



Case Studies of Agri-processing and Contract Agriculture in Africa¹

Denis Sautier, Hester Vermeulen, Michel Fok, Estelle Biénabe²

November, 2006

¹ This document is part of a series of contributions by Rimisp-Latin American Center for Rural Development (www.rimisp.org/wdr2008) to the preparation of the World Development Report 2008 "Agriculture for Development". This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada (www.idrc.ca). The contents of this document are the exclusive responsibility of the authors.

² Corresponding author: D. Sautier, CIRAD Montpellier, France (denis.sautier@cirad.fr); H.Vermeulen, University of Pretoria, South Africa; M. Fok, CIRAD Montpellier, France ; E. Biénabe, CIRAD France and University of Pretoria, South Africa.

Executive Summary

1. This paper presents specific experiences in Africa, involving small and medium farmers and agri-processors. It illustrates the capacity of farmers-to-processors linkages in Africa to foster the effectiveness of agricultural growth for poverty reduction, make advantage of untapped sources of growth and generate pro-poor development through adequate institutions.
2. The paper considers four types of agricultural markets, which are drivers for economic growth and institutional arrangements:

Market type	Case study
National market x Modern supply chains :	Contract agriculture, South Africa.
National supply x Small and micro-enterprises :	Small formal and informal sector supplying poor Sub-Saharan cities.
Traditional export commodities :	Cotton processing, Western Africa.
Non-traditional exports :	Africa Horticulture outgrowers, Kenya.

3. A wide array of strategies and institutional arrangements can be directed at securing market access for smallholders and facilitating supply for small, medium and large agribusinesses and the growing food retail sector. Contract farming is one of these arrangements and operates as an intermediary institution between spot markets and vertical integration. Yet our case studies on agri-processing in Africa reveal other forms of market arrangements, including frequent verbal arrangements. They show that securing pro-poor relationships between farmers and agri-processors relies not on contract agriculture exclusively but on institutions at large.

4. **Agri-processing and contract farming in a national supply perspective: Modern urban markets and the South African case.** This case stresses the importance of contract farming with agri-processing companies and the barriers to entry for small-scale farmers, even if differences exist between industries. It highlights the diversity of contractual arrangements that have developed between farmers and a representative range of agri-food industries.

South Africa is characterized by high levels of concentration in food production –46,000 farmers out of about 3 million produce 95% of the formally marketed production, processing and retailing. Agribusiness firms source their products mainly from the wholesale markets (National Fresh Produce Markets or NFPM's) and direct purchasing from producers.

5. Main lesson 1 : The share of the NFPM's in the sales of the fruit and vegetable sector is declining. From 1990/91 to 2003/04 the total volume of fresh produce marketed through the NFPM's decreased by about 10%. Within the NFPM's, food processors' and retailers' procurement declined, while informal traders' share has been increasing over time to levels as high as 50% at the Johannesburg FPM. This evidence clearly highlights that agri-processors and retailers tend to by-pass the spot markets and directly purchase from producers.

6. Main lesson 2: The consolidation of procurement directly from farmers led to the development of diverse contract farming practices, such as outgrower schemes, long-term spot purchasing arrangements, marketing contract and seasonal to one-year production contracts. These practices entail higher levels of sophistication and represent higher barriers to entry for small-scale farmers, compared to spot markets.
7. Main lesson 3: The participation of small-scale farmers in contract farming is still very limited. About 4% of fresh produce sourced by agri-processors is supplied by 455 black contract farmers, while about 74% is supplied by 4 723 commercial farmers. However, given the political imperative linked to the enforcement of the agro-BEE policy (black economic empowerment), contract farming, including a wide range of formal and informal arrangements, has great potential to generate concrete options for partnerships between public and private stakeholders to accommodate small-scale farmers in the commercial agribusiness sector.

8. **Agri-processing in a national supply perspective: Low-income urban market food procurement in LGA countries.** In low-income, low-growth, agriculture-dependent countries of Africa, urban food demand is marked by the low purchasing power of most consumers, and by a strong proximity of the consumers with their traditional foods, related to their diverse social and ethnic backgrounds. The fresh markets and the informal urban processing-trading sectors are responsible for most urban food procurement.

9. Main lesson 1 : Urbanization and subsequent food diversification is an opportunity for African processed staples. Studies in capital cities of different Western and Central African countries have shown that a number of non-tradeable have become regionally traded products: *Attiéké* for instance (a type of cassava couscous), which forty years ago was only known by Adioukrous and Ebriés from Ivory Coast, has spread to many countries in Central Africa.
10. Main lesson 2: This was mostly achieved by the small-scale, often informal rural and urban food-processing sector which has shown a strong innovative capacity and market reactivity. Small and decentralized enterprises, as well as self-made, informal and feminine entrepreneurs play an important role in food processing and catering activities for local markets in many African cities. In Garoua, a Northern Cameroon town with an estimated population of 230.000 inhabitants, a total of 1647 small and micro commercial agri-food enterprises was identified - synonymous to one agri-food income generating activity for every 23 urban households.
11. Main lesson 3: Small-scale food processing and catering activities, being decentralized and labor-intensive, are increasingly important income earners for the poor. Moreover, food processing and catering are probably, along with local food trade, the economic activities where women play the more prominent part. In the Garoua survey, women run 82% of the activities.

12. **Organization of agri-processing, economic growth and poverty alleviation linked to traditional tropical export commodities: The case of cotton in Western Africa.** The contribution of cotton to economic growth and poverty alleviation in Africa has been under

recent focus in the framework of WTO negotiations. The cotton case is illustrative of a traditional exportation commodity which involves a very large number of smallholders without production-scale discrimination and without relying upon a formal contract. It has taken a long process to set up and adapt an organization of cotton processing that could be acceptable to all stakeholders. It might be very damaging to reform the sectors of traditional export commodities without setting up alternative coordination mechanisms to take over roles previously assumed.

13. Main lesson 1: Agri-processing activity requires investment. The more specific or costly the investment for processors, as in the case of cotton, the more investors will ask for secure institutional framework. State intervention is needed to ensure the required security, notably to prevent unfair competition. State intervention measures could be very diverse but they should result in some regulation of the investments.
14. Main lesson 2: Agri-processing success stories rely upon a long-term relationship between producers and processors. This does not happen spontaneously, in particular when some players may enjoy free entry/exit. In the case of cotton, barriers to access are high for processors, but low for producers. Farmers thus adhere to the processing organization if they benefit from it through a reduction of the transaction costs, an alleviation of financial risks, or a perspective of productivity gain.
15. Main lesson 3: The role of agri-processing should go as much as possible beyond the mere transformation of agricultural products into tradeable commodities. It is desirable that the organization set up to process products can also be used to conduct actions in favor of farmers. The overall outcome will be on one hand an improvement of farmers' productivity and well-being, and on the other hand a reduction of the production cost of the tradeable commodity.

16. Agri-processing and contract farming in a NTEX oriented perspective: Horticulture in Kenya. Kenya has been described as a success story in export-oriented “extended horticulture” (fruits, vegetables, flowers) based on contract farming. Exports have grown to over USD 150 million in 1999, equivalent to 17 percent of agricultural exports. Small farmers proved effective suppliers for products like French beans or avocados; large farms have turned more to the cultivation of other crops. Approximately 85 to 110 thousand people are employed in the sector as farm laborers and industry workers; and about 35 to 40 thousand smallholders, on a part-time basis, are concerned by horticultural exports. Growth in export horticulture in Kenya has declined from 17% during the 1974-1983 period, to 4% per year over the last period, due to new competitors and to new quality standards which act as technical barriers to trade. Lowering the certification cost requires recognition and competition between local certifying bodies.

17. Main lesson 1: Kenya’s export horticulture has received far more attention than the domestic system. Yet, smallholder share in horticulture export market has fallen from 75% in early 1990s to about 45% in 2004. It may continue to fall given the difficulty for smallholders to adapt the new international traceability obligations. On the other hand, the domestic horticulture system is larger (61% of total national vegetable added value) and has shown more absolute growth.

18. Main lesson 2: The future of export contract farming is not smallholders-oriented. By 1998, four of the largest exporters in Kenya were sourcing only 18% of their produce from small farms, while 42% came from large commercial farms, and 40% from exporter or leased land. Exporters find it more convenient to deal with a few large commercial farms than with many smallholders.
19. Main lesson 3: Export-oriented contract farming offers an important export diversification mechanism and is a strong income and job generator. Its relation with poverty reduction is more related with labor employment on farms and processing plants than with smallholder producers.

- 20. Operational and policy oriented conclusions:** Small and medium size farmers in Africa face market constraints or imperfections, such as restricted access to credit, insurance and specialized inputs at above-average costs, which limited support services by government cannot compensate for. Poor market information and other transaction costs derived from weak market integration make these smallholders less competitive in the new open-market economy. This presents a real danger that a majority of small-scale farmers in some developing countries could be excluded from commercial supply chains.
21. Main lesson 1: Contract farming is not spontaneously geared towards smallholders because of the higher transaction costs involved, but has indirect implications on poverty alleviation through farm labor and industry employment. Public policies and equity schemes can play a role in order for contract farming to improve its implications in terms of equity, efficiency and sustainability.
 22. Main lesson 2: In a number of low-income countries, urban food supply relies on a dynamic artisan and small-scale, often feminine trading and processing sector based on local networks and social capital, which is able to expand into regional trade and respond to the evolving urban demand.
 23. Main lesson 3: Policy options for strengthening agriprocessor-farmer linkages, with focus on small farmers, should recognize and take advantage of the diversity of existing institutional arrangements for market access in Africa. Sustained, long-term commitments by governments and donor agencies are needed to allow for gradual support strategies and to promote the emergence of deliberative institutions within the supply chains.

Introduction

This paper focuses on specific experiences in Africa, involving small and medium farmers and agro-processors. The national and case-study approach adopted is related and complementary to the cross-cutting document on 'Agrifood processing' prepared by John Wilkinson. The objective of the paper is to scrutinize and illustrate the capacity of farmers-to-processors linkages in Africa to foster the effectiveness of agricultural growth for poverty reduction, make advantage of untapped sources of growth and generate pro-poor development through adequate institutions.

Most African countries outside the Mediterranean belt and the Austral African region are considered low-income countries according to the World Bank 2005 world development indicators. In Sub-Saharan Africa, the share of agriculture in GDP averaged 17.0% in 2005, with an average GDP growth rate of 5.3%. These figures cover very diverse situations, ranging from low agriculture protagonism in transition countries like South Africa or economies based on extractive industries such as Angola, to high economic dependency on agriculture and low growth rates in poorer countries where conflicts are not uncommon and situations of negative growth can be found (Côte d'Ivoire, Zimbabwe). In this paper we will refer mostly to cases in low-income Eastern, Central and Western African countries, with the exception of South Africa, a medium-income country where agriculture only accounts for 3.05% of GDP but entails important equity stakes.

The presentation is organized according to the four different types of markets, which have been identified in the WDR2008 outline as drivers for economic growth and modeling institutional arrangements within food supply chains: (i) Modern urban supply will be illustrated through the dynamics of contract agriculture within South Africa; (ii) Low-income urban demand is growing steadily in poor Sub-Saharan countries, where small enterprises and the informal sector are important players in feeding the cities; (iii) Traditional export commodities maintain a crucial importance for African rural incomes and livelihoods; they are currently undergoing strong organizational changes, as will be shown by the case of cotton processing in Western Africa; (iv) Finally, the case of non traditional exports will be discussed through the expansion of horticulture outgrowers in Eastern Africa.

These different situations build on different logics that coexist within the agro-processing sector in Sub-Saharan Africa today: artisan and small and medium enterprises; national firms; FDI and multinationals.

They highlight a wide array of strategies and institutional arrangements directed at securing market access for smallholders and facilitating procurement by small, medium and big agro-industries and the growing food retail sector. Contract farming is one of these arrangements and operates as an intermediary institution between spot markets and vertical integration (Key and Runsten 1999). Contract farming can be considered as a form of governance that emerges in response to market failures to address credit, insurance, information, factors of production, produce outlet; and transaction costs (Saenz-Segura 2006). It will be under special scrutiny in this chapter. Yet our scope of case studies will reveal diversified forms of arrangements differing from formal contracting, including frequent verbal arrangements between farmers and processors or traders. Securing pro-poor relationships between farmers and agro-processors rely on institutions at large and not on contract agriculture exclusively.

Agro-processing and contract farming in a national supply perspective: Modern urban market and the South African case

With the increasing commercialisation of agricultural and food systems worldwide, the food industry is increasingly dominated by large agribusiness firms whilst the influence of farmers is declining (Reardon and Berdegue 2002; Reardon and others 2003). According to Weatherspoon and others (2001), contract farming in its broad sense is closely related to this industrialization of the agricultural sector, which is happening not only in the industrialized nations but also in those middle to low-income developing countries that are strongly integrated in the world economy, such as South Africa and several Asian and South American countries.

Small-scale farmers, in particular, may have difficulties in making the transition to a more commercial food system because they may struggle to meet the private quality and safety standards set by food processors, large retailers, wholesale buyers and exporters, and at the same time they are constrained by limited support services provided by governments due to policy reforms, market liberalisation and fiscal and governance problems (Reardon and Barrett 2000; Biénabe and others 2004). It is thus important to understand how these firms engage with farmers so as to explore the potential for expanding the procurement of raw commodities from small-scale farmers.

This case highlights the diversity of contractual arrangements that have developed between farmers and agribusiness firms in a representative range of agro-food industries in South Africa and gives insights on possible ways to promote small-scale farmers' market access in this sector. It stresses the importance of contract farming with agro-processing companies and the barriers to entry for small-scale farmers, even if differences exist between industries.

Main features of the agribusiness sector in South Africa and evolution of procurement

The South African agro-food complex, including inputs, primary production and processing, contributes approximately 8.1% of the total GDP, with about 2228 companies involved in food and beverage manufacturing (National Agricultural Directory 2004). The South African food processing industry is dominated by a few large companies and the South African retail sector is also highly concentrated.

The main procurement sources for these agribusiness firms are the wholesale markets (National Fresh Produce Markets or NFPM's) and direct purchasing from producers. According to calculations based on the Abstract of Agricultural Statistics (National Department of Agriculture, 2005), fruit sales for 2003/04 consisted of 34.5% export, 13.4% sold at the NFPM's and 21.3% directly purchased by processing companies. The remaining 30.8% mainly accounts for direct procurement by supermarkets.

For vegetables, shares were 51.4% for the NFPM's, minimal exports at about 4 to 6 % and the estimated volume of vegetables procured by processing firms about 12%. The remaining 30.4% mainly accounts for direct procurement by supermarkets³.

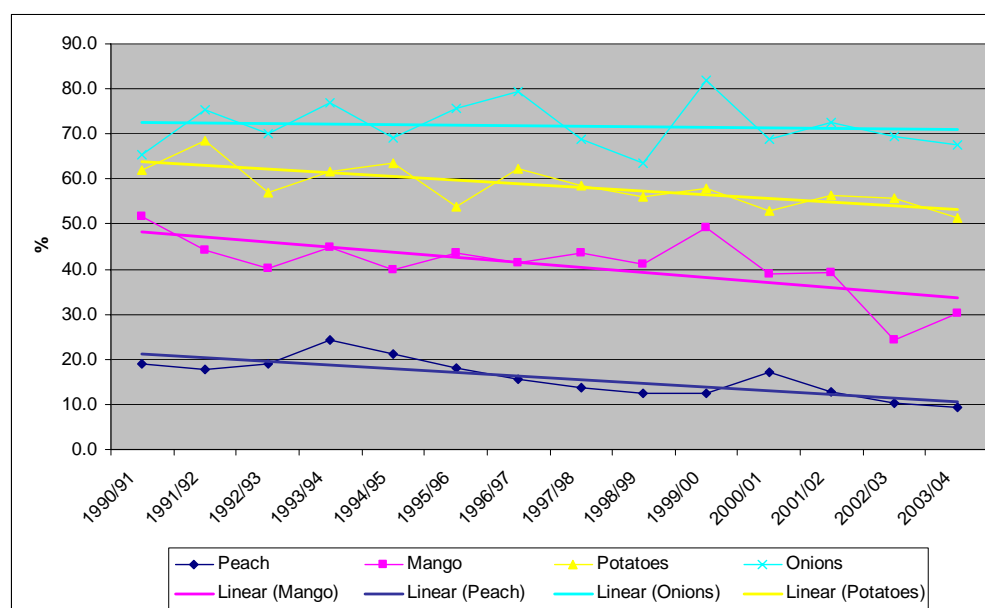
³ Vegetable data estimated based on data gathered through the research by Vermeulen and others (2006).

National statistics from the NDA show indeed a declining share of the NFPM's in terms of sales in the fruit and vegetable sector. For instance, table 1 and figure 1 summarize the trends, in terms of marketing through the National Fresh Produce Markets, for selected fruit and vegetable types.

Table 1. Trends, in terms of marketing through the National Fresh Produce Markets, for some important fruit and vegetable types

Fruit type:	Average of total harvest marketed through NFPM (1990/91 to 2003/04) (percent)	Standard deviation of total harvest marketed through NFPM (1990/91 to 2003/04) (percent)	Trend in share of total harvest marketed through NFPM ((1990/91 to 2003/04)
Peaches	15.9%	4.3	Decrease of 51% ⁴
Mangoes	40.9%	6.9	Decrease of 42%
Potatoes	58.4%	4.1	Decrease of 17%
Onions	71.7%	5.4	Decrease of 4%
Tomatoes	58.8%	5.2	Relatively constant ⁵

Source : NDA 1990, 2001, 2005.



Source : NDA 1999, 2001, 2005.

Figure 1. Trends, in terms of marketing through the National Fresh Produce Markets, for important fruit and vegetable types

⁴ Peaches are a striking example as processing accounts for 70.6% of total production while export is only 0.4%, the rest being shared between 21.6% for local market fresh consumption and 3.7% for drying.

⁵ In South Africa, only four tomato producers account for 80% of the tomato volumes. The largest producer, ZZ2, is a strong supporter of the National Fresh Produce Market system.

The general trend towards a loss of market share of the NFPM's in the fruit and vegetable sector is a clear indication that these products are more and more marketed outside spot markets. It is even much more pronounced if we account for the importance taken by the informal traders in the spot markets. Indeed, only in 1990 did informal traders become allowed to trade legally on pavements and street corners (NAMC 2000). The informal sector has been growing since then, and buying from the NFPM's. On the two largest Fresh Produce Markets in South Africa, in Johannesburg and Pretoria, purchases by informal traders represent about 50% and 29% of fresh produce trade respectively⁶. This means that purchases from other NFPM's customers such as agro-processors and retailing firms declined drastically.

Contract farming

Given the trends towards by-passing the spot markets, it is thus clearly important to determine the suitability of contract farming⁷ as an institutional vehicle for linking small-scale farmers to agribusiness supply chains. In a study conducted by Vermeulen, Kirsten and Sartorius (2006), data on contract farming practices have been elicited from a survey with a representative range of major agribusiness firms. They explore the extent and nature of the contract procurement engagement between agribusiness firms and farmers. From this study, different types of contracts and contractual arrangements can be outlined:

Outgrower schemes: Long term agreements or commitments to purchase (3-10 years) with specification of product, packaging when relevant, and volumes. Degree of enforceability as well as level of details in the specification varies among firms. In the case of the relationship between fresh fruits and vegetable producers and retailers, more specific volumes as well as prices are determined weekly⁸. This type of scheme is also, even if seldomly, employed in the beef industry, with some restriction related to the quality specific nature of the product. In the poultry industry, contracts are on a three year basis and represent 40 to 50% in volume of processing companies' procurement. These companies often supply the chicks, feed and other inputs to the outgrowers, with these costs eventually deducted from the producers' gross receipts. In the egg industry, contracts account for about 25% of the total egg procurement needs of the companies. They can last from 7 years to an open duration and specify delivery dates. Tobacco companies engage in long term production contracts that include prices (fixed for a season according to the grade), quality measures and window period of delivery with producers or cooperatives. In the sugar industry, engagement with producers is through detailed long term specification contracts, which enforcement are promoted by a range of interlocking factors.

Long term spot purchasing arrangements: This option consists of an order for a specific volume of beef on a specific day. It is offered by some beef processing firms to selected producers on the basis of a long-term relationship; in order to bring the balance to the direct procurement from their own feedlots.

⁶ Source: Personal interview with the senior manager of commission business at the Johannesburg Fresh Produce Market and with the marketing manager of the Tshwane Fresh Produce Market in August 2004, for the Regoverning Markets project.

⁷ Contract farming is defined in its widest sense inclusive of marketing and production contracts as well as outgrower schemes.

⁸ For example Freshmark, a specialized wholesaler set up and owned by Shoprite retail company, operates an outgrower scheme with 700 farmers (mainly large commercial farmers).

Marketing contract: Specifications concern price, quality and time, but decisions regarding the production rely on the producer. This type of contract mainly occurs in the relationship between fresh fruits and vegetables producers and processors.

Seasonal (3-4/ 6 months) to one-year production contract: Specification concerns the price, quality and volume to be supplied. In some cases, the delivery date is also mentioned. In the pork industry, very strict specifications are enforced in terms of product characteristics, quality and food safety. Selection of the contracted producers takes place at the beginning of each production season. Given the stringent requirements, these contracts are mainly set up with the same producers from one year to the other. This type of contract is also common between fresh fruits and vegetables producers and processors, especially canning and dried fruits processors.

According to the study by Vermeulen, Kirsten and Sartorius (2006), in the fresh fruit and vegetable sector, the majority of the raw material (79%) is sourced through some type of contracting arrangement. The rest consists of a combination of spot market, own estates, agents or imports. In the beef, pork and chicken industry, a combination of vertical integration and contract farming provides the basis of processing companies' procurement. In the chicken industry (both egg and poultry), formal processors do not use the spot markets except for niche products. According to Du Toit (2005), vertical integrated production and contract farming represent jointly 81% of total poultry sales in South Africa. The tobacco and sugar industries also rely on both company estates (vertical integration) and contract farming. Only in the cotton case do most producers (representing 70% of the cotton production) keep control on their product by processing it collectively or getting their cotton processed for a fee, and selling it after. In the case of the snack industry, direct engagement with producers consists of production contracts granted to selected commercial farmers. This is sometime combined with the use of a single agent or cooperative that can both produce and organise contracts with other producers (maize, peanuts).

For quality and food safety reasons, almost all contracts are with selected farmers and/or entail long term relationship. In the chicken industry, almost exclusively established farmers are selected as a result of the contract requirement that entails infrastructure. Although black farmers⁹ are contracted in many sectors, the volume of supply from this source is limited.

According to Vermeulen, Kirsten and Sartorius (2006), at present only 3.6% of fruit and vegetables production is supplied by 455 black contract farmers whilst 74% is supplied by 4,723 commercial farmers. The sophistication of the contracts makes it very unlikely that black farmers be selected for contract farming due to lacking capacity. This highly unequal access to contract farming is a clear reflection of the dual South African agriculture.

South African dual agriculture, market regulation and the political agenda

South African agriculture is dominated by the commercial sector comprising about 46 000 commercial farmers who utilize about 86% of agricultural land and produce more than 95% of

⁹ Given South African history, small-scale farmers are often equated with black farmers. Furthermore, figures and data are usually stated in terms of black farmers versus commercial farmers. Black farmers have traditionally had access to about 1 to 4 ha of land. This situation still prevails, although it may evolve with the land reform.

the marketed production (Vink and Kirsten 2000). On the other hand, about 3 million small-scale farmers, of whom a majority is settled in the communal areas, occupy the remaining 14% of agricultural land (NDA 2001). They produce food primarily to meet their families' subsistence needs (NDA 2001).

Before the end of the apartheid era in South Africa in 1994, the government controlled agricultural marketing channels, processes and prices through the Marketing Act. The implementation of the Marketing of Agricultural Products Act of 1996 led to the deregulation of the South African agricultural sector. This market liberalization ensured a leaner and stronger agricultural industry, with some farmers and agribusiness able to play in a globally competitive environment (Vink and Kirsten 2000). But it also deepened the gap between the two kinds of agriculture (Magingxa 2003). Small-scale farmers are most of the time ill-equipped to respond to the changing market conditions (Killick and others 2000; Doyer 2002).

However, efforts are underway to eliminate the skewed participation and inequity in the agricultural sector, with several ongoing programs, such as the Land Reform Programme or the framework for Black Economic Empowerment in Agriculture (AgriBEE). AgriBEE's goal is to ensure black people's improved access to productive resources and full participation in the agricultural sector as owners, managers, professionals, skilled employees and consumers¹⁰. It was launched during July 2004. Currently the setting of AgriBEE scorecard targets is in progress, with one of the issues taken into consideration being the procurement from BEE suppliers. Even if these programs create uncertainty and confusion among commercial farmers, many of them support the idea of playing the role of mentors for small-scale farmers, and are looking for innovative ways of facing the land reform challenge (Ortmann 2005).

In this regard, if contract farming can appear as a hampering factor for land redistribution as the contract relationship with buyer(s) is lost with the dismantling of the farm, its increasing importance supports the idea of developing farm worker equity sharing schemes whereby ownership structure is changed instead of dividing the land into smaller units. These schemes, initiated by the private sector during the early 1990's, are privately owned farming operations that are restructured as companies (Knight and others 2003). Other possible schemes entail distributing land to groups of farmers collectively under the mentorship of the previous owner.

Limited participation of small-scale farmers in contract farming

As already mentioned, participation of small scale farmers in contract farming is still very limited. However, Vermeulen, Kirsten and Sartorius (2006) point out that many agribusiness firms that were surveyed indicated that they had plans to expand smallholder supply. Large organizations are in the process of expanding their procurement from small-scale black farmers.

From the survey by Vermeulen, Kirsten and Sartorius (2006), it was found that some smallholder contract farmers in South Africa are actively involved in the supply of fruits and vegetables

¹⁰ 30% of commercial agricultural land should be owned by black by 2014, an additional 20% should be leased to them by the same time, 10% of existing farmland should be set aside for farm workers for their own production, farm workers should achieve a 10% ownership stake in all enterprises by 2008, and illiteracy among farm workers should be eliminated by 2010 (Hlengani 2005).

production such as paprika, mangoes, clementines, raisins, strawberries and tomatoes. Although the entry barriers are high, a limited number of smallholders are contracted to supply poultry and eggs. In the poultry industry, some large companies indicated that they have significant plans to expand smallholder involvement in their supply chains. In the egg industry, incorporation of emerging farmers has taken place through the distribution of empowerment shares to farm workers. Plans to expand smallholder production in the tobacco industry appear to be far more problematic because of the need for certain economies of scale, combined with the high cost of tobacco farming.

The potential to include black farmers as suppliers of beef is underscored by the fact that an estimated 3-4 million heads of cattle are in the hands of small-scale farmers in South Africa. Furthermore, the National Emerging Red Meat Producers and the Agricultural Research Council (ARC) have joined forces to improve the quality and quantity of red meat, hides and eggs from black farmers. Small-scale farmers have been encouraged to supply mohair in the former homelands and the peri-urban areas of the Eastern Cape, Southern Free State and Qwa-Qwa, as well as wool and ostrich meat and hides in the Eastern Cape. Other examples include the South African aquaculture industry, which has fostered an emerging farmer program in the Northern and Western Cape to uplift rural and urban communities (National Agricultural Directory South Africa 2004).

Documented examples of smallholder contracting are found in the tea, fruit, sugar, flower, cotton, vegetable, timber, tobacco, mariculture and beverage industries (Levin 1988; Porter and Phillips-Howard 1997; Van Rooyen 1999; Karaan 1999; Tregurtha and Vink 1999; Weatherspoon and others 2001; Sartorius and Kirsten 2002; Kirsten and Sartorius 2002a; 2002b). Certain raw commodities like sugarcane, timber and cotton have a long history of procurement from contracted small-scale farmers. For example, 50 000 small-scale black farmers have been established in the sugarcane sector, 15 000 growers in the timber industry and 2 500-3 000 supply cotton. Furthermore, these industries have all established strategic plans to expand smallholder supply.

On the basis of the evidence, therefore, it must be concluded that the agribusiness sector has limited evidence of smallholder supply through contract farming. The potential to significantly expand is considerable. However, many issues and constraints will continue to retard this process in the way forward.

Conclusion

The results from this case study suggest that a wide range of institutions are employed to procure raw commodities for the South African agro-processing sector and that agribusiness companies are increasingly moving away from spot markets. Trends towards by-passing National Fresh Produce Markets and directly procuring from farmers have been leading to the exclusion of small-scale farmers in many sectors and to the consolidation of commercial farmers.

However, given the political agenda, there exists increasing commitment from agribusiness firms to purchase from small-scale farmers. The results suggest that the agribusiness sector has the potential to significantly expand small-scale farmer supply. Agribusiness firms should therefore be considered as partners in the important task of promoting market access for small-scale

farmers (Santacoloma and others 2005). The diversity of procurement arrangements and barriers highlights the need to investigate a new generation of arrangements and policy in order to accommodate small-scale farmers in the commercial agribusiness sector. Further research is required into ways that small-scale farmers can be coordinated in a wide range of both formal and informal procurement relationships. New initiatives to foster farmer cooperation and overcome historical legacies must be combined with a common vision for the role of all the players in the agricultural sector.

**Agro-processing in a national supply perspective:
Urban market food procurement in LGA countries**

Whilst average per capita income averaged USD 4960 in South Africa in 2005 according to the WB world development indicators, this income drops under USD 500 - more than ten fold - in numerous Sub-Saharan countries such as Burkina Faso (USD 400), Mozambique (USD 310) or Uganda (USD 280). These poorer countries are also undergoing rapid urban growth. For instance in Western Africa, expectations are that urban dwellers will represent 63% of the total population by 2020 (WALTPS 1995). The urban demand for food in these regions of Africa is marked: i) by the low purchasing power of most consumers and ii) by a strong proximity of the consumers with their traditional foods, related to their diverse social and ethnic backgrounds. Therefore attention must be paid not only to the modern urban supermarket-led retail sector; but also to the fresh markets and the informal urban processing and trading sector which are responsible for the larger part of urban food procurement.

Until the last decades of the twentieth century, the development of the industrial agro-processing sector in Western and Central Africa was predominantly concerned either with the processing of export-oriented cash crops (such as cotton, coffee, cocoa, fish canneries...), or with the local processing of imported agricultural commodities (milling industry, breweries, milk reconstitution, etc.). In most countries, industrial processing of local products for local markets was limited to a few products, for which both western technology and a mass standardized market were available (sugar, tomato concentrate) (Bricas and Bridier 1993). In other words, industrial-scale food processing has been present in “local-to-global”, as well as in “global-to-local” value chains. But it often failed regarding domestic, “local-to-local” markets. This is due to the difficulty of inserting an industrial segment into local food supply chains which are characterized by the atomization of production on one hand and by a diverse and fragmented demand on the other hand (Sautier 2000).

Urbanization and subsequent food diversification is an opportunity for African processed staples. Studies in capital cities of different Western and Central African countries (Bazabana 1995; Bom Konde 1996; Cheyins 1998; Duteurtre 1998; Luzietoso 1999) have highlighted the widespread diffusion, on a national or even regional space, of some African processed food products that were once restricted to a local and/or to an ethnic group of consumers. *Attiéké* for instance (a type of cassava couscous), which forty years ago was only known by Adioukrous and Ebriés from Ivory Coast, has spread to many countries in Central Africa (Sotomey and others 2003).

The relevance of small-scale, decentralized, feminine enterprises in the agri-food sector

In contrast with pessimistic predictions of vanishing local food product consumption, the African rural and urban food-processing sector, often informal, has proven over the last decades to possess a strong innovative capacity and market reactivity (Muchnik 2003).

Small, decentralized and low-or-intermediate-technology enterprises, as well as self-made, informal and feminine entrepreneurs play an important role in food processing and catering activities for local markets in many African countries. These activities rely mainly on own-account workers. They tend to develop a range of flexible services rather than, or along with, commercial activities (e.g., service milling vs. processed flour sales). Being informal does not necessarily hinder them from investing, improving and growing.

For instance in Dakar (Senegal), the number of urban cereal service mills grew 63% between 1990 and 1997, when 339 informal service mills were counted, either in marketplaces or in neighborhoods, meaning one milling shop for every 840 households. It was estimated that these artisan mills held a 90% share of the millet milling market (ENDA 1999).

A survey conducted in Garoua, a Northern Cameroon urban agglomeration with an estimated population of 230.000 inhabitants, gives interesting insights into the relevance of the agri-food sector for family livelihoods in a secondary African city. The distribution of the artisan food-processing and catering activities in Garoua are detailed in tables 4 and 5 below. A total of 1 647 small and micro commercial agro-food enterprises were identified, consisting of 866 food processing units and 781 food preparing units (catering and street foods) (Ferré and others 1999). This is synonymous to one agro-food income generating activity for every 23 urban households. All of them were set up and are operated without any financial intervention either from the state or from development projects. Their diversity –individual or collective activities, held at home, on the sidewalks, on marketplaces or in specific own installations- suggests that investment, risk-taking and innovation attitudes within this group are also quite varied.

Table 4. Distribution of the artisan food-processing enterprises in Garoua (Cameroon).

Processing activity	Enterprises census
Beverages production units	474
Non alcoholic beverages	312
Alcoholic beverages	162
Peanut processing	221
Cereal dehulling and milling	142
Condiment grinding	27
Artisan pasta production “ <i>Taalia</i> ”	2
Total	866

Source: Ferré and others 1999

Table 5. Distribution of the artisan catering enterprises in Garoua (Cameroon).

Catering and street food activity	Enterprises census
Doughnuts production	288
Prepared meat	129
Small restaurants	150
“Cafeteria”	80
“Circuits”	12
“Tournedos”	108
Others (Ham ham ; koki)	14
Total	781

Source: Ferré and others 1999

Small-scale food processing and catering activities, being decentralized and labor-intensive, are increasingly important income earners for the poor. Last, but not least, food processing and catering are probably, along with local food trade, the economic activities where women play the more prominent part. According to the above-mentioned Garoua survey for example, women managed 82% of the activities, men being present almost exclusively in the mechanical milling/grinding and meat preparation activities.

Organization in agro-processing, economic growth and poverty alleviation in the case of traditional tropical export commodities :

The case of cotton in Western Africa

Introduction

Major tropical agricultural commodity products (cotton, coffee, cocoa and tea) have played and are still maintaining a prominent role as essential income-earning productions for many rural populations, regions and even national states in sub-Saharan Africa - including some of the poorest. Over the last two decades, the international trade of these agro-commodities has undergone a profound change of conjuncture. Horizontal coordination - international commodity agreements for coffee, cocoa and rubber at the global level, and marketing boards at the national level - which was the main ways by which trade of these tropical export crops was coordinated, disintegrated (Daviron and Gibbon 2002). This was followed within a few years by the rise of new forms of vertical coordination, characterized by Gereffi (1994) as “buyer-driven”. This refers to the emergence of new leading agents (retailers, branded marketers). While these products are mostly or exclusively exported, primary processing has to be undertaken in producing countries in order to qualify the crops for export. The organization of the processing and marketing activities may prove to have a strong influence on economic growth and poverty alleviation, as shown in the case we have chosen to illustrate agro-commodities processing relations : ginning and marketing for cotton in Western Africa.

It is estimated that, in the Franc currency zone of Africa, cotton production involves about 10 million people and is responsible for a substantial contribution to GDP, fluctuating between 5% and 8% according to years. Contribution to agriculture domestic production ranges from 12% to 20% (Gergely 2005). There are important variations between countries. In Burkina Faso for instance, which has become the main cotton producing country in Africa, a recent study pointed out that 17% of the population is linked to the cotton economy and cotton production accounted for 4-7% of fiscal revenue of the country (Gergely 2005). Many indirect effects can be observed in areas where cotton production has been successful for several decades: more schools, more dispensaries, better water supply, more retail stores, more radio sets and motorcycles... Unfortunately, harmonized and repeated multi-local studies are still lacking to properly assess these positive indirect impacts.

To people familiar with the development of cotton production in Western Africa, positive socio-economic impacts are well acknowledged. Paradoxically, official claim about these impacts came out recently (Zongo 2002), short before the C-4 protest against the cotton subsidies from a few countries or regions, at the WTO ministerial meeting in Cancun in September 2003.¹¹ NOTE: THE PHRASE ERASED HERE WAS REPETEAD IN THE NEXT PARAGRAPH.

The recent official recognition of the wide positive impacts of cotton production is somewhat surprising. It actually reveals that until recently a negative perception remained due to the colonial background of cotton production. Another reason is that the positive impacts of cotton production vary according to the country. In some countries, cotton cropping practically disappeared; while Burkina Faso became the African champion in cotton production. In several countries, African

¹¹ The four African countries which protested were Benin, Burkina Faso, Chad and Mali. These countries are denominated C-4 group since the Cancun episode.

cotton producers remain unorganized and may be easily submitted to cheating at the marketing stage; while some Francophone African farmers' leaders have reached international stature and participated in recent Cancun and Hong Kong WTO meetings.

So, what makes the difference in the impacts of cotton production on growth and poverty alleviation? We argue that the common tendency to assess cotton success in some African countries solely from a production perspective is misleading. Indeed, there is no international market for the raw cotton harvested by farmers. Processing raw cotton or seedcotton into cotton lint (through "ginning") is critical. Wherever ginning disappeared, cotton production vanished, and so did the associated positive socio-economic impacts (Leroy 1993). The fate of cotton production is thus tightly connected to the organization of its processing, which is itself related to the processing technology. The potential contribution of cotton production to economic growth and poverty alleviation largely depends on the organization implemented for industrial processing.

Technology choice and implications

Although cotton production has presumably been established in the Indian peninsula for 5000 years, its worldwide expansion resulted from the invention of the saw gin by Ely Whitney in 1794. This development permitted to face the cotton requirements of the vibrant textile industry in Europe. The Secession War in America led the European countries to promote cotton production in their African colonies. Cotton ginneries were established in Africa through machineries imported from the USA which induced centralized processing operations.

The saw ginning technology has not really evolved since its invention, but the capacity of ginning equipment did, further enhancing the centralization of processing. During the last decade, several ginneries of 60,000 tons of seedcotton capacity have been installed in Francophone African countries. Additional technologies were added to improve the ginning performance or to improve the quality of the resulting fiber. Processing equipment is costly and shows economies of scale which justify centralization in the processing stage but convey financial risk to investors. In a nutshell, neither entry nor exit is free in the cotton processing stage.

On the contrary, farmers can freely enter or exit cotton production. In Africa, this annual crop does not require specific production assets to farmers; its hardiness to soil fertility and rainfalls is well-known. However, farmers could also be easily pushed to exit cotton production by the equally well-known susceptibility of cotton plant to many pests, and by the high labor requirement of non-mechanized production. These two handicaps long kept cotton production into a low-productivity trap and hindered production development. From the farmers' side, the wide inter-annual fluctuation of cotton production can be accentuated by the fact that production is geographically dispersed among many scattered smallholders. Nevertheless, these which can hinder production can also be considered as assets for the growth of cotton production: its positive economic impacts bring benefits to a large number of farmers.

Sustained cotton development is tightly related to the issue of committing into long-term relationship between farmers and processors - two stakeholders who have distinct constraints with regard to free entry/exit. The evolution of the agro-processing organization has consistently attempted to overcome this issue.

Successful innovations around centralized and coordinated product processing

The organization around the processing of seedcotton was implemented gradually. Critical steps were to help secure investments, to alleviate smallholders' risk aversion, to improve their productivity and to ensure a global reduction of coordination and transaction costs.

Provision of some security to investors: Although cotton production pre-existed before colonization of Africa (Poulain 1863), its development was due to colonial intervention since the 19th century. Cotton in Africa actually developed after 1921, when private operators in the former Belgian Congo realized that unorganized production was detrimental to all, resulting in uncertainties in volumes delivered and in wide farmers' price oscillations. These private operators were at the origin of the "cotton zone system" through which the colonial government allocated distinct zones to distinct ginneries with the exclusive right of purchasing farmers' production in their respective zones. This allocation of local monopsony right was associated to administrative price fixing. Positive production trend resulted quickly and most colonial powers adopted the same system with some variation (Isaacman and Roberts 1995).

What happened in the cotton sectors in Africa since 1921 basically consists of institutional innovations through which stakeholders' roles were delimited, as well as their rights and duties. This sounds like contract but there was seldom real explicit contractual processes, and further less involving individual producers.

Incremental incentives to farmers: In all African countries, production and export of traditional agricultural commodities was initially fostered by the implementation of a per capita tax, a measure that indirectly forced farmers to produce these commodities. This very strong constraint actually led to some minimal production but real development resulted from the following changes that acted as incentives for farmers.

In Francophone African countries, until 1950, one of the major constraints to farmers was the transportation, on their heads, of the seed cotton from villages to the limited number of marketing spots, walking tens of kilometers. It was a real and heavy transaction cost supported by farmers. The multiplication of marketing spots and their move close to the village gates gradually reduced transportation cost. When marketing of seed cotton was transferred to farmers themselves (see *infra*), the former cost has turned to be collective income.

The social contract between state and farmers played a major role in provoking farmers' adhesion to cotton production. Administrative price fixing was the action which made the most sense for farmers. Since 1921, this price administration has been contributing to alleviate the risk faced by farmers. Until now, farmers still view price stability as more important than obtaining the highest price possible.

Other reinforcing elements have been the application of pan-territorial price, even if it can be debated from the perspective of efficient resource allocation, and the intra-annual stability of farmers price. Both mechanisms are still operating at least in Francophone Africa (République du Mali 2005). Farmers hence are not penalized when their cotton is marketed and removed late, an event which goes beyond their own control. The pricing mechanism hence shows signs of equity that many experts have totally ignored.

The regulated price system was implemented along with the promotion of quality promotion.

Premium prices were set up according to quality so as to encourage farmers to harvest as soon as possible to prevent on-field quality deterioration. This measure was only possible when intra-annual price stability was ensured and when cotton classing was organized and supervised at ginneries, such as in francophone African countries. Cotton classing is a delicate issue which can easily lead to divergence. More progress and institutional innovations are needed to further involve farmers in the supervision of cotton classing.

The social contract between farmers and state implicit in the mechanism of administered pricing, would not have been sufficiently appealing without actions to help farmers increase their productivity. The supply of inputs, in line with farmers' limitation in financial resource and cash, and provided without any discrimination between farmers, has been key in more than tripling the cotton yield within 30 years (from 1956 to 1985). Fertilizers benefited farmers' food crops, as shown for instance by the expansion of maize production and processing in the cotton-growing area of Mali. Beside fertilizers and pesticides, farmers were provided with tools to mechanize cotton cultivation. Consequently, several Western African countries are showing the highest adoption rate of animal-drawn agriculture. The supply of inputs took place on a credit basis. Although the lack of transparency of the pricing mechanisms can be debated, the credit recovery at the time of marketing seed cotton was highly compatible with farmers' cash constraints.

Ginneries were the central platforms to operate the supply of equipment and production inputs to farmers. Ginneries were the natural spots to manage the production and distribution of quality seeds. They have operated the "combined transportation" which has permitted to coordinate the supply of equipment and inputs with the removal of the farmers' seedcotton production, ensuring both reduction of transportation cost and timely supply of farmers.

In the mid 1980s, the actions to enhance productivity, albeit effective, were regarded as subsidies by experts from the same development agencies which had previously been supporting them. Their shared-cost nature, innovation spillovers and positive externalities for producers' organizations, rural livelihoods and poverty alleviation strategies were, at best, underestimated.

Institutional innovations and cost reduction: Cotton success can be built on simple non-contractual commitment. This situation leads to a cycle of growth, income increase and crisis. Mali was the first West African country to experience in 1974 a cotton growth crisis which questioned the continuation of cotton production. The solution which proved to be effective was an institutional one, through the decision of transferring the critical stage of seedcotton marketing to farmers themselves. This service externalization to cotton villages gave rise to payment of collective revenues which have enabled village-level associations to invest notably in social infrastructures (training facilities, collective warehouses, dispensaries...).

All other Francophone countries eventually adopted the same approach, after overcoming ideological reluctance. Some countries have gone beyond Mali by adjusting and further enhancing the farmers' organization process. Cotton farmers in Western African countries are marketing nearly 100% of the cotton production (Bourdet 2004).

This achievement results from a wide-ranging farmers' training process. In particular, innovative methods were carried out to help adults get literate in their local language. Support by multilateral and bilateral development agencies helped scaling up the farmers' training and the village organization processes focused on the management of seedcotton marketing and input credit. A

real capacity building took place to the benefit of farmers. The coordination between the organized villages led to cooperative or union approaches which eventually resulted in institutional acknowledgement of the farmers' profession as a full partner within cotton sectors. The farmer leaders who have reached international stature, as mentioned above, have emerged from this intense capability enhancement and learning process which actually started with the transfer of seedcotton marketing to cotton villages.

Investment coordination and cost reduction: The increase of the cotton production implies to adjust the processing capacities accordingly. In all Francophone African countries, the extension of the processing capacities benefited from external financial support in terms of preferential loans. It also was submitted to some coordination which was favorable to control processing costs. This coordination was expressed in the choice of the geographic localization of new ginneries so as to ensure, as much as possible, their running at full capacity in one hand, and in the other hand to reduce overall transportation costs.

Marketing organization and coordination to achieve market recognition: Centralized processing led to also centralize the marketing of cotton lint onto the world market. Only one organization was in charge of selling the cotton produced in each country. In addition, until the 1980s all francophone African countries commissioned the same company to internationally market their product.¹² This marketing system enabled the related African countries to sell directly to and be in direct contact with the final users of their cotton. This is no longer the case since the reform of the cotton sectors there at the beginning of the 1990s.

The exclusive recourse to the same marketing agent led to critique of neo-colonial captured rent. Francophone African countries were compelled to shift to selling their cotton to traders. Within less than one decade, all cotton passed to being sold to international traders; some of them have taken over a few cotton companies which have been privatized (Fok 2006). The countries no longer know who the final clients of their cotton are. A substantial share of the cotton sold is just intra-firm exchanges of multinational companies. There is no longer any coordinated action to defend or promote the reputation of the cotton of the related countries.

Lessons learnt

The analysis implemented is not meant to defend the organization modes of cotton sectors which also suffered from a number of failings and have been reformed in Francophone African countries for about one decade, but to indicate the risks of implementing abrupt reforms without consideration of historical backgrounds. Organizational features of the cotton production and processing sectors have been evolving during several decades, assuming specific economic roles which responded to particular economic and social concerns. Unfortunately, in several African countries these sectors have been reformed without setting up alternative coordination modes in order to take over some of the roles formerly assumed by the previous reformed organization. Consequently, cotton sector in some cases may be at risk of collapsing by lack of supply of basic production factors.

¹² Compagnie Cotonnière or COPACO, which became a subsidiary of Compagnie Française de Développement des Textiles in the 1980s, with shareholder participation of African cotton companies.

Agro-processing means investment. The more specific or costly the investment, the more investors will ask for a secure institutional framework. State intervention is needed to ensure the required security, notably to prevent unfair competition.

Success of agro-processing rests on a long-term relationship between producers and processors. This kind of relationship is far from being automatic, in particular when producers can enjoy free entry/exit without specific fixed assets for production. Building this relationship may result from various types of actions with sensible impacts for smallholder producers: namely reduction of transaction costs supported by producers, alleviation of farmers' perception of risk, and productivity gains. The more such actions are implemented and scaled up, the more farmers will engage in production.

Finally, it comes out that the role of agro-processing should go beyond the mere transformation of agricultural products into tradable commodities. It is desirable that the organization set up to process products be in capacity to deliver other actions or services in favor of farmers. The overall outcome will be two-fold: improvement of farmers' productivity and well-being; and reduction of the production cost of the tradable commodity.

Agro-processing and contract farming in a NTEX oriented perspective: Horticulture in Kenya

Crops that are not part of the customary diet of the local population and which African countries have recently been growing primarily for their export potential and high cash value are considered as non-traditional exports (NTEX). Export-oriented extended horticulture (understood as including fresh and processed vegetable and fruit, as well as cut flowers) is generally included as a component of NTEX. Products such as fresh banana and canned pineapple have actually been exported for a number of decades. But the rise of demand from developed countries for out of the season fresh vegetables of temperate origin, ranging from French beans to asparagus, baby corn, chilies is more recent. So are the exports of African-grown avocados, mangoes and passionfruits. The export of fresh vegetables from sub-Saharan Africa to industrialized countries – almost exclusively the European Union (EU) -increased by 150% between 1989 and 1997 (Singh 2002), stimulated by preferential trade agreements (Lome convention) and new national regulations favorable for private investment. Several African countries have seized this opportunity to diversify their export portfolio.

We will focus on Kenya which has been spelled out as a “success story” in export horticulture (Jaffee 1995; English and others 2004) based on contract farming. Contracts define a vertical coordination between growers of an agricultural product and buyers or processors of that product. They typically provide the grower with production inputs, credit and extension services as well as a guaranteed sale price mechanism in return for market obligations on the methods of production, the quantity that must be delivered, and the quality of the product.

Nation-wide data on contract farming

According to English and others (2004), Kenya has proven particularly successful in responding to the opportunity of diversification of exports towards horticultural products. This export success has been building on a long time experience dating back to World War II (Jaffee 1995). By 1973 there were 36 registered exporters of fresh fruit and vegetables drawn from medium-sized farmers. An important component was the sale of “Asian vegetables” to the rapidly growing South Asian immigrant community of London, where Kenyan Asians put family connection to good use.

Minot and Ngigi (2004) coincide that horticulture in Kenya can certainly be considered a success in terms of export growth: Fruit and vegetable growth have grown to over USD 150 million in 1999, accounting for 17 percent of agricultural exports, surpassing coffee to become the second largest merchandise. These authors note that it is more difficult to evaluate its success in terms of incomes for Kenyan families, particularly the poor. Estimates of the number of smallholders who participate in horticultural exports vary widely. Jaffee (1995) estimates that 13-16 thousand smallholders are involved in fresh produce export, while Swanberg cites a figure of 500,000. The Crop Post-Harvest Program of DFID (CPHP 2004) states a number of 250,000 active small-scale growers vegetable in Kenya, although the proportion that participates in exports remains unclear. English and others (2004) explain that no reliable figures are available, as no clear separation is done between the export segment and the much larger, domestically-oriented business. They

estimate that 35 to 40 thousand smallholders, on a part-time basis, participate in horticultural exports. Small farmers proved effective suppliers for products like French beans or avocados when satisfactory contracting arrangements could be established with an export or processing firm. Large farms have turned more to the cultivation of other crops, notably cut flowers. But they generated thousands of jobs for laborers. Farm laborers and industry workers amount to another 85 to 110 thousand people. Approximately 135,000 people are now employed in the sector, in farming, processing and packaging.

Growth in export horticulture in Kenya has declined over the last period to 4% per year, from 17% during the 1974-1983 period, due in particular to emerging competition from new NTEX exporting countries (Egypt, Ghana, Morocco, South Africa), and from the implementation of new standards by importing countries, which act as barriers to entry especially on the European market (Tschirley and others 2004). According to CPHP (2004), the SPS agreement and EurepGAP protocol are threatening to exclude small-scale growers (SSGs) from the export market. In Kenya, 1,600 SSGs lost their livelihoods due to enforcement of EurepGAP in 2002. In 2003, none of the Kenyan smallholders were EurepGAP certified, yet today, NGOs and exporter associations are helping to change this situation.

Kenya has received much attention from international agencies in order to comply with EU standards and stay on the export markets. The cost of certification is high due to a lack of internal competition. Only one local certification body operates in Kenya. EurepGAP certification for the average Kenyan smallholder group of 45 growers will cost at least USD 20,000 (Busch and others 2005). An estimate by an NGO of the overall certification cost for Kenyan vegetable farmers was EUR 325 (USD 695), according to a leading certification agency.

Reacting to this situation, the Fresh Produce Exporters' Association of Kenya (FPEAK) set up to negotiate with EurepGAP and create Kenya-GAP, a code of practice with local adaptations meant to include small-scale control points that capture small-scale farming concerns and conditions, and to lower the cost of certification as it will be done by local certifying bodies. Kenya-Gap was in 2005 under benchmarking and technical review by the international EurepGAP steering committee.

According to Tschirley and others (2004), Kenya's export horticulture has received far more attention than the domestic system. Yet, smallholder share in horticulture export market has fallen from 75% in early 1990s to about 45% in 2004. It may continue to fall given the difficulty for smallholders to adapt to the new international traceability obligations set by the EU from 1 January 2005. On the other hand, the domestic horticulture system is much larger (61% of total national vegetable added value) and has shown more absolute growth. They observe that almost all smallholders produce some fruit and vegetable, and 70% sell some, but only 2% are selling for exports.

We can draw the conclusion that export-oriented contract farming offers an important export diversification mechanism and is a strong income and job generating perspective. But its relation with poverty reduction is currently related to labor employment on farms and processing plants more than with smallholder producers. Entities producing export commodities can be grouped into three types: (1) exporter owned farms (2) large commercial farms, and (3) small farms. In the beginning of the fresh produce export from Africa, most of the crops were grown on small farms.

In 1992, approximately 75% of fruits and vegetable for export from Kenya were produced from small-holders (Harris 1992 quoted in Singh 2002). After Europe expanded year-round procurement, commercial farms and export firms were drawn into cultivation of fruits and vegetables, and the procurement share from smallholders diminished. By 1998, four of the largest exporters in Kenya were sourcing only 18% of their produce from small farms, while 42% came from large commercial farms, and 40% from exporter or leased land (Dolan and Humphrey 2000). The number of small farm has been steadily declining, as exporters find it more convenient to deal with a few large commercial farms than with many small holders.

Conclusions

It is widely acknowledged that small and medium size farmers in Africa face market constraints or imperfections, such as restricted access to credit, insurance and specialized inputs at above-average costs, which limited support services by government cannot compensate for. Poor market information and other transaction costs derived from weak market integration make these smallholders less competitive in the new open-market economy, which presents a real danger that a majority of small-scale farmers in some developing countries could be excluded from commercial supply chains resulting in serious questions being posed about the ‘future of small farms’ (Hazell 2005).

This paper reflected upon a wide range of contrasted situations in the evolution of the agro-processing sector and its relations with farmers, in the context of national and international enabling policies. It highlights the importance or potential of contractual arrangements in its broader sense of governing the relationships between small and medium farmers and agro-processors. The effectiveness of contracts has been shown to vary under different market settings and different markets agents. As pointed out by Saenz-Segura (2006: 6), in spite of the attractiveness of contracts, “the mere presence of contracts does not assure the sustainability of the trade relationship. As an institutional mechanism, contract farming requires a continuous adjustment process, according to the characteristics of the agents and the exogenous conditions they are facing”. In particular, non-price aspects in contracts such as frequency of transactions, promissory of back payment, input supply, technical assistance proved to have a positive efficiency for production efficiency and sustainability of co-operation.

But at the same time, it is shown that ways through which contractual arrangements can support the participation of small and medium farmers and foster agricultural growth for poverty reduction can be manifold. The South African case suggest that the political agenda towards improved small-scale farmers inclusion driven by equity and poverty alleviation concerns can take advantage of the increased importance of direct contractual relationships between farmers and medium and large agro-processors. The Western and Central Africa case on the other hand warns not to focus only on the formal agrifood sector by illustrating the consolidation of a highly dynamic artisan and small-scale processing sector based on local networks and social capital able to contribute to answer evolving urban demand.

Africa displays a striking and original diversity of contractual and institutional devices both for securing agrifood industry supply and to secure farmers’ access to markets. As shown by these case studies, options for strengthening agroprocessor-farmer linkages, with focus on small farmers, should recognize and take advantage of this diversity of institutional arrangements. Sustained, long-term commitments by governments and donor agencies are needed to allow for gradual support strategies and to promote the emergence of deliberative institutions within the supply chains. Contract farming is not spontaneously geared towards smallholders because of the higher transaction costs involved, but has indirect implications on poverty alleviation through farm labor and industry employment. Therefore, public policies and equity schemes must play a role in order for contract farming to become a suitable institution with implications in terms of equity, efficiency and sustainability.

References

- AgriBEE Steering Committee. 2005. "Draft Transformation Charter for Agriculture". Pretoria, South Africa. Processed.
- Bazabana M. 1999. Développement des petites entreprises agro-alimentaires: Organisations locales et dispositifs d'appui. CIRAD-TERA, Montpellier, France. Compte-rendu technique de l'Atelier de Dakar (CTA – CIRAD – ENDA – MAE). N° 99/99. 15 pp.
- Bienabe, E., C. Coronel, J.F. Le Coq and L. Liagre. 2004. "Linking smallholder farmers to markets-lessons learned from literature in analytical review of selected projects". Commissioned Paper for the World Bank. CIRAD/IRAM, Montpellier, France.
- Bom Kondé P. 1996. Etude des trajectoires d'activité agroalimentaire du sud et de l'ouest du Cameroun: une approche évolutionniste du territoire. Université de Lyon-II, Lyon, France. Thèse de Doctorat en Economie.
- Bourdet, Y. 2004. 'A Tale of three countries - Structure, Reform and Performance of the Cotton Sector in Mali, Burkina Faso and Benin.' Country Economic report N° 2. Stockholm: Swedish International Development Authority.
- Bricas N.; Bridier B. 1993. La valorisation des produits vivriers: avec quelles entreprises agro-alimentaires ? In Muchnik J., ed., Alimentation, techniques et innovations dans les régions tropicales. Editions L'Harmattan, Paris, France. pp. 295-306.
- Busch, L. (ed). 2005. "The relationship of third-party certification to sanitary / phytosanitary measures and the international agri-food trade: Final report." Raise SPS global analytical report #9. USAID. Washington D.C.
- Cheyns E. 1998. Identification et construction sociale de la qualité de produits agro-alimentaires. Le cas de l'alimentation urbaine au Burkina Faso. ENSAM, Montpellier, France. Thèse de Doctorat en Economie. 2 vol.
- Daviron B. and P. Gibbon. 2002. "Global commodity chains and African export agriculture." *Journal of Agrarian Change* 2(2):137-161.
- Dolan, C. and J. Humphrey. 2000. "Governance and trade in fresh vegetables: the impact of UK supermarkets on African horticulture industry." *Journal of development studies* 37(2):146-176.
- Doyer, O.T. 2002. "An inquiry into evolving supply chain governance structures in South African Agribusiness." PhD thesis, Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria, South Africa.
- Duteurtre G. 1998. Compétitivité prix et hors-prix sur le marché des produits laitiers d'Addis-Abeba (Ethiopie). ENSAM, Montpellier, France. Thèse de Doctorat en Economie. 353 pp.

- Du Toit, C. 2005. "Report by the Chair of the Broilers Organisations." Southern African Poultry Association, 32nd Annual General Meeting, Durban. Processed.
- ENDA/ GRAF. 1999. Innovations pour la promotion des céréales locales. ENDA/GRAF, Dakar, Senegal and GRET, Paris, France. 147 pp.
- English, P., S. Jaffee and J. Okello. 2004. "Exporting out of Africa: the Kenya horticulture success story." Paper presented at the conference: Scaling up poverty reduction: a global learning process. Shanghai. May 25.
- Ferré T.; Doassem J.; Kameni A. 1999. Dynamique des activités de transformation des produits agricoles à Garoua, Nord-Cameroun. Garoua: IRAD/PRASAC, Garoua, Cameroun.
- Fok, A. C. M. 2006. « Mondialisation, distorsion de concurrence et évolution technologique : portée et limites du succès du coton en Afrique Zone Franc .» International Conference on Championing Agricultural Successes for Africa's future. A Parliamentarians' Dialogue on NEPAD. Omerset West, South Africa. May 15-18, 2006. Processed.
- Hazell, P. 2005. "Is there a future for small farms?" *Agricultural Economics*. 32 (1):93-101.
- Hlengani, T. 2005. "Agricultural charter: Three-prong fork to turn over land." *Financial Mail*, Feb. 4: 24-25.
- Gereffi, G. 1994. "The organization of buyer-driven commodity chains: How US retailers reshape overseas production networks." In G. Gereffi and M. Kornzeniewicz, eds. *Commodity chains and global capitalism*. Westport: Greenwood Press.
- Gergely, N. 2005. « Le coton: quels enjeux pour l'Afrique ». Fondation pour l'agriculture et la Ruralité dans le Monde. Les dossiers de FARM, novembre 2005. Paris, France.
- Isaacman, A. and R. Roberts. 1995. Cotton, colonialism, and social history in Sub-Saharan Africa : introduction. In Isaacman, A. and R. Roberts (eds). *Cotton, colonialism, and social history in Sub-Saharan Africa*. Portsmouth and London: Heineman and James Currey Ltd.
- Jaffee, S. 1995. "The many faces of success: the development of Kenyan horticultural efforts." In Jaffee, S. and J. Morton eds. *Marketing Africa's high-value products*. World Bank, Washington, D.C.
- Karaan, A.S.M. 1999. "Bridging the small-big divide: A transaction cost approach to enterprise modelling for mussel mariculture in Saldanha Bay." *Agrekon* 38(4):680-692.
- Key, N. and Runsten, D. 1999. Contract farming, smallholders and rural development in Latin America: the organization of agroprocessing firms and the scale of outgrower production. *World Development*, 27(2), 381-401.

- Killick T., J. Kydd and C. Plouton. 2000. "The rural poor and the wider economy: the problem of market access. Part II: Agriculture liberalisation, commercialisation and the market access problem". Background paper for IFAD's Rural report 2001, Wye College, UK. Processed.
- Kirsten, J. and K. Sartorius. 2002a. "Linking agribusiness and small-scale farmers in developing countries: Is there a new role for contract farming?" *Development Southern Africa* 17(4).
- Kirsten, J. and K. Sartorius. 2002b. "Farm-agribusiness linkages in South Africa. Empowering disadvantaged communities through links with agribusiness." Report Prepared for the Food and Agricultural Organization (FAO), ROME. 31 August 2002 (Revised 4 November 2002). Processed.
- Knight, S., M. Lyne and M. Roth. 2003. "Best institutional arrangements for farm-worker equity-share schemes in South Africa." *Agrekon* 42 (3): 228-251.
- Leroy, A. 1993. « Place du coton dans le développement d'une économie africaine. Le cas de la République Centrafricaine ». Thèse de Doctorat, Université Paris X.
- Levin, R. 1988. "Contract Farming in Swaziland: Peasant differentiation and the constraints of land tenure." *African Studies* 47(2): 101-120.
- Little, P.D. and M. Watts. 1994. *Living under contracts. Contract farming and agrarian transformation in sub-Saharan Africa.* University of Wisconsin Press. Madison.
- Luzietoso N. 1999. *Processus de standardisation alimentaire urbaine et organisation des activités agro-alimentaires à Kinshasa (RDC).* ENSAM, Montpellier, France. Thèse de Doctorat en Economie. 343 pp.
- Magingxa, L. 2003. "A new institutional approach for smalholder irrigators in South Africa : the role of the markets." University of the Free State, Bloemfontein, South Africa.
- Minot, N. and M. Ngigi. 2004. "Are horticulture exports a replicable success story? Evidence from Kenya and Cote d'Ivoire". EPTD Discussion paper N°.120. MTID Discussion paper N°.73. IFPRI, Washington, D.C.
- Muchnik, J. ed. 2003. *Alimentation, savoir-faire et innovations agro-alimentaires en Afrique de l'Ouest. Recueil de rapports du projet ALISA.* Union européenne DG XII, Bruxelles. CIRAD Montpellier, France. 12 volumes.
- National Agricultural Directory South Africa. 2004. *National Agricultural Directory South Africa 2004/2005.* Johannesburg, South Africa: Rainbow SA, first edition.
- National Agricultural Marketing Council (NAMC). 2000. "Report 2 on the investigation into Fresh Produce Marketing, by the Fresh Produce Marketing Section 7 Committee." Available on the World Wide Web at <http://dms.namc.co.za/published/20021009-1151.pdf>.

- National Department of Agriculture. 1999. *Abstract of Agricultural Statistics*. National Department of Agriculture, Directorate of statistical information, Pretoria.
- National Department of Agriculture. 2001. *Agricultural Economics Trends*. NAD, Pretoria.
- National Department of Agriculture, 2005. *Abstract of Agricultural Statistics*. National Department of Agriculture, Directorate of statistical information, Pretoria.
- Ortmann, G.F. 2005. "Promoting the competitiveness of South African agriculture in a dynamic economic and political environment." *Agrekon* 44 (3):286-320.
- Porter, G. and K. Phillips-Howard. 1997. "Comparing Contracts: An evaluation of contract farming schemes in Africa." *World Development* 25:227-238.
- Poulain, H. 1863. *Production du coton dans les colonies*. Challamel, Paris.
- Reardon T. and Barrett. 2000. "Agroindustrialisation, globalization, and international development – An overview of issues, patterns, and determinants." *Agricultural Economics* 23:195-205.
- Reardon, T. and J. Berdegue. 2002. "The rapid rise of supermarkets in Latin America: challenges and opportunities for development." *Development Policy Review* 20(4):371-388.
- Reardon, T., C.P. Timmer and J. Berdegue. 2003. "The rise of supermarkets in Africa, Asia and Latin America." *American Journal of Agricultural Economics* 85(5):1140-1146.
- République du Mali. 2005. Protocole d'accord Etat-CMDT-Producteurs sur le mécanisme de détermination du prix d'achat du coton graine. 13/01/2005, 5 p. Processed.
- Saenz-Segura, F. 2006. *Contract farming in Costa Rica: Opportunities for smallholders?* PhD Thesis. Wageningen University. 181 p.
- Santacoloma, P., R. Suarez and H. Riveros. 2005. "Strengthening agribusiness linkages with small-scale farmers: case studies in Latin America". AGSF Occasional Paper 4. Agricultural Support Systems Division, Food and Agriculture Organization of the United Nations, Rome.
- Sartorius, K and J. Kirsten. 2002. "Can small-scale farmers be linked to agribusiness ? The timber experience." *Agrekon* December 2002.
- Sautier, D. 2000. « Local agrifood systems: a territorial approach to small enterprises in the African food sector ». Commissioned Paper. IDRC Planning Meeting "Poverty, Livelihoods and Enterprise Development in a Globalizing Economy: Research Directions in Africa and the Middle East". Cape Town, April 13-15, 2000
- Singh, B.P. 2002. "Nontraditional crop production in Africa for export." In Janick, J. and A. Whipkey, eds. *Trends in new crops and new uses*. ASHS Press. Alexandria, VA.

- Sotomey, M., E.A.Ategbo, E. Mitchikpe and ML. Guttierrez. 2003. "L'attiéké au Bénin: Innovation et diffusion de produits alimentaires en Afrique." Rapport du projet européen ALISA Alimentation, savoir-faire et innovations agro-alimentaires en Afrique de l'Ouest. Union européenne DG XII, Bruxelles. CIRAD Montpellier, France.
- Tregurtha, N.L. and N. Vink 1999. "Trust and supply chain relationships: A South African case study." *Agrekon* 38(4):755-765.
- Tschirley, D., M. Ayieko, K.M. Muendo and M.T. Weber. 2004. "Improving Kenya's domestic horticultural marketing system: current competitiveness, forces of change, and challenges for the future." Paper presented at World Bank video training conference: Developing horticulture supply chains for growth and poverty reduction in sub-Saharan Africa. Washington, D.C. December 6-8.
- Van Rooyen, J. 1999. "Agricultural partnership schemes as a mechanism for transformation and development." Paper presented at the 3rd regional conference of Initiative for the Development and Equity in African Agriculture (IDEAA), Durban, 4th February, 1999
- Vermeulen, H., J. Kirsten and K. Sartorius, 2006. "Engagement with farmers from agro-processing companies in South Africa." Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, South Africa. Processed.
- Vink N. and J. Kirsten. 2000. "Deregulation of agricultural marketing in South Africa : Lessons learned". The Free Market Foundation Monograph No. 25. Sandton, South Africa.
- WALTPS. 1995. "WALTPS 1995. West African Long Term Prospective Study. OECD/Club du Sahel, Paris, France.
- Weatherspoon, D., J. Cacho and R. Christy. 2001. "Linking globalization, economic growth and poverty: Impacts of agribusiness strategies on sub-Saharan Africa." *American Journal of Agricultural Economics* 83(3):722-729.
- World Bank. 2001. "World development Report 2002: Building institutions for markets." The World Bank. Washington D.C.
- World Bank. 2005. Linking Small-scale Producers to Markets: Old and New Challenges. <http://siteresources.worldbank.org/INTRANETTRADE/Resources/Topics/Standards/MarketLinkageWorkshopReport..pdf>
- Zongo, T. 2002. « Le rôle du coton dans le développement économique. » Cotton Global Trade negotiations. Washington, July 8-9, 2002. Processed.