Fok, A. C. M. & Tazi, S. (2003) Unsettled institutional frameworks: a threat for the future of the Francophone African Cotton. *Cotton Beltwide Conferences 2003.* Nashville, Tennessee, USA, National Cotton Council, USA.

UNSETTLED INSTITUTIONAL FRAMEWORKS: A THREAT FOR THE FUTURE OF FRANCOPHONE AFRICAN COTTON

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Abstract

For the first time, in 2001, Francophone African countries were globally ranking second in the world in exporting cotton. These countries are however engaged into a period of uncertain and unstable evolution of the institutional frameworks of their cotton productions whose outcome could be a consolidation of this new exporting position or in the opposite a total collapse. Drastic changes are observed in pricing mechanisms, provision of inputs and credit to farmers, orientation and financing of research activities, diffusion of technical messages to farmers. These changes imply modifications in responsibilities sharing between stakeholders and they are not always welcomed, either by part of them or by all of them. They are still too recent to predict properly what future will be.

In the concerned countries, several actions are implemented to help pass through successfully the current transitional period. In most countries, establishment of negotiation devices are promoted to help cotton sector stakeholders find out collectively new institutional arrangements that may be acceptable to all and adapted to the cotton production environment. Meanwhile, strengthening of farmers' organizations or institutions is engaged in view of assisting them in taking charge of more responsibilities within new institutional arrangements. Research actions are also implemented to help assess cotton sectors performance under diversified institutional frameworks following a common analytical framework and assist in information exchange between Francophone African countries.

Nevertheless, settling down new and successful institutional arrangements will be time demanding : Adjustments may be necessary to overcome initial mistakes and failures. Will Francophone African countries get enough time to adjust their cotton production organization and what will be farmers' reaction during the uncertain transitional period: these are the critical factors that will format these countries future in the cotton world market.

Introduction

Francophone African countries (FAC) 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 cotton production in FAC 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. Furthermore, most external analysts still hold the image of a 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) risk aversion, b) lack of financial resource, c) liquidity constraint, d) imperfect financial market, e) lack of competence, f) high transaction costs in getting inputs or in selling seedcotton and g) equitability in price level. 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, but this is somewhat threatened by the evolution which occurred from the mid-1990s, towards a process of privatization/liberalization.

In this paper, we first provide some data about the characteristics of the cotton production in FAC. In a second part, we recall the basis of the institutional frame that was set up in the 1950s that actually launched this production and we point out to what extent it complied with the smallholders' constraints and specificities. In a third part, we demonstrate 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 what are the actions undergone to help go through more successfully.

Main characteristics of FAC cotton production

Cotton production progressed a lot during the second half of the last century in the FAC (Graphic 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 . Except in Côte d'Ivoire, the spinning industry seldom exists, so that local consumption of cotton lint accounts only for a tiny share of the national productions. 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, Benin).

The FAC 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.

Adult literacy rate is a common indicator of human development. In this regard, the FAC suffers 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. A 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 FAC, under strictly rainfed conditions. Only Mali distinguishes itself by the popularization of animal-drawn agriculture so that only a small share of peasants are 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, 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 a food-crop production nearly similar, 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, frequently beyond their excess level (Table 3).

In spite of their lack of production means, farmers in the FAC achieve yield levels which are quite commendable, close to what is achieved in some cotton areas in the USA where rainfed production dominates (Graph 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 in a significant part in the production increase and competitiveness. 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 : 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. 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 FAC 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 is an outcome of resource-less farmers in the FAC with however commendable technological achievements in spite of unfavorable climatic trend. These achievements certainly contributed to the farmers' adhesion in this production, thanks to institutional arrangements that comply with farmers' constraints and which favored the adoption of the proposed technological progress.

Coping finally with farmers constraints through a new institutional framework

Some academic works refer to the cotton production in the FAC as the outcome of the application of a "French system" or "CFDT system" (CFDT for 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) based upon a strong integration within a cotton company which is endowed with the monopsony power in its intervention zone . 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 . The Belgian system inspired quickly other colonial powers, in particular Portugal which adopted it in Mozambique and Angola . Although aware of how the Belgian system worked, and in spite of advocacy to adopting it , the French colonial administration kept on relying upon the competition rules till 1950. Finally, as a matter of paradox, 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 regarding a) risk aversion, b) lack of financial resource, c) liquidity constraint, d) imperfect financial market, e) lack of competence, f) high transaction costs in getting inputs or in selling seedcotton and g) equitability in price level.

It was only in 1952, at a conference in Dakar devoted to launching commodities production in the French colonies, that CFDT proposed a policy 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, a stable price all over the purchase season was advocated, as well as an 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 . However the experience gained lead to establishing stabilization funds that run till recent days. 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.

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

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 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 FAC cotton areas.

It 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 was 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 and which leaded to monopsony system that eventually prevailed.

In all the FAC, 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, before somewhat concerted actions from a multilateral basis. This system worked till mid-1970s and it experienced afterwards a dramatic change which contributed to better respond to the farmers' constraints and concerns.

Institutional evolution favoring the response to farmers' constraints and concerns

In the area of cotton production, the FAC 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. This process took place in 1974 in Mali 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 lead 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 and which dealt in particular with a new pricing mechanism from the end of the 1990s . These processes corresponded to a dramatic institutional evolution without moving out the integration scheme and which contributed to better respond to farmers' constraints and concerns.

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.

By taking over a service of commercialization, farmers' organizations obtained compensation which improved their financial resources and helped them implementing collective investments in their villages.

In spite of great production increase, farmers did not suffer from greater delay in payment which would have been negative for their liquidity constraint.

This production increase implied multiplication of 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.

By transferring the responsibility of the input credit management to farmers, cotton companies in most of the FAC no longer restraint input provision to cotton and accepted its extension to alternative crops provided that credit repayment remained satisfactory. This was a tacit arrangement which responded to the imperfection of the financial market.

This responsibility transfer 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.

Finally, 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 .

The institutional change that took place afterwards induced however more debatable outcomes that question the future of the FAC cotton production.

Uncertainty and threat induced by an unstable liberalization process

Reasons, scope and modalities of the liberalization process in the FAC cotton sectors

The serious crisis that affected the cotton world market in the 1991/92 plunged the FAC cotton sectors into deep financial crisis. It leaded 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 . Such proposition arose passionate debate, to which this paper is not intended to feed, against its relevance that some observers translate as an opposition between France and the World Bank. However such an opposition certainly tempered the rhythm of the liberalization process which actually covered only part of related countries, under diversified modalities which do not pertain to a pure liberalization and which are difficult to sum up.

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 lint and seeds which result) according to quotas that the State administered according to a very debated criteria. The former para-statal is going to be totally privatized while its activities in technical advice and input provision were gradually reduced and transferred to a cotton-sector organization (Association Inter-professionnelle Cotonnière) leaded by a Federation of farmers' organizations (FUPRO). Input acquisition and distribution were privatized since 1992/93 but under modalities that ensured private distributors of having not any risk to bear . 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 input and credit provision according to previous rules. The option of transferring the management of the cotton sector to a cotton-sector body leaded 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. More recently, the regional monopsony scheme is 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.

Togo has only allowed a new private ginner to operate along with the existing para-statal. Mali has resisted for a long time to a liberalization process, but it was decided lately 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: by the time being, layout of around one third of the extension staff is undergone within the main cotton company (CMDT or Compagnie Malienne pour le Développement des Textiles). Burkina Faso escaped from the liberalization by opening the shareholding of the unique cotton company to farmers who are most represented in the monitoring devices that were set up. Senegal is retaining the same scheme of opening the share holding of the unique cotton company to farmers. In Chad, the privatization process is retained, through selling out the existing assets to private operators. 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.

<u>Questionable outcomes</u>

With regard to the seven 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.

In the area of risk aversion, price announce 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 has been lower than previously announced (Côte d'Ivoire). There are also cases of cotton production not being actually commercialized (Benin) according to various reasons. In Benin, owing to the fact that 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 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. More recently, complaints pertain to late delivery of input and short as regard to the expected quantities (because the cotton-sector body that the farmers' organization leads rejected a supply contract by an international supplier after it was approved officially several months earlier).

No more consideration were paid to the smallholders' features of lack of resources before the implementation of the privatization/liberalization process, subsidy was phased out totally in most of the FAC. 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.

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 are still not been paid one year after they sold (campaign 2001/02). This is leading obviously some farmers to withdraw themselves from growing cotton.

Financial market remain very imperfect, and is actually lacking in rural areas of FAC. Input credit associated to cotton production remains crucial. The option of having farmers' organizations taking over the responsibility of 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 showing convincing results. In Côte d'Ivoire, repayment rate of such kind of credit is very low (20-30%) which questions the sustainability of the scheme. In Mali, farmers' organizations failed in ordering the needed inputs on time and at the amount required, so that delivery at the farm gate was very delayed inducing divergence between farmers and their representatives. 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 current 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.

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

In the area of equitability, 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 its has been at the origin of the adoption of a new calculation formula which takes into account farmers' real costs of production. Nevertheless, the formula is questioned again only one year after its adoption (Côte d'Ivoire) so that this positive move is not yet ensured.

Finally, in the area of increasing farmers' competence, the achievement of having farmers to lead the monitoring body of the cotton sector 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. Decision-making is difficult, informing about the rationale of the decisions taken is not an easy task. There is a risk of having farmers 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. Unfortunately, there are actually signs of such a process splitting apart in Benin, Côte d'Ivoire and Mali with increasing dissension between farmers' institutions or syndicates.

Positive prospects from alternative or complementary actions

We do not aim at providing an excessively pessimistic view of the current situations of the cotton sectors embarked into privatization/liberalization process. Shortfalls always go along with change at its inception. Troubles we pointed out in some extent belong to this kind of shortcomings and do not necessarily object against the relevance of moving towards change. This view is shared by some bilateral aid-funds (Switzerland, Netherlands, France) which launch new actions in order to help settle down existing conflicts by setting up formal devices destined to efficient exchange and negotiation between cotton sector stakeholders. Other actions, under the leadership of the World Bank, but in connection with bilateral aid funds, are under execution to help empower furthermore farmers' organizations (Mali in particular) or to allocate new financial means enabling these organizations to monitor operations contributing for instance to improve productivity at the field level (Benin).

It is retained that better information on solutions and outcomes that every national cotton sector achieves is of crucial importance to help each sector to finding out its own way by selecting or amending adapted solutions. In this regard, a regional research project is implemented to appraise the relative performance of 6 cotton countries in Africa (the Resocot project is coordinated by Cirad and involving 6 countries : Benin, Burkina Faso, Côte d'Ivoire, Cameroon, Ghana, Mali), following a similar methodological approach which relates performance indicators to global development goals (poverty alleviation, competitiveness, environmental sustainability) and which gives a more comprehensive set of indicators than the seven we retain here for reason of historical perspective. General performance is split into positions along nine axis of challenge or capacities. The graphical representation which results enables each country to assess its own position with reference to two virtual countries : the "virtual max" which is doing the best for every challenge and the "virtual min" which is doing worst for all (Graphic 3). It is expected that such research work could help cotton sector stakeholders to jointly identify new challenges and to concentrates efforts to meet them.

Nevertheless, even though one may be optimistic that the current shortfalls and conflicts could be overcome, time is always needed to address efficiently diverging interests between stakeholders. In the opposite, quick solution are expected because the current international cotton market is so much demanding in terms of competitiveness gain that stakeholders may decide to quit the cotton business before acceptable solutions will be found.

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 risk aversion, lack of financial resource, liquidity constraint, imperfect financial market, lack of competence, high transaction costs and price equitability. The institutional framework that many analysts still refer to being a French one was not a French outcome, but rather a Belgian if not a common European output. This framework was neither a static one, on the contrary, it evolved a lot during the 1970s and 1980s, and the great production increase that the FAC experienced resulted mainly from a better response to the smallholders concerns.

This framework keeps on evolving, towards a privatization/liberalization direction. Outcomes we observe so far are worrisome, since they pertain to kind of a backward move with regards to the smallholders constraints and concerns. Although observation of shortfalls is quite usual at the inception of any change, the current troubles in countries which embark into privatization/liberalization pertain to serious threat for the continuation of the farmers' massive adhesion to cotton cultivation. Time is needed to solve these troubles, new actions are launched to help in this direction, but time may lack if the cotton world market remains so much demanding in competitiveness which pushes operators out of the cotton business.

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Table 1: Macro-economic indicators in FAC

	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

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%

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 equiped farms	25	42	67	3

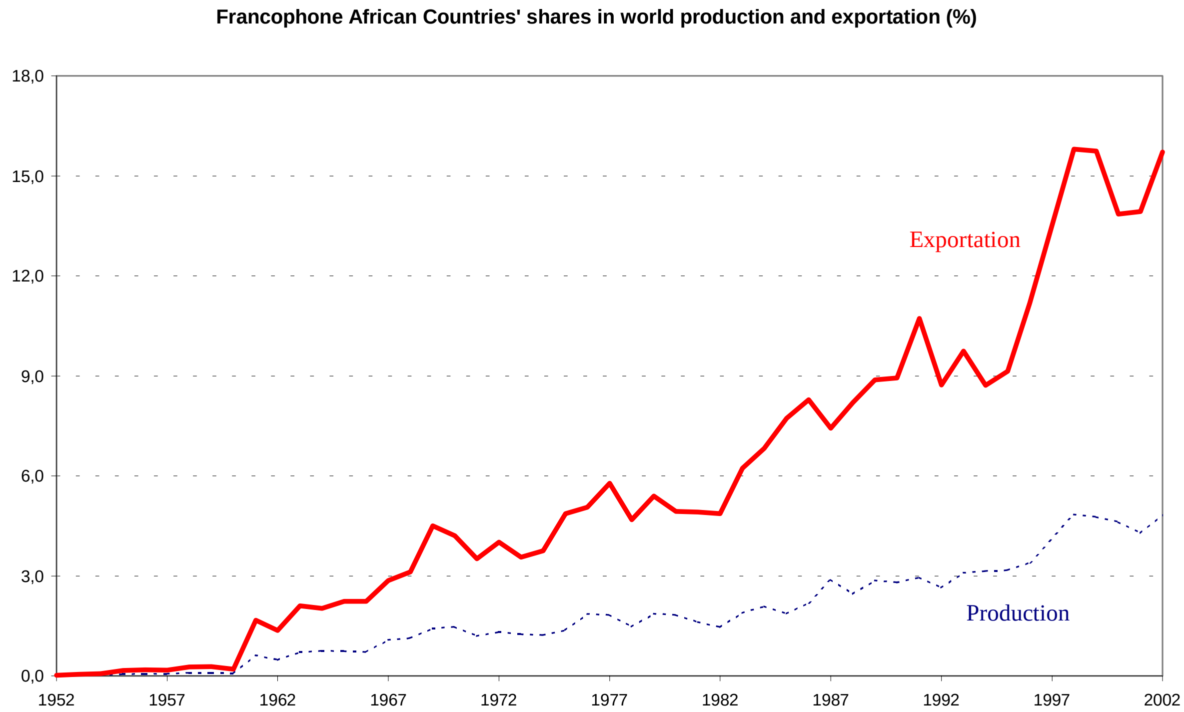
Table 4: Adoption rate of new cotton varieties from 1955 to 1993

	Number of varieties adopted	No. Of varieties adopted on a large scale	Average lifespan of varieties adopted at alrge 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

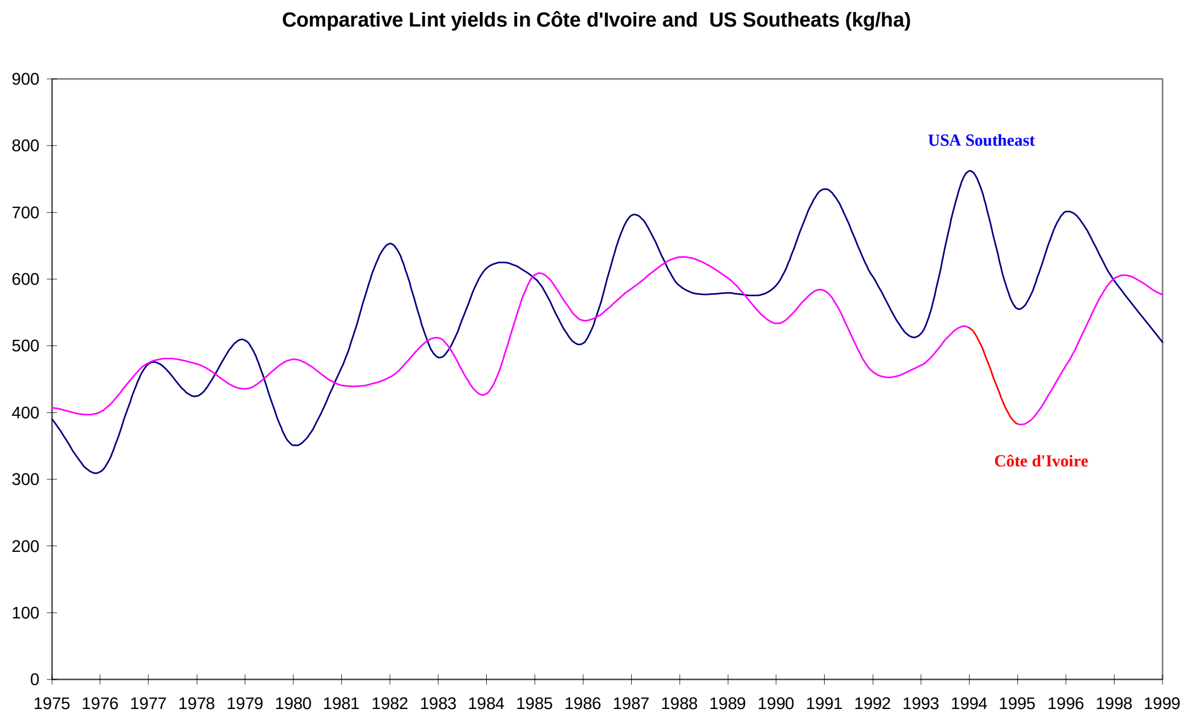
Table 5: Gains in ginning outturn and Quality

	Periods	Gin. outturn %	% fiber attaining this length		
			<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

Graphic 1: FAC shares in world cotton production and exportation



Graph 2 : Comparative lint yield in Côte d'Ivoire and US Southeast



Graphic 3: More comprehensive assessment of relative performance from the Resocot Project