

Cotton policy in SSA: a matter of institutional arrangements related to farmers' constraints

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Abstract

Cotton production in the Francophone African Countries (FACs) derives exclusively from smallholders whose holding size is less than 5 ha on average. From the 1990s, the FACs are globally ranking third to second in exporting cotton to the world market. Such an achievement could be regarded as the result of an institutional construction which took place for four decades in dealing with the smallholders' constraints and concerns.

Since the mid-1990s, the FACs are engaged into processes of privatization/liberalization, at distinct modalities, within the implementation of globalization-oriented policies. Drastic changes are now observed in pricing mechanisms, provision of inputs and credit to farmers...etc. These changes imply modifications in the responsibilities sharing between stakeholders, with modalities which are implying sometimes disharmony and uncertainty within the sector. This is an illustration of the construction-feature of new institutional arrangements which can hardly be automatically acceptable to all. The paper provides an analysis of the institutional construction in dealing with few major constraints or concerns faced by the smallholders in the FACs.

Keywords: Globalization, institutional arrangement, liberalization, cotton, history

Politique cotonnière au Sud du Sahara : une question fondamentale d'arrangements institutionnels adaptés aux contraintes des paysans

Résumé

La production cotonnière dans les pays de l'Afrique Zone Franc (AZF) procède exclusivement des exploitations familiales d'une taille moyenne inférieure à 5 ha. A partir du début des années 1990, les pays de l'AZF globalement se sont hissés au troisième voire second rang à l'exportation du coton dans le monde. Un tel aboutissement peut être considéré comme le résultat de quatre décennies de construction institutionnelle pour tenir compte des contraintes et des objectifs des paysans.

Depuis le milieu des années 1990, ces pays sont engagés dans un processus de privatisation/libéralisation, suivant des modalités variables, dans le cadre d'une adaptation des politiques économiques à la mondialisation. Des changements drastiques sont aujourd'hui observés dans les domaines de mécanisme de fixation de prix, d'approvisionnement des producteurs en intrants et de fourniture de crédit... etc. Ces changements ont induit des modifications dans le partage des responsabilités entre les acteurs des secteurs coton, avec des modalités qui ont engendré dissension et incertitude au sein des secteurs. Tout cela est illustrative du caractère construit des arrangements institutionnels qui peuvent difficilement être acceptables d'emblée pour tous. Cet article propose une analyse de la construction institutionnelle pour appréhender les principales contraintes et/ou préoccupations des paysans producteurs des pays de l'AZF.

Mots clés: Mondialisation, arrangement institutionnel, libéralisation, coton, histoire

1 Introduction

The Francophone African countries (FACs) account for an increasing part of the cotton production and exportation in the world. In spite of having globally reached the second rank in the world exportations during the campaign 2001/02, the economic importance and characteristics of the cotton production in the FACs remain little known out of Africa. In particular, although technology progress contributed indeed to this achievement, few people are aware of the crucial role of successful institutional arrangements that induced the actual adhesion of farmers to cotton production. Furthermore, most external analysts still hold the image of rigid institutional arrangements inherited from the colonial times while these arrangements evolved a lot during the last five decades.

We believe that the farmers adhesion to cotton production could be measured through the ways the institutional framework meets their constraints and concerns regarding a) price fairness, b) risk aversion, c) lack of financial resource (encompassing liquidity constraint in imperfect financial market, d) lack of competence, e) high transaction costs in getting inputs or in selling seedcotton. These constraints and concerns are nowadays acknowledged to be specific to smallholders in many developing countries [1-5]. We sustain that the institutional evolution from 1950 to the beginning of the 1990 helped farmers to face their constraints and respond to their concerns. This seems to be somewhat threatened by the evolution which occurred from the mid-1990s, towards a process of privatization/liberalization within the generalized acceptance of the globalization process. This is an indication that the new institutional arrangements derived from the privatization/liberalization processes are not yet satisfactory. Such a situation should not lead to excessive pessimism when the construction-feature of institutional arrangements is taken into account. The analysis of the construction of the former institutional arrangements, which proved to be successful ones, provides lessons in building new ones.

In this paper, we first provide some data about the characteristics of the cotton production in the FACs. In a second part, we recall the basis of the institutional frame that was set up in the 1950s which actually launched this production [6] and we point out to what extent it complied with the smallholders' constraints and specificities. In a third part, we demonstrate that this compliance was strengthened during the institutional evolution that took place during the 1970s and 1980s. In the fourth part, we indicate how this compliance is getting loosened in the countries which embarked into a privatization/liberalization process and we try to identify what was wrong in the set up of the institutional arrangements which are taking place.

2 Main characteristics of the FACs cotton production

Cotton production progressed a lot during the second half of the last century in the FACs (Figure 1) where it is concentrated mainly in 9 countries (Benin, Burkina Faso, Cameroon, Central Africa, Côte d'Ivoire, Mali, Senegal, Chad and Togo). These countries are located in areas where it was evidenced that rainfalls have become less abundant during the last 3 decades, in Sahelian zones and south of these zones, in terms of volume of precipitations and number of days with rains [7, 8]. Except in Côte d'Ivoire, the spinning industry seldom exists so that the local consumption of cotton lint accounts only for a tiny share of the national productions. The exportation of raw cotton is of paramount economic importance in most of the FAC where it may represent more than 50% of foreign currency earnings (Mali, Burkina Faso, and Benin).

Franc Zone Africa : Production and exportations (Mobile average 3)

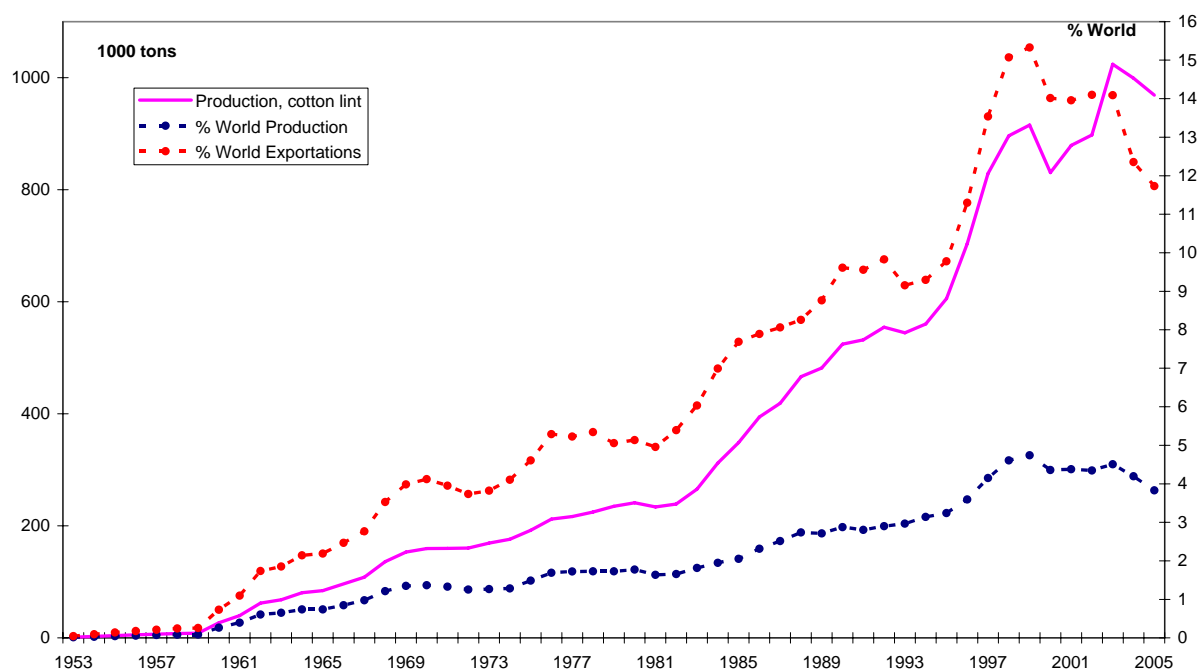


Figure 1. Shares of the FACs in the world cotton production and exportation

The FACs are also among the poorest countries in the world, in particular the landlocked countries like Mali or Burkina Faso (Table 1). The total population is close to 90 millions with more than 60% living in rural areas. It is estimated that 16 millions of human beings, close to 30% of the rural population, have cash income related to cotton production. This is an indication of how crucial the continuation of the cotton production is for the poverty alleviation in the related areas.

Table 1 : Macro-economic indicators in the FACs

	Total population (10 ³ in 2001)	Rural population (10 ³ in 2000)	Rural population w/cotton income (10 ³ in 2000)	GDP/capita US \$ (2001)	Adult literacy rate (% in 2001)
Benin	6 446	5 207	2 500	368	37,4
Burkina Faso	11 856	8 320	3 000	196	23,9
Cameroon	15 200	9 640	1 300	644	75,8
Central Africa	3 782	2 037	900	247	46,7
Côte d'Ivoire	16 349	8 562	1 600	563	46,8
Mali	11 677	8 642	2 000	242	41,5
Senegal	9 662	5 635	500	477	37,3
Chad	8 135	5 415	3 000	183	42,6
Togo	4 657	2 723	1 200	266	57,1
Total/average	87 764	56 181	16 000	354	45,5

The adult literacy rate is a common indicator of human development. In this regard, the FACs suffer from a small rate level although there is some variation between the countries. Wholly speaking, less than half of the adult population is literate and this rate should be far lower in rural areas: it is seldom possible to encounter adult farmers having been to school. Compensation took place during the 1980s owing to literacy programs in local languages organized within the associative process in the cotton zones. Nowadays, a significant part of farmers are capable of dealing with documents in local languages.

Cotton production derives mainly from manual farms in most of the FACs, under strictly rainfed conditions. Only Mali distinguishes itself by the popularization of animal-drawn agriculture so that only a small share of the peasants is strictly conducting manual farming (Table 2). The average cotton area by farm seldom exceeds 1.5 ha, except in Mali where mechanization of soil preparation and sowing enables to cope with a higher acreage which remains small (2.3 ha). Although some observers still have the wrong feeling that cotton production competes against food production, the cotton share in the cropping system does not exceed 30% of the cultivated area. Data from specific surveys demonstrate that cotton farmers are better food secured than non-cotton ones: apart from comparable food-crop production, cotton farmers hold the advantage of not having to sell out food excess at low prices at the harvest times in order to meet their liquidity needs (Table 3).

Table 2: Economy of cotton production in FAC

	Lint production (10 ³ tons in 2000/1)	Cotton lint yield (kg/ha in 2000/1)	Cotton area (10 ³ ha in 2000/1)	Average area per cotton farm (ha)	% cotton in cropping system	% manual farms
Benin	141	418	337	1,7	30,0%	60,0%
Burkina Faso	116	423	275	1,4	38,0%	60,0%
Cameroon	95	478	199	0,5	24,0%	70,0%
Central Africa	10	267	39			
Côte d'Ivoire	125	504	248	1,7	44,0%	70,0%
Mali	102	447	228	2,3	35,0%	15,0%
Senegal	9	404	22	1,1	20,0%	50,0%
Chad	58	242	240			
Togo	49	362	135			85,0%
Total/average	705	409	1 723	1,45	31,8%	58,6%

Note: The production in Mali was halved as compared to the preceding campaign as a consequence of a farmers' protest (refusal to sow cotton to obtain higher price) which concerned mainly 2 of the 6 cotton production areas.

Table 3: Cereal excess per capita in Mali (after deduction of 250 kg/person/year)

	Cotton growing		Non-cotton growing	
	1992	1998	1992	1998
Advanced ox-draught equipped farms	170	239	122	334
Ox-draught equipped farms	156	230	244	302
No or little ox-draught equipped farms	25	42	67	3

In spite of their lack of production means, farmers in the FACs achieve yield levels which are quite commendable, close to what is achieved in some cotton areas in the USA where rainfed production dominates (Figure 2).

Due to the general poverty of the related countries, one may keep the image of a technologically backward cotton production. This is not true. Technology progress accounted to a significant part in the production increase and competitiveness. For instance, it is observed that the process of variety change was quite close to the one encountered for the main crops in developed countries (Table 4).

Breeding led to a very high level of ginning outturn (an average of 42% with some countries close to 44-45% like in Côte d'Ivoire) and a significant increase in the fiber quality as illustrated

through the lint length (Table 5). Besides, chemical pest control remains reasonable, with an average of 4 applications. Dosages tend also to decrease by a combination of calendar application program and scouting [9] : Mali is the country where there is evidence that it is feasible to have illiterate farmers coping with scouting cotton pest and deciding on the right chemical to use [10].

Comparative Lint yields in Côte d'Ivoire and US Southeasts (kg/ha)

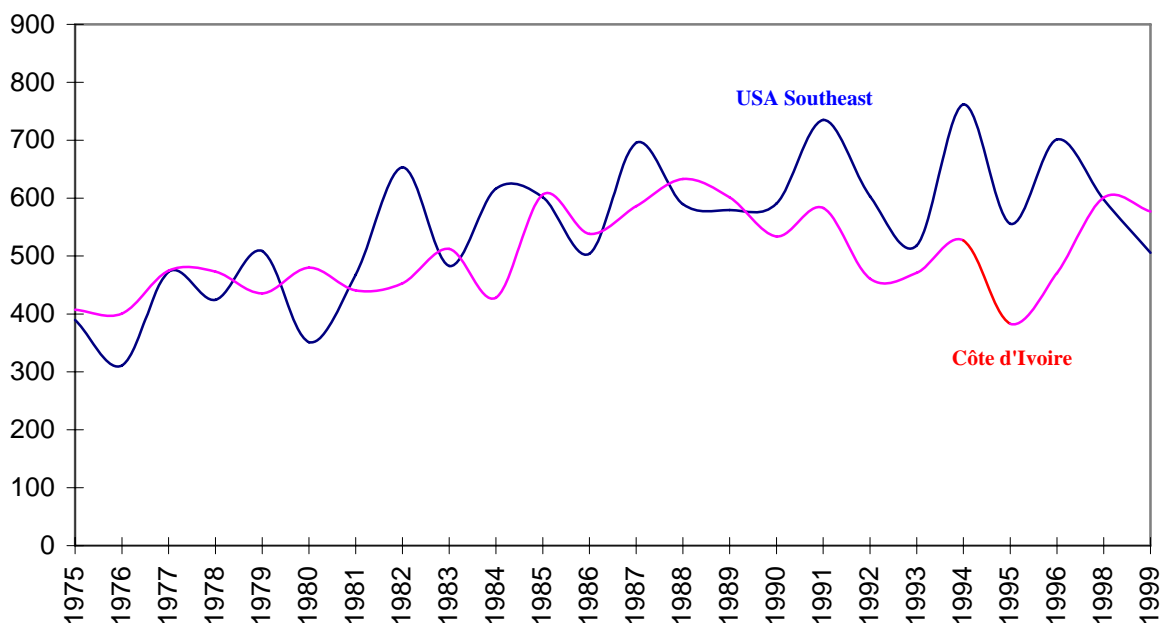


Figure 2. Comparative lint yield in Côte d'Ivoire and US Southeast

Table 4: Adoption rate of new cotton varieties from 1955 to 1993

	Number of varieties adopted	No. Of varieties adopted on a large scale	Average lifespan of varieties adopted at large scale (years)
Senegal	7	6	6.7
Mali	10	9	4.4
Burkina Faso	14	9	4.4
Côte d'Ivoire	12	12	3.3
Togo	8	7	5.7
Benin	11	8	5.0
Cameroon	15	12	3.3
Chad	14	9	4.4
Centralafrica Republic	14	9	4.4

Source: [11]

With reference to what generally occurred in developing countries, one may also have the feeling that farmers are under the mercy of merchants or unscrupulous agents when they sell their cotton production. This is neither true in the case of cotton in the FACs where nearly 90% of the production are commercialized by the farmers themselves (100% in the main countries like Mali, Burkina Faso, Côte d'Ivoire, Benin). This is a consequence of the externalization of the seedcotton trade from the cotton companies to farmers' organizations, for which these latter get specific remuneration on pre-agreed basis.

In a nutshell, cotton production in the FACs is an outcome of resource-less farmers with however commendable technological achievements, in spite of unfavourable climatic trend. These achievements unveil the farmers' adhesion to this production, thanks to institutional arrangements

that comply with their constraints and which favoured the adoption of the proposed technological progress.

Table 5: Gains in ginning outturn and Quality

	Periods	Gin. outturn %	% fiber attaining this length, inch		
			<1-1/16"	1-1/16"	>1-1/16"
Burkina Faso	1970-75	36,3	97,8	2,2	
	1975-80	37,5	67,3	31,5	1,2
	1980-85	39,2	5,2	67	27,8
	1985-90	41,3	21,7	73,2	5,1
Cameroon	1970-75	37	91,4	8,6	
	1975-80	38,4	90	10	
	1980-85	38,7	56,3	41,1	2,5
	1985-90	40,3	3,8	34,2	61,9
Côte d'Ivoire	1970-71	39,7	46,3	53,7	
	1975-76	40,2	51,9	44,5	3,6
	1980-81	40,8	3,8	70,7	25,5
	1985-86	43,6		91,7	8,3
	1990-91	44,3		21,2	78,8

Source: [11]

3 Radical change of institutional framework to cope with farmers constraints

Some academic works refer to the cotton production in the FACs as the outcome of the application of a "French system" or "CFDT system" (Compagnie Française de Développement des Fibres Textiles, erected in 1949 as a joint jointure with the French State having the major shareholding. This company changed its name in 2001 to DAGRIS. It has become Geocoton since its privatization in early 2008), based upon a strong integration within a cotton company which is endowed with the monopsony power in its intervention zone [12]. This historical reference is not correct. Such a system was initiated explicitly by Belgium, in 1921, in their former colony which is now the Democratic Republic of Congo, probably influenced by what Germany started to promote in the Benin Gulf before the end of WW1 [13]. The Belgian system inspired quickly other colonial powers, in particular Portugal which adopted it in Mozambique and Angola [14]. The reference to the "CFDT system" is also misleading since it occults more than half a century of the French failure in promoting cotton production in Africa since the mid-19th century [13, 15, 16].

Although aware of how the Belgian system worked, and in spite of the advocacy to adopting it [17], the French colonial administration kept on relying upon the competition rules till 1950. Finally, as a matter of paradox, the French government was singular in adopting very lately a system which is referred nowadays to be a French outcome. Nevertheless, this system helped meet the farmers' constraints and concerns in the areas of a) price fairness, b) risk aversion, c) lack of financial resource (encompassing liquidity constraint in imperfect financial market, d) lack of competence, e) high transaction costs in getting inputs or in selling seedcotton.

It was only in 1952, at a conference in Dakar devoted to launching commodities production in the French colonies, that CFDT proposed a policy [18] which eventually took place in the former French-Sudan (which covered locations corresponding to Senegal, Mali, Burkina Faso and Côte d'Ivoire).

This policy emphasized the need to propose an equitable price to farmers because no-one would accept to grow for non-profitability: this was a dramatic change with regard to the approach followed earlier. It advocated an early announce of the seedcotton price, before the sowing period, and the respect of the announced price at the buying time. In order to discourage farmers from delaying their harvest in the expectation of higher price late in season (which would have been detrimental to quality), a stable price all over the purchase season was advocated, as well as a uniform price all over a given colonial territory. To ensure quality, price differentials were set up in order to encourage farmers to sort their production at the harvest stage. Pre-announcement of price to farmers was only feasible if price could be settled too at the exportation stage. This was

the rationale of having the French textile industry to commit itself in a pre-agreed exportation price. This was actually accepted; it worked for three years but not renewed [6]. However the experience gained led to establishing stabilization funds that run till recent years. All the price mechanism set in place was targeted at alleviating the farmers' risk aversion.

The engagement in paying farmers within a short delay, generally at the time of buying what farmers brought to the markets, responded to the farmers' lack of liquidity.

The new pricing mechanism and the modalities of payment are clearly addressing the issues of farmers risk aversion and lack of financial resources in addition to ensuring equitable enough price to cotton producers.

The constraint of lack of financial was addressed also in the objective of increasing productivity. The analysis presented in 1952 suggested that intensification was costly and that farmers could hardly support the real cost. This observation influenced the subsidy policies which took place in the 1960s, firstly for the production equipment, then for fertilizers and finally for insecticides. Since there were no banks in rural areas at that time while farmers had no cash, it looked obvious that the supply of equipment and input, although at subsidized prices, must be implemented on credit basis, with repayment operated at the seedcotton purchase stage. This credit procedure was the cornerstone of an integration system which set up gradually leading to the monopsony system which eventually prevailed¹.

Transportation of the seedcotton from villages to the collecting points was a transaction cost ensured by farmers, and the distance was sometimes discouraging. This observation led to decide on increasing the number of collecting points and contributed to alleviate farmers' transaction costs.

Another observation pertained to the lack of productivity at the farmers' level. It was advocated to actually implement cotton research and to help farmers embarking into productivity gain through a more intensified production mode. CFDT pointed out that the messages on new techniques must be disseminated by a specific and trained staff to farmers who lacked competence in growing cotton, this was the starting point of the networks of extension staff that are encountered in the FACs cotton areas, clearly considering the issue of improving farmers' technical competence in new production mode.

In all the FACs, the same system was launched with more or less delay. The implementation of the subsidy policies to achieve a more intensified agriculture was backed by the launching of development projects, funded firstly by the French government, then by the European Economic Community. This system worked till mid-1970s and it experienced afterwards a dramatic change which contributed to better respond to the farmers' constraints and concerns.

Looking back to the set up of the institutional framework which gave the "CFDT system" enables to point out four important lessons in the area of the construction of institutional arrangements. First, the whole "CFDT system" was not set up once and for all; it was gradually built by adding complementary bricks on solidly anchored cornerstones. Second, it took time to have the cornerstones be put in place and a specific alliance between the most concerned players was required: in particular, it was because the colonial administration accepted to allow low import taxes of French textile products that the French textile industry accepted to commit itself in buying the African cotton, which was not known at all in the market, at a guaranteed price. Third, experience is necessary to test the feasibility, efficacy and soundness of new institutional arrangements and hence to finally find out the right path: no matter that the French Textile industry did not renew its commitment in buying African cotton lint at a guaranteed price. Actually, by the mid-1950s, after the fear of cotton scarcity vanished, the French textile industry

¹ It must be noted that it was only in 1954/55 that CFDT got the right to commercialize seedcotton, along with private operators who finally withdrew gradually. It was only at the Independence of the African countries that the CFDT monopsony status was formalized in 1960.

had no longer motivation in securing their raw material supply from the French colonies and it no longer accepted to pay extra-cost for that. In other words, after the WW2, the commitment of the French textile industry in promoting the cotton production in the FACs did not last more than three years. What happened during these three years enabled nevertheless all stakeholders to ascertain the soundness of the measures proposed in the analysis carried out in 1952. Fourth, the player who advocated for a new institutional framework and finally benefited, along with other players, was not the most dominant one.

4 Period of strengthening the institutional evolution to respond to the farmers' constraints and concerns

In the area of cotton production, the FACs are well known for their achievements in the associative process of the cotton villages: this process enabled farmers to implement by themselves the commercialization of seedcotton they produced along with the management of the input credit they obtained [19, 20]. This process took place in 1974 in Mali [6] and spread to the other countries at the point that seedcotton is almost commercialized totally by the cotton farmers themselves, by the end of the 1980s. It induced an empowerment of the farmers' organizations which led them to, nowadays, jointly monitor the cotton sector in some countries through the signature of contractual commitment involving the cotton company, the State and the farmers' national representation [21, 22].

This contractual process dealt in particular with a new pricing mechanism from the end of the 1990s, a dramatic institutional evolution without moving out the integration scheme and which contributed to better respond to farmers' constraints and concerns [23]. By having their say in the pricing mechanism, farmers gained better equitability since the purchase price became more connected to the world market price through a two-step payments procedure [23].

In the area of risk aversion, the associative process ensured farmers with the procurement of the input at the quantities and at the time they needed. They were protected from being cheated in the assessment of the quantity and of the quality of the seedcotton they produced. Application of intensification techniques encompassed risks. Although the approach of subsidizing the input use was questioned by the implementation of the Structural Adjustment Plans, the intensification option remained secured through an efficient network to maintain the devices of ox-drawn agriculture and of insecticide spraying. These networks are based upon the village blacksmiths which were trained and assisted in their equipment. Nowadays, many blacksmith workshops are capable of repairing many motorized devices, in particular motorbikes, flour-grinders...

By taking over a service of commercializing seedcotton, the farmers' organizations obtained compensation which improved their financial resources and helped them in implementing collective investments in their villages. In Mali, the collective financial resources, obtained from taking over the commercialisation of seedcotton, evolved from less than FCFA 100 millions in 1982 to FCFA 500 millions in 1992 [6]. It is estimated to be FCFA 2700 millions for the current 2003/04 campaign (or \$ 2.6 per inhabitant related to the cotton production).

The production increase along the period implied multiplication of the seedcotton collection spots at the point that most farmers sold their cotton production at the gate of their villages, decreasing seriously the related transaction cost.

The transfer of responsibility to farmers, namely in managing input credit and seedcotton marketing was only effective after a proper training of the farmers in the areas of book keeping and management, which corresponded to an assistance to upgrade the farmers' competence beyond the conventional area of technical practices.

As during the former period, the institutional arrangements took place gradually and they benefited from the alliance of the stakeholders. In the opposite of what happened earlier, it was the international funders of rural development, in particular the World Bank, along with bilateral

cooperation funds from France, the Netherlands...who took the lead by financing many actions to help train and equip the village blacksmiths, to help evolve the extension system [6].

The positive experience of involving the village blacksmiths in the cotton production provides another important lesson. The decision to involve them came only after several failures in ensuring the maintenance of the farmers' cultivation devices. What seems to be natural nowadays was not thought to be so at that time. This is an indication of the inevitability of engaging into a learning-by-doing process to eventually come to acceptable then successful institutional arrangements.

The involvement of the international funders got deeper and deeper during this period. These funders did not only help the stakeholders directly concerned by the cotton production to implement the strategy these latter set up, they also imposed the strategies they favoured in compliance with their ideologies of rural development. There was little divergence of strategies when training and promotion of village blacksmiths was concerned. Some divergence appeared when the mechanism of price fixing was questioned. This divergence was overcome, and eventually led to evolve from a fixed price to a minimum price in connection with the world market price, because there was no opposition from all of the direct stakeholders. Such a collective opposition appears towards the advocacy of privatization/liberalization which finally takes place, as an example of imposed institutional arrangement to which adaptation is required to go beyond the outcomes so far obtained.

5 Current period of uncertainty and threat induced by an unstable liberalization process

5.1. Reasons, scope and modalities of the liberalization process in the FACs cotton sectors

The serious crisis that affected the cotton world market in the 1991/92 plunged the FACs cotton sectors into deep financial crisis. It led some experts, in particular those from the World Bank, to preach the relevance of a deep change of these sectors organization, advocating a privatization which would ensure a more efficient management and a liberalization that would help farmers benefiting from price competition between several seedcotton buyers [24]. Such a proposition rose passionate debate [25-28] and the opposition demonstrated certainly tempered the rhythm of the liberalization process. Nowadays, this process actually covers only part of related countries, under diversified modalities which do not pertain to a pure liberalization and which are difficult to sum up properly.

Up to now, Benin is the country that embarks into the most radical change with regard to the former organization. Ginning is opened to several private operators whose activities are limited to gin seedcotton (and sell the resulting lint and seeds) according to quotas that the State administered according to a much debated criteria. The former para-statal cotton company was announced to be totally privatized since 1998. Its activities in technical advice and input provision were gradually reduced and transferred to a cotton-sector organization (Association Inter-professionnelle Cotonnière) led by a Federation of farmers' organizations (FUPRO). Till now, this privatization has not materialized. Input acquisition and distribution were privatized since 1992/93 but under modalities that ensured private distributors of having not any risk to bear [29, 30]. Purchase price of seedcotton remains administered, but following a new calculation formula. A new mechanism was set up in 1999 to keep on associating the seedcotton purchase with the recovery of the input credit in spite of the privatization process.

In Côte d'Ivoire, the change that took place in 1998 corresponded to the replacement of a national monopsony endowed to a para-statal by three regional monopsonies, through the establishment of two new companies involving international private capitals. A gradual move was defined to ensure, during a transitional period of two years, the continuation of the seedcotton purchase as well as the input and credit provision according to previous rules. The option of transferring the management of the cotton sector to a cotton-sector body led by the farmers' organizations was

retained. A new formula of calculations in determining the seedcotton purchase price was implemented too, by taking into account explicitly the farmers' production costs. Research organization was restructured in 1999 with a shareholding open to a federation of farmers' cooperatives so that theoretically producers become more active in orienting research activities. Since 2003, the regional monopsony scheme was disturbed by the operation of a new ginnery owned by a federation of farmers' cooperatives which has no allocation of intervention area and which contests the three established companies. In 2007, one of the private company (LCCI) was liquidated because it has not totally paid the seedcotton it got from farmers' cooperatives, for several years.

Togo has only allowed a new private ginner to operate along with the existing para-statal. In 2007, this ginnery has collapsed, many farmers have not been paid for the cotton they marketed for several years.

Mali has resisted for a long time to a liberalization process. In 2003, it was decided that the national monopoly will be split into 2 or 3 regional monopolies, and many assistance services that the cotton company provided to farmers will be ended up or transferred to other organisms. Around one third of the extension staff was laid off within the main cotton company (CMDT or Compagnie Malienne pour le Développement des Textiles). In 2005, the privatization was postponed to 2008. At the end of 2007, four subsidiaries were created as a gradual stage before privatization which is not materializing because the bad financial shape of the cotton company is not making it at all attractive.

Burkina Faso escaped from the liberalization firstly by opening in 2003 the shareholding of the unique cotton company to farmers who are most represented in the monitoring device that was set up. In 2006, two new cotton companies with private capital were erected and the inter-professional monitoring of the cotton sector was put in place.

Senegal has retained the same scheme of opening the shareholding of the unique cotton company to farmers. This unique company was later on privatized, in 2003, and became a subsidiary of DAGRIS.

In Chad, the privatization process has been retained for many years but it is not yet materialized. Modalities of the privatization are still harshly debated.

Cameroon is the country where the privatization or liberalization process is under debate for a long time but still with no precise options coming out.

5.2. Questionable outcomes

With regard to the five criteria that accounted in the farmers' adhesion to cotton production, there are unfortunately signs of negative trends which are threats for the continuation of this adhesion although they are not encountered in all countries.

In the area of price fairness, the fact that farmers have got the lead in the monitoring body of the cotton sector is positive. Such a body has its say in determining the purchase price to farmers and it has been at the origin of the adoption of new calculation formulas which takes into account farmers' real costs of production. Nevertheless, the formula is questioned only one year after its adoption in Côte d'Ivoire where it is decided to abandon it and where the cotton stakeholders are in seek of a more acceptable procedure. Such a situation is indicating that a common vision of equitability is missing. All cotton sectors in the FACs are still looking after a more efficient price mechanism.

In the area of risk aversion, price announcement has become far later than before, most often just prior to the seedcotton commercialization period instead of pre-sowing period. Furthermore, price retained at the commercialization time could have been lower than previously announced (Côte d'Ivoire). There are also cases of cotton production not being actually commercialized (Benin) for various reasons. In Benin, owing to the fact that the seedcotton quotas are allocated to private ginners without consideration of the distances between ginneries and production locations, evacuation duration is longer, with higher risk of quality depreciation leading the ginners to

refusing ginning and paying the related seedcotton. It is also in Benin where there were more farmers' complaints about the quality of the input they obtain. It was partly due to the coincidence with a serious outbreak of insect resistance to pyrethroids during the 1996 to 1998 campaigns. There were frequent complaints pertain to the late delivery of inputs and to their shortness with regard to the expected quantities². Since 2006, it is reported that farmers did not even get the seeds at the quantities and qualities they were accustomed to[31].

No more consideration was paid to the smallholders' feature of lack of financial resources before the implementation of the privatization/liberalization process, subsidy was phased out totally in most of the FACs. This situation remained unchanged afterwards, although farmers had got the lead in the monitoring the cotton sector. Further worst, it is in Benin where it is reported that acquisition price of inputs is higher, even higher than in landlocked countries. Since 2006, several governments of the FACs have allocated some subsidy to diminish the input prices, after their cotton producers complained against the profitability reduction of cotton production, at the time when they have engaged their crusade against cotton subsidies at the WTO arena.

Farmers' liquidity constraint has become higher as a consequence of a dramatic increase in the delay to pay farmers after they sold their production. The worst case is experienced in Côte d'Ivoire. In one region of this country, where one international investor is involved, many farmers have started experiencing very delayed payment since the 2001/02 campaign. No wonder why some farmers have withdrawn themselves from growing cotton.

Financial market remains very imperfect, and it is actually lacking in rural areas of FACs. Input credit associated to cotton production remains crucial. The option of having farmers' organizations taking over the responsibility in supplying input on credit basis looks positive on its principles (such responsibility transfer pertains often to the supply of "non-strategic" input like herbicides or mineral fertilizers for cereal crops) but it is not yet showing convincing results. In Côte d'Ivoire, the repayment rate of such kind of credit is very low (20-30%) which questions the sustainability of the scheme. In Benin, the farmers' organization (CAGIA) copes with the supply of all kinds of inputs and is regarded as being responsible of the delay in the delivery during the 2002/03 campaign for the reason mentioned above. Furthermore, disputes between farmers and their representatives regarding this issue of input distribution has become a permanent item that pushes the President of the country to intervene. In Mali, the farmers' organizations have failed in ordering the needed inputs on time and at the amount required, so that delivery at the farm gate was much delayed inducing divergence between farmers and their representatives. In spite of this shortfall, it was decided in 2007 to hand over the procurement of cotton production inputs to farmers' organization. The outcome was disastrous. One input supplier, very unhappy of not being paid, has managed to block the Malian cotton bales at the harbour of Abidjan, seriously disturbing the exportation operations. For the 2008/09 campaign, the input procurement has passed under a inter-ministerial group.

There is no significant change in the organization of the collection of the seedcotton production. In this sense, the farmers' transaction costs in selling their seedcotton seem to remain low. This apparent outcome must be mitigated by the fact that payment delay sometimes has become very long and that farmers have got to run several times after their money. Wholly speaking, these transactions costs have increased.

Finally, in the area of increasing farmers' competence, the achievement of having farmers to lead the monitoring bodies of the cotton sectors is commendable. Such a participation, if not leadership, in this monitoring provides farmers capacity building far beyond the technical area of production. However, such a competence upgrading is only limited to a very limited fringe of the farmers while transparency and democracy are not yet enough consolidated in the farmers'

² Although anecdotal, what happened in Benin in 2002 deserves mentioning. It was the cotton-sector monitoring body led by the farmers' organization which rejected a supply contract by an international supplier after it was approved officially several months earlier. Great political interference resulted.

institutions [32]. Decision-making is difficult, informing about the rationale of the decisions taken is not an easy task. There is a risk of having farmer leaders isolating themselves from their collective organization, so that the strengthening of some farmers' leaders encompasses the risk of leading the whole associative process becoming more fragile. During the 2002-2006 period, there were many signs of stakeholders' disputes in Benin, Côte d'Ivoire and Mali, even between and within farmers' institutions or syndicates.

With regard to the five criteria retained to assess the satisfaction of the smallholders' constraints and concerns, the FACs are characterised by institutional arrangements of their cotton sector which have been disputed till recently. The uncertainty which prevails is a potential threat to the cotton production. In practice, the current institutional arrangements induce additional costs to the farmers but also to the whole cotton sectors at the expense of their competitiveness. The instability and uncertainty of the cotton sector frameworks are translated into decreasing and fluctuating production (Figure 1).

5.3. Questioning the modalities and the features of the current institutional arrangements

As underlined above, there were no successful institutional arrangements that took place immediately and they can only derive from learning-by-doing processes. In this regard, the current outcomes which are not very satisfactory should not lead to excessive pessimism. In the area of input supply by the farmers' institutions, it is reported that a collective process is taking place to overcome the shortfalls encountered.

Negative experiences represent the cost to pay to reach more positive ones. It is more worthwhile to identify, owing to what we learned from the set up of former successful institutional arrangements, what went wrong in the adoption of the current arrangements; this is prerequisite to turn them into more positive ones.

First of all, the lesson of gradual change in the institutional arrangements was totally ignored. Instead, the strategy of turning upside-down was clearly favored [19, 20, 24] with little justification, except the conviction that little progress would be possible within the existing organization of the cotton sectors. As we emphasized in reminding the construction of the "CFDT system" or monopsony system, the gradual move was materialized through resting cornerstones which were previously identified. In the advocacy of liberalization, it is assumed that pulling down the existing cotton companies and by splitting them into several private-owned ones competition is the cornerstone on which a new successful institutional framework would automatically take place. When finally it is acknowledged that the State would have a role to play in ensuring the provision of public goods [20, 22], the conditions to set up the institutional arrangements in this prospect are seldom considered.

By over-emphasizing the attention paid to the price in purchasing the farmers' cotton productions, most of the smallholders' constraints and concerns we focused on in this paper are overlooked. The well-known risk aversion of the smallholders has been totally occulted. By privileging the level of the purchase price of the farmers' productions, little attention was paid to the risk of the fluctuation of this price or the risk for the farmers of not being paid. The purchase price was the item exclusively considered in the anticipation of the farmers' cotton income, assumed to necessarily increase, while the evolution of the production costs and of the expected yield account as much if not more. Such an attitude of privileging the purchase price factor led to disregard the reality of lacking or failing markets that impede reducing costs within a liberalized framework.

The alliance between the stakeholders is a requisite to move towards successful institutional arrangements. This is a lesson we point out in analyzing the construction of the former institutional framework. This requisite is totally ignored. The move towards privatization/liberalization was imposed externally. Very formal and official denials about this imposition do not change this reality as perceived by the stakeholders of the FACs cotton sectors. As a consequence, such a radical institutional change was induced with not any alliance from any

stakeholder. Further worst, such a procedure forced the stakeholders to figure out institutional arrangements to go round the imposed institutional framework. Consequently, what actually took place in several FACs, as we introduced above, do not pertain to pure privatization or liberalization, and whose outcomes are debatable. This situation is well perceived by the liberalization advocates who argue that the liberalization option is not accountable for the current shortfalls but rather the lack of liberalization [22]. This is a statement which unveils a still great ignorance about the construction of institutional arrangements.

With reference to the alliances of stakeholders which took place, it was the direct stakeholders of the cotton sectors who induced the institutional change, indirect ones only played the facilitating role by providing the needed means in order to materialize the decided change. What is going on demonstrates an overwhelming role from the indirect stakeholders, namely the international funders. This shift in the leading role, which is kind of external-centralization, cannot be efficient when it ignores the needed adhesion of the direct stakeholders.

Finally, the promotion of the farmers' involvement in the monitoring of the cotton sectors still sounds to be sufficient to induce better outcomes to them. If this is likely necessary, it cannot be automatically sufficient as evidenced through some examples. The farmers' institutions have been at the basis of the launching of new pricing mechanisms and new calculation formulas which integrate farmers' production costs and real costs of the cotton companies or ginners. Since the private cotton companies do not accept to show up their real costs for legitimate reason of confidentiality while they argue the producers' ones, this leads to disputes, abandon of new pricing mechanisms and uncertainty for all stakeholders. This is an illustration that new institutional arrangements, even if they are required for very much legitimate rationale, must comply with economic rules and private operators' behaviours.

6 Conclusion

The development of the cotton production in FAC became real from 1952 onwards, as a result of the implementation of an institutional framework which fit better to the smallholders' constraints and concerns in terms of price fairness, risk aversion, lack of financial resource (encompassing liquidity constraint under imperfect financial market), lack of competence in new production mode and high transaction costs. The real adhesion of farmers to cotton production depends on the extent to which their constraints and concerns are taken into consideration.

To better cope with farmers' constraints or concerns, a change of institutional arrangements is needed. This change implies modification in the group of players involved, in the prospect and sharing of benefit, in the costs associated to the relationship between players (with or without real transaction), in the sharing of these costs, in the perception of certainty or uncertainty and in the conditions to accede to goods/services. From 1952 till mid-1992, there was a sustained process of institutional arrangements, to gradually address farmers' constraints and concerns or to progressively modify the effectiveness in addressing them. This means that constraints were seldom coped with once for all, but all of the five we have underlined must be taken into consideration. It comes out that effective institutional arrangements ask for time to be set up; they result from experimentation, through learning-by-doing and they were not imposed by a dominant player and require instead alliance between stakeholders.

Conversely, if cotton sectors perform far much worse since the mid-1990s, it's mainly because the institutional arrangements which have prevailed do show the opposite features of successful ones. These arrangements were imposed, by a dominant player; they were implemented abruptly without experimentation and by focussing only on one concern (price) while overlooking the remaining constraints.

When considering the whole period of more than fifty years, with one long period of slowly constructed and successful institutional arrangements followed by a period of arrangements with quite questionable outcomes, it seems that these arrangements are very connected to the ideologies or paradigms of rural development. Under the constraint of erroneous paradigm, like

the one of liberalization which has prevailed from the beginning of the 1990s, it could be hard to expect very successful institutional arrangements. So the issue of adjusting the institutional arrangements for better performing cotton sectors also calls upon the challenge of determining a more appropriate paradigm of rural development in Africa today.

References

1. Carr, S. J. (1993) Improving cash crops in Africa : Factors influencing the productivity of cotton coffee and tea grown by smallholders, The World Bank, Washington. World Bank technical paper N° pp. 84.
2. Creupelandt, H. (1979) Credit for agricultural inputs in West Africa Countries, in FAO/FIAC Seminar on fertilizer pricing policies and subsidies Dakar, 8-13 Octobre 1979, pp. 13, FAO.
3. Sharma, V. B., Sharma, T. N., and Singh, R. L. (1997) Adoption behaviour of cotton growers with special reference to knowledge status and constraints, *Crop. Res.* 13, 1, pp. 199-203.
4. Stolzenbach, A. (1994) Learning by improvization : farmer experimentation in Mali, in *Beyond Farmer First* (Scoones, I., and Thompson, J., Eds.), pp. 155-159, Intermediate Technology Publications Ltd, London.
5. Poulton, C. (1999) Smallholder cotton production in Ghana under market liberalisation : a new institutional economics perspective, in *La libéralisation et la privatisation des filières agricoles en Afrique sub-saharienne* Montpellier, 09/09/1999, pp. 16 pages.
6. Fok, A. C. M. (1993) Le développement du coton au Mali par analyse des contradictions : Les acteurs et les crises de 1895 à 1993, CIRAD, Montpellier. pp. 237.
7. Paturel, J. E., Servat, E., Kouamé, B., Lubès, H., Ouedraogo, M., and Masson, J. M. (1996) Climatic variability in humid Africa along the Gulf of Guinea. Part I: detailed analysis of the phenomenon in Côte d'Ivoire, *Journal of Hydrology* 191, pp. 1-15.
8. Paturel, J. E., Servat, E., Kouamé, B., Lubès, H., Ouedraogo, M., and Masson, J. M. (1996) Climatic variability in humid Africa along the Gulf of Guinea. Part II: an integrated regional approach, *Journal of Hydrology* 191, pp. 16-36.
9. Silvie, P., Deguine, J. P., Nibouche, S., Michel, B., and Vaissayre, M. (1998) Procedures, advantages and constraints of Staggered Targeted Control programmes on cotton in West Africa, in *2nd World Cotton Research Conference Athens*. Sept. 6-10, 1998, pp. 4.
10. Michel, B. (2000) La lutte contre les ravageurs du cotonnier au Mali : problématique et évolution récente, *Cahier d'agriculture*, 9, pp. 109-115.
11. Fok, A. C. M. (1995) Le coton en Afrique francophone : Révolution verte ou évolution institutionnelle ?, in *Séminaire CIRAD " Succès et limites des révolutions vertes* Montpellier, 06 Septembre 1995(CIRAD, Ed.), pp. 80-92, CIRAD.
12. Lele, U., Van de Walle, N., and Gbetibouo, M. (1989) Cotton in Africa : an analysis of differences in performances, *MADIA The World Bank*, Washington. N° 7. pp. 36.
13. Fok, A. C. M. (1997) Etat, production et exportation cotonnières, industrie textile et développement économique. Une histoire économique du coton/Textile dans le monde, Univ. Montpellier I, Montpellier, France. pp. 827.
14. Pitcher, A. (1995) From coercion to incentives : the Portuguese colonial cotton regime in Angola and Mozambique, 1946-1974, in *Cotton, colonialism, and social history in Sub-Saharan Africa* (Isaacman, A., and Roberts, R., Eds.), pp. 119-143, Heineman & James Currey Ltd, Portsmouth & London.
15. Vuillet, J. (1919) L'introduction de la culture du cotonnier en Afrique occidentale, in *Bulletin du Comité d'études historiques et scientifiques de l'Afrique occidentale française*, pp. 52-59, Emile Larose, Paris.
16. Isaacman, A., and Roberts, R. (1995) Cotton, colonialism, and social history in Sub-Saharan Africa : introduction, in *Cotton, colonialism, and social history in Sub-Saharan Africa* (Isaacman, A., and Roberts, R., Eds.), pp. 1-39, Heineman & James Currey Ltd, Portsmouth & London.
17. Henry, Y. (1925) La culture du cotonnier en Afrique Occidentale, in *Travaux et Notices de l'Académie d'Agriculture de France* Paris, Vol. II, pp. 31, Académie d'Agriculture de France (Paris).

18. CFDT (1952) Note sur l'action entreprise par la CFDT en vue du développement de la production du coton en culture sèche en A.O.F. Conférence cotonnière de Dakar, Juin 1952, CFDT, Paris. N° 03/06/1952 pp. 18.
19. Pursell, G., and Diop, M. (1998) Cotton policies in Francophone Africa. Why and how the "filiales" should be liberalized, World Bank, Washington. N° Feb. 23, 1998 pp. 43 (+annexes).
20. Varangis, P., Larson, D., and Thigpen, E. (1995) What does experiences in other cotton producing countries suggest for policy reforms in Francophone Africa, The World Bank, Commodity Policy and Analysis Unit, Washington. N° pp. 50.
21. Goreux, L., and Macrae, J. (2002) Liberalizing the cotton sector in SSA, Louis Goreux Consultant, Washington, DC. N° June 18, 2002 pp. 33.
22. Badiane, O., Ghura, D., Goreux, L., and Masson, P. (2002) Cotton sector strategies in West and Central Africa, The World Bank, Washington. N° 2867. July 2002 pp. 20.
23. Fok, A. C. M., and Raymond, G. (1995) Organisation locale d'adaptation au marché mondial du coton : le cas du Mali, *in* Matières premières, marchés mondiaux, déséquilibres, organisation (Calabre, S., Ed.), pp. 203-214, Ministère de la Coopération, Economica, Paris.
24. Banque mondiale (1998) Politiques cotonnières en Afrique francophone, problématiques (version préliminaire), World Bank, Washington. N° Mai 1998 pp. 16 (+annexes).
25. CFDT (1998) Contresens et contre-vérités sur les filières cotonnières africaines : éléments de réponse à un document provisoire abondamment diffusé, *in* Coton et Développement, 26, 2-13.
26. Boher, A. (1998) La coopération française lève le voile, *in* L'autre Afrique, 14-20/10/1998 pp. 18.
27. Zolty, A. (1998) Va-t-on filer du mauvais coton, *in* Afrique Agriculture, 260, Juin 1998 pp. 2.
28. Gilguy, C. (1998) Réforme des filières cotonnières en zone franc : La France, la Banque mondiale et les gouvernements veulent un consensus, *in* Marchés Tropicaux, 26 Juin 1998, 26 Juin 1998 pp. 1359.
29. Bidaux, A., and Raymond, G. (1997) Evaluation du système d'approvisionnement et de distribution des intrants agricoles du Bénin, ACADE, CIRAD, Bussigny, Montpellier. N° Novembre 1997 pp. 53 (+annexes).
30. Macrae, J. (1995) Rapport de mission portant sur : le point de la Filière coton béninoise, J.M. Consultants, Paris. N° 01/1995 pp. 32.
31. Vautier, G., Imorou Karimou, M., and Afouda, A. S. (2005) Etude de faisabilité d'un programme sectoriel d'appui aux dynamiques productives en zone cotonnière au Bénin (PADYP), Sofreco,, Paris. N° Mars 2006 pp. 137.
32. Bingen, R. J. (1996) Leaders, leadership, and democratisation in West Africa : observation from cotton farmers movement in Mali, *Agricultural and human value* 13, 2, pp. 24-32.