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SMALLHOLDER PARTICIPATION IN NON-TRADITIONAL EXPORT CROPS

Insights from pineapple production in Côte d'Ivoire

Jean-Philippe Colin



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Liste des sigles

GVC	<i>groupements à vocation coopérative</i>
OCAB	<i>Organisation centrale des producteurs-exportateurs d'ananas et de banane</i>
SAFCO	<i>Société africaine de conserverie</i>
SALCI	<i>Société alsacienne de Côte d'Ivoire</i>
SIACA	<i>Société ivoiro-allemande de conserve d'ananas</i>
SODEFEL	<i>Société d'état pour le développement de la production des fruits et légumes en Côte d'Ivoire</i>
SSPP	small-scale pineapple production

Smallholder participation in non-traditional export crops

Insights from pineapple production in Côte d'Ivoire

Jean-Philippe Colin¹



Introduction

The growth of non-traditional export agro-commodities such as horticultural products in developing countries, as well as the major shift from state-controlled outgrower schemes to contractual farming and more broadly vertical coordination by private companies over the past decades, raise questions regarding the impacts of agro-export booms and contract production on small-scale producers, rural development and poverty alleviation. The central issue in the literature is whether or not non-traditional agro-export crops are inclusive for the poor. This is a much debated issue: the development of such crops is seen as a potential source of pro-poor growth, or alternatively as a source of exclusion and deepening differentiation within the peasantry (Reardon *et al.*, 2009; Swinnen *et al.*, 2010).

Small farmers may suffer biases in adopting non-traditional export crops, induced by a range of factors: lack of human capital, constrained access to credit, limited capital and productive assets (including land), market imperfections (transaction costs) benefiting large-scale farmers, inability to satisfy health and safety requirements as well as quality standards (Barham *et al.*, 1995; Carter *et al.*, 1995; Dolan and Humphrey, 2000; Carletto *et al.*, 2010; Whitfield, 2012). Carletto *et al.* (2010: 824-825) note that “while poor farmers may be enticed into entering into NTX [non-traditional export crops] markets when conditions are favorable, they may lack the capacity to overcome difficulties that inevitably arise in complex types of cultivations and in highly variable global agricultural markets.” Other studies give a more optimistic picture, with an emphasis on collective action (producer cooperatives) and contract farming as potential devices to mitigate some

1 IRD UMR GRED Montpellier. jean-philippe.colin@ird.fr.

competitive disadvantages of small farms (Dorward *et al.*, 1998; Key and Runsten, 1999; Masakure and Henson, 2005; Reardon *et al.*, 2009; Swinnen *et al.*, 2010; Barrett *et al.*, 2011).²

The development literature focuses mostly on the impact of small farmers' involvement in the production of non-traditional export agro-commodities. Much less attention has been paid to the reconstruction of the history of the commodity chains. As pointed out by Henderson *et al.* (2002), this frequent lack of long-term perspective "(...) is an important omission because the social relations embodied in [commodity] chains at one point in time impose a path-dependency and constrain the future trajectories of chain development." (p. 441). Another related issue insufficiently addressed is the effects of the development of non-traditional export agro-commodity chains on rural institutions, whereas one would expect endogenous institutional change to be emerging from a new context in which small farmers face new constraints and new opportunities (Escobal *et al.*, 2000; Selwyn, 2008).

The broad object of this case study is precisely to tackle the changes in the organizational structure of small-scale pineapple production (SSPP) in Côte d'Ivoire, as well as the local endogenous institutional change that occurred through the development of SSPP³. It is grounded in an evolutionary account of industry formation that combines a view on the co-evolution of institutions and economic strategies and processes, and highlights path dependency effects. The historical perspective runs from the introduction of pineapple production for canning industry in the 1960s, to its collapse in the 1980s, and from a revival of pineapple production as a fresh fruit for export, its golden age in the 1990s, and a new collapse in the mid-2000s. The study sheds some light on how the numerous constraints small-scale producers faced regarding such a crop as pineapple were overcome, and illustrate the endogenous capacity of institutional innovation. The development of non-traditional export crops is usually analysed in situations where the adopters or potential adopters of these crops are the local farmers, with a link drawn between adoption and land endowments as facilitating access to credit and reducing risk aversion. In this respect, the major role of in-migrant tenant growers in the development of SSPP makes the case under consideration quite original.

The paper addresses three main issues: the factors which enabled small producers to adopt such a crop, the inclusiveness of this process and its sustainability. The paper focuses thus on a specific node of the

² This renewed interest in contract farming contrasts with more pessimistic views. Contractual agricultural might be used by firms to impose exploitative contract terms and shift risk on producers, especially if the latter do not have exit options. If contract farming is to be of real value for the farmers, there is the risk of exclusion of the less well-endowed farmers as firms might favour medium- or large-scale farmers, especially to reduce transaction costs (Glover and Kusterer, 1990; Little and Watts, 1994).

³ For a previous analysis in French, see Colin (2012a).

pineapple value chain: the small-scale grower and the vertical and horizontal contractual arrangements in which he is involved.

The first section of the paper presents the research methods and data. The second section sketches organisational dynamics, with the shift from SSPP under contract farming for canning industry, to SSPP for export as fresh fruits by cooperatives or middlemen. It highlights the role of contract farming in the introduction of canned pineapple, and later the constraints faced by small-scale producers when developing fresh pineapple cultivation, and the way they overcame them, in terms of production strategies, institutional innovations and networking. The third section discusses the inclusiveness issue. The last section turns to the sustainability issue through an analysis of the local impact of the crisis faced by Ivorian pineapple on the European market.

Research methods and data

The analysis is carried out through a local lens on the production social space. This in-depth, localized longitudinal perspective is based on long-term empirical research providing first-hand data. In other words, the time perspective does not come from recall data, with all the bias then incurred, but from a set of qualitative and quantitative observations spread out over three decades by the author.

The principal corpus of data comes from investigation in one of the villages where SSPP most developed: Djimini-Koffikro (sub-prefecture of Adiaké, in Lower Coast). When the research was first launched, in the 1980s, it was concerned with the dynamics of the smallholder plantation economy in a specific context of land shortage and diversification of the farming systems (departing from coffee and cocoa production) led by agroindustrial parastatals that were developing smallholder contractual farming. The central stage of the research was devoted to the in-depth analysis of the economy of agricultural production at the level of one Lower Coast village (Djimini-Koffikro), seen as particularly representative of this new context. The realization of such a case study was seen as a life-size laboratory to observe the smallholder plantation economy transformation. The plan was to constitute a detailed and systematic knowledge basis in order to be able to do come back later to document, on sound empirical basis, the changes in the local plantation economy. This was done, and the post-1980s first-hand data mobilized in this text comes from this 'return' in the same village. At that time, Djimini-Koffikro was one of the two leading center for SSPP in Lower Côte d'Ivoire.

During the first phase, a study was carried out between 1983 and 1985, at the time canning pineapple production was collapsing and fresh pineapple export production was initiating its boom. It involved collecting

data (i) on all of the village's landowning farms concerned or not by pineapple production (101 farms at that time); and (ii) on all (79) immigrant producers, which operated only on leased-in land to produce pineapple or food crops (Colin, 1990). During the second phase, a new survey was carried out in 2002 – a time of flourishing SSPP for export –, covering again all of the village's landowning farms (122 at that time), as well as all tenants (159) operating on leased-in plots. In addition, a techno-economic study was carried out in 2003 over 147 pineapple plots under owner-cultivation or contractual arrangements. Lastly, some data was updated in 2010 – at a time pineapple had almost disappeared from the village landscape due to the major crisis faced by SSPP.

The analysis that follows relies on data collected through these surveys, as well as on the knowledge generated from everyday interactions with producers and landlords during long stays in Djimini-Koffikro across a thirty year time span. It also draws on studies conducted by the author and his colleagues at a regional level (Colin *et al.*, 2007), and on literature dealing with pineapple production in Côte d'Ivoire.

From canning to fresh pineapple small-scale production

Development and crisis of canning SSPP under contract farming⁴

Pineapple production is launched in Côte d'Ivoire in the 50s. Of the three canneries then settled, one ceased operations in 1964. The *Société alsacienne de Côte d'Ivoire* (SALCI) installed Ono (East-Comoé region), and the *Société africaine de conserverie* (SAFCO), based in Tiassalé, will then constitute the two poles of development of this production. A new cannery, the *Société ivoiro-allemande de conserve d'ananas* (SIACA), is established in Bonoua in 1969, reinforcing the dominance of the area east of the Comoé River in the production of canned pineapple. This section focuses on the SALCI system, SALCI being the first canning company in Africa in the early 70s (Guyot *et al.*, 1974) and the leading firm in canned pineapple production in Côte d'Ivoire, with the greater weight of smallholder plantations under contract.

The firm introduced pineapple production under contract farming in 1958 in order to supplement its own plantation production for its canning plant (Guyot *et al.*, 1974). Contract farming allowed the development among small farmers of such a new and intensive production by providing technical assistance and inputs, and by securing the outlet of the production. Initially SALCI directly brought individual technical assistance

⁴This section is drawn from Colin (1990).

and inputs to the growers, the cost of which was subtracted from the value of the delivered produce. The production came from scattered plots under owner-cultivation or lease arrangements. In 1969, a parastatal, the *Société d'état pour le développement de la production des fruits et légumes en Côte d'Ivoire* (SODEFEL), was given the responsibility of providing extension services to the small growers, without major changes in the contractual system. SALCI still purchased the whole production, processed it and exported canned pineapple products (Guyot *et al.*, 1974). In 1977, in order to get over difficulties faced by immigrant small farmers in accessing land, as well as to optimize the organization of production, SODEFEL organised the growers in six pre-cooperative groups (*groupements à vocation coopérative*, GVC, one on them settled in Djimini-Koffikro) and introduced a two-level land tenancy system: the GVC leased in large parcels of land with 20 year leases, and sub-leased a small plot to each producer for the length of the cultivation campaign.⁵ SODEFEL supplied technical and organizational assistance. SSPP for canning industry was thus organized through resource-providing contracts in a hybrid public/private outgrower scheme.

The grower's production and labour processes were strictly regulated. The SODEFEL exercised a constant supervision over production. The GVC, which was in charge of distributing plots to the growers at each campaign and of supplying the vegetal material (crowns or shoots), all inputs and mechanized labour, was de facto managed by SODEFEL staff. The grower was bringing in his sole labour force and had no voice regarding production decisions. In the event of grower's default, field operations were performed by GVC (charged to the grower), and he faced a risk of eviction. This kind of coordination was next to complete vertical integration mobilizing quasi-wage labour.

Who were the producers at that time? Initially, local landowning farmers saw in the introduction of pineapple production an option to diversify their cropping systems. However most of those who adopted this new crop quickly withdrew from this production, because it was seen as a too labour-intensive, hard-working, and insufficiently profitable crop. All the more so since these producers lacked male family labour (due to investments in education and search for the urban way of life by young men), and contracting wage labour was rendered difficult by cash constraints. They rather invested in the conversion of their old coffee and cocoa plantation into oil palm trees, which require much less work and ensure, once in production, a regular income. Foreigner migrants (mostly from Haute Volta, now Burkina Faso) represented one-third of smallholder pineapple growers in 1962, half in 1965 (SEDES, 1967). A decade later, they represented 80 per cent of the 3000 outgrowers supervised by SALCI (Goffa Zago, 1977). In Djimini-Koffikro, in 1983, 78 per cent of pineapple growers were immigrant tenants.

⁵ Around 24 months, including the production of shoots.

At the end of the 1970s and beginning of the 1980s, the pineapple canning sector in Côte d'Ivoire faced a major crisis rooted in Asian competition. Difficulties encountered by SALCI largely contributed to strong dysfunctions which plagued the local organization of production, as cash shortages faced by SALCI were passed on to the growers who had to wait eight to twelve months for the payment of their harvest. However, other factors contributed to these dysfunctions. First, the product price, set by the Ministry of Agriculture, stagnated at 13 FCFA/kg between 1977 and 1984, what corresponded to a reduction by half in constant francs. Second, relationships between the growers on one hand, and SODEFEL and GVC staffs on the other hand, were marked by a general distrust. The GVCs and the SODEFEL were the direct interlocutors of the growers, who tended to charge them with all difficulties they faced. There was no individual book-keeping, as all GVCs expenses were aggregated and charged to the growers according to the number of shoots or crowns planted; this was especially criticized by the growers, 'the good producers paying for the bad'. Third, the growers subverted the goals of the contractual scheme to best serve their interest, especially when some of them began producing, starting in 1979, for export as fresh fruits (see *infra*). Numerous GVC growers interviewed at that time stated explicitly that being involved in canning production was a way to get access to fertilizers and shoots provided by the GVCs that they could divert to plots planted for fresh pineapple production (see Little and Watts, 1994, for similar observations in other contexts).

As a result, the production of all GVCs dropped from 81,000 to 9,260 tons between 1979/80 and 1982/83. The number of members in Djimini-Koffikro GVC went down from 209 to 25 between 1980 and 1983. Average yield in Djimini-Koffikro declined from 60 to 19 tons/ha over the same period of time. SSPP for the canning industry fully disappeared with the collapse of that industry in Côte d'Ivoire, in the mid-1980s.

The rise of SSPP for export as fresh fruits

Path dependency in fresh pineapple cultivation

When SSPP for the canning industry disappeared, the SSPP for exportation as fresh fruits had already started, induced by exporters prospecting in the region in order to source from small growers.

Fresh pineapple production in Côte d'Ivoire was initiated by French planters who moved from Guinea to Côte d'Ivoire, at the time of Guinea Independence, in 1958, but the effective expansion of the sector can be dated at the beginning of the 1970s. The production was regulated by the Ministry of Agriculture: authorizations were granted to plantations that could export at least 800 tons per year, and it was prohibited to develop plantation for fresh pineapple on the East side of the Comoé River. This prohibition was justified by weather conditions supposed to be incompatible with a production meeting quality standards for export fresh

pineapple, but some analysts also mentioned the objective to avoid competition between the two types of pineapple production, with the risk of smallholders' disaffection vis-à-vis the canning production. These constraints were released in the late 1970s, when export licences were granted by the discretion of the Ministry of Agriculture to people who were not producers. The latter began to prospect for potential suppliers – a practice greatly facilitated by the presence of producers of canning pineapple. This practice was illegal not only because the production of pineapples for export was then prohibited in the East-Comoé region, but also because subcontracting was prohibited by a decree of the Ministry of Agriculture (Colin, 1990). Then, in the mid-1980s, the creation of export cooperatives for small-scale growers was authorized as an answer to the crisis faced by the canned pineapple sector, legalizing an already developing smallholder sector.

The case illustrates clearly the 'territorial embeddedness of global production networks' (to use the concept put forward by Henderson *et al.*, 2002): fresh pineapple exporters initially took advantage of the economic activities and social dynamics that pre-dated the establishment of contracting operations. Even if production techniques normally vary, as requirements regarding the size and colour of the fruits differ,⁶ canning production indisputably was the avenue by which smallholders gained technical expertise and, at the outset, access to shoots or crowns, and inputs.

In the early 1990s, 70 percent of Ivorian exports came from smallholders (Vagneron *et al.*, 2009). A few figures regarding Djimini-Koffikro (for which reliable and exhaustive data are available) bear witness of the strong dynamics of fresh fruit production in the 1980s and 1990s. The number of fresh fruit growers in Djimini-Koffikro was multiplied by four between 1983 and 2002, from 62 to 225; the acreage cultivated was multiplied by eight, from 86 to 686.5 hectares. This development had considerable effects on the general cropping pattern, but mostly through the tenancy market. Indeed, 68 percent of the growers were immigrant tenants, cultivating 75 percent of the acreage planted with pineapple in 2002. The dynamics of fresh pineapple production was thus sustained by a flux of migrants coming mostly from Burkina Faso and getting access to land through tenancy contracts. The weight of Burkinabès in fresh pineapple production has to do with path dependency. At the beginning of the 1980s, they were the ones remaining in the canning production. When the opportunity to grow fresh pineapples came up, they were in the best situation to seize

⁶ The cultivation of fresh and canning pineapples used the same variety (Smooth Cayenne), but plantation densities are supposed to be higher for export production and cultivation cycle shorter. Norms regarding the size of the crown for exported fruits requires reducing the crown of the fruits; as fresh fruits are exported with their crown, planting has to be realized with shoots, whereas it can be done with crowns as well as with shoots for canning production. Lastly, harvesting and packaging exported pineapples normally require much care (fruit selection, antifungal treatments, fruit grading and packaging in cardboard boxes), whereas pineapples for the canning industry are higgledy-piggledy loaded in trailers.

it: they knew how to produce pineapple (even in a non optimal way regarding fresh fruit export production norms), and they could divert pineapple shoots or crowns, and fertilizers, from the GVC plots. Since then, the trend opened by this path dependency was reinforced by the Burkinabès' comparative advantages over natives regarding the devices they could mobilize to overcome all the constraints a small-scale producer of fresh pineapple faces.

Small growers facing imperfect markets

At the time of production for the canning industry, contract farming made it possible for small producers to get over a number of constraints: they could gain knowledge regarding the production of a new crop, and access to land, shoots or crowns, inputs (fertilizers, carbide calcium, and chemicals), motorized services, and credit, as all costs were pre-financed by the GVC. In the following phase, small producers faced major constraints when developing fresh pineapple production.

a) They needed a technical know-how. Former canning pineapple growers mastered at least approximate production techniques, but the production expanded significantly later on, with new producers being involved in pineapple cultivation (181 out of 225 growers in Djimini-Koffikro). Cooperatives did not really fulfil this need and furthermore not all producers were members of cooperatives (see *infra*).

b) If they did not own land (the general case), they had to find land to lease in, in a context where the boom of pineapple cultivation created a real tension on the rental market.

c) Getting access to manual labour for a very intensive crop (around 250 days per hectare in SSPP conditions, over an 18-month period), in a context of largely imperfect labour market, especially regarding permanent labour. Finding local labourers paid on an annual basis (a common labour contract in Southern Côte d'Ivoire) was quite difficult: in employers' terms, 'labourers here all want to cultivate pineapple, they do not want to work as annual!' In the growers' perspective, employing occasional labourers (paid on a daily or on piece-rate basis) raised three major problems: a cash constraint (whereas annual labourers were paid at the end of their contract), the fact that such type of labourer has to be monitored (a point that was not seen as problematic regarding annual labourers), and the risk of not finding labourers at the right time.

d) Getting cash to rent the land, to have it ploughed, to buy the shoots (if necessary), to transport them, to buy the inputs and to pay for manual labour was a challenge in a context where there was no local formal or informal credit market at all, except in-kind credit offered by cooperatives or middlemen (cf. *infra*), but then with strong restrictions in scope and volume. Production costs were indeed quite important, with an average

of 1,051,000 FCFA (1,600 €⁷) per hectare in 2003, for a leased-in plot, without having to buy shoots,⁸ considering a cash payment for all motorized services and valuing labour on the basis of the daily wage. The production cost rose to 1,301,000 FCFA once added the cost of the shoots, in the case of a grower initiating pineapple cultivation (author's survey on 147 plots).

e) Being able to sell the product, that is having enough production capacity to become a cooperative member (cf. *infra*), or having the right connection with the local market, in a context where the producer faced a risk of been cheated by the purchaser. We will see that the issue was not to find a buyer, but to make a deal with a trustful buyer.

Small-scale farmers thus faced a number of constraints in developing fresh pineapple cultivation, but a high return was expected in the price conditions of the beginning of the 2000s. Considering the average production cost, yield and product price, the grower's net income could be estimated at that time at 739,000 FCFA/ha for a sale to a middleman. Exporting through a cooperative could be much more profitable – up to 2,600,000 FCFA – but also riskier.

*Export cooperatives and contract farming*⁹

A first element to consider to understanding the development of fresh pineapple by small-scale producers is the organization of export cooperatives and the rise of new forms of contract farming.

Export cooperatives organizing small-scale farmers were settled in the region, most of them in the 1980s.¹⁰ At the beginning of the 2000s, 10 cooperatives exported almost 100,000 tons, half of Ivorian exports through OCAB (*Organisation centrale des producteurs-exportateurs d'ananas et de banane*).¹¹ Becoming a member of a cooperative required a minimal production capacity which excluded the smallest growers – of 255 growers in Djimini-Koffikro, only 98 were co-operators. Thus, most of pineapple growers remained unorganized and sold their harvest to cooperators (members of an export cooperative) or private exporters.

⁷ 1000 FCFA = 1.52 €.

⁸ This latter cost has to be considered as an investment to be amortized over several campaigns (shoots appear at the basis of the plant, once the fruit has been harvested).

⁹ In this section, I use the past tense because I present the organization of commercialisation as observed in the early 2000s, and because if some cooperatives still exist today, they have almost ceased their activities.

¹⁰ See Willems (2006) for an overview of the organisation of the export pineapple sector in Côte d'Ivoire.

¹¹ OCAB brings together the majority of producers and exporters, including farmer cooperatives, but its primary role is limited to the organization of maritime freight.

The main purpose of the cooperatives was to organize the exportation. Some supplied in-kind credit (fertilizers) on a funding by the European Development Fund, between 1995 and 2002, but when the 2003 techno-economic survey was carried out in Djimini, only 2 plots over the 54 cultivated by cooperators had benefited from such credit. Even if the cooperatives were supposed to technically assist the producers, in practice becoming a cooperator required being already involved in pineapple production; in other words, the cooperatives did not play a role in initial technology transfer.

A grower exporting through a cooperative handled all the production process up to the delivery of the harvest to the cooperative packing station. He had to establish a forecast of the export volume three months in advance, in order to book space on reefer ships. These previsions were transmitted by the cooperative to OCAB, in charge of organizing sea transport. If the grower failed to meet the prevision, he had to pay the cost of left-over cargo space. The quality of the fruits was controlled by the cooperative in the packing station, and then on the port, by Veritas. It was a consignment sale: pineapples remained the property of the growers until the sale to supermarkets' central buying offices in Europe. The grower received the difference between the gross price and all costs incurred through the exportation process: cardboard boxes, chemicals, quality control, shipping and handling costs, importer's commission, and contribution to cooperative running costs. The growers thus bore the full production and market risks, and faced a negative financial balance when market prices were low. The risk incurred when exporting through a cooperative was not restricted to the price risk: the export process seems to have been fraught with frequent problems, both at the cooperatives' level – all cooperators complaining about the lack of transparency in the management of the cooperative running costs – and at the importers' level, where the consignment sale system opened the way to mismanagements and opportunistic behaviour.

The grower sold his production to a middleman (i) if he was not a cooperator or if he was a cooperator but did not want to export directly through the cooperative, because he had ended up with a negative financial balance on the preceding export and did not want the cooperative to recoup this debt on the current harvest;¹² or (ii) because he could not get in-kind credit from the cooperative and wanted to obtain credit from the buyer. The buyer could be a member of a cooperative who supplemented his own harvest, either because he had an activity of middleman, or exceptionally in order to respect his export prevision. He could also be a non-cooperator who did not live in the village: a medium- or large-scale grower or someone specialized in the trade. Those buyers relied on local *commis* (agents), who knew the growers.

¹² In other words, the lack of monopsonic position of the cooperatives allowed the growers not to be 'locked in' to a deteriorating situation by debt.

It was the buyer who took charge at his own expenses of the ethrel treatment¹³ and of the harvest (labour and transportation costs from the field to the packing station). The value of the production was established on the basis of a per kilogram farm-gate (field) price once the grading operated, on the basis of a standard evaluation of 11 kg per cardboard box (what ever grade). Fruits considered as not qualified for export were sold on the field by the grower, to tradeswomen supplying Abidjan markets. The buyer usually gave the grower an advance at the harvest time, the balance being normally paid two months later, after he had himself received the net result from the cooperative or importer.

The grower could search for a buyer after the crown reduction (around one month before harvest). He entered then in a type of procurement contract under which only the price was specified. The grower could also conclude a resource-providing contract involving the provision of inputs from the buyer. He thus looked for a buyer just after the planting in order to get in-kind credit (fertilizers and carbide calcium), the debt for which was to be paid back at harvest time. The harvest price was set up as soon as the deal was made. Selling to a buyer under such resource providing contract was induced by the grower's lack of resource and not from the risk of not finding a buyer – no procurement contract was concluded long in advance to cover this risk. At that time, it was not a problem to find a buyer (that is, search costs were not a key issue).

In the case of resource providing contracts, the buyers decided the type and quantities of inputs to use (as they provided them), planned the key tasks (deciding when to fertilize, to spray carbide calcium, to reduce the crowns, to realize the ethrelisation) in order to control the harvest time. They also exercised some monitoring (themselves or through their *commis*) regarding the upkeep of the plot and cultivation practices (fertilization, crown reduction, and so forth). Even if engaging in resource providing contracts required a good understanding of pineapple production (as the contract started after the planting), some growers recognized that buyers' assistance enhanced their know-how.

There were some risks of moral hazard in dealing with buyers – 18 per cent of the growers interviewed in 2002 had suffered some problems at some point in the past. The typical case was the 'vanishing' of a buyer after the harvest, escaping the payment of the balance. Time passing and experience growing, growers became more selective in the choice of the buyer, avoiding contracting with an outsider from the local community or trying to check the trustfulness of outside buyers.

¹³ The use of ethrel, which provokes an external coloration of the pineapples, allows the farmers to synchronize the planning of their shipments.

Overcoming constraints: production strategies, institutional innovations and networking in fresh pineapple production

A second set of elements to consider to understanding the ways small producers found to overcome the constraints they faced relate to multistrand productive and contractual strategies.

Small growers could not rely on well-organized contractual farming or efficient multi-purpose cooperatives in order to overcome those constraints and engage in fresh pineapple production. They nevertheless were able to develop such a production through multistrand production strategies and innovative contractual arrangements, and by relying on social capital. In that, the Burkinabè migrants definitely showed a comparative advantage.

A first element to consider to understanding the development of such an intensive crop as pineapple is that in SSPP local conditions, all costs could be considered as variable – it was even possible to lease in one-tenth of hectare pieces of land. This allowed for a progressive development of the activity, without technical indivisibility entry barriers.

Furthermore, the growers used various strategies to minimize cash costs. Regarding the earlier phase of the development of fresh pineapple cultivation, the growers diverted shoots and fertilizers from the GVC. Later on, cash costs minimization strategies consisted in accessing land through a share contract, borrowing shoots, being part of a mutual aid group, contracting a resource-providing contract with a buyer, and conducting a rather 'extensive' production, compared with what is seen as standard in a 'well managed' small-scale grower's plantation. Whereas average cost (with a monetary valuation of non-market inputs) was around one million FCFA per hectare in local conditions, this cost was estimated at more than two million per hectare with all technical norms respected (Jexco & Queyrane Conseil, 1998).

As pineapple is not a perennial crop, landowning did not constitute a barrier as long as a tenancy market existed. It is precisely the introduction of pineapple cultivation which led to the emergence of fixed-lease contracts in the 1960s (Colin, 1990). A dynamic land tenancy market then was the key condition for such a development of SSPP – in the early 2000s, one-third of all village lands was under a tenancy contract in Djimini. The tension on the rental market mentioned earlier thus did not come from a lack of supply as such, but from a booming demand.

Another major institutional innovation was the transfer and re-shaping of share contracts from traditional crops to pineapple (Colin, 2012b). In Southern Côte d'Ivoire, the *abougnon* contract is traditionally a labour arrangement used in coffee and cocoa plantations: the *abougnon* (the term designates the contract as well as the labourer) takes care of an already existing plantation, harvests it, and receives half of the production

value. In the 1980s the *abougnon* contract shifted to pineapple in Djimini, under two broad contractual configurations. In a first configuration, the *abougnon*-labour arrangement, the *abougnon* only provided manual labour, and received half of the value of the production, after the deduction of the cost of the land rent (if the land was leased-in by the employer), ploughing, transporting shoots, herbicide, fertilizers and carbide calcium. The employer could be a pineapple grower owning land, but he was most often a migrant grower leasing-in land with a fixed-rent contract. In a second configuration, the *abougnon*-tenant arrangement, the landowner only supplied land, remained passive and received, as the land rent, one half of the production net value, after the deduction of the same costs, except of course the land rent. The *abougnon* (*abougnon*-tenant arrangement) or grower (*abougnon*-labour arrangement) could market the production himself, if he belonged to a cooperative. He then took responsibility for harvesting and marketing costs and sold the production at European market prices. However, the gross production value used in the calculation to assess each actor's share was determined on the basis of a field price per kilogram for marketable quality fruits, negotiated when the contract was agreed, and not on the European price – in other words, the landowner (*abougnon*-tenant arrangement) or labourer (*abougnon*-labour arrangement) was not bearing product market risks and neither interested in benefits on the export market. If the *abougnon* (*abougnon*-tenant arrangement) or grower (*abougnon*-labour arrangement) sold the production to a buyer, that one took on the harvesting costs and paid the fruits on the basis of a fixed kilogram price.

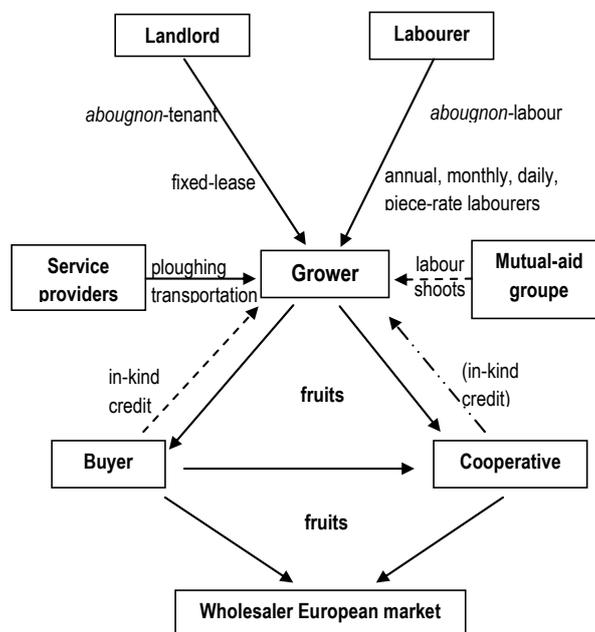
For a pineapple grower, accessing land through an *abougnon*-tenant arrangement economized on cash expenses as it avoided paying *ex ante* a fixed rent; he then could, if necessary, contract with a buyer to further reduce cash expenses regarding fertilizer and carbide calcium. Contracting an *abougnon* labourer saved on cash expenses that would have been incurred by employing wage labourers. It also avoided transaction costs incurred regarding the hiring of annual labourers (search costs) and occasional labourers (search and monitoring costs, risk of not finding people to contract at the right time). For an *abougnon* labourer, such a contract constituted a step in a contractual ladder (in line with Spillman's 'agricultural ladder', Spillman, 1919), in a process of technical learning and capital accumulation.

The role of social capital between landlords and tenants, employers and employees, growers and buyers was pervasive, especially among Burkinabès. A young man coming from Burkina Faso usually arrived in Djimini because he had got information from his social or family network of labour opportunities and the perspective of making money with pineapple production. Most often his travel from Burkina to Djimini was organized and financed by a Burkinabè who had already settled there. On his arrival, he got a shelter and a job as family member or as annual labourer (usually with a three-year contract), what allowed him to start

accumulating some financial capacity and experience of pineapple cropping. After the annual labour contract, he was sometimes employed as *abougnon* labourer by his employer.¹⁴ Later on, starting an autonomous production could be facilitated by fellowship countrymen who settled long ago in Djimini and could serve as brokers with landlords, to find land to lease in. Being part of a mutual aid group (*tumpusdem*) helped solve part of labour constraints, especially regarding the planting stage, where *tumpusdem* were very active. Relying on ethnic networks also facilitated finding a trustful buyer or *commis*, as commercialisation was loaded with potential moral hazard problems. Developing social capital with landlords was also important considering the tension on the land market; as stated by a Burkinabè grower, “it is easy to find land to lease in, if you are well-known, if you are considered as a nice person, if you have good relations. Otherwise, it will be hard, even with the money in your hand, you will have to wait for a long time...”

When all is said and done, the small pineapple grower was embedded in the social and economic context through a variety of contractual arrangements, within a web of multistrand relations with agricultural labourers under wage or share contracts, mutual aid groups, landlords under fixed or share rents, service providers, product buyers, cooperatives (Figure 1).

Figure 1. Export SSPP in Djimini-Koffikro: a web of contractual relations



¹⁴ Benefiting of such a contract when issued by 'medium' or 'large' growers (along local criteria) was seen as a favour by the *abougnon* as well as by the employer, as for a Burkinabè employer (able to attract annual labourers from his home country) it was becoming more interesting to employ annual labourer than *abougnons* as soon as the acreage cultivated raised.

De-territorialized inclusiveness

A central issue regarding non-traditional agro-export crops is whether or not they are inclusive for the poor. Carter *et al.* (1995) argue that this depends on whether small-scale farms participate in producing the export crop (what they call the 'small-farm adoption effect'), whether the export crop induces a pattern of structural change that systematically improves or worsens the access of the poor to land (the 'land-access effect'), and whether it absorbs more or less of the labour of landless and part-time farming households (the 'labour-absorption effect'). The three effects put forward by these authors are verified here, even if in a specific way due to who seized the opportunity to grow pineapple. As we saw, pineapple cultivation was for the essential developed not by landowning farmers (large or not), but by tenant migrants. It has thus been quite inclusive, but this inclusion was somehow de-territorialized by bringing in the 'poor' from abroad, as labour force turning then into small growers. This case provides an illuminating illustration of Barham *et al.*'s (1995) insights regarding how new export opportunities can transform patterns of wealth accumulation and distribution by highlighting the competitive advantages of Burkinabè growers over native landowning farmers – the pineapple story presented up to now look indeed like a Burkinabè success story.

At the time of canned pineapple, small-scale pineapple production was marked by very little differentiation in cultivated areas (from one to a few hectares). The fact that the further development of export-pineapple was inclusive does not mean it has been evenly adopted, as this development was accompanied by the emergence of a small or micro-entrepreneurship. On average, pineapple growers cultivated 3 hectares in 2002, with a median at 1.5 hectares (minimum at 0.10 ha, maximum at 75 ha). Table 1 shows some concentration in pineapple production: the growers cultivating more than 6 hectares (11 percent) controlled almost 50 percent of the total acreage – most of them being tenants.

Table 1. Acreage cultivated with pineapple and growers' land status (Djimini-Koffikro, 2002)

Classes of acreage (A)	Number of tenant growers	Number of landowning growers	Total	% of growers	% of total acreage cultivated with pineapple
A ≤ 1.5 ha	77	41	118	52.4	13.8
1.5 ha < A ≤ 3 ha	32	15	47	20.9	16.6
3 ha < A ≤ 6 ha	27	8	35	15.6	20.7
6 ha < A	18	7	25	11.1	48.9
Total	154	71	225	100%	100%

Sources: author's survey

Broadly speaking, a larger acreage cultivated with pineapples came along with a better endowment in family and male permanent wage labour, an earlier arrival in the village (regarding migrants), past experience as canning pineapple grower, being a member of an export cooperative, acting as a middleman in pineapple marketing, and possessing a tractor or a truck.

The burst after the boom

The small growers had been quite successful in seizing the opportunity to develop a non-traditional fresh export crop such as pineapple, and quite institutionally innovative on that occasion. But they operated within a more general institutional and organizational structure which linked them to the European market and on which they had no hold. If they indisputably took advantage of the outstanding opportunity it offered, they also faced the risk incurred regarding the evolution of demand on such market.

SSPP reached its golden age in the 1990s and beginning of the 2000s, when even the roadsides were cultivated with pineapples and when supply could not reach demand on the land lease market. SSPP then dramatically declined, when the Ivorian pineapple could not resist Costa Rican (large multinational firms) competition on the European market with the rise of the MD2 (or Golden Sweet) variety. As a matter of fact, Ivorian pineapple difficulties on the European market had already started in the late 1980s, largely before Costa Rican competition. Côte d'Ivoire's share of the European market dropped from 93 percent to 50 percent between 1985 and 2000 (Vagneron *et al.*, 2009). According to Vagneron and her colleagues, the major factor explaining this decline was the smallholder shift from canning to fresh production, which led to a general decline in the quality and increase in fruit heterogeneity, precisely at a time when quality requirements rose on the European market. But we could add major problems in the organization of the export pineapple industry. OCAB was quite successful in improving freight management, but it has not been able to create the conditions for a product and process upgrading (Gereffi *et al.*, 2001). Thus in the 2000s, the weaker position of the Ivorian pineapple industry dramatically came to light in the context of the Costa Rican competition, as it was not able to dynamically react when it faced the varietal innovation led by Del Monte with MD2, which came along with very effective logistical and commercial practices (Paqui, 2007). As a result, Côte d'Ivoire's share of the European (henceforth buyer-driven) market was reduced to 5 per cent in 2009 (Loeillet and Paqui, 2010).

The crisis hit all the Ivorian pineapple industry,¹⁵ but hit even more seriously cooperatives. Export through OCAB went down from 199,300 tons in 2001 to 40,000 tons in 2009. Cooperatives' exports regressed from 103,000 tons to 7,000 tons between 2001 and 2009. There were almost one thousand cooperators at the beginning of the 2000s, but less than one hundred in 2009, and only two cooperatives were having some modest activity (OCAB, unpublished data).

The consequences of the crisis on small-scale growers appear dramatic. Compared to 2002, most growers had dropped out by April 2010: the number of Djimini-Koffikro farmers in the pineapple business were reduced by a multiple of nine and the acreage reduced by a multiple of fourteen, compared to 2002 (Table 2).

Conclusion

This longitudinal locally-rooted study offered insights regarding the development of a non-traditional export crop by small-scale farmers. The study brought to light the part played by path dependency and institutional innovation in the shift from an outgrower scheme for canning production, to export production organised through a variety of contractual arrangements, within a web of multistrand relations between growers, labourers, landlords, product buyers, cooperatives. It highlighted the role, in this process, of migrant growers, and as a consequence 'deterritorialized inclusiveness'. The land issue played a specific two-sided role. On the one hand, the rise of a land lease market was at the same time the consequence of and the condition for the development of pineapple production, allowing immigrants growers to access land and landowners to benefit from the land rent. On the other hand, land endowments offered native farmers an alternative to pineapple cultivation through perennial crops plantations, less demanding in terms of labour, financing, know-how and organizational requirements.

Price incentives and market conditions in Europe – a supply-driven market with low quality requirements – made it possible to sustain SSPP during twenty years. Then, the shift to a buyer-driven market with more stringent quality requirements regarding Smooth Cayenne variety, hardly met by financially and organisationally fragile cooperatives, seriously weakened the Ivorian share on the European market. Later on, the new variety introduced by Costa Rican competitors turned out as the consumers' reference on the market. The necessary shift to this variety, much more costly to produce and imposing even stronger quality requirements, was somehow the deathblow of the small-scale pineapple sector in Côte d'Ivoire which was unable to impulse a product and process upgrading.

¹⁵ See Whitfield (2012) for a convergent analysis of the collapse of the Ghanaian export-pineapple industry.

A reorganization of the cooperative system or the development of contract farming with large firms may maintain some small growers in the pineapple business. However, the outcome of this Ivorian story backs up the pessimistic view regarding the sustainability of non-traditional small-scale export production, when faced with more and more exacting demand on the global market.

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Abstract

The growth of non-traditional export agro-commodities in developing countries, as well as the major shift from state-controlled outgrower schemes to contractual farming by private companies, raise questions regarding the impacts of agro-export booms and contract production on small-scale producers. This paper highlights the role played by path dependency and institutional innovation in the shift from an outgrower scheme for canning pineapple production, to fresh pineapple export production organised through a web of multistrand relations between growers, labourers, landlords, product buyers, cooperatives. This case questions the sustainability of non-traditional small-scale export production, when faced with more and more exacting demand on the global market.

Keywords

pineapple, Côte d'Ivoire, contract farming, small-scale farming, non-traditional export commodities, institutional innovation

Résumé

Le développement d'exportations agricoles « non traditionnelles » dans les pays du Sud et le renouveau d'intérêt pour l'agriculture contractuelle portée non plus par le secteur (para)public comme dans les années 1970, mais par le secteur privé, soulèvent de nombreuses questions quant à leur impact sur les petits producteurs. Ce texte met en évidence le rôle joué par les dépendances de sentiers et les innovations institutionnelles dans la mutation de la petite production d'ananas en Côte d'Ivoire, depuis une production pour la conserverie dans un cadre d'agriculture contractuelle, vers une production d'exportation en frais conduite à travers un jeu de relations multiplexes entre les planteurs, les manœuvres agricoles, les intermédiaires et les coopératives d'exportation. Ce cas questionne la durabilité d'une production d'exportation « non traditionnelle » dans un contexte de contraintes de plus en plus fortes de mise en marché à l'international.

Mots clés

Côte d'Ivoire, agriculture contractuelle, ananas, petits producteurs, exportations agricoles non traditionnelles, innovation institutionnelle

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Information et contacts : pole.foncier@msh-m.org

www.pole-foncier.fr

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