary of actors' interactions generated never-ending conflicts of various kinds, particularly within the cotton farmers' networks. These resulted in atomised networks. As a consequence, the benefits attached to cotton then started to wane and cotton production became a dilemma for farmers, as reflected in a steep decline of cotton production.

This thesis aims at understanding the dynamic interactions between the economic activity of cotton production and the structure of social relations from community to household and individual level. It addresses the question of how farmers' agency affected their organisations, the cotton system, and the collective action that evolved around the crop. The research was aligned along three main axes: the emergence of breakaway networks, the decline of social cohesion and the squeeze of collective action, and the livelihoods reconstruction after the demise of cotton production. The main theoretical perspectives underlying the conceptual framework were an actor-oriented approach, actor-network theory, livelihood theory, and a gender perspective.

The research is based on fieldwork carried out in four provinces in the North of Benin from January 2009 to April 2011. Benin is a country whose employment capacity and economic growth heavily rely on the agricultural sector, in which cotton is a dominant factor. This is still the case for rural areas in the North, where rural households have been heavily dependent on cotton as a critical cash crop for poverty alleviation. Northern Benin supplies more than 75 percent of the cotton yearly produced in the country, thanks to the favourable agro-ecological conditions prevailing there, and because there is less population pressure than in the southern part. The exploratory phase of the research covered four provinces: Borgou, Alibori, Atacora and Donga. Since the provinces of Borgou and Alibori host the heart of the cotton belt, subsequent data collection progressively focussed on these two provinces.

The research adopted a mixed-methods design, applying quantitative and qualitative methods of data collection. A survey was combined with focus-group discussions, in-depth interviews and the life history method, to unveil the dynamic interactions between social actors and their interactions with the material and technical elements of the cotton system. The life history method was used to document the experience of women leaders that had made them exceptions to the rule among women cotton farmers. Apart from cotton farmers and their leaders, other targets groups of the research, like inputs suppliers and executives of cotton bodies, often had to be found beyond the two provinces in other parts of the country. The research covered nine cotton networks in ten villages in the four provinces. Survey interviews and in-depth interviews were conducted with 148 heads of cotton farming households, men as well as women.

About 80 percent of the farmers in the sample were in their 40s or 50s, and more than half of them had no formal education. Educated women represented only 17 percent of their category, suggesting that male cotton farmers are significantly more educated than their female counterparts. The average household size was 16, with about 11 workers in male adult equivalents. While agriculture is the main occupation and often the only source of income in the area, women turned out to rely less on agricultural incomes than men.

With regard to networking, the process of atomisation resulted in about 20 percent of stayers in remnant networks, 51 percent of joiners of operating networks, and about 28 percent of creators of new networks. It was found that more than three quarters of cotton farmers broke away from their original network at least once during their cotton cropping career, and that creators of new networks were more likely to be leaders than stayers or joiners. The results further tell us that more than one in two cotton farmers (ever) had a leadership position. A significant association was found between these three categories of farmers and leadership status. Finally, a greater stock of social capital was correlated with the ability of leading cotton networks.

The research indicates that the liberalisation of an agricultural value-chain can be harmful rather than beneficial when the State fails to play a coherent role during the

shift from State monopoly to private interest. Cotton proved to be the lifeline for farmer organisations, and drove collective action in rural areas from the important resources it generated. However, the decline of trust within networks in conjunction with poor management of cotton resources led to a reversed dynamic that tore networks apart, which resulted in their atomisation. Social relations deteriorated when the financial stakes became higher. As attested by the way the process of network atomisation evolved, cooperation within large groups requires legal sanctions to be sustainable. The qualitative results showed that the process of atomisation was nurtured by ties of friendship, kinship, and ethnicity at the start, after which networks extended to include other areas and more general membership. From the survey results it can be inferred that push and pull factors interacted to influence the process of cotton network atomisation. The most influential of these factors were, on the one hand, mismanagement of network resources and manipulation of farmers by outsiders, and, on the other hand, trust in board members, hope for board positions, the expectation of profit, and support from public officials and ethnic or religious connections.

The research further demonstrates that gender myths and stereotypes obstruct women's active involvement in managing organisations, in spite of their key position in the cotton production system at household level. Women were found 21 times less likely to be a leader than men in cotton organisations, and their presence on boards hardly empowered them because they spend their energy struggling to meet practical needs. Women's admission to cotton boards appears to be instrumental for men and hides men's real motives, judging by the way male board members tend to restrict the power of their female colleagues. However, men are inclined to give more freedom to women when they find their activities benefitting themselves, as was revealed by the data on livelihood adaptation strategies.

The research clearly ascertains that farmers are more rational than often assumed and that they grow a crop as long as it is a source of livelihood and food security. Despite its current low to negative returns, cotton remains part of the livelihood diversification strategies of households because cotton production gives access to resources that can then be used for food crops. However, relying on one source of income puts the livelihood system of rural households at risk. Faced with the cotton problems, households diversified their sources of income, first and primarily on-farm with food crops increasingly gaining a cash function. Additionally, they would deploy beyond-farm alternative strategies, including migration of youth. It was also found that the decline of cotton production proved to result in more freedom for women. Because of their multiple extra-domestic activities, women are less vulnerable than men when it comes to coping with livelihood shortages. Their contribution to the provision for household needs increased during the decline of cotton production and the ensuing income shortages compared to that of men. The livelihood adaptation strategies showed the decision making about income diversification to move from the centre of the household to its periphery.

SAMENVATTING

In Benin, West Afrika, is de katoenproductie verweven met het kolonialisme, dat bijdroeg aan de transformatie van een traditionele naar een moderne productiewijze van katoen. Door de jaren heen veranderde het belang van het gewas voor de betrokkenen. Gedurende de laatste decennia was er sprake van een groeiende belangstelling voor katoenproductie onder boeren, zakenmensen, en nationale overheid. Terwijl katoen een marginale status had in de jaren 70 tot halverweg de jaren 80, nam het belang van katoen sterk toe in de jaren 90, zowel in termen van areaal als in termen inkomen. Gemiddeld werd in die tijd op 37 procent van de landbouwgrond katoen verbouwd. Daarmee speelde katoen een cruciale rol in het genereren van geld en economische groei, en had het een belangrijk aandeel in het nationaal inkomen en de inkomens van boeren. In de jaren 2000 bestond 75 procent van de agrarische export uit katoen en kwamen 75 tot 80 procent van de inkomsten van rurale huishoudens in noord Benin uit katoen. Ofschoon katoen door het hele land wordt verbouwd is de productie geconcentreerd in het noorden van Benin. Daar wordt katoen verbouwd naast voedselgewassen en heeft katoen ook deels voedselgewassen verdrongen.

De centrele positie van het gewas in de economie van het land vanaf de jaren 90 leidde er toe dat landbouwbeleid en economisch beleid decennia lang door katoen werden gedomineerd. In het kader van het Structurele Aanpassingsprogramma van begin jaren 90 werd de katoen sector geliberaliseerd. Dit resulteerde in een toenemend belang van boerenorganisaties die opgingen in een nationaal hierarchisch netwerk , waarbij katoen het speerpunt werd van agrarische ontwikkelinsprogramma's. Hiervan profiteerden de boerengemeenschappen, particuliere ondernemers en de Staat. Katoen kreeg de status van 'wit goud'. De institutionele dynamiek die dit teweeg bracht en de belangen die op het spel stonden, leidden echter tot talloze conflicten, vooral in de katoenorganisaties. Daarmee viel het hierarchische netwerk uiteen en ontstond een versplintering van netwerken. Als gevolg daarvan leverde katoen minder op, liep de productie terug, en werd katoen verbouwen voor boeren een dilemma.

In dit proefschrift wordt de dynamische interactie onderzocht tussen enerzijds de productieactiviteiten en het economisch belang van katoen en anderzijds de sociale relaties van de betrokken actoren, op gemeenschaps-, huishoud- en individueel niveau. De vraag die wordt gesteld is hoe de keuzes en acties van boeren van invloed waren op hun organisaties, het katoen productiesysteem en de collectieve acties die daaruit voortkwamen. Het onderzoek werd gestructureerd langs drie assen: het opkomen van splinternetwerken, de afname van sociale cohesie en collectieve actie, en de aanpassingen in de wijze waarop de huishoudens van katoenboeren in hun levensonderhoud gingen voorzien nadat de katoenproductie steeds problematischer werd. De belangrijkste theoretische perspectieven die aan het onderzoek ten

grondslag lagen zijn een actor-georiënteerde benadering, actor-netwerk theorie, livelihood theorie en een gender perspectief.

Het onderzoek is gebaseerd op veldwerk dat werd uitgevoerd in vier provincies in Noord Benin in de periode januari 2009-april 2011. In Benin zijn werkgelegenheid en economische groei zeer afhankelijk van de agrarische sector en daarin is katoen een dominante factor. Dit is zeker het geval in het Noorden, waar rurale huishoudens van katoen afhankelijk zijn voor hun geldinkomsten en om armoede op afstand te houden. Dankzij de voor katoen gunstige agro-ecologische omstandigheden wordt 75 procent van de katoen in dit deel van het land geproduceerd. In de exploratieve fase werd onderzoek gedaan in de vier provincies Borgou, Alibori, Atacora en Donga. In een later stadium werd het onderzoek geconcentreerd in Borgou en Alibora. Deze provincies vormen het hart van het katoengebied.

In het onderzoek werd een mix van kwantitatieve zowel als kwalitatieve methoden toegepast. De survey werd gecombineerd met focus groep discussies, diepte interviews en het documenteren van levensgeschiedenissen, om de dynamiek van de interactie tussen de actoren onderling en die van hun omgang met de materiële en technische aspecten van het katoensysteem te kunnen blootleggen. De levensgeschiedenis van een aantal vrouwelijke leiders in de katoenorganisaties werd opgetekend om te begrijpoen hoe zij hun leiderschapspositie hadden verworven en weer kwijtraakten. Naast katoenboeren en hun leiders werden andere actoren zoals opkopers en staf van katoenbedrijven ondervraagd voor wat betreft hun rol in het katoensysteem. Deze mensen wonen vaak ver van het gebied waar de katoen vandaan komt en werden daar thuis bezocht. Acht netwerken in tien dorpen in de vier provincies werden geanalyseerd. De survey interviews werden gedaan met 148 hoofden van huishoudens van katoenboeren, zowel mannen als vrouwen.

Ongeveer 80 procent van de respondenten was tussen de 40 en 60 jaar oud. Iets meer dan de helft had geen formele scholing gehad. Voor de vrouwen in de steekproef was dit percentage 83, waaruit blijkt dat mannelijke katoenboeren beter geschoold zijn dan hun vrouwelijke collega's. De gemiddelde huishoudgrootte was 16, waarvan 11 volwassen, werkende personen. Terwijl landbouw het belangrijkste middel van bestaan is, bleken vrouwen vaker inkomsten uit niet-agrarische activiteiten te hebben dan mannen.

Uit de analyse van het proces van de versplintering van netwerken bleek dat een vijfde van de ondervraagde boeren waren gebleven bij de resten van een uiteengevallen netwerk, 51 procent hadden zich aangesloten bij opererende netwerken, en de rest bestond uit boeren die een nieuw netwerk hadden gecreëerd. Het bleek dat meer dan driekwart van de katoenboeren tenminste een keer het netwerk waar ze oorspronkelijk toe behoorden, had verlaten. Degenen die nieuwe netwerken hadden opgericht waren vooral boeren met leidersposities., waarbij aangetekend moet worden dat meer dan één op twee boeren een leiderspositie had of

ooit had gehad. Leiders bleken te beschikken over meer sociaal kapitaal dan niet-leiders.

Het onderzoek wijst uit dat liberalisering in de landbouw eerder schadelijk dan gunstig uitpakt als de Staat verzuimt een coherente sturende rol te spelen tijdens de transitie van staat monoplie naar vrije markt. Katoen was de drijvende kracht in boerenorganisaties en de motor achter collectieve actie voor algemeen nut in de urale gebieden. Het verloren gaan van het vertrouwen tussen de leden van de netwerken en het slechte beheer van de katoenopbrengsten leidden echter tot uiteen vallen van de organisaties. Dit laat zien dat samenwerking binnen grote groepen waarbij grote belangen op het spel staan niet zonder wettelijke sancties en regulering kan. Uit het kwalitatieve onderzoek bleek dat factoren zoals vriendschaps- en verwantschaps-relaties, woonplaats en etniciteit een belangrijke rol speelden in het proces van versplintering en hergroepering van netwerken. Van de factoren die boeren deden besluiten een netwerk te verlaten bleken slecht leiderschap, slecht geldbeheer en de manipulatie van boeren door buitenstaanders het meest bepalend. In de aantrekkings-kracht van andere netwerken bleken het vertrouwen in de leiders, de hoop op een leiderschapspositie, de verwachting van winsten, de steun van ambtenaren en politici, en etnische en religieuze connecties de dominante factoren.

Het onderzoek laat ook zien dat gender mythen en stereotypen een active rol van vrouwen in de katoenorganisaties in de weg staan, ondanks hun belanrijke rol in het productieproces. Vrouwen hadden 81 keer minder kans op een bestuursfunctie dan mannen en als ze een bestuursfunctie hadden was het een probleem om die te verenigen met hun andere verplichtingen. Het lijkt erop dat vrouwen met een bestuursfunctie worden gebruikt door hun mannelijke collega's die er tevens voor zorgen dat ze niet te veel macht krijgen. Op persoonlijk niveau zijn mannen echter wel geneigd hun vrouw ruimte voor economische activiteiten buitenshuis te geven als ze daar de voordelen van inzien.

Uit het onderzoek blijkt duidelijk dat boeren rationeler zijn dan veelal wordt aange-nomen; ze verbouwen een gewas zo lang het een goede bron van bestaans- en voedselzekerheid is. Ondanks de crisis in de katoen, wordt het gewas nog veel verbouwd, vooral omdat boeren via katoen toegang tot kunstmest hebben. Die kunnen ze dan gebruiken voor andere gewassen als die meer opleveren. Hieraan zijn echter risico's verbonden. Daarnaast vinden andere aanpassingen plaats, zoals migratie van jongeren en meer economische activiteiten van vrouwen. Hun bijdrage aan het huis-houdinkomen bleek gestegen in vergelijking tot die tijdens de hoog conjunctuur van de katoen. De besluitvorming over aanpassingsstrategieën in huishoudens lijkt als gevolg van de recente ontwikkelingen minder bij het hoofd en meer bij andere leden van de huishouding te liggen. Met het verdwijnen van de centrale rol van katoen lijkt er op het micro niveau van het huishouden ook sprake te zijn van een verschuiving van de macht van het centrum naar de periferie.

About the Author

Guirguissou Maboudou Alidou was born in Perere, Benin. In 2001, he obtained his Master of Arts degree in Sociology and Anthropology with a major in Organisation Studies from the National University of Benin (UNB), now University of Abomey-Calavi (UAC). In 2003, he obtained a Master of Science in Sociology at the University of Lomé, Togo, for which he had received a Research Graduate Fellowship from the Consultative Group on International Agricultural Research (CGIAR). He conducted his research for this master degree on technology adoption and diffusion at the International Institute of Tropical Agriculture (IITA) in a project funded by the Danish International Development Agency (DANIDA). In 2008, Guirguissou was awarded a fellowship by the Netherlands University Foundation for International Cooperation (NUFFIC) to do a PhD about cotton networking in Benin at the Social Sciences Department of Wageningen University in the Netherlands. The research focused on the interactions between the economic activity of cotton production and the structure of social relations involved in the cotton system, with gender as a cross-cutting issue.

Guirguissou Maboudou Alidou has been successively research assistant and researcher at the Agricultural Policy Analysis Unit of the National Institute of Agricultural Research of Benin (PAPA/INRAB), where he works on technology adoption and diffusion, and impact assessment. His research interests include social capital, organisation studies, participatory agricultural innovations development, and gender studies.

Guirguissou Maboudou Alidou
Wageningen School of Social Sciences (WASS)
Completed Training and Supervision Plan

Wageningen School of Social Sciences

Name of the course	Department/ Institute	Year	ECTS (=28 hrs)
General part			
Field Research Methods: Methods and Tools for Qualitative Data	MG3S	2008	2.3
Information Literacy, including Introduction Endnote	WGS	2008	0.6
Theory and Tools for Narrative Inquiry	MG3S/CERES	2008	1.4
Effective Behavior in your Professional Surroundings	WGS	2009	0.7
Research Methodology: From topic to proposal	MG3S	2009	4
Project and Time Management	WGS	2010	1.5
Doing Interpretative Analysis	MG3S	2010	3
Techniques for Writing and Presenting Scientific Papers	WGS	2011	1.2
Reviewing a scientific paper	WGS	2011	0.1
Mansholt-specific part			
Mansholt Introduction course	MG3S	2008	1.5
Theoretical and Methodological Approaches to the Study of Local Politics in Developing Countries (PhD Workshop)	Roskilde university (Denmark)	2010	4
Executive Course on Sustainable Development Diplomacy (SDD) /International Programme on the management of Sustainability (IPMS)	WUR/SDF/TUFTS	2011	2
'Cotton Production in Benin: From white gold to pest'	Poster at the NVAS, ASC	2011	1
'Gender Role in Cotton Production in Benin'	WASS PhD Day	2012	1
'Generating Income and Conflict: Profitability and Social Cohesion in Benin's Cotton production'	7th Int. Conf. on Interdisciplinary Social Sciences, Barcelona	2012	1
Discipline-specific part			
Social Networks Analysis	ECPR Summer School Ljubljana	2008	5
Rural Gender Studies Tutorial PhD	SCH	2008	2
Sociological Theories of Rural Transformation (RDS 30306)	RDS	2008 – 2009	6
Social capital (SCH 51306)	SCH	2009	6
Total			**44.3**

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