Marketing policies and economic interests in the cotton sector of Kenya

Dijkstra, T.

Tjalling Dijkstra

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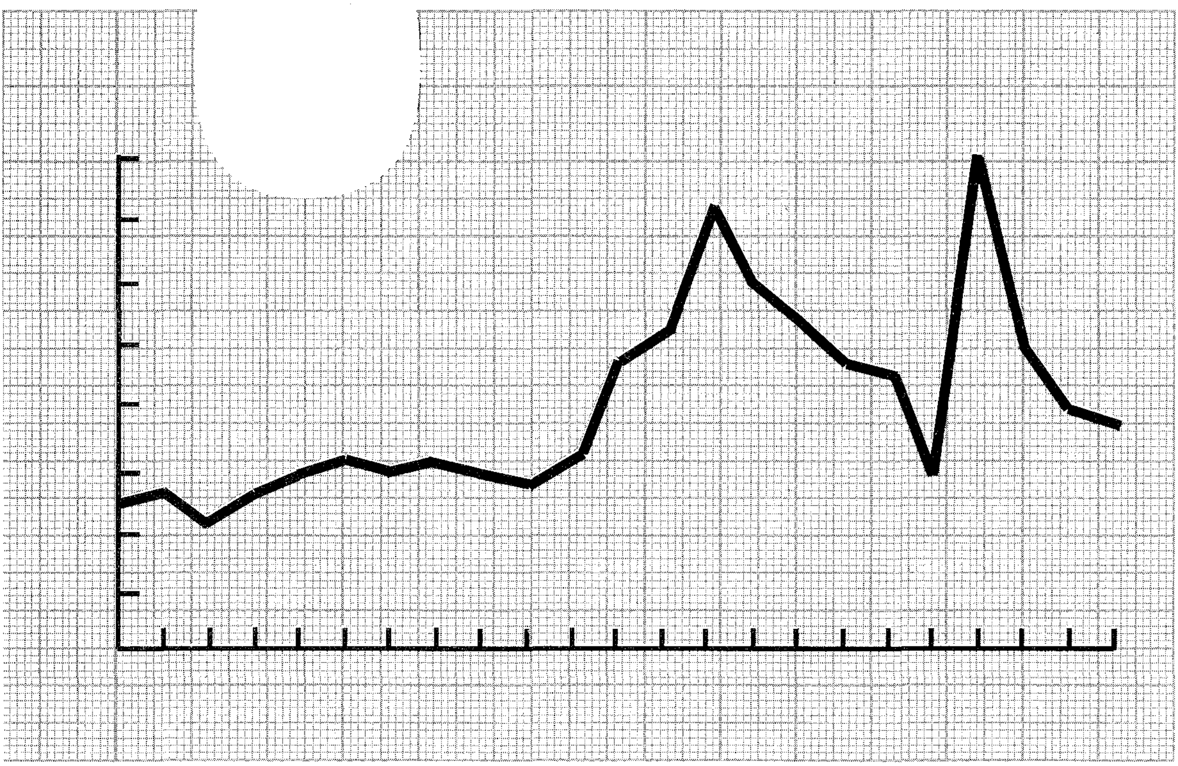

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Marketing Policies and Economic Interests in the Cotton Sector of Kenya

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Summary

This report examines the marketing arrangements for raw cotton, cotton lint and cotton seed in Kenya. The cotton flows are studied from the farmers up to the Cotton Lint and Seed Marketing Board (CLSMB), and from the Board up to the textile and oil mills. The CLSMB is responsible for all marketing activities within the present cotton marketing system, including those performed by agents. The agents involved are cooperative societies and unions, and private ginners. In 1988, Kenya possessed 15 ginneries of which 14 were operational. Seven of them were owned by cooperative unions (of which one jointly owned by a union and the Board), three by private ginners, and five by the Board. The private ginners processed about half of the 1987/88 cotton crop, against the cooperatives 20 percent and the Board 30 percent. The buying of seed cotton at the village lev.el (primary buying) was in principle the responsibility of the agents. The Board, however, carried out primary buying in a few areas where agents were absent or failed to perform their task satisfactorily.

During the 1970s, the Board expanded its activities in order to stimulate cotton cultivation, and thus to secure raw materials to the domestic textile mills. It established and took over ginneries, started primary buying, and issued farm inputs on credit as part of the *Cotton Development Programme*. Although the increasing local demand for cotton lint seemed to justify the new Board activities, the textile mills could also have imported lint to provide for their input needs. This possibility, however, was precluded by the cotton self-sufficiency policy of the government, which implied restrictions on the importation of cotton lint.

The new activities of the Board, credit supply first, caused financial problems for the Board from 1980 onwards. This led to frequent payment delays to the cotton farmers, who, thereupon, switched to other cash crops. As a consequence cotton production declined by over 45 percent between 1978/79 and 1987/88. To be fair, the payment delays cannot be wholly attributed to the Board. Many cotton cooperatives in turn failed to pay their members in time.

In 1985 the financial problems of the Board resulted in its technical bankruptcy. This, together with the declining cotton production, prompted the government to decide on a structural adjustment programme for the cotton sector in 1986. A large-scale reorganization of the cotton marketing system had to divert the Board from many activities, primarily those commenced during the 1970s. This was inevitable to solve the financial problems of the Board and to prevent the recurrence of payment delays for the cotton farmers. The extensive reorganization must be backed up by improvements in primary marketing, notably the strengthening of the cooperatives.

The actual reorganization of the marketing system, as outlined by the 1988 Cotton Act, has not yet started at the time of writing of this report. According to the Act, the former activities of the Board will be taken over by licensed cooperative and private buyers and ginners, who will no longer act as agents of the Board. The Board will, however, remain responsible for the selling of all domestic cotton lint, that is through an auction system which is implicitly mentioned as the successor to the present cost-plus system. Selling of lint through this auction system implies abolition of all restrictions on the importation of cotton lint, in order to put the local mills on the same footing as the overseas buyers.

The proposed system should solve the financial problems of the Board, and indirectly those of the Treasury. The reorganization will be advantageous to the Kenyan textile mills, through the auction system and free importation of cotton lint. Improvements to the cotton farmers and cotton seed crushing mills will depend first of all on the ability of the cooperative and private buyers and ginners to handle their new responsibilities successfully. One of these new responsibilities has to be prompt payment to the farmers. For the moment, it seems doubtful whether the cooperatives will be able to meet these expectations. In case of insufficient support during the transitional period, the cooperative sub-system is likely to break down under its new responsibilities.

The Kenyan government will have to consider the establishment of a price stabilization fund. Without such a fund, fluctuations of world cotton prices will affect producer prices through the auction system, and therefore the incomes of the farmers. Declining world prices will lead to a further decrease of domestic cotton production, and indirectly to a higher demand for foreign currency, from both the textile and the vegetable oil sector.

Introduction

This report presents the final results of the research project "Cotton lint and cotton seed for domestic factories in Kenya", as part of a joint programme of the Ministry of Planning and National Development, Nairobi and the African Studies Centre, Leiden. The field work was carried out by the author between September and December 1988.

The report examines *the marketing arrangements* for raw cotton, cotton lint and cotton seed in Kenya, and the relationships and conflicts between the actors involved. The *cotton flows* are studied downstream of the Cotton Lint and Seed Marketing Board (CLSMB), that is from the cotton farmers to the Board, and upstream, that is from the Board to the textile and oil mills. The latter part of the flow, which is bound up with the industrialization process in Kenya, is a recent phenomenon, requiring careful examination.

The recent history of the CLSMB is of crucial importance for an understanding of the present situation in the Kenyan cotton sector. The Board became subject to two major changes in the 1970s. First, it changed from an export into a domestic board, selling its statutory crop to the domestic industries. Second, it expanded its activities to stimulate cotton cultivation, and thus to secure raw materials for the domestic textile mills. The Board changed into a crop development authority, similar to parastatals in many other African countries in the 1970s (see Hesp and Van der Laan, 1985).

The 1980s showed a dramatic decline of Kenyan cotton production. What were the reasons for this decline and who could be held responsible? To what extent were the problems bound up with the blueprint of the cotton marketing system? Was the CLSMB forced to expand its activities because of its change into a domestic board, and did these activities cause the negative developments in the 1980s? An attempt to answer these questions is made below.

The report starts with the history of cotton production and marketing in Kenya. Next, the different participants in the cotton marketing system are introduced, i.e. the cotton farmers, the cooperative and private buying and ginning agents, the CLSMB, the textile factories and the cotton seed crushing mills. Subsequently existing problems and conflicts at each marketing stage are looked into, and possible solutions discussed. A distinction is made between solutions that amount to a large-scale reorganization of the marketing system, and those that imply an improvement only. Both are necessary, but the latter often receive too little attention.

In the last section, the large-scale reorganization of the present marketing system, as proposed by the Kenyan government and outlined by the 1988 Cotton Act, is discussed. The reorganization is designed to solve the present problems, and to reverse the declining cotton production trend. The report includes provisional comments that will be of use to the Kenyan government in its efforts to implement the reorganization successfully. Besides, the report can be of interest to cotton growing countries elsewhere in Africa. The detailed reorganization of the marketing system, as proposed by an inter-ministerial committee in 1987, is discussed in a separate appendix, because of the confidentiallity of the material involved.

1. Cotton cultivation in Kenya

1.1. Introduction

Cotton has been grown in East Africa since it was introduced by the Shirazi of Persia in about AD 1000. Locally manufactured cotton textiles were being exported from the East African Coast when the Portuguese first reached there, and spinning and weaving skills had been transmitted inland to various places, including the present centres of cultivation around Lake Victoria. This industry mostly disappeared in the face of competition from Indian cotton after 1840 (Jones, 1980).

The first European interest in growing cotton in Kenya dates back to the 1890s, when German-owned plantations run with slave labour existed in the Lamu area (Talbott, 1973). In 1907 the first agricultural grants were issued to European firms that wanted to grow cotton on big estates in the Tana River Valley. However, it soon became evident that, if any extensive development of cotton on large European estates was to take place in the Lamu area, heavy outlays for irrigation works would be necessary. The cotton planters were unprepared to stake such large investments on the crops and soon gave up their operations (Talbott, 1973). It meant the end of white settler involvement in cotton production.

The authorities of British East Africa started to introduce cotton for peasant cash crop farming at the Coast and in Buganda (Uganda) and Nyanza Province (belonging to Uganda up to 1926) in 1903. Two considerations determined the introduction of cash crops in general. In the first place, revenues were needed for these territories. In the second place, cargo was needed for the newly constructed railway, which ran from the Coast at Mombasa to the shore of Lake Victoria at Kisumu. Cotton was chosen as the most suitable cash crop (Fearn, 1961). The British authorities started to promote cotton cultivation in Kenya with the distribution of free seeds by the Department of Agriculture. In 1908, the first ginnery came into operation, situated in Kisumu and owned by the British East Africa Corporation. Despite all the promotion efforts, the introduction of cotton was not very successful. The failure was attributed by Administrative officers first of all to the series of successive falls in prices for cotton paid to the farmers. Some other factors hampered the adoption of cotton by the farmers too. The cultivation of cotton interfered with the labour requirements of food crops, and disturbed the gender-related division of farm labour. The promotion of cotton through the local authorities was hampered by the absence of an indigenous hierarchy of chiefs in the Luo area. Most of all, the colonial authorities lacked a clearly formulated cotton policy (Fearn, 1961). This would change in 1923.

In this chapter, we will discuss government policy with regard to cotton cultivation from 1923 onwards. Goals of state intervention in the cotton sector, both before and after independence, will be explained. The chapter will end with a review of the regional differences in cotton cultivation.

1.2. Government intervention in the cotton sector

The Kenya Cotton Ordinance of 1923 marked the beginning of a serious attempt to promote cotton cultivation. The increase of cotton production became an official policy objective, and has remained so ever since. The Kenya Cotton Rules of 1923, made under the Ordinance, regulated the growing of cotton and its quality, and the purchase of seed cotton and its ginning.

> The Agricultural Department was empowered to control the quality of seed, and to destroy unsuitable seed, and government officers on safari had powers to enforce the destruction of cotton plants after each season's harvest, an activity which remains fundamental in the cycle of cotton cultivation by the African peasant farmers. [1]
>
> (Fearn, 1961, p.74)

Under the provisions of the Kenya Cotton Rules 1923, a system of licensed cotton buying posts was developed. These licensed buying posts were run by Asian traders. They used African agents in the reserves to collect seed cotton in small quantities and bring it to them in the trading centres.

[1]The destruction of cotton plants was meant to fight plant diseases.

The government policy to increase cotton production started to bear fruit after one decade. The mid-thirties experienced a cotton boom, which can be attributed to the dedication of the staff of the Agricultural Department, and to an extension of cotton growing to areas where the crop had not hitherto been cultivated, especially parts of Central and South Nyanza (Fearn, 1961). New ginneries were established both in Nyanza Province and on the Coast.

The Cotton Ordinance 1936 provided that the Governor in Council could issue rules regulating the cotton sector by fixing prices to growers (producer prices) and controlling or prohibiting the movement of cotton from one area to another. The Kenya Cotton Rules 1937 regulated growing, buying, and ginning, and provided for control over the issuing of seed, dates of planting and uprooting, location of buying centres, and the establishment and operation of ginneries.

The controlling of producer prices would remain the most important measure. However it would not always be used as a means to promote cotton cultivation. During World War II and for two years afterwards, the government used it to focus on maximum production of cereals and oil seeds (Talbott, 1973). Prices for cotton remained at their low level, while prices of, for instance, maize were increased. As a consequence, the production of cotton declined. In 1947, the government, alarmed by the continuing decline of cotton production, started to change its policy. The producer prices for cotton were sharply increased and a publicity campaign was initiated to return to the performance of the mid-1930's (Talbott, 1973).

In 1954 the government established the Cotton Lint and Seed Marketing Board (CLSMB).[2] The Board was responsible not only for the fixation of the producer price for raw cotton, but also had to purchase all cotton lint and seed from ginners, and to arrange for its sale either in the colony or outside (GOK, 1954). It implied a shift from indirect involvement of the government in the cotton sector by means of licensing, to direct involvement through the CLSMB, by means of buying and selling of cotton lint.

The Cotton Lint and Seed (Powers and Supervisors) Regulations of 1956 strengthened the position of the CLSMB. It specified supervision of purchase, sale and export of cotton lint and seed, inspection of ginning operations, taking of samples, and certification of weights and qualities of cotton lint and seed (Talbott, 1973). The Board established two separate funds: the Price Assistance Fund, for the purpose of price stabilization, and the Ordinary Fund for general development of both the cotton sector and the social services in the cotton areas.[3]

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[2]Two cotton sales funds, namely the Nyanza Cotton Sales Fund and the Coast Province Cotton Sales Fund, both established in the second half of the 1940s, were reorganized into the CLSMB.

[3]During the first years, the Ordinary Fund for general development was fed solely from profits in trading and interest on investments. However, by 1960 a large proportion of the Price Assistance Fund had been transferred to the Ordinary Fund for general development (Ogutu, 1971). The Price Assistance Fund had changed to a large extent from an instrument of price stabilization largely for the benefits of the farmer, to an instrument of taxation with diversion of revenues to non-farm sectors (Bates, 1983).

The Board started to promote cotton cultivation by means of a propaganda campaign, coupled with improvement in buying arrangements, and monetary advances using the cotton crop as a surety. These advances represented the first involvement of the Board in the issuing of loans, which "were designed to induce farmers to grow cotton and use the proceeds to repay the loans at a later date. Little difficulty was experienced in getting such advances repaid." (Talbott, 1973, p.33). The result of these measures was a sharp increase in cotton output. On the eve of independence in 1963 cotton production seemed to be established on a permanent basis.

At independence in 1964, the Kenyan government, like many African governments, found itself the inheritor of parastatals that held a legal monopoly over the purchase and export of most of the valuable commodities, like coffee, maize and cotton. The Cotton Lint and Seed Marketing Board kept all its previous functions, including the management of the Cotton Price Assistance Fund (GOK, 1967).[4]

The Board's role as promoter of cotton cultivation led to the establishment of Board ginneries in the 1970s. Most of them were established in the Eastern Province, which seemed to be an area with good prospects for cotton production. The CLSMB established and operated the ginneries itself, since the few cotton cooperatives that existed

[4]One new item appeared in the Cotton Lint and Seed Marketing Act: the Board had to make necessary arrangements for the purchase of cotton not only from growers but also from "growers' cooperatives"(GOK, 1967, p.7). The reason was the establishment of the Nyanza and Western Cooperative Unions (see section 2.2).

in the area were not strong enough to finance and manage such enterprises.

1.3. The Cotton Development Programme and its aftermath

During the second half of the 1970s, the Board's activities as promoter of cotton cultivation became more and more important. A cotton self-sufficiency policy was launched by the government in 1976 through the *Cotton Development Programme,* which was encompassed under the umbrella of the Integrated Agricultural Development Programme (Mutuura, 1987). From 1965 onwards, Kenya had been relying heavily on cotton from Uganda and Tanzania for its textile mills, and by 1976 it experienced an increasing demand for cotton from these mills, while changing relations with its neighbouring countries began to jeopardize import supplies. To meet the needs of the domestic textile industry, the Kenyan government aimed at increased cotton production, proclaimed as self-sufficiency.[5]

The producer prices of seed cotton[6] were increased by 80% between 1975 and 1979, and farm inputs such as insecticides, spraying pumps and

[5]Cotton self-sufficiency would remain Government policy during the following decade, although it was not always mentioned as such in the official policy papers. Restrictions on all imports of cotton lint would become one of the most important measures in this respect. They were brought up for discussion again by an inter-ministerial committee in 1986 (see section 4.2).

[6]The farmers produce "seed cotton" (also called "raw cotton"). During the ginning process seed cotton is separated into "cotton lint" and "cotton seed". Cotton lint is pressed into bales, and cotton seed is stored in bags.

land preparation services were provided to farmers through interest-free loans. The CLSMB was responsible for the financing, administration and recovery of these loans (IDA, 1986). The farmers responded to these measures with an increase of production from 32,000 bales in 1975/76 to 62,000 bales in 1978/79 (see Table 1).

By 1980, the sharply increased output had created severe bottlenecks. One of these was the CLSMB's lack of sufficient working capital. The situation became worse because of financial losses incurred each year since 1977, mainly due to low debt repayment within the credit scheme of the *Cotton Development Programme* (IDA, 1986). More working capital was also needed because of the Board's increasing involvement in "direct" cotton buying at the village level [7](see sections 2.2 and 3.3). Board working capital was needed earlier, and immobilized during a longer period. Another bottleneck was formed by the low actual capacity of the Board ginneries (IDA, 1982). Cotton farmers, who experienced long payment delays, became disillusioned, and started to switch to food crops and cash crops like sugar-cane. Cotton production declined by one third between 1979/80 and 1982/83.

In 1983 the government had lost faith in the *Cotton Development Programme* and started a new project by means of IDA credit to reverse the declining cotton trend, the *Cotton Processing and Marketing Project.* The project included an injection of working capital and an improvement of the operational efficiency of the CLSMB, and the rehabilitation of

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[7]"Direct" primary buying, which means buying of raw cotton at the village level by Board officials.

Table 1. Seed cotton production in Kenya between 1965 and 1988

Year	Western/ Nyanza Prov. (tonnes)	Coast Prov. (tonnes)	Central/ Eastern/ Rift Valley Prov. (tonnes)	Total Production seed cotton (tonnes)	Total Production bales of lint*
1965/66	6,014	3,779	3,562	13,555	23,430
1966/67	10,087	1,866	1,678	13,631	23,915
1967/68	7,201	1,645	2,593	11,439	20,072
1968/69	7,008	1,381	4,839	13,228	23,029
1969/70	7,663	1,901	6,248	15,812	27,752
1970/71	11,458	2,896	2,875	17,229	30,228
1971/72	10,538	4,244	1,758	16,540	29,017
1972/73	9,238	4,763	3,217	17,218	30,210
1973/74	8,613	3,254	4,317	16,184	28,892
1974/75	9,419	3,062	3,789	16,270	25,544
1975/76	12,225	3,907	2,332	18,464	31,553
1976/77	13,284	4,050	6,497	23,795	34,747
1977/78	12,997	3,253	9,834	26,084	46,867
1978/79	15,555	2,929	17,082	35,566	62,179
1979/80	16,488	2,849	9,875	29,212	51,250
1980/81	13,716	4,366	8,710	26,792	46,987
1981/82	12,155	4,890	7,043	24,088	42,557
1982/83	7,907	3,888	11,735	23,530	42,053
1983/84	5,288	4,314	5,270	14,872	26,025
1984/85	7,109	9,124	23,712	39,945	70,421
1985/86	9,005	9,811	8,951	27,767	49,187
1986/87	6,107	8,270	4,808	19,185	33,975
1987/88	3,122	8,907	6,755	18,784	32,896

Source: CLSMB internal files.

*1 bale= approx. 185 kg.

Board and cooperative ginneries. While it was confidently expected that the declining trend would be reversed in 1983/84 as project operations got under way, in practice Kenya's drought in that year further reduced the cotton output. In 1984/85, a strong recovery was made, initiated by exceptional good weather conditions in Eastern and Central province, and a record output of 70,000 bales of cotton lint was achieved. However, this placed unprecedented demands on the CLSMB financial resources for crop purchasing, again causing payment delays. In 1985/86 farmers failed to replant cotton and output decreased once again, this time to 49,000 bales.

At the end of 1985, the CLSMB was in a situation of technical bankruptcy.[8] According to an interim evaluation of the rehabilitation programme of 1983, the main reasons were: the declining cotton production between 1979 and 1984 (and therefore revenues from ginned output), the long delay in improvement of operational efficiency at the Board ginneries, the heavy burden of debt repayments on commercial borrowings, and negligible improvements in recovery of debts on input loans to cooperatives (IDA, 1986). Working capital provided under the rehabilitation programme had been exhausted, and the CLSMB did not have the credit standing to contract new loans. In February 1986, the Kenyan government decided on a structural adjustment programme for the cotton sector, and, in March 1986, assisted the CLSMB to settle overdue payments to the cotton farmers for their 1984/85 crop.

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[8]The financial situation of the Board had worsened to such an extent that bankruptcy would have been inevitable if financial support had been refused by the Treasury.

In 1986 a Cotton Bill was introduced in Parliament, aimed at reorganizing the cotton sector. The Bill was withdrawn and modified twice before it was passed in Parliament on the 29th July 1988. During this period, cotton production further decreased to 33,000 bales (1987/88). The decline continued although producer prices were increased. The most important reason was again delayed payments to the farmers, along with unfavourable weather conditions (CBS, 1988).

In summary, the main goals of state intervention have been to promote cotton cultivation and to fix producer prices for seed cotton. Cotton production had to generate export earnings, and more recently, had to supply the domestic industry with sufficient inputs. The fixed producer price had to guarantee a reasonable income for the cotton farmers, regardless of fluctuating world market prices. This would not only serve the interests of the farmers, but stimulate cotton cultivation as well. Table 2 summarizes the history of state intervention in the cotton sector.

The role of the Board as an active promoter of cotton cultivation became more and more important, especially during the 1970s. The CLSMB got involved in credit supply, "direct" primary buying, and "direct" ginning.[9] This caused financial problems during the 1980s, subsequently leading to payment delays to the cotton farmers, and a decline of cotton production. We will come back to this when we evaluate the present and reorganized cotton marketing system (Chapters 3 and 4).

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[9]"Direct" ginning refers to ginneries owned and managed by the Board, in contrast to indirect involvement by means of licensing and supervision.

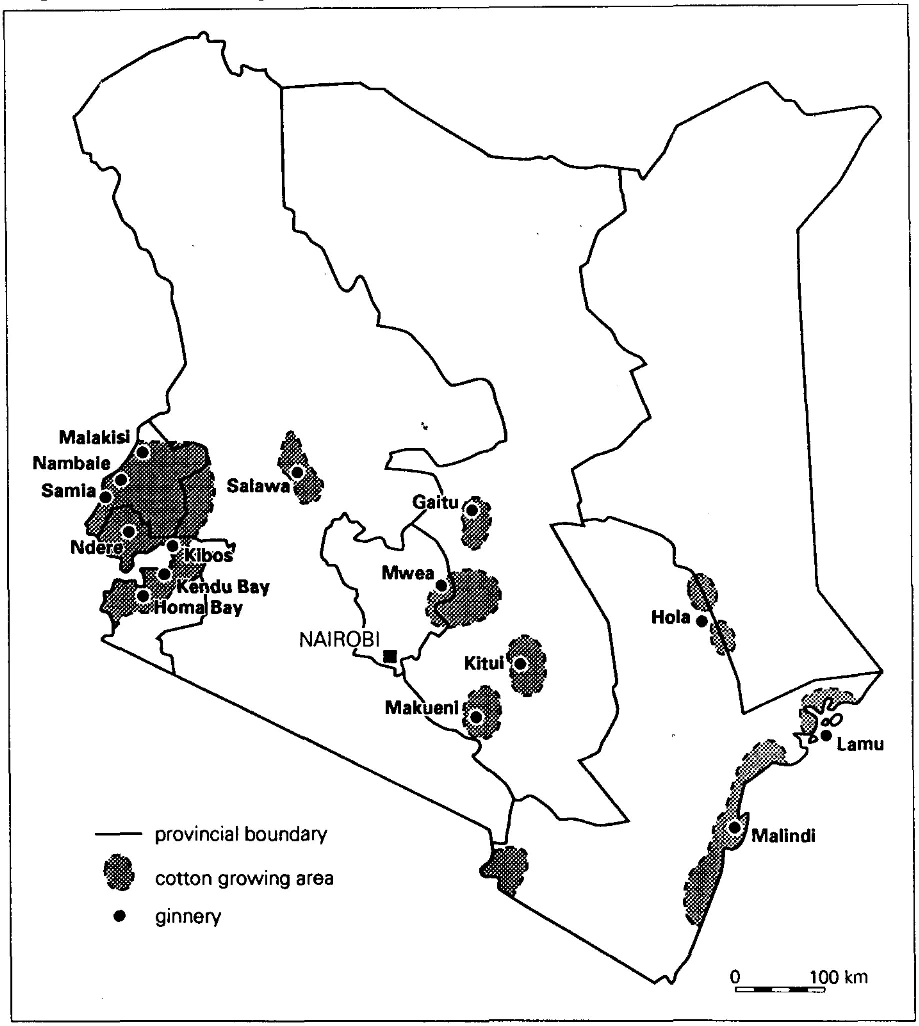
Table 2. History of state intervention in the Kenyan cotton sector

1903	introduction cotton for peasant cash crop farming
1923	stimulation cotton production as part of official policy; introduction system of licensed cotton buying posts
1936	introduction fixed producer prices
1937	regulations regarding growing, buying and ginning of cotton
1940-46	low producer prices for cotton to stimulate maize production for export
1954	the Cotton Lint and Seed Marketing Board is established
1958	start Tana irrigation scheme
1963	start Bura irrigation scheme
1972	building Board ginneries
1976	start Cotton Development Programme: increasing producer prices and supply inputs on credit
1983	start Cotton Processing and Marketing Project: rehabilitation ginneries, injection working capital and improvement operational efficiency Board
1985	technical bankruptcy CLSMB
1986	government assistance to settle overdue payments to cotton farmers; introduction Cotton Bill in Parliament
1988	new Cotton Act

1.4. Regional differences in cotton cultivation

Cotton is grown in different regions of Kenya (Map 1), each with its own timing of agricultural activities. It is an annual crop, with one harvesting period, except for the Eastern Province. The farmers in Eastern Province sow the cotton at the beginning of the short rains, and are able to harvest the first crop after four to five months (the "bottom" crop). If they leave

Map 1. Main cotton growing areas and ginneries in Kenya



the cotton plants in the field, the vegetative growth will revive during the long rains, and a second harvest is possible (the "top" crop) (Figure 1).

The main cotton varieties that are grown in Kenya are UKA (59) 240 and BPA 75, both medium to long staple. BPA is of a slightly longer staple, and therefore more successful in the export market than UKA, which is much closer to American varieties (CFDT, 1977). UKA has a relatively longer growing period which makes pest control more difficult, but BPA is less resistant to drought. UKA is grown under rainfed conditions in Nyanza, Eastern, Central and Coastal Province. BPA is grown under irrigation at the Hola and Bura irrigation schemes (Tana River District), and under rainfed conditions in Western and Rift Valley Province and in Siaya District of Nyanza Province.

Cotton has been grown under irrigation since the start of the Tana irrigation scheme in 1958, which presently covers an area of 870 ha. In 1963, the Bura irrigation scheme started to operate, on a trial basis. At present about 3,900 ha are ready, although a water constraint allows farming operations on 2,500 ha only. The ultimate size of the scheme was planned at 6,750 ha, but lack of sufficient irrigation water and excessive scheme investment costs forced the government to reconsider the initial goals (Ruigu, 1988). In 1985, the government intervened to settle problems occurring at the scheme. The National Irrigation Board was relieved from supervision, and the Ministry of Agriculture became responsible for the Bura irrigation scheme.

Figure 1. Timing of agricultural activities in cotton cultivation

	J	F	M	A	M	J	J	A	S	O	N	D
Western Prov.			early sowing		late sowing					harvesting		
Nyanza Prov			sowing							harvesting		
Central/ Eastern Prov	harvest bottom		revival vegetative growth				harvest top		sowing			
Coast Prov.			sowing					harvesting				
Rift Valley Pr.		sowing							harvesting			
Hola/Bura irr.		sowing						harvesting				

Sources: CFDT, 1977; Ruigu, 1988.

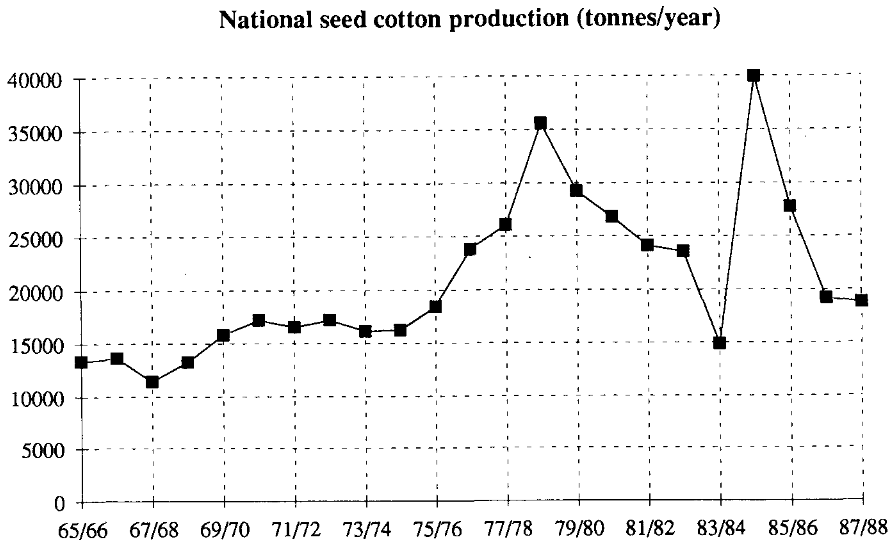
The BPA cotton that is cultivated at the schemes represents the best quality Kenyan cotton. The quality is higher than that of rainfed BPA because of more intensive cultivation methods, including mechanical land preparation and pest control. However, these services have increased the operational costs of the schemes to such an extent that total costs exceed total benefits and the contribution to the Gross Domestic Product (GDP) has become doubtful (Ruigu, 1988).

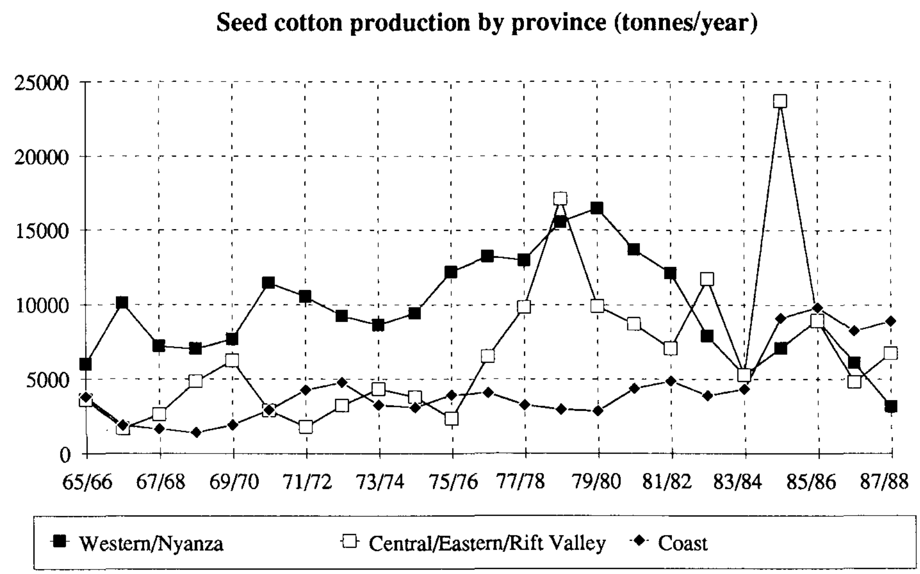
Presently, the irrigation schemes account for 50% of the Kenyan cotton production (CBS, 1988). This high percentage is due to the expansion of the schemes, and, more important, to the decrease of rainfed cotton cultivation. Irrigated cotton cultivation has been less affected by payment delays that demotivated other cotton farmers, because the farmers at the schemes are not permitted to switch to other crops.

Figure 2 shows the national cotton production since 1965, together with the regional differences. The national trend is valid for all regions except Coast Province. Cotton output in Coast Province has been increasing almost continually in recent years, while cotton production in the other regions has declined. This can be explained firstly by the cultivation of irrigated cotton at the Tana and Bura irrigation schemes as explained earlier, and secondly by the presence of private ginners in Malindi and Lamu. The private ginners have continued to pay promptly notwithstanding the financial problems of the Board, as we will see in section 3.6.

Figure 2 shows one more interesting point, namely the relatively large fluctuations of cotton output in Central, Eastern, and Rift Valley Province. On the one hand, the introduction of new policy measures in 1976 and 1983 stimulated cotton production in these areas most. On the other, the farmers involved reacted strongly to payment delays, reducing their cotton output by 42% (1979/80) and 66% (1985/86) from one year to the next. The majority of these farmers did not have a cotton growing tradition like the ones in West Kenya and on the Coast. Therefore, the Board focused its promotion of cotton cultivation especially on them, but they remained critical and were quickly discouraged when the Board did not fulfil its promises.

Figure 2. Diagrams of national and regional seed cotton production between 1965 and 1988





2. The partners of the Cotton Lint and Seed Marketing Board

2.1. Introduction

The Cotton Lint and Seed Marketing Board has to deal with different kinds of partners. On the buying side, it has to supervise the activities of the cooperative and private buying and ginning agents. On the selling side, it is responsible for the selling of all cotton lint and cotton seed to the domestic industries and export traders. The profiles of the partners of the Board will be presented in this chapter, with the exception of the overseas buyers since their relation with the Board was not very important during recent years. The Kenyan textile and oil mills absorbed most of the domestic cotton lint and all domestic cotton seed. The decline of cotton production and expansion of textile and oil industries prevented substantial exports (Table 3).[10]

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[10]The present annual demand for cotton lint in the domestic market has been estimated at approximately 60,000 bales (*Weekly Review*, 1988a). This level of production was only reached in 1978/79 and 1984/85 (see Table 1).

Table 3. The export of Kenyan cotton lint between 1978 and 1988

Year	Number of exported bales	% of domestic lint output
1978	11405	24
1979	10194	16
1980	21729	42
1981	13821	29
1982	0	0
1983	3924	9
1984	708	1
1985	9367	13
1986	2697	6
1987	302	1
1988*	0	0

Sources: CBS, 1983; 1988.
*provisional

2.2. The agents of the Board

The first buying agents that received a licence in the 1920s were Asian traders. Many of them had settled in Kenya as importers of Indian textiles, and changed their business interests during the rise of Kenyan cotton production. They started to buy seed cotton and some of them established ginneries. The Asians remained the only buying agents of importance, till the rise of the cotton cooperative societies shortly after independence. The first peasant cooperatives can be dated back to the 1940s, but the government started to promote them as a means to protect individual farmers against the exploitation of private traders after independence only. Although many private buying agents were replaced by cooperative ones, this did not change much in the cotton sector. The cooperative buying agents remained dependent on the Asian traders, who owned the ginneries, and normally earned substantial profits from the ginning process. Therefore, the Kenyan government agreed after independence that the cotton cooperatives should be involved in the whole process, including the ownership of ginneries (Ouma, 1980). During the 1960s, newly established cooperative unions, representing groups of cooperative societies, took over six out of the ten existing ginneries. All of them were situated in Western Kenya, the most important cotton growing area, where the level of cooperative farmer representation was high.

At the beginning of the 1970s, the Board itself took over one private ginnery and established five new ones. As a result Kenya possesses 15 ginneries at the moment, of which 14 where operational in 1988 (Table 4).[11] Only three private Kenyan ginneries have remained, two at the Coast, and one in Eastern Province. Although they possess only 20% of the total Kenyan ginning capacity, their importance is much bigger at the moment. They ginned over 50% of the Kenyan cotton crop 1987/88, as we will see in section 3.3. The private ginnery in Lamu was running at 140% of its estimated capacity in 1987/88, compared to, for instance, the Board ginnery in Hola that ran at 40% of its estimated capacity. Most of the Board and cooperative ginneries run at a lower capacity than the

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[11] The cooperative ginnery in Ndere was out of order during the 1986/87 and 1987/88 ginning season.

private ones. There are several reasons for this. One of them concerns the availability of raw cotton in the area were the ginneries operate and is related to the payment system. This will be explained in section 3.6. Another reason concerns the availability of spare parts. The private ginners import most of their spare parts, whereas the Board and cooperative ginneries have to order spare parts at the Board's headquarters. The latter asks Kenyan steel manufacturers to produce them. These entrepreneurs are only able to copy broken gin parts, since they are not specialized in ginning equipment. It takes a long time, and is relatively expensive, compared to importation. In the meantime, the Board and cooperative ginneries have to run at a lower capacity.

The CLSMB pays two types of commission. The buying agents receive a buying commission per kilogram of seed cotton purchased. The ginning agents receive a ginning fee per kilogram of cotton lint. Within the cooperative movement, the unions, who run the ginneries, receive the ginning fee, and the cooperative societies who perform the buying activities receive the buying commission. Most private ginners handle the buying of seed cotton within their area, and therefore receive both the buying commission and ginning fee.

The cotton cooperative societies and unions have been troubled by many financial and management problems, throughout their existence. The financial problems of the cooperative societies are partly inherent in their single purpose character. The buying commission represents their only

Table 4. Location and ownership of Kenyan ginneries [a]

Name	District	Province	Ownership	No. of gins	Annual capacity (bales)[b]
Western/Nyanza Province					
Homa Bay	South Nyanza	Nyanza	Coop.	12	5,500
Kendu Bay	South Nyanza	Nyanza	Coop.	12	5,500
Kibos	Kisumu	Nyanza	CLSMB [c]	6	3,500
Malakisi	Bungoma	Western	Coop.	10	5,000
Nambale	Busia	Western	Coop.	12	6,000
Ndere	Siaya	Nyanza	Coop.	11	5,000
Samia (Luanda)	Busia	Western	Coop.	16	10,000
Central/Eastern/Rift Valley Province					
Gaitu	Meru	Eastern	Coop./CLSMB	20	12,000
Kitui	Kitui	Eastern	Private	16	9,000
Makueni	Machakos	Eastern	CLSMB	20	10,000
Mwea	Kirinyaga	Central	CLSMB	20	12,000
Salawa	Baringo	Rift Valley	CLSMB	10	5,000
Coast Province					
Hola	Tana River	Coast	CLSMB	20	10,000
Lamu	Lamu	Coast	Private	11 [d]	3,000
Malindi	Kilifi	Coast	Private	37 [d]	10,600

Source: CLSMB internal files.

[a] see also Map 1, page 26.

[b] actual capacities according to CLSMB estimates.

[c] The Board ginneries were all established or taken over during the first half of the 1970s, except for the Salawa ginnery, which started to operate in 1984.

[d] single-roller gins whereas the others are double-roller gins.

source of income, and the revenues further depend on the quantity of seed cotton handled. If seed cotton production declines, revenues will decrease, while the overhead costs (rent of office and/or store, expense allowances) remain at the same level. In such a situation, financial problems are inevitable.

Most of the cooperative ginneries depend on one source of income too, namely the ginning fee. Only one of the cooperative ginneries is engaged in another income generating activity, that is production of cotton seed oil and soap, but these activities are not profitable at the moment.

All cooperative unions experience management problems. The Cooperative Committee members, who are in charge of the union, are inclined to bring non-economic considerations into the policy making decisions of the union's activities, and are often exposed to local political pressure. Some of them abuse their position by giving themselves loans, taking stores without payment, benefiting from kickbacks by suppliers, or ordering unneeded supplies. The Committee members, who are chosen by the cooperative societies, sometimes try to obtain jobs for society members, which may lead to costly overstaffing. Besides, they can display favouritism during the selection of loanees, which may lead to poor repayment under credit programmes. The lack of supervision of daily activities by the senior staff often results in accounts that do not balance, cash shortages, stock shortages, differences in members deposit accounts and control accounts, etc. Poor job security unfavourably affects the quality of the management staff. The financial problems of the unions have become worse by the approval and release of credit programme funds to unions that were not creditworthy and that lacked the staff to successfully manage such programmes.

All the above mentioned problems have affected the relationship between the CLSMB and the cooperatives acting as agents of the Board. The credit issued by the Board under the Cotton Development Programme at the end of the 1970s (see section 1.3) is one of the Board's activities that was frustrated by the internal weaknesses of the cooperatives. The credit was channelled to the farmers through the cooperative unions and societies. They were responsible for the registration and recovery of the loans. Their failure to recover the loans caused financial problems within the CLSMB.

The cooperatives are also acting as payment intermediaries in respect of cotton payments to the farmers. This has regularly caused conflicts with the Board too, resulting in direct payment by the Board to the farmers during certain years. This happened for instance between 1985 and 1987 in Western Kenya. The societies and unions were responsible for serious payment delays to the farmers. To solve this problem, the Board did not renew their buying licenses and started dealing directly with the farmers, both in respect of buying and payment. As a consequence, the cooperative societies in Western Kenya lost their only source of income. Many of them suffered severe financial setbacks, and some even started to act as buying agents without a licence. This gave rise to competition between the Board and the societies and confused the farmers. The Board issued licences to most of the societies in 1987 again, after political pressure.

2.3. The domestic users of cotton lint and cotton seed

The textile mills

The first modern textile mill was established in Kenya in 1936. It was based on vertically integrated production, combining spinning, weaving and finishing within one factory, as promoted by the East African Industrial Council. The Council tried to prevent the establishment of weaving factories which only used imported yarn, because of the loss of employment. In 1953, a system of production licences and regulations was introduced that forced new textile factories to integrate their production process. This system has been responsible for the vertically integrated structure of many Kenyan textile mills (Poyck, 1985).

The large scale of operations inherent in integrated mills caused Kenyan entrepreneurs to look for support from foreign investors. Right from the start, foreign capital was important in the textile industry. Until 1962, all the large textile factories were owned by Kenyans of Asian origin, representing investment groups like the Madhvani group (also present in Uganda) and the Kathau group, both from India.

The first joint ventures, financed with either Japanese and Kenyan, or Indian and Kenyan capital, were established in the 1960s. Joint ventures of the government's large investment banks (IDB, ICDC, DFCK, EADB) and European multinationals appeared in the 1970s. In 1976, 56% of all the issued capital of the textile industrial sector was foreign-owned

(Kaplinsky, 1982). The Kenyan government became more heavily involved in the textile industry when two factories, KICOMI and African Synthetic Textiles, went bankrupt in 1983.[12] To save the jobs involved and their investments, the state investment banks took over those two firms and invested fresh funds (Coughlin, 1987).

Presently, Kenya possesses 47 textile mills, employing 50 people or more each. They possess a total installed annual weaving capacity of (excluding blankets) 83 mln square metres of cloth (*African Textiles*, 1987). Over 80% of the textile output is accounted for by the 15 integrated mills. Eleven out of the 47 mills are of importance for the analysis in this report, since they buy cotton lint from the CLSMB (Table 5). The others use synthetic fibres only, or buy ready-made yarn.

The Kenyan textile mills are located all over the country. One of the most important reasons for this has been the existence of a regional development policy. Potential foreign investors were offered tax facilities and other advantages, if they established their factories outside the main industrial centres (Poyck, 1985). This determined the location of the textile industry to a large extent.

The textile industry is the second largest employer within the manufacturing sector (after the food products industries), and was responsible for 13% of total manufacturing employment in 1985

[12]Both KICOMI, an Indian company, and African Synthetic Fibres, a joint venture of state investment banks and Indian capital, went into receivership.

Table 5. Kenyan textile mills that bought cotton lint in 1987/88

company name	year of esta-blishment	location	ownership	no. of employees	type of production	products	remarks
East African Industries Ltd	1971	Nairobi	>50% ICDC	>500	spinning	cotton + polyester thread	80% cotton, 20% synthetic inputs
Kenya Thread Industries Ltd	1974	Nairobi	Private Co.	350-500	spinning	cotton thread	100% cotton inputs
KICOMI (1983)Ltd	1983	Kisumu	52% GOK 48% MNC	1750	integrated	cotton + polyester yarn and cloth	before 1983: Kisumu Cotton Mills Ltd 14 mln m. cloth and 250 tonnes yarn/year
Londra Ltd		Nakuru	Private Co.				owner of e.g. Towel Manufacturers Ltd (Mombasa) since 1985
Mount Kenya Textiles Ltd (Mountex)	1978	Nanyuki	GOK	1400	integrated	cotton + polyester cloth	85% cotton, 15% synthetic fibre inputs 12 mln m. cloth/year
Nakuru Industries Ltd	1963	Nakuru	Private Co.	>500	integrated	blankets	
Rift Valley Textiles Ltd (Rivatex)	1975	Eldoret	>50% ICDC <50% MNC	1600	integrated	cotton + polyester cloth	80% cotton, 20% synthetic fibre inputs 12 mln m. cloth/year
Sunflag Spinning Mills Ltd	1964	Nairobi	Private Co.	>500	spinning	cotton + polyester yarn	
Thika Cloth Mills Ltd	1959	Thika	Privat Co.	1600	integrated	cotton + polyester cloth	50% cotton, 50% synthetic fibre inputs
Towel Manufacturers Ltd	1959	Nairobi	Private Co.	>200	integrated	cotton towels	
United Textile industries Ltd	1964	Thika	51% GOK 49% MNC	900	integrated	cotton + polyester yarn and cloth	75% cotton, 25% synthetic fibre inputs

Sources: Bhushan, 1987; CLSMB internal files; Coughlin, 1987; East African Report on Trade and Industry, 1986.
Note: GOK=Government of Kenya, ICDC=Industrial and Commercial Development Corporation, MNC=Multinational Corporation(s)

(UNIDO, 1988). The importance as a source of employment outside Nairobi has been much bigger. KICOMI, which is the only textile factory in Kisumu, has been employing between 1750 and 2000 persons, which accounted for approximately 40% of the overall official industrial employment in Kisumu in the 1970s (Maanen, 1981).

In 1985, the textile industry contributed 5% to the gross manufacturing output, and 8% to the manufacturing value added (UNIDO, 1988). The average annual growth of production was 7% between 1976 and 1987, which is slightly above the average of the whole manufacturing sector (Table 6). A fairly high rate of growth in the late 1970s was offset by a 21% decline in production in 1982, caused by a massive shortfall in the 1980/81 and 1981/82 cotton crop. Textile production revived in 1983/84, but growth slowed down to 5% in 1985 as the major producers approached full use of installed capacity (in the range of 80-85% with some exceptions) on a three shift basis (UNIDO, 1988). A fall of employment in 1983-1985, a reaction to the 1982 recession, led to a sharp rise in worker productivity. In these two years value added per employee rose by 30%, more the result of the shedding of excess labour and the use of existing capacity than of the introduction of new technologies (UNIDO, 1988). The growth of textile output further decreased in 1987 and 1988, after a short revival in 1986. The textile mills experienced another period of cotton scarcity. In August 1988, four major textile mills were forced to send part of their employees on compulsory leave, as result of a lack of cotton fibre (*Weekly Review*, 1988b). Twice the government agreed to the importation of Tanzanian cotton lint, thus providing a temporary solution to the input problems of the textile mills.

Table 6. Quantum index and growth percentages of textile and total manufacturing production, Kenya, 1976-1987

	Textiles		Total Manufacturing	
year	index	growth %	index	growth %
1976	100.0		100.0	
1977	129.4	29.4	115.9	15.9
1978	140.3	8.4	130.5	12.6
1979	152.4	8.6	140.4	7.6
1980	161.2	5.8	147.8	5.3
1981	169.9	5.4	153.1	3.6
1982	134.0	-21.1	156.5	2.2
1983	146.8	9.6	163.6	4.5
1984	166.6	13.5	170.3	4.1
1985	174.3	4.6	178.2	4.6
1986	186.5	7.0	188.7	5.9
1987	192.5	3.2	199.4	5.7
average		6.8		6.5

Sources: CBS 1979; 1983; 1988.

During recent years many textile mills have been forced to switch to synthetic fibres, because of the recurring shortage of Kenyan cotton and the inability to import lint. The most striking example is Thika Cloth Mills, using 100% cotton as an input by value in 1980, and only 50% in 1986. Other factories have exchanged 5 to 15% of their cotton input by value for synthetic fibres within 6 years (Coughlin, 1987).

Although Kenya has 5 extruders of polyester filaments, the polyester chips needed as an input for these factories have to be imported. In 1983, Kenya imported polyester chips, synthetic fibres and regenerated fibres up to the value of US $ 11.5 million. These costs of foreign currency were not compensated for by any substantial exports of textiles (UNIDO, 1988). To discourage imports, the government has imposed duties ranging from 20 to 45% on the import of synthetic inputs (UNIDO, 1988).[13] The overall result is high input costs, which leads to high production costs. The increasing shift to synthetic fibres makes the textile industry less competitive vis à vis the Asian countries in case of exportation and more dependent on imports, in the short run. This happens at a time when the markets in Europe and the USA are beginning to prefer cotton cloth again (Coughlin, 1987). The domestic market, however, prefers synthetic cloth.[14]

The prices which the CLSMB charges to the textile mills are based on a cost-plus system, that is the producer price plus an allowance for marketing costs of both the Board and its agents. The producer price is supposed to be based on projected export parity. However, these projections are undertaken nine months prior to the date on which the price comes into effect and 21 months prior to the end of the period

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[13]The Kenyan Government has stimulated the development of the textile industry by means of a policy of import restriction, including high duties on fabric and cloth (70 to 100%) and intermittent bans on the importation of used cloth (Coughlin, 1987). However, the taxes on imported synthetic raw materials, dyes and chemicals (various rates), and machinery and spare parts (20%) have increased the production costs. The textile mills can get a 20% export compensation of gross value, but uncertainty about payment and long payment delays have reduced the value of this compensation facility.
[14]One of the reasons is the crease-resistancy of synthetic cloth.

during which it is in force.[15] This leads to inevitable misprojections that have their effect on the domestic lint price. As a consequence the textile mills pay less than the world price equivalent during certain years and more during others. The latter happened for instance in 1985 and 1986. During those years, relatively high domestic lint prices made most of the final products internationally uncompetitive, hampering exports by the Kenyan textile mills.

Some more problems on the input side have increased production costs and decreased productivity.[16] In the first place, there is the absence of certain staple lengths of cotton lint. Some mills do not need the Kenyan medium staple cotton lint, which is relatively expensive for their type of output. Others would like to use higher qualities than the ones available in Kenya. Both types of mills are not allowed to import the qualities of lint that would suit them best. This means higher production costs to the first type of mill, and lower productivity and a lower quality output to the second type.

The overall scarcity of Kenyan cotton lint has raised production costs and lowered productivity. Textile factories are used to combining different qualities and varieties of lint to get the optimal raw material composition, both from the economic and technical point of view. During periods of

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[15]The projections are the responsibility of the Ministry of Agriculture after consultation of the Board.

[16]General factors that have their bearing on the production costs of the Kenyan textile mills are: old equipment, bad management, lack of technical competence, overmanning on the floor, overpricing of imported machinery, and a diversity of output that is too large compared to the level of factory production (Coughlin, 1987). However, these factors are not related to the input problems of the mills.

lint shortage, they have to run for what ever combination of lint they can get, regardless of quality. When they are forced to use a higher percentage of second grade lint,[17] the productivity will decrease because of more frequent break-downs. Besides, production planning with only a few bales of lint in store is almost impossible, causing unnecessary inefficiencies.

In summary the input problems of the textile mills are twofold. In the first place, the cost-plus system for domestic lint hampers the penetration of export markets. In the second place, the scarcity of Kenyan cotton, and the absence of certain qualities, combined with the inability to import lint, affect the level of production, production costs and productivity.

The cotton seed crushing mills

The different Kenyan climates and soils are suitable for growing many oil crops, including castor bean, coconut, cotton seed, groundnut, maize (of which the germ is used), rape seed, sesame seed, soya bean, and sunflower. However, the only oil crops that are used for industrial oil production are coconut (copra), cotton seed, sunflower and maize germ. Cotton seed and copra are the most important of them.[18]

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[17]The CLSMB distinguishes two grades of raw cotton, cotton lint and cotton seed (AR and BR). In addition to this, AR cotton lint is divided into three sub-grades (see section 3.5).

[18]Maize germ, a by-product of the maize industry, is only available in relatively small quantities, and not always in the right composition. Sunflower was promoted as a cash crop by the Ministry of Agriculture, the Kenya Seed Company and East African Industries, in the second half of the 1970s. Despite a successful beginning, the area under cultivation declined again after a few years. The main reasons were low prices paid to the

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Kenya possesses 21 oil mills, of which 18 used cotton seed to a greater or lesser extent in 1987/88 (Table 7). The average utilization rate of the 18 cotton seed crushing mills was approximately 40% in 1986 (Opiyo, 1987). This low utilization was mainly caused by a scarcity of raw materials.[19] The Kenyan oil millers consequently try to use different types of raw material, to keep their mills in operation. The majority of the mills close down during part of the year, or run below maximum capacity (one or two shifts a day). Many oil mills possess obsolete equipment, and have to be expanded and modernized to remain profitable (UNIDO, 1984). However, at the present level of production, the mills do not generate enough revenues to finance new investments.

Oil millers who want to use cotton seed as an input have to apply annually for a licence to the CLSMB. The Board sells the cotton seed to the licensed oilmillers by tender. The millers are only willing to buy cotton seed within a certain distance of the mill to avoid high transport costs. The oil content of the cotton seed is approximately 18%, but only 11 to 12% is normally extracted. When the transport costs of the cotton seed become too high , total costs will exceed the maximum ex-factory price for seed oil, as fixed by the government.

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farmers, and problems with the distribution of the hybrid seeds and the collection of the crop.

[19]Kenya imported 82,516 tonnes of vegetable and animal oils and fats in 1984, worth 54 mln Shs. These imports represented 61% of the total demand and an even higher percentage of the total expenditure on oils and fats. Most of the imports were edible vegetable oils (97%), including palm oil and palm kernel oil (65%), mainly from Malaysia, the Philippines and Nigeria, soya oil (25%), coconut oil (5%), and other oils (5%) (Opiyo, 1987).

Table 7. Kenyan oil mills that bought cotton seed in 1987/88

Name	Town	Raw material	Daily cap. (Tonnes)	% of cap. utilized*
Aberdare Oil Ind. Ltd	Nyeri	cotton, maize sunflower	cotton 50 sunfl.100	75
Arkay Ind. Ltd	Eldoret	cotton, maize	80	45
Coastal Ind. Ltd	Mombasa	cotton	75	33
Coast Manufacturers Ltd	Mombasa	cotton, copra		
Edible Oil Ind.	Nairobi	cotton		
Eldoret Oil Ind. Ltd	Eldoret	cotton		
Kibos Ind. Ltd	Kisumu	cotton	20	40
Kisumuwala Oil Ind.	Mombasa	cotton, copra	20	20
Kitale Ind. Ltd.	Kitale	cotton, sunflower	20	52
Lewa Downs	Isiolo	cotton		
Malaba/Malakisi Coop. Oil Mill	Malakisi	cotton	10	33
Malindi Ind. Ltd	Malindi	cotton	10	40
Nakuru Oil Ind. Ltd	Nakuru	cotton, sunflower	30	
Rift Valley Products Ltd	Nakuru	cotton, maize sunflower	120	40
Sansora Group Ltd	Kisii	cotton		
Sava Ind. Ltd	Nairobi	cotton		
Vegetable Oil Ind.	Nairobi	cotton		
Voi Ind. Ltd	Voi	cotton	25	42

Sources: CLSMB internal files; Opiyo, 1987; UNIDO, 1984.
*figures based on 1986; 100% means 3x8h/day or 2x12h/day.

The majority of the millers only use first grade cotton seed (originating from first grade seed cotton). Second grade cotton seed would mean higher transport costs per unit of output, because of its lower oil content. Besides, the processing of second grade seed cotton causes inconveniences to the workers, because of dirt and dust.

Once the Board has received the tenders, it allocates part of the total amount of cotton seed available to the miller that has tendered the highest price. Other millers are then contacted, and offered cotton seed at this highest tender price. The final allocations and price are determined by the Board through a process of bargaining.

3. The present cotton marketing system [20]

3.1. Introduction

The cotton marketing system can be analysed on the basis of the marketing stages, the actors involved, and the different kinds of flow. The successive marketing stages are primary buying of seed cotton (1), ginning (2), and selling of cotton lint and seed (3). The actors involved are the Board, and the cooperative, and private agents. The relevant flows are the cotton flow, the document flow, and the money flow.

In the first section of this chapter the responsibilities of the Cotton Lint and Seed Marketing Board, as the controlling power of the marketing system, will be discussed. The subsequent characterization of the marketing system starts from a subdivision into flows. Section 3.3 explains the cotton flow, and section 3.5 the document and money flow. The cotton flow will be subdivided according to the marketing stages mentioned earlier. The document and money flow will be specified

[20] At the time of writing this system was still operational, although the 1988 Cotton Bill, which outlines a reorganization of the cotton marketing system (see Chapter 4), had been passed by Parliament but was not yet operative.

according to the different administrative levels. The activities and responsibilities of the actors within each flow will be explained as we go along. The chapter will include a review of the bottlenecks within each flow, and a multi-level evaluation of the system. The evaluation will cover the national-economic level, the marketing chain, and the micro-economic level. The first will start from the goals of government intervention in the cotton sector, as explained in sections 1.2 and 1.3. The second, the evaluation of the marketing chain, will focus on the efficiency of specified channels and flows.[21] The last, micro-economic, level will focus on the prosperity effects of the present system for the producers and users of cotton lint and seed.[22]

3.2. The responsibilities of the Cotton Lint and Seed Marketing Board

The Cotton Lint and Seed Marketing Board possesses the legal monopoly over the purchase and sale of all raw cotton, cotton lint and cotton seed, as regulated by the Cotton Lint and Seed Marketing Act of 1954 and 1967. It is the duty of the Board "to make the necessary arrangements for the purchase of raw cotton from growers and growers' cooperatives, and for the purchase from ginners of all cotton lint and cotton seed produced by them". The Board is responsible "for the sale or disposal within Kenya, or

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[21] For a theoretical background of measuring channel performance through channel efficiency see Stern and El-Ansary (1988), Chapter 11.

[22] The prosperity effects will be measured in terms of income (producers) and profits (users of lint and seed).

the export and sale or disposal outside Kenya" of the cotton lint and cotton seed (GOK, 1967, p.7).

The Board is authorized to use agents, but will be responsible for all their activities in the last resort. It is responsible for the issuing of their licences, and for the supervision of their activities. The Board is supposed to cancel or suspend the licence "in any case where the licensee fails to comply with the terms and conditions of his licence" (GOK, 1967, p.15). The verifying of compliance is the responsibility of the Board. It can be held responsible for failures of its agents in each case it does not intervene to prevent or correct them. This makes the Board responsible for all the marketing activities, right from the start of seed cotton buying at the village level.

The Board becomes the legal owner of the raw cotton "when delivered to the ginner", including both Board and agent ginneries. The ownership of raw cotton ends when it is transformed into lint and seed. The cotton lint and seed become property of the Board "as soon as produced", that is immediately after the ginning of the raw cotton; the cotton lint and seed remain property "until such time as they are sold or disposed of by or on behalf of the Board" (GOK, 1967, p.13). The Board is obliged to pay as soon as the raw cotton becomes its legal property. It has to finance these payments out of its own means, and through seasonal loans.

The responsibility of the Board for the early stages of cotton marketing, when it is not yet the legal owner of the cotton, is meant to guarantee an optimal functioning of the agents, through thorough Board supervision based on own interests. However, the Board lacks the real instruments to control the activities of its agents, since it can only threaten to cancel or suspend their licence in case of problems. The actual execution of this measure may have negative consequences for the farmers and the Board. The latter can be subjected to political pressure to revoke the measure. This happened when the buying licences of the cooperative societies were not renewed in Western Kenya in 1985. The revocation of the measure in 1987 meant a weakening of the position of the Board. The cooperatives discovered that they could mobilize political support against a Board decision. As a consequence, it will be more difficult for the Board to use this measure against cooperatives in the future.

The cancelling of an agent's licence by the Board has far-reaching consequences. The Board will be compelled to take over the buying activities of the agent, for every demarcated cotton growing area is handled by one operating agent only. If he loses his licence, no other agent will be available to replace him at short notice.

The Board has been directly involved in buying since the 1970s. These buying activities were restricted to areas were cotton was introduced and no suitable agents could be found (especially in Central and Eastern Province, and in Baringo district). The Board organized its own buying infrastructure and established its own ginneries. The direct involvement in buying asked for a new kind of expertise and attitude of the Board employees, but the activities could be started from scratch and could keep abreast of the increase of production. The Board ginneries received a separate ginning manager and staff, to prevent the mixing of responsibilities for buying and ginning.

This gradual development of Board activities in new cotton growing areas differs completely from the forced take-over of agent activities in existing cotton growing areas. The agents have developed their own buying infrastructure, adapted to the specific circumstances of the region. If the Board has to take over those activities at short notice, it will have to improvise a great deal and overlook specific local arrangements, causing unnecessary inefficiencies.

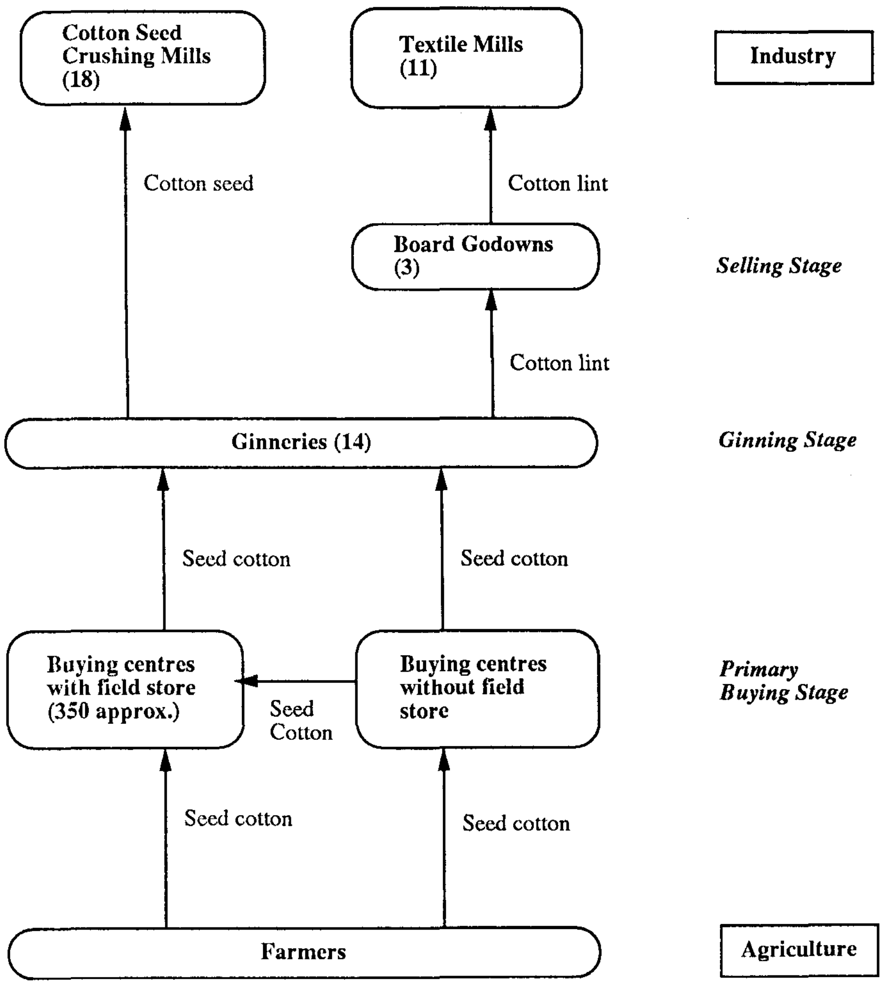
An example of local arrangements is the cooperation between field workers of the Ministry of Agriculture and buying agents in certain regions. Agricultural field workers, from early days, have been involved in different activities in the cotton sector. One of these activities was the pre-checking of seed cotton grades at the farm houses of bigger farmers, in Western Kenya. This pre-checking made the work of the graders at the buying centres easier. The checking could be done more quickly, while cheating was less likely to go unnoticed. The agricultural field workers were willing to cooperate, since they were promised a temporary secondment at the buying centres during the buying season. When the Board took over the buying activities of the cooperative societies in western Kenya in 1985, it did not need the help of the agricultural field workers at the buying centres, because it could recruit enough workers from its own ranks. The agricultural field workers became less and less involved in the activities at the buying centres, and subsequently stopped doing the pre-checking. This greatly increased the work at the buying centres, and caused a higher incidence of unnoticed cheating.

3.3. The cotton flow

The cotton flow starts at the farm land ends at the textile and oil mills. The successive marketing stages are primary buying of seed cotton, ginning, and selling of cotton lint and seed (Figure 3). The agents participate in the first two marketing stages.

A licensed private trader or cooperative society is responsible for all buying activities within a demarcated area. A licensed private or cooperative ginner receives a ginning monopoly on all the seed cotton within the "ginnery zone". The buying and ginning responsibilities are often interrelated. All private ginners act as buying agents within their ginnery zone. In 1987/88, they were responsible for the buying and ginning of over half of the Kenyan cotton crop. The cooperative ginneries, which were responsible for the ginning of almost 30% of the crop in 1987/88, on average depended for two thirds on seed cotton purchased by their member societies. However, buying and ginning was the responsibility of other actors as well. The Board was buying one third of the cotton crop in the cooperative ginnery zones of Western Kenya. Cooperative societies bought almost 70% of the cotton harvest in the Board ginnery zones. The latter is understandable, since the marketing system is based on the principle of agent buying, and the Board is supposed to buy only in case of absence of suitable buying agents. The

Figure 3. Product flows in the cotton sector (1987/88) *



* The farmers produce "seed cotton" (also called "raw cotton"). During the ginning process seed cotton is separated into "cotton lint" and "cotton seed". Cotton lint is pressed into bales, and cotton seed is stored in bags.

Board buying in the cooperative ginnery zones is a consequence of the aforementioned payment delays caused by the cooperatives. Map 2 reviews the regional differences in buying and ginning responsibilities, and Figure 4 visualizes the importance of the cooperative, Board and private actors during 1987/88 as discussed above.[23]

Looking at the different buying stages in detail, the marketing chain starts with the primary buying stage. The timing of the buying activities varies regionally, corresponding with the variation in growing seasons. The buying season starts between a few weeks and two months after the maturing of the first seed cotton, and goes on until the harvesting season is over.[24,25]

Before the start of every buying season, the Board prepares a buying calender after consultation with the buying agents and district officials of the Ministry of Agriculture. The buying calender specifies the purchase dates of seed cotton at the different buying centres. The calender is distributed by district officers of the Board, agricultural field workers

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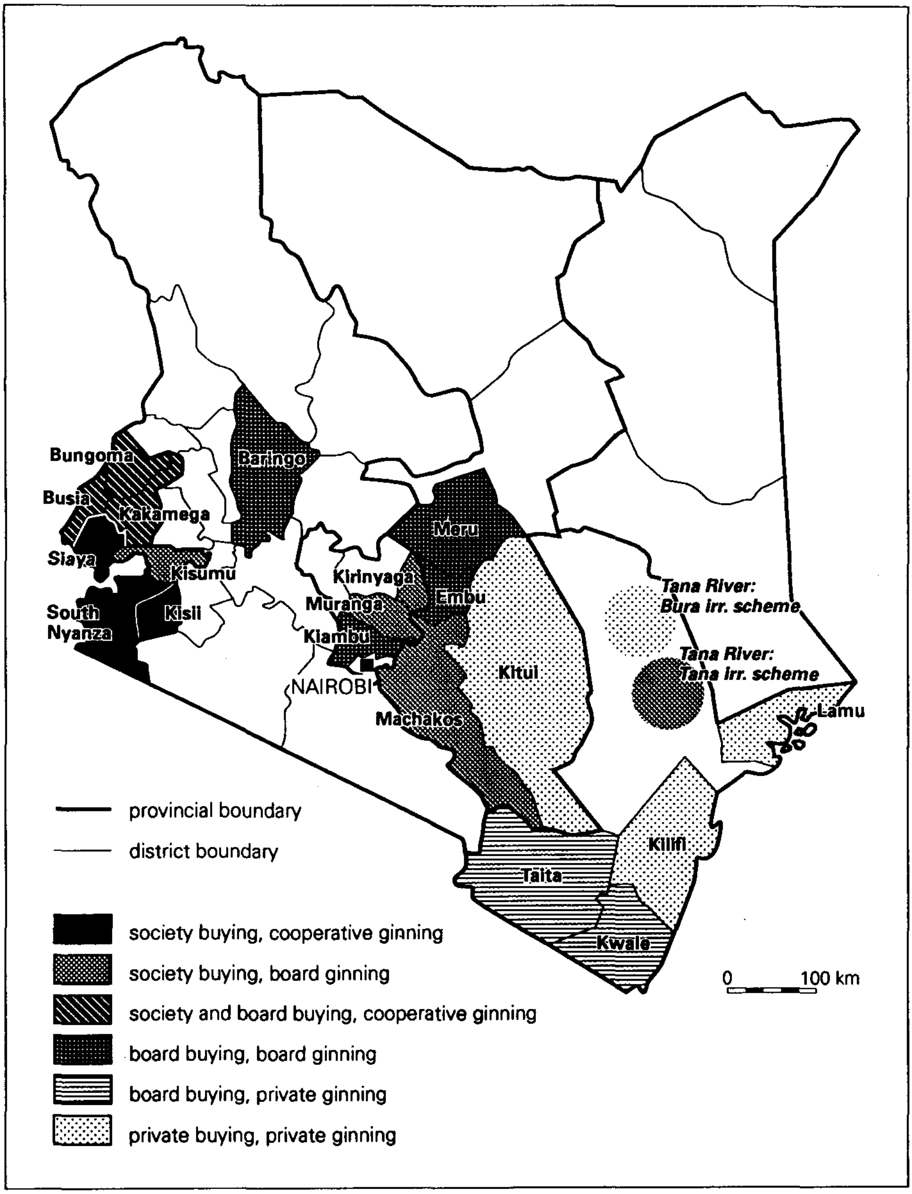
[23]The 1987/88 administrative year was not exceptional for the 1980s.

[24]The ginneries start to operate a few weeks after the first buying activities, when they have received enough seed cotton to run at full capacity. The active period of the ginneries depends on the size of the cotton crop and the number of operational gins.

[25]The regional differences in buying and ginning have complicated the financial administration of the Board. The Kenyan financial year starts on the first of July. This is convenient for Western Kenya and the Coast but not for Eastern Province, for the cotton that is bought during one financial year (in spring), is ginned during the next (in autumn) (see Figure 1, page 28). As a result, the annual figures of seed cotton bought are not equal to the annual figures of cotton lint ginned.

Map 2. Division of labour among "actors" (1987/88)

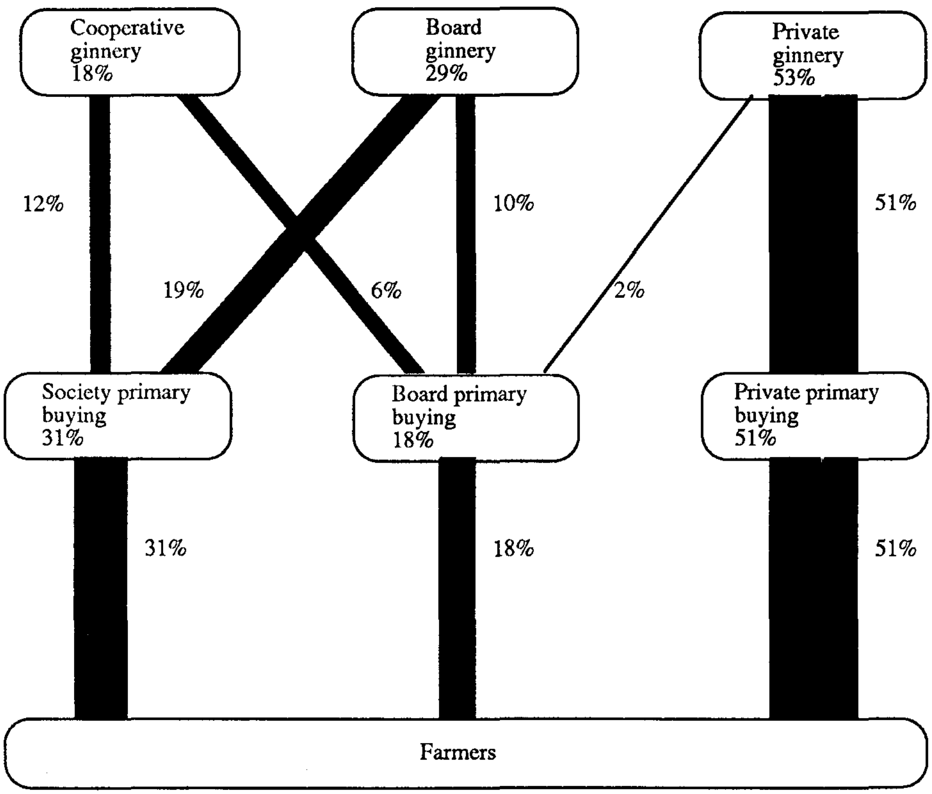


Note: The shading corresponds with district boundaries, i.e. not with the importance of cotton production in the districts concerned.

and local authorities. The buying dates are announced regularly at the chiefs' *barazas*.

All buying is done by mobile buying teams, organized by either the Board or an agent. They travel around the district, and visit the buying centres according to the buying calender. They stay at a buying centre between a few hours and a few days, depending on the size of the cotton production

Figure 4. Shares in the cotton sector (1987/88)



in the area. The buying centre can be located at a field store, or in the open somewhere along the road. The number of buying centres in the open is a multiple of that of the buying centres with a field store.

Every buying centre is visited during one or more buying "rounds". Different qualities of seed cotton are bought separately, starting with a few rounds of AR (first quality) and finishing with a combined AR/BR (first and second quality) buying round. In areas with a low cotton production (like Baringo District) AR and BR are purchased at the same time.

A buying team consists on average of 6 persons: a leader, a scalesman, 2 recorders and 2 graders. A few casuals are engaged in loading, offloading and other work. The buying team needs its own transport to travel from one buying centre to another. It can use the lorry that transports the seed cotton to the ginnery, or a smaller car that is able to carry the scales. High mobility of the buying team is one of the requirements for an agent's licence. Other requirements are: the availability of standardized scales, checked by the Department of Weights and Measures of the Ministry of Commerce and Industry, the availability of gunny bags, jute twine and stationery, and a well trained buying staff.

The farmer has to bring graded seed cotton to the buying centre. He has to do the grading at home, for he is supposed to know the difference between AR and BR quality. In case of difficulties, he can ask for the help of an agricultural field worker. The grader at the buying centre takes a random sample, to check for genuine mistakes or cheating. When the grader has finished, the seed cotton is weighed by the scalesman, and registered by the recorder. When an agent is responsible for the buying, the weighing has to be checked by a representative of the Board, who is supposed to be present at the buying centre.

The gunny bags that are used to transport the seed cotton are owned by either the farmers, the buying agents or the Board. If the farmer owns the gunny bags he delivers bags filled with seed cotton at the buying centre, and receives empty ones in return. If a bag is in bad condition, the seed cotton is transferred to another one, and the old bag is returned to the farmer. If a buying agent or the Board owns the gunny bags, they are distributed to the farmer before the start of the buying season. The farmer has to return all the bags at the buying centre either full or empty.

The seed cotton is usually transported from the buying centre to the ginnery on the day of purchase. When this is not possible, the seed cotton is stored at the buying centre (at a field store). If the buying centre is situated in the open, this implies transportation to the nearest buying centre with a field store. Most of the field stores are owned or rented by the Board. If an agent possesses or rents a warehouse for seed cotton storage, he receives a storage fee from the Board in addition to the buying commission.

We now turn to the responsibility for transporting the seed cotton from the buying centres to the ginnery. All private buying agents possess their own lorries and organize their own transport. Some cooperative unions have their own lorries, which are used for the transport of the seed cotton bought by their member societies. However, they still need help from the Board, because of insufficiency of their transport capacity (there are few lorries and most of them are in poor condition). In most cases the transport is organized by the Board, even when the buying is the responsibility of cooperative societies. The Board possesses lorries, and also resorts to contracted transporters. Those transporters are selected by tender.

When the seed cotton arrives at the ginnery, the bags are weighed for a second time. The second weighing is necessary to prevent possible theft during transport, especially in case of contracted transporters. The weights and the number of bags are compared by means of "seed cotton delivery notes", which are prepared before transportation and afterwards checked at the ginnery.

The Board is not only responsible for the transport of part of the seed cotton to the ginneries, but also, later on, for the transport of all cotton lint from the ginneries to the Board's central godowns, which are located in Nairobi, Mombasa and Kisumu. The textile mills are responsible for the collecting of the cotton lint at the godowns. The cotton seed is collected by the oil millers at the ginneries.

3.4. Problems and conflicts with regard to the cotton flow

The cotton flow does not always progress as smoothly as Figure 3 suggests. Some of the failures can be blamed on the farmers or buying agents, others on the Board.

Problems at the primary buying stage

Cheating by the sellers is a problem at this stage. Farmers try to receive the highest price for their seed cotton, and use different tricks to get BR classified as AR. They mix AR with small quantities of BR, or put AR on the top and at the bottom, and BR in the middle of the bag. Some farmers put stones in the bags to increase the weight. The cheating can be discovered more easily when pre-checking is done at the house of the farmer, but this practice has fallen into abeyance (see section 3.2).

The chance of cheating going undiscovered increases when the buying team is small. This happens for instance when cooperative societies act as agent, but cannot afford a complete buying team. They may use only one grader, who is not able to keep pace with the other team members. The agents complain that the buying commission, which did not change for at least six years, does not cover their expenses any more. They also complain that the Board does not pay the buying commission on time, forcing the agents to pay the members of the buying team out of their own means.

When cheating is not discovered at the buying centre, the farmer benefits at the expense of the Board or buying agent. The Board will have to bear the costs in two cases, when it is responsible for the primary buying or when a buying agent is involved and the cheating is not discovered during the second check at the ginnery. The buying agent will have to bear the costs, if the cheating passed undiscovered at the buying centre, but is found out by a Board representative during the second check at the ginnery. The Board will pay him according to the re-checked quality, while the agent will not be able to trace the perpetrator. The problem would not occur so regularly if the Board representative would be present at the agent buying centres all the time, to supervise the grading. However, in most cases, he only visits briefly, or does not appear at all.

Inadequate planning at the primary buying stage has a bearing on the quality of the seed cotton. The timing of the start of the buying activities is one of the important planning decisions. If the period between the first maturing of seed cotton and the first buying lasts too long, the farmers run into trouble. They then have to store the first seed cotton in their house. If this is not possible, they have to rent a small store or leave the seed cotton under cover outside. To rent a store costs money, and to leave the seed cotton outside causes quality deterioration. As an alternative, many farmers do not pick the first cotton until the start of the buying season. In the meantime, the cotton that has matured early drops off and gets spoiled.

Further difficulties occur when the mobile buying team cannot keep up with the buying calender. One of the reasons can be the inaccurate harvest forecasts by the Ministry of Agriculture. Other reasons can be the lack of sufficient transport to move the buying team around, or heavy rains that make the roads impassable. If the buying team does not appear, the farmer is forced to keep his cotton until the next buying round. This can cause quality deterioration of the cotton. In some areas it has resulted in farmers being unable to market their full crop.

Disagreements concerning stores have occurred regularly between Board and agents. Field stores were donated to some cooperative societies in the past, financed by donor programmes such as the Integrated Agricultural Development Programme (IADP). If these societies use the store during the buying season, they ask the Board for a storage fee. The Board has been refusing to accept those claims, which has been considered unfair by the societies. Other societies rent a store the whole year around, to use it for storage during the buying season. The Board is only willing to pay the rent during the buying season, but the societies complain that it is difficult to find a store that can be rented for only part of the year.

A final problem at the primary buying stage is the supply of gunny bags. During the last decade, the Board has been selling bags on credit to farmers and cooperatives, so as to be relieved of the annual responsibility to supply the bags. However, the recovery of the debts has been causing problems, similar to those with regard to the Board input loans (see sections 1.3 and 2.2). Therefore, the Board has halted the supply of bags on credit in most parts of Kenya. It has returned to the old system, annually distributing the bags to the farmers and cooperatives, while remaining the legal owner. The private ginners possess their own bags which they distribute to the farmers. The ownership of gunny bags causes two kinds of costs to the Board and private ginners. Some bags disappear and cannot be recovered. Besides, the bags have to be replaced every few years because of wear and tear.

The transport of the seed cotton from the buying centres along the road to the field store or ginnery also experiences its share of problems. Contracted transporters are not always able to meet their obligations. They may leave the unprotected seed cotton along the road for some days before collecting it. This affects the quality of the seed cotton and encourages theft. Contracted transporters sometimes refuse to do any more work, until they are paid for previous jobs. This happened for instance in the Coastal Province, where the cooperatives hired transporters, but did not pay them properly. The transporters were only willing to do business again, if they were paid directly by the Board.

Problems at the ginning stage

The ginneries have been subject to a thorough investigation by an interministerial committee in 1983 (GOK, 1983). The committee concluded that the operational efficiency of all the cooperative and Board ginneries left much to be desired. The reasons were identified at several levels.

All ginneries experienced everyday operational problems, such as lack of seasonal labour (in Eastern Province), lack of working capital for spare parts and payment of salaries, and lack of storage facilities for seed cotton and cotton seed. The operational efficiency of the cooperative ginneries was effected by the management problems at the union level as well (see section 2.2).

Many ginneries were in need of rehabilitation - especially the ginneries in Western Kenya, which were built at the beginning of this century. The recommendations ranged from renovation of cotton seed conveyor system, seed cotton suction system, opener machines, and buildings (Luanda), to the relocation of a ginnery on higher ground (Kendu Bay) and the construction of a modern 16-gin ginnery on a new site (Kibos).

The recommendations of the committee were adopted by the government, and a rehabilitation programme was started in 1983 as part of the *Cotton Processing and Marketing Project.* Project implementation, however, has been slow. In Western Kenya, Luanda cooperative ginnery is the only one that has been rehabilitated as yet. It is not clear when the others will follow. Some people question the necessity to rehabilitate the cooperative ginneries, since cotton production has declined in Western Kenya during recent years. Others state that rehabilitation is necessary to stimulate cotton production again.

Problems at the selling stage

One major problem has to be discussed here. The cotton seed is stored at the ginnery, until it is collected by the oil miller. The ginners complain that this storage period lasts too long, causing storage shortage. The oil millers claim that it is difficult to find reliable transporters nowadays.

When a contracted transporter has received the release order from the oil miller, he may decide to do another (more profitable) job first. This causes collection delays and storage problems at the ginneries.

3.5. The document and money flow

All payments for seed cotton, cotton lint and cotton seed have to pass through the Cotton Lint and Seed Marketing Board offices. Neither the textile nor the oil mills are allowed to deal directly with the ginneries. The Board allocates all the cotton lint and seed to the mills and receives their payment. The farmers are paid by the Board, directly or through their agents.

The prices of seed cotton, cotton lint and cotton seed are determined by the Minister of Agriculture, after consultation with the Board. The prices are announced in the Government Gazette. The two main varieties of cotton grown in Kenya are UKA and BPA, each with its own quality lint. However, this is not reflected in the producer prices. The farmers receive one price for all first grade seed cotton (AR), irrespective of the variety. All second grade seed cotton (BR) is lower priced but also uniform. It includes all seed cotton that is discoloured, contains too much dirt, or is affected by insects or weeds. Approximately 10% of all seed cotton is classified as BR.

The textile millers have to pay for the cotton lint according to the different varieties. A distinction is made between UKA, BPA rainfed and

BPA irrigated, with prices increasing accordingly. The BR cotton lint of all varieties is sold at one price, below the AR quality prices. The oil millers have to deal with two grades, like the farmers. They can choose between AR and BR cotton seed, taking into account that BR is cheaper but has a lower oil content (see section 2.3).

The Board is hierarchically organized, which means that most decisions are made at the highest level, viz. the headquarters in Nairobi. The textile mills, oil mills, and private ginners communicate directly with the Board headquarters, but the cooperative societies and cooperative ginneries use the branch and regional offices as intermediaries. The concentration of decision-making at the highest level implies that the Board's headquarters must have up-to-date knowledge of all the activities in the field. Every bag of seed cotton and cotton seed, and every bale of cotton lint has to be reported. An elaborate system of administrative returns and notes has been developed to keep headquarters informed (Figure 5). It is important that the document flow runs smoothly, since the promptness of payment to the farmers depends on it. As long as the information on the buying activities has not reached Nairobi, the money flow cannot become operational and the farmers will not be paid.

Headquarters only starts issuing cheques when all returns and notes of a certain period have been processed. The cheques are written out in the name of branch managers of the Board, in case of direct buying and payment, or in the name of the agents. All the cheques are sent to the branch offices, through the regional offices (Figure 6). In two cases, the regional and branch offices are not involved. The private ginners receive

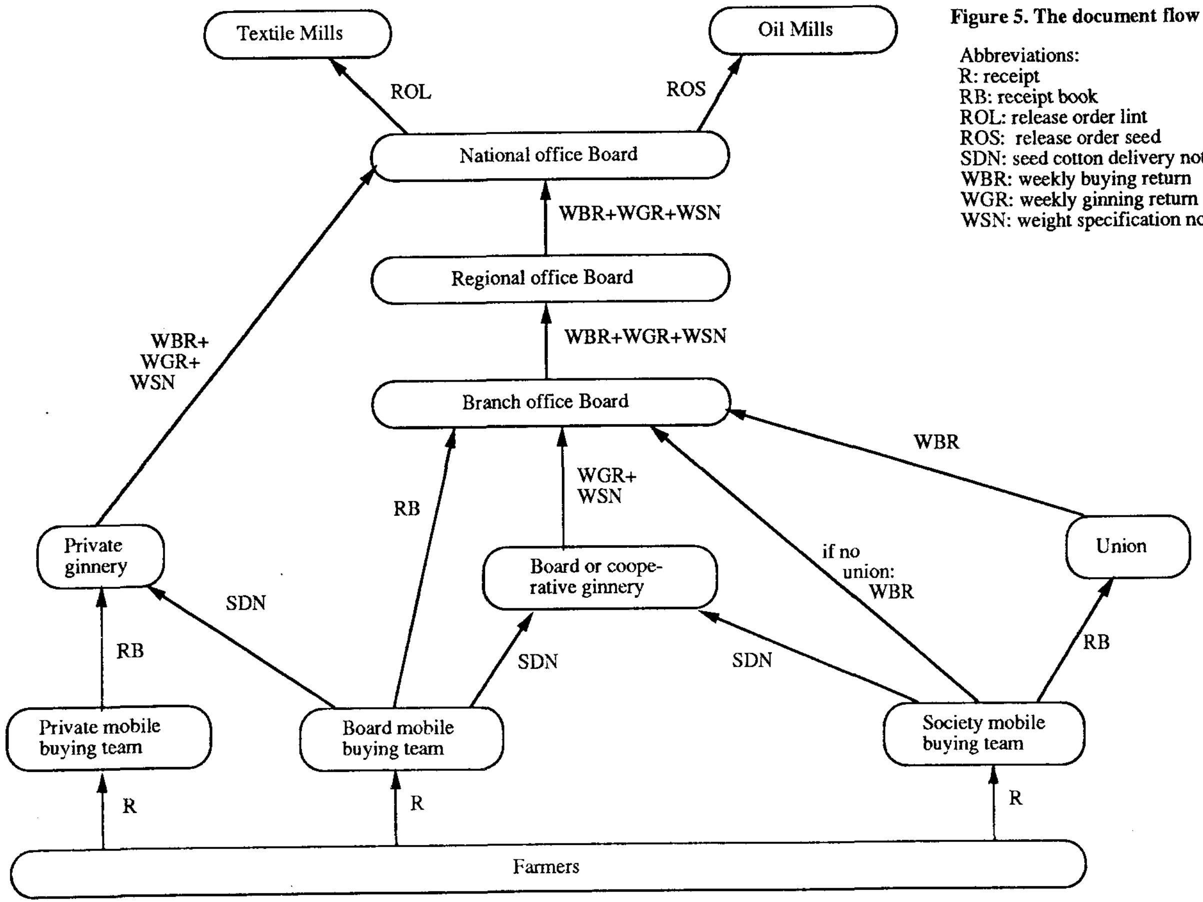


Figure 5. The document flow

Abbreviations:
R: receipt
RB: receipt book
ROL: release order lint
ROS: release order seed
SDN: seed cotton delivery notes - way bill
WBR: weekly buying return
WGR: weekly ginning return
WSN: weight specification notes

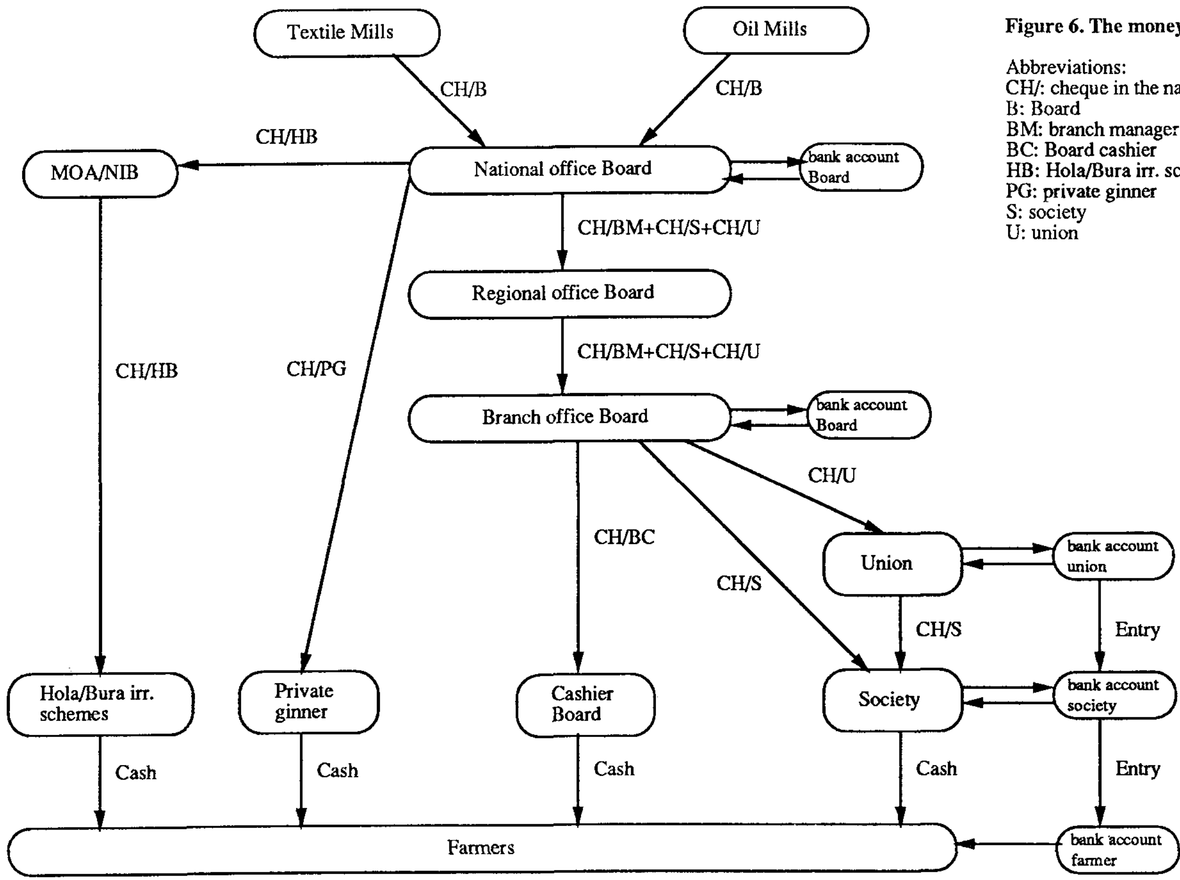


Figure 6. The money flow

Abbreviations:
CH/: cheque in the name of
B: Board
BM: branch manager Board
BC: Board cashier
HB: Hola/Bura irr. schemes
PG: private ginner
S: society
U: union

their cheques directly from the headquarters in Nairobi, and the farmers at the Hola and Bura irrigation schemes have to deal with the National Irrigation Board or the Ministry of Agriculture.[26]

The branch office of the Board supplies the cooperative unions and societies with cheques in their name. The union has to break up the cheque into separate ones in the name of the member societies. Subsequently, the societies can pay the farmers. Most payments are in cash, but some societies have stimulated their members to open a bank account, and deposit the money in those accounts.

If the branch office of the Board is responsible for the payment to the farmers, the branch manager changes the received cheque into separate cheques in the name of the Board cashiers. They will cash the cheque on the official day of payment to the farmers, accompanied by a policeman for security reasons.

3.6. Problems and conflicts with regard to the document and money flow

The concentration of decision-making at the national level tends to make the registration and payment procedures time consuming. At every bureaucratic level the information has to be copied and checked before it passes to the next level. The activities of the regional offices, for instance,

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[26]The National Irrigation Board (in case of the Tana irrigation scheme) and the Ministry of Agriculture (in case of the Bura irrigation scheme) deduct charges for land, water, mechanical cultivation and pest control from the payments to the farmers at the schemes.

do not seem to add anything new to the registration and payment work of the branch offices. However, this does not mean that all the delays in the past have been caused by those intermediate levels. Their origin is to be found primarily at the headquarters in Nairobi. Stagnation in the money flow of more than one year cannot be explained by time-consuming procedures at the administrative sub-levels. The most important reason for payment delays has been the problematic financial situation of the Board. This has frustrated payments by the headquarters of the Board, even when the document flow was running smoothly. The financial crisis started at the beginning of the 1980s (see section 1.3), and, in the end, has demotivated the farmers, and resulted in a decreasing cotton output.

The only farmers that have not been affected by payment delays are those that have been selling to private ginners. The latter have usually paid the farmers promptly, in spite of the delayed payments by the Board. They have financed these payments out of their own means, without ever receiving any interest compensation from the Board. As a consequence, cotton production in the Coastal Province, where two private ginners operate, has not declined like that in the other provinces.

The Board is not the only organization that has been responsible for stagnation in the money flow. Some cooperative unions and societies were responsible for payment delays in the past, too. They had developed the practice of placing money that they received from the Board in a bank account for some time, before paying the farmers. They considered the interest received as a source of income (see section 2.2). When the Board issued the cheques in the name of the unions, the delays thus further increased. First the union would put the money in a bank account for some time, and after paying the societies, the latter would do the same. It would be more efficient if the Board issued the cheques directly in the name of the societies. However, this has not always been possible. The societies that are represented by a union send their weekly buying returns to the union, which sends a summary of all its member societies to the Board. If this summary does not specify the quantities bought by the individual societies, the Board cannot write out separate cheques in their names.

The cashing of the cheque is the last activity that has been causing stagnation in the money flow. When a society officer hands over the cheque at the local office of a bank, it has to be cleared first. This clearing has to be done at the head office of the bank, and can take up to one month. This period can be shortened by paying a clearance fee in addition to the administration costs, but most cooperatives refuse to do so. They fail to understand why they should have to pay for money that belongs to them.

3.7. Evaluation of the present cotton marketing system

The present cotton marketing system has been evaluated by the Kenyan government. This has led to proposals for a large-scale reorganization, as outlined by the 1988 Cotton Act. To understand the proposed changes, it is important to review the arguments that justify reform. This section will be devoted to an evaluation of the present system. Three levels of evaluation are of importance. The first one, the national-economic level, concerns the effectivity of the marketing system to meet the goals of state intervention in the cotton sector, and the functioning of the Board in this respect.The second evaluation level covers the efficiency of the marketing chain, as specified by the cotton, document and money flows. The last, micro-economic, evaluation level deals with the prosperity effects of the system for the cotton farmers on the one hand, and the users of cotton lint and seed on the other.

The national-economic evaluation

The main goals of the state's intervention in the cotton sector were the increase of cotton production and the fixation of producer prices. Cotton production had to increase to generate export earnings and later to supply the domestic textile industry with raw material. The price fixation was meant to guarantee the cotton farmers a reasonable income, in spite of fluctuating world market prices for cotton. The functions of the CLSMB were twofold in this respect. The Board had to make all the necessary arrangements for the purchase and selling of cotton, and had to act as buyer of last resort to guarantee the fixed producer price. The Board's ownership of all domestic cotton has to be viewed in this light. Any trade losses of the Board, caused by the purchase of cotton at fixed prices, were supposed to be compensated by surpluses in other years. However, this inter-annual equilibrium was upset by the increase of the Board's overhead costs during the last two decades.

The main reason for the cost increase was the expansion of Board activities into new areas like "direct" primary buying, "direct" ginning, and credit supply. These activities, which could not be justified as essential for the price stabilization function of the Board, increased its overhead costs out of proportion. They caused the Board's technical bankruptcy in 1985, and the subsequent government intervention to settle overdue payments to the farmers in 1986.

This raises the question of the policy of cotton self-sufficiency and the Cotton Development Programme. As described in section 1.3, the Board established ginneries in areas that seemed to have a high potential for cotton cultivation during the first half of the 1970s. It started buying activities in areas where agents were absent or existing agents failed to meet their obligations, and from 1967 onwards supplied farm inputs on credit to improve the cotton yields. The effect of these activities on the national output during the 1970s is not completely clear. The increase during the second half of the 1970s has been attributed mostly to the 80% increase of cotton producer prices, and not to the new activities of the Board. These new activities later caused financial problems at the Board, which resulted in payment delays to the farmers and a decline of the national cotton production, as we saw earlier. By and large, it appears that the new activities of the Board - credit supply, ginning, and primary buying - have been counterproductive.

Nowadays, the government is not committed to cotton self-sufficiency as it was in the 1970s, when changing relations with neighbouring countries jeopardized cotton imports. Kenya does not depend on imports from

Tanzania and Uganda any more, and has free access to the world market of cotton in the sense that the Kenyan textile mills can supplement local supplies with imports.[27]

Cotton experts prognosticate that future world market prices for cotton lint will remain at the present level or even decrease, due to quality improvements of US cotton lint, and the increase of Chinese exports. In case of long term world price decreases, the Kenyan government will have to choose between a decrease of the producer price for seed cotton or subsidization of the cotton farmers. The first possibility will demotivate the cotton farmers, and will probably cause a decline of cotton production. This will make cotton self-sufficiency less realistic than ever. The second possibility will put a heavy and presumably undesirable burden on Kenyan public funds.

When discussing cotton self-sufficiency one more practical argument has to be mentioned. Domestic cotton production will always vary because of climatic conditions. Since lint requirements of the textile mills are, in principle, constant, imports and exports will always be needed to balance the market. A strict implementation of a self-sufficiency policy is therefore impracticable.

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[27] Imports were restricted in the 1980s as part of the cotton self-sufficiency policy. Without this policy importation of lint would not have been a problem.

The marketing chain

A number of problems have been discussed in section 3.4, in connection with the cotton flow. Most of these can be solved without a large-scale reorganization of the marketing system. The cheating at the buying centres can to a large extent be prevented by the marking of gunny bags and the re-introduction of pre-checking at the house of the farmer, with the help of agricultural field officers. Problems with the buying calender and the start of the buying season could be met by improvement of the planning and the forecasting of seed cotton deliveries. Of course, the start of the buying season will be determined by cost considerations too, and adequate planning can still be frustrated by exogenous factors like weather conditions. Transport problems could be prevented by a more thorough screening of potential private transporters, and a more realistic estimation of the transport capacity of the Board and its agents.

As regards the document and money flow their centralized character has to be questioned. If the branch offices were allowed to deal directly with the textile and oil mills, they could allocate the regionally produced lint and seed to the mills. The millers would pay the branch and collect the lint or seed at the ginneries. The branch office could use these payments to pay the farmers and their agents. The system would minimize the time required for administrative and payment procedures and decrease the overhead costs of the Board.

The system would have one disadvantage, particularly during periods of cotton scarcity. Textile mills are an important source of employment, especially in the provincial centres outside Nairobi. The enforced idleness of a mill, caused by lack of cotton lint, has serious employment consequences for the local community. Therefore, branch and ginnery officers may be inclined to favour a local mill in case of cotton scarcity. This might interfere with national allocation policies.

However, it is possible to combine a decentralized payment system with centralized allocation of lint supplies. The millers could pay directly to the branch office, after the allocation of the cotton lint at the national level. The branch officers could pay the farmers or their agents. The millers could even pay the money directly to the agents, and to the branch office in case of direct buying by the Board. This system could work, as long as the Board keeps strict supervision on the ginning activities of the agents. Otherwise, the agents could be tempted to report only part of the cotton lint produced, and to sell the remainder on their own account.

Such a change in the payment system would have serious consequences for the headquarters of the Board. It would lose part of its power and, more important, a source of income, namely the interest on money paid by the mills, and not yet transferred to the lower levels of the marketing chain.

The efficiency of the money flow is also endangered by the internal problems of the cooperatives, which cannot be solved by a reorganization of the Board. The Board can at most reduce possible payment delays, if it writes out cheques in the name of the societies instead of the unions. For the rest, those delays are the responsibility of the cooperatives. It is one of the shortcomings of the present system. The Board is not able to control the activities of its agents, although it can be held responsible for their failures in the last resort (see section 3.2).

The micro-economic level

Here we deal with the prosperity effects of the marketing system to the cotton farmers, and the users of cotton lint and seed.

There is no doubt that payment delays without interest compensation, as explained earlier, have reduced the incomes of the cotton farmers. It is difficult to judge the present level of producer prices, because of the harmful effect of the payment delays[28]. No integrated framework for the evaluation of producer prices and payment delays is available. The present producer price, as percentage of the world market price, seems to be reasonable compared to for instance Tanzania. The Tanzanian cotton farmers receive 40 to 45% of the world market price, against the Kenyan cotton farmers about 60% [29].

The prosperity effects of the present marketing system to the textile and oil mills have already been discussed in section 2.3. The general scarcity of lint, and restrictions on lint imports, have forced the textile mills to slow down production. This has had its bearing on their profitability. A

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[28]Cotton production declined in 1987 and 1988, although the producer price was increased. Nevertheless, price increases have a positive effect on the cotton output in general. This has been proved in the Kenyan context by Aldington (1971) and Mutuura (1987).

[29]These percentages can only be used as a rough indication, because of fixed producer prices and fluctuating world prices for cotton.

large scale reorganization of the marketing system is not necessary in this respect. If the Kenyan government would allow the textile mills to import lint, they would be able to meet any scarcity of domestic cotton. The world price for lint would determine the positive or negative effects of importation on the production costs.

The production costs of the textile mills have been affected in a negative way by the present cost-plus system for domestic lint, especially during periods when domestic prices for lint exceeded their world price equivalents. It has hampered exports by the mills, and therefore possible opportunities to increase sales.

The scarcity of cotton seed has forced the cotton seed crushing mills to run at less than half of their capacity. It has affected both their profitability in the short run, by way of lower revenues, and in the long run, through the inability to replace obsolete equipment. The importation of oil seeds by the mills does not seem to be a solution from the economic point of view.

In summary, it can be concluded that the present marketing of raw cotton, cotton lint and cotton seed has experienced major shortcomings, which are partly inherent in the system itself. According to the Kenyan government, large-scale reorganization is inevitable if these shortcomings are to be met. In the following chapter we will discuss the merits of the proposed cotton marketing system, as outlined by the 1988 Cotton Act.

4. The proposed cotton marketing system

4.1. Introduction

The proposed reorganization of the cotton marketing system stems from two developments in the 1980s. The first was the failure of the CLSMB to perform its functions satisfactorily, resulting in a technical bankruptcy at the end of 1985, and a declining cotton output. The second development was international in origin. During the second half of the 1980s, governments all over Africa were urged by international organizations like the World Bank to reorganize the controlled marketing of agricultural crops. The role of centralized marketing institutions like marketing boards had to be reduced in favour of the private sector. One category of marketing boards that has been subject to this trend are the cotton marketing boards.

The 1986 Cotton Bill, first introduced in 1986 and finally passed by Parliament in 1988, marked the beginning of a national debate on the future of the CLSMB in Kenya. Two questions dominated the discussion. To what extent should the Board be divested of its supervising and executive powers at the different stages of cotton buying, processing and selling? And to whom should those powers be transferred, to the private ginners or to the cooperative societies and unions? An inter-ministerial committee drafted detailed recommendations for the new cotton marketing system in 1987. The bill was modified to include some of the recommendations of the committee, but remained subject to discussion. The latest version of the Cotton Bill, which was passed by Parliament in July 1988, appeared to be a compromise between different views and was open to different interpretations.

4.2. The proposed marketing system

The new marketing system, as outlined by the 1988 Cotton Act, differs from the present system in two important ways. In the first place, the new Board, which will be named the Cotton Board of Kenya (CBK), will not be directly involved in cotton buying and ginning activities. The CBK will issue licences, regulate and carry out quality controls, and regulate export and import of cotton lint and seed, but will refrain from all direct buying and management and ownership of ginneries (GOK, 1988).The buying and ginning activities will become the responsibility of licensed buyers and ginners, both private and cooperative. The ginneries now belonging to the CLSMB will be sold. The second important change in the marketing system will be the position of the private and cooperative buyers and ginners. They will no longer act as agents of the Board. As a result, the CBK cannot be held responsible for their failures as they were in the past.

The 1988 Cotton Act does not specify the payment system to the farmers. It only states that the price for raw cotton will be fixed by the Minister of Agriculture, after consultation with the Board, as is the case with the present system. Instructions concerning prompt payment are not mentioned, although they are inevitable if payment delays to the farmers are to end.

The lint selling system is not fully regulated in the 1988 Cotton Act. The cotton lint will be sold by the Board "by auction or by tender or by such other method as the Board may consider fit" (GOK, 1988, p.30). The Act wishes to end the present cost-plus system, although this is not said explicitly. Kenyan textile mills and foreign traders will be invited to periodic auctions, organized by the Board. The presence of foreign traders will link the auction prices of Kenyan cotton lint to the world price. It will prevent the selling of Kenyan lint at prices that exceed the world market value. An auction system will only operate successfully if the Kenyan textile mills are allowed to import cotton lint and synthetic fibres at any time and without any levies, to give them the same bargaining position as the foreign traders.

An auction system has several advantages. Exports by Kenyan textile mills will no longer be hampered by periodically high domestic lint prices. The mills will be able to import lint in case of domestic lint scarcity, and will have access to qualities of cotton lint that are not available in Kenya.

4.3. Pre-evaluation of the proposed marketing system

The proposed marketing system will be evaluated here on its potential to meet the shortcomings of the present system. The evaluation will cover the national economic, the marketing chain, and the micro economic levels.

The national economic evaluation

One of the most important alterations of the proposed system will be the withdrawal of the Board from active participation in the cotton marketing chain. The Cotton Marketing Board will not perform any of the buying, ginning, and credit supply activities that strongly contributed to the financial problems of the CLSMB. All the functions of the CBK will be of a controlling or regulating kind.

According to the 1988 Cotton Act, the CBK will have to finance its activities through the imposition of different kinds of levies. At the end of each financial year, "the Board shall, after consultation with the Minister, from its revenues make a proper allocation to the General Reserve Fund". These revenues include the levies received. "The Board may apply the proceeds from the General Reserve Fund, to carry out any of its functions." (GOK, 1988, p.28). One of these functions is "to carry out and promote research and development in cotton production and processing technology" (GOK, 1988, p.23). It serves one of the main goals of state intervention in the cotton sector, viz. the increase of cotton production.The stipulation of auto-financing of the Board's activities has to prevent new financial problems, in this respect. They will no longer be a drain on the Treasury.

As regards the aim of cotton self-sufficiency, it is not clear whether this goal has been officially abandoned during the reorganization of the marketing system.[30] If an auction system is introduced the Kenyan textile mills will be allowed to import cotton lint. In general, however, they will tend to prefer Kenyan lint (against world prices) to imported lint, because of the lower transport costs. In consequence, the local demand for cotton lint will not be affected to a large extent. Moreover, most imported lint will be of staple length that is not grown in Kenya. The Kenyan textile mills will be able to compete successfully with overseas buyers in the market for domestic lint, because they are willing to offer a higher price. Their highest bid will be equal to the import parity price, while the overseas buyers are only willing to pay the (lower) export parity price.

Developments on the supply side will be determined by future world prices for cotton and prompt payment to the farmers (see the micro-economic evaluation). It can be predicted that seed cotton production will increase as long as world prices do not decline, and farmers are paid promptly.

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[30] It can be argued that cotton self-sufficiency does not need high priority within the reorganized system, in view of the present developments in the world market for cotton lint (see section 3.7).

The marketing chain

The cotton flow within the reorganized system can still be divided into a primary buying, a ginning, and a selling stage. However, the responsibilities of the different actors have changed. The Board will refrain from "direct" primary buying, "direct" ginning, and credit supply.[31] These activities will be the responsibility of the cooperative societies, and the cooperative and private ginners. The relative importance of the cooperative and private sub-systems will depend on who will acquire the Board ginneries.

It may be expected that the cotton flow will still be affected by the same kind of problems as at present. However, problems like cheating at the buying centres and inaccurate planning can be dealt with to a large extent by measures like pre-checking, marking of bags and improvement of crop forecasts. Problems can be expected in respect of the transport of seed cotton from the primary buying centres to the ginneries. The Board has been organizing most of the transport in the buying areas where cooperative societies have been responsible for the purchase of seed cotton. The societies will lose this kind of Board service, and will have to organize the transport themselves. The cooperative ginneries possess only a few lorries, generally in poor condition. Many private transporters are unwilling to be contracted by cooperatives, because of payment problems in the past. A transport constraint may therefore be expected. A solution could be the provision of payment securities by the Cooperative Bank to

[31]The selling of cotton seed is not regulated by the 1988 Cotton Act. It implies that it will be the responsibility of the ginneries.

the private transporters. Besides, the cooperative ginneries will need loans to buy lorries and to overhaul the old ones.

The cooperative ginneries will need loans to carry out their other activities, too. However, the Cooperative Bank has had negative experiences with cooperatives, especially in Western Kenya in the 1970s. It will be reluctant to issue new loans to clients that are known for their poor repayment record and that still have large outstanding debts. It can be expected that the Cooperative Bank will be willing to participate only if a solution is found for these old debts, and if the government or an external donor acts as a surety for new loans.

The cooperative unions in Western Kenya, who are in charge of all the Kenyan cooperative ginneries at the moment, have experienced a lot of mismanagement in the past. The cotton cooperatives elsewhere in Kenya are potential buyers of the present Board ginneries, but they are either very young or weak. It would be rather unwise to saddle the cotton cooperative movement overnight with new obligations that it is not able to meet. The cooperatives will need a lot of training and external support to handle such new responsibilities successfully.

The micro-economic level

If prompt payment is introduced, this will have positive prosperity effects on the farmers. However, introduction of an auction system can be disadvantageous to the farmers, especially at times of declining world prices for cotton. The farmers will receive a lower producer price, which will prompt them to look for alternative crops. Consequently, the domestic cotton production will decline. Such development could be prevented through a temporary government subsidization of the producer price for seed cotton.[32] Yet, it would undo the advantages of the new system to the government. Another possibility would be the establishment of a price stabilization fund, which could be used as a buffer in such a situation.

The prosperity effects of the reorganized marketing system to domestic users of lint have been briefly discussed in section 4.2. In the case of auctioning of domestic lint, it will present the Kenyan textile mills with competitive prices that give them the possibility to penetrate export markets for cloth. An important export possibility, not yet mentioned in this respect, is the export of cotton yarn to for instance Europe. Some Kenyan mills have already explored this possibility, and the prospects appear to be good.

The possibility to import lint, that would be part of the auction option, will make the Kenyan textile mills less vulnerable to poor harvests of Kenyan cotton, like the ones that curtailed their production level in the recent past. The access to a larger range of cotton qualities will lead to better yarn and cloth or lower costs.

The capacity utilization rate of the Kenyan cotton seed crushing mills will still depend on the availability of Kenyan cotton seed. Since importation

[32]Within the present system, the domestic textile mills occasionally subsidize the farmers. They sometimes pay a price for lint that exceeds the world market price (see section 2.3).

of cotton seed is unprofitable, the prosperity of the Kenyan cotton seed crushing mills will depend on the development of the Kenyan cotton output and the availability of alternative raw materials. As we saw, the Kenyan cotton output will depend on two main variables of a largely unpredictable nature: the price developments of cotton lint in the world market, and the possibility of the cooperative and private ginneries to handle their new responsibilities successfully.

5. Conclusions and Recommendations

5.1. Conclusions

The present cotton marketing system

The present cotton marketing system has experienced many problems. To summarize the discussion a list is presented in Figure 7. The first five are major difficulties, which cannot be solved without drastic measures, including large-scale reorganization. One of them concerns the payment delays to the cotton farmers. They have been caused first of all by financial troubles at the Cotton Lint and Seed Marketing Board. The Board's financial crisis can be attributed to three new activities that originated in the 1970s, namely "direct" primary buying (without enlisting agents); ownership and management of ginneries; and supply of farm inputs on credit. The latter, in particular, has had the most negative impact on the Board's financial situation.

Two other major problems are the shortage of cotton lint and cotton seed for the domestic textile and oil mills. These are the result of the decline of

Figure 7. Problems of the present cotton marketing system and proposals to solve them

present problems	major proposals, amounting to large-scale reorganization of the marketing system	minor proposals, amounting to improvement of the old (or new) marketing system
1. financial troubles of the Board	withdrawal Board from -"direct" primary buying, -"direct" ginning and -credit supply	
2. payment delays to cotton farmers	-solving financial problems Board (see 1)	-improving financial situation and management structure co-operative societies and unions
3. decline of Kenyan cotton production	-solving payment delays to cotton farmers (see 2)	
4. shortage of cotton restrictions lint for domestic textile mills	-increase of Kenyan cotton production (see 3)	-abolishing import on cotton lint
5. shortage of cotton seed for domestic oil mills	-increase of Kenyan cotton production (see 3)	
6. cheating by farmers at primary buying centres		-marking of bags -pre-checking at farm -increase of number of graders (implying an increase of the buying commission)
7. inadequate planning of primary buying activities		-improving planning start buying season -improving crop forecasts
8. insufficient transport from primary buying centres to ginneries		-better screening of potential private transporters -loans to cooperative unions to buy new lorries and overhaul old ones

Note: the first proposal (top of the column) is embodied in the 1988 Cotton Act, while the other proposals were suggested by various officials during meetings with the author.

Kenyan cotton production, which, as we saw, is related to the payment delays to the cotton farmers and financial troubles of the Board. If the raw material shortages are to be solved through increase of domestic cotton production this will require a large-scale reorganization. However, in case of the textile mills an alternative is available, namely the abolition of import restrictions on cotton lint. The import option is not relevant for the oil mills, because importation of cotton seed is unprofitable.

To be fair it must be added that the payment delays to the cotton farmers, which brought on the decline of domestic cotton production, are not only the Board's fault, but should also be blamed on the cooperative societies and unions. The cooperatives have been experiencing major financial and management problems, which held up payments to their members. The Board has not been able to solve this satisfactorily nor otherwise to control the activities of its cooperative agents, although it is ultimately responsible for their failures. The problems of the cooperatives should be solved by improving their financial situation and management structure, that is without a large-scale reorganization of the marketing system.

Three more problems that are often mentioned deserve attention (see Figure 7), but are minor in the sense that they can be solved without a far-reaching reorganization.

Having summarized the difficulties of the present cotton marketing system, we return to one of the research questions that was mentioned in the introduction of this report. The CLSMB has changed in the course of years from an export into a domestic marketing board (selling its statutory crop to local mills instead of to overseas buyers). Has this development forced the Board to expand its activities and thus to create the present financial troubles? The answer to this question appears to be negative. True, the increasing local demand for cotton lint seemed to justify the promotion of cotton cultivation, but obviously the textile mills could also have imported lint, to provide for their input needs. This possibility was, however, precluded when the government initiated a cotton self-sufficiency policy that implied restrictions on the importation of cotton lint. As a consequence, the pressure on the Board to promote cotton cultivation through direct involvement in marketing activities grew. The same would not have happened if the government had allowed free importation of cotton.

The proposed cotton marketing system

Will the proposed cotton marketing system, as outlined by the 1988 Cotton Act, meet the shortcomings of the present system? On the one hand, the reorganized Board will refrain from primary buying, ginning and and credit supply, thus lightening its financial difficulties. On the other hand, although the 1988 Cotton Act does not deal with the cooperatives, they will be saddled almost overnight with obligations which they often will be unable to meet. In that case, payment delays will continue, regardless of recommended prompt payment. The internal problems of the cooperatives may thus undo the advantages of the new system.

Within the proposed system producer prices will be linked to world prices for cotton lint. Decreasing world prices will in all likelihood cause a decline of domestic cotton production. Such a decline will no longer harm the availability of raw materials to the Kenyan textile mills, because of the possibility to import cotton lint. Free importation of lint will be necessary to give local buyers and foreign traders the same bargaining position at the auctions. (It will also give the textile mills the possibility to lower their production costs by importation of lint qualities that are not available in Kenya.) Free importation of cotton lint will hardly reduce the demand for domestic cotton, which has a competitive edge because of lower transport costs. The possibility of declining domestic cotton production remains a matter of concern for oil seed mills because, as we saw, the importation of cotton seed is unprofitable.

A decline of domestic cotton production and the resulting importation of lint has drawbacks on the national level because it would mean a higher demand for foreign currency, by both the textile and vegetable oil sector. Textile mills would have to purchase larger quantities of cotton lint at the world market, and specialized oil mills would import more crude palm oil to meet the local demand for edible oil. For the moment, these imports would not be compensated by any substantial exports of textiles.[33]

In summary, a reorganized cotton marketing system, based on recommended prompt payment to the farmers and auctioning of cotton lint, will be an improvement to the Kenyan textile mills, and to the

[33] As far as textiles are concerned, this may change in the future, since the export possibilities of the textile mills will no longer be hampered by periodically high domestic lint prices caused by the present cost-plus system.

Treasury, which has to finance the losses of the Board at the moment. The advantages to the farmers and the cotton seed crushing mills are more difficult to predict, for they depend on two variables: the price developments of cotton in the world market, and the possibility of the cooperative societies and cooperative and private ginners to handle their new responsibilities successfully.

5.2. Recommendations

A few measures which were mentioned to solve existing problems at the primary buying stage are still relevant after the implementation of the proposed system, notably marking of bags, pre-checking of seed cotton, improved crop forecasts and planning of buying activities, increase of the buying commission, and better screening of private transporters. The implementation of most of these measures will be the responsibility of the cooperative societies and cooperative and private ginneries, since they will be responsible for all buying and ginning activities. This will be a difficult task, especially for the cooperatives. They will need staff training and external management and financial support to handle their new responsibilities successfully. If they do not receive sufficient support during the transitional period, the cooperative sub-system is likely to break down.

The importance of two more measures within the proposed system must be emphasized, namely prompt payment to the farmers and auctioning of cotton lint. The former is a first requisite to avoid further decline of domestic cotton production. The latter, implicitly mentioned as the successor to the present cost-plus system by the 1988 Cotton Act, will have far-reaching consequences in two ways. First, auctioning implies abolition of all import restrictions on cotton lint. Second, auctioning makes fluctuations of world prices for cotton lint affect producer prices, and hence the revenues to the farmers. If this is considered undesirable, a price stabilization fund becomes necessary.

Abbreviations

CBK	Cotton Board of Kenya
CBS	Central Bureau of Statistics
CFDT	Compagnie Française pour le Développement des fibres Textiles
CLSMB	Cotton Lint and Seed Marketing Board
CPMP	Cotton Processing and Marketing Project
DFCK	Development Finance Company of Kenya
EADB	East African Development Bank
FNSP	Food and Nutrition Studies Programme
GOK	Government of Kenya
IADP	Integrated Agricultural Development Programme
IBRD	International Bank for Reconstruction and Development (World Bank)
ICDC	Industrial and Commercial Development Corporation
IDA	International Development Association (World Bank)
IDB	Industrial Development Bank
IDS	Institute of Development Studies
MNC	Multinational Corporation
MOA	Ministry of Agriculture
NIB	National Irrigation Board
TCMB	Tanzanian Cotton Marketing Board
UNIDO	United Nations Industrial Development Organization

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