ASSESSMENT OF ISSUES RELATED TO FINANCE AND PROFITABILITY FOR 1992/93 COTTON AND WHEAT PROGRAMS IN SUDAN

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1. BACKGROUND

On 4th May 1993, towards the end of the cotton and wheat growing seasons, the President of the Revolutionary Command Council for National Salvation in Sudan announced various decrees to boost the productivity of these two crops and other crops as well. These decrees are as follow:

a) Crop sales tax to be reduced from 16% to 8%
b) Crop production tax to be reduced from 5% to 2%.
c) Restrict bank profits on the 1992/93 transactions to 33%.
d) Direct the banks to resort to other financing terms more acceptable to the tenants.
e) provide support from the Ministry of Finance for the start of 1993/94 season with a sum of Ls800 Million without service charges (about 5% of the total credit requirements of the cotton and wheat programs in irrigated schemes).

The announcement of these decrees came at a time the tenants started showing their dissatisfaction with the financing terms of the 1992/93 season. They blame them for the deterioration in the productivity of both cotton and wheat of that season's crops. Actually the same terms were applied for the previous two seasons and the productivity was not affected as negatively as in 1992/93. Nevertheless, it was noticed in the three seasons that the financiers' share in profit are higher than the allowable profits on the annual loans set by the central bank. They are almost similar or even higher than the tenants, shares on profits.

The paper will deal only with some coverage of the issues related to finance and profitability of cotton and wheat in 1992/93 cropping season putting in mind the following:

First: The Banks Lending Terms for Agriculture

Under Islamic doctrines, the recognized terms of lending fall under one of the following categories:

- Salam contract (implies repayment in kind at a fixed price set before growing the financed crop and specified in a contract).

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- Murabaha (implies profits on transactions against the credit i.e procurement of goods and services).

- Musharaka (implies share-cropping arrangements on net proceeds specified in a contract).

The allowable profits on annual loans were set by the central bank at a rate of 12% in 1990/91, 15% in 1991/92 and 36% in 1992/93. This last jump in the profit margin is an outcome of the economic restructuring policies declared in February 1992.

Second: <u>The Marketing Arrangements for Cotton and Wheat</u>

Both cotton and wheat are captive crops in the sense that the Government has full or partial control of their disposal. This situation has been supported by the strong institutional presence of the parastatals servicing the production aspects. On the marketing side, the government has a monopoly on cotton and control on the flow of domestic and imported wheat to the private flour mills.

After the liberalization of the economy, the financing terms under the Salam contract which implies repayment in kind encouraged the prolonging of earlier control measures. The delay in the decontrol process acted as a disincentive to both cotton and wheat growers.

Third: <u>The Pricing Mechanism for Cotton and Wheat</u>

Two factors affect the setting of prices for cotton and wheat these are:

a) The changes in the world prices

b) The changes in the exchange rate

Cotton and wheat are both traded commodities; the first exportable and the second importable.

For cotton which is exportable commodity, the export parity price for cotton lint is calculated using the F.O.B prices and applying the prevailing exchange rate. The net value excluding the transport cost and tax give the price ex-ginnery. The value of other cotton derivaties like seeds and scarto are added. Here they use the prevailing internal market prices (considered non-tradable). Further deduction on the total value of one kantar of seed cotton is the ginning cost (here they use an average for each type of ginnery). Finally the price of one kantar of 315 pounds of seed cotton is determined as ex-ginnery price.

For wheat which is an importable commodity, the import parity price is calculated using the C.I.F price and applying the prevailing exchange rate. The transport cost and service charges of 3 months financing are added to get the price ex-flour mill.

Fourth: <u>Production Relationships in Publicly Managed Irrigation Schemes</u>

There are certain production relationships that govern the cotton program in the publicly managed irrigated schemes. Under these relationships each tenant is guaranteed full financing and a fair price when he delivers the seed cotton to the ginneries. So one leg of the relationship is finance and the other leg is fair price. Any change in the principles of setting the level of each will affect the relationship either positively or negatively. Since wheat like cotton has also controlable line of industry from the field to the flour mill to the bakery, it easily developed similar relationships on financing and pricing.

2. <u>The 1992/93 Cotton and Wheat Programs</u>

The cotton and wheat cropping plans for 1992/93 were the results of extensive meetings of the cotton varieties committee and the national self-sufficiency committee for wheat.

Both are Government institutions which take care of the Government's interests in promoting the production of the two crops. This is an indication that the cotton and wheat programs are influenced by Government decisions. Table (1) gives the cotton and wheat cropping plans as approved by the respective committees. They are estimated as 186 thousand hectares for cotton and 345 thousand hectares for wheat of which about 55% is in the Gezira scheme. In reverse to the historical trend, the government is promoting more wheat and less cotton. Both plans require strong commitment from the government to make available the inputs which are mostly imported. It was not easy for the government to detach itself from these responsibilities even after the liberalization of the economy. In 1992/93 bilateral dealings and lines of external credit facilities were in effect mainly through publicly controlled trading and financing institutions.

Table (1)

The Irrigated Sub-Sector
Cotton and Wheat
Cropping Plans for Season 1992/93 (000 Feddan)

	Cotton	Wheat
Sudan Gezira Board	260	450
Rahad Agric. Corporation	63	65
N. Halfa Agric. Corporation	60	60
Blue Nile Agric. Corporation	35	15
White Nile Agric. Corporation	-	40
Tokar Agric. Corporation	20	-
Northern Agric. Corporation	-	15
Private Sector	5	175
Total	443	820

3. The Credit Requirement for Cotton and Wheat Programs in Irrigated Schemes

Based on the inputs requirement and the expected operations under the cropping plans a total credit requirement of LS 9.5 billion was needed for the cotton program including LS 1.3 billion for the ginning expenses and L.s 1.0 billion for the administration expenses of the schemes (table 2). For the wheat program, the credit requirement was L.s7.0 billion (table 3). Comparing the credit requirements for the two programs we can draw the following ratios.

	Cotton	Wheat
Area	1.00	1.85
Inputs value	1.00	0.76
Operations' expenses	1.00	2.80

Table (2)

Credit Requirement for Cotton in Irrigated Scheme
(Sudan 1992/93)

(ooo Ls)

	Administ-ration	Production Inputs	Production Operats.	Production Total	Ginning	Total
Sudan Gezira Board	366456	4435978	479058	4915036	1000555	6282047
Rahad Agric Corp.	446868	685650	207402	893052	139624	1479544
N. Halfa Agric Corp.	223327	584327	65614	649941	183793	1057061
B. Nile Agric. Corp.	76442	357598	120117	477715	58800	612957
Tokar Agric Corp.	11627	1750	5684	7434	4562	23623
Total	1124720	6065303	877875	6943178	1387334	9455232

Source : AUAC, Ministry of Agriculture, Khartoum

Table (3) Credit Requirement for Wheat in Irrigated Schemes
(Season 1992/93)

(000 Ls)

	Inputs	Operations	Total
Sudan Gezira Board	2336899	1355312	3692211
Rahad Agric. Corp.	326567	156770	483337
N. Halfa Agric. Corp.	301446	144711	446157
B. Nile Agric. Corp.	75362	36178	111540
W. Nile Agric. Corp.	200965	96474	297439
Northern Agric. Corp.	84706	40664	125370
Private Sector	1342006	644244	1986250
Total	4667951	2474323	7142304

Source: AUAC, Ministry of Agriculture, Khartoum.

For the repayment capacity the yield target should exceed 4.4 kantars per feddan of cotton as an average for all varieties and exceed 700kg per feddan of wheat. Based on the yield records of the earlier season these levels could be achieved in all the irrigated schemes selected for financing.

4. The Terms of Financing

The terms of financing for both cotton and wheat were based on Salam contracts. Such contracts give the opportunity for the financier to gain profits on speculative background. That is why profits are not definite. It works similar to commodity credit security bonds.

They value the commodity at a price now and whatever changes on the price, they reflect the magnitude of the profits to the financier. No guarantees are made to protect either the financier or the producer *. Nevertheless, a clause could be added in the contract giving the discretion to the financier for working a fair deal in cases of profit margins higher than the allowable limits set by the Central bank.

The allowable profits or service charges on loans as declared by the Central bank will be deducted from the calculated price for each of the two crops to give the conditional price that could be accepted by both sides and included in the Salam Contract. The repayment of the loan will thus be in kind valued at the conditional price.

5. Setting the 1992/93 Conditional Prices for the Loans of the Cotton and Wheat Programs

At the beginning of the season, the exchange rate was L.s 100 for one US Dollar compared to L.s 15 in the previous season. The service charge on annual loan for agriculture was 36% compared to 15% in the previous season. Although the changes in the exchange rate and the service charges on the loans are the main two instruments of the economic adjustment policies, the existing capacities could not absorb easily the high increases in costs unless they maintain reasonable yields at favorable prices.

In setting the prices for seed cotton at the ginnery gate and for wheat at the flour mill gate, the following assumptions were the guidelines at the beginning of the season:

* There is an agreement of accepting the tenancy as a collateral but there is no notion on the legal steps towards practical settlements.

For Cotton

- World prices prevailing in May 1992
- Exchange rate prevailing in May 1992
- Cotton seed prices of season 1991/92
- Ginning and Transportation costs as recorded in May 1992.
- Service charges on loan at 3% per month for a period not to exceed 11 months.

For Wheat

- World prices prevailing in October 1992
- Exchange rate prevailing in October 1992.
- Transport costs prevailing in October 1992.
- Service charges on loan at 3% per month for a period not exceeding 11 months.

The actual export parity price for cotton and import parity price for wheat based on the above assumptions were not accepted as the initial price to value the produce. Instead of that the ruling prices were based along the following lines:

For Cotton

prices for seed cotton for the different varieties were based on arbitrary judgement on costing and fixed profit margin at 25% .

For Wheat

Although keeping the same assumptions, the export parity price was applied which is less than the import parity with twice the transportation cost (a reduction of 50%).

The banks, forward prices (conditional prices in the Salam Contract) and the initial prices accepted by the government for deliveries to the ginneries and flour mills were as follows:

	Bank Forward Price	Government Initial Price	Bank Initial Profit %
ELS Cotton L.S/kontar	4553	5790	27%
LS Cotton L.s/kontar	3616	4600	27%
MS Cotton L.s/kontar	3498	4450	27%
Wheat L.s/sack	1200	1600	33%

6. Assesment of Finance and Profitability of the 1992/93 Cotton

Gezira is the only scheme growing all the known cotton varieties which are:

a) Extra long staple cotton ; Barakat 90
Barakat Traditional
Barakat Tokar

b) Long staple cotton; Shambat B

c) Medium staple cotton; Acala

The areas from each variety in the Gezira were 86437.5, 23538.5 and 64785.75 feddans respectively. The average yields were 3.89, 4.04 and 3.85 kantars per feddan. The cost as shown in table (4) for each variety were L.s18751.9, L.s18550.4 and L.s17905.55 per feddan. Taking the yield levels and the banks' conditional prices for repayment the revenue for each variety will be L.s 17711.17, L.s14608.64 and L.s13467.30 per feddan. there are losses in all varieties estimated at L.s1040.73, L.s3941,76 and L.s4438.25 per feddan.

If we take into consideration the prices based on actual sales of cotton lint for export and local mills (subsidized rates) and auction price for cotton seed the prices for seed cotton will be:

For E.L.S Cotton	L.s 7072 per kantar
For M.S Cotton	L.s 5681 per kantar
For M.S Cotton	L.s 5523 per kantar

The difference from the Government initial prices will be L.s1282, L.s1081 and L.s1073 per kantar. If these differences were passed to the producers at the yield level of each variety, they will be entitled for additional revenue estimated as L.s4986.98, L.s4367.24 and L.s4131.05 per feddan. Thereforethe estimated net gains and lossses will be +L.s3964.25, +L.s425.48 and -L.s307.2per feddan. The Acala variety at the yield level attained will still show losses.

In case we apply the export parity on cotton lint to determine the levels of seed cotton prices, we expect the following:

For E.L.S cotton	L.s 8000 per kantar
For L.s cotton	L.s 6500 per kantar
For M.S. cotton	L.s 6000 per kantar

The difference from the Government initial prices will therefore be L.s2210, L.s1900 and L.s1550 per kantar. If these differnces were passed to the producers at the yield level of eac variety, they will be entitled for additional revenue estimated a L.s8596.90, L.s7676.00 and L.s5967.50 per feddan. The net gai will be L.s7556.17, L.s3734.24 and L.s1529.25 per feddan.

Table (4) Sudan Gezira Board
Cotton Detailed Cost of Production (Ls/Feddan) 1992/93

	Acala	Shambat	Barakat Cotton
Land Preparations			
Clearance of fellow			
Deep ploughing	600.000	600.000	600.000
Split ridging-Tegtle			
Crose rigging-Fertile	200.000	200.000	200.000
Rigging of field channels	190.000	190.000	190.000
Abu 11 opening	40.000	100.000	100.000
Abu 6 opening	40.489	40.000	40.000
Rigging -Tegreeb	200.000	200.000	200.000
Leveling-Teneem			
Tegrie Abu 11			
Sub-total	1330.000	1330.000	1330.000
Cuiturel Operations			
Sowing	96.207	140.000	140.000
Resowing	60.000	60.000	60.000
Weeding	450.000	450.000	450.000
Green rigging	200.000	200.000	200.000
Thinning	56.120	70.000	70.000
Cleaning Field Channels	120.000	120.000	120.000
Irrigation	500.000	500.000	600.000
Fertilizer Aroedcest	30.000	30.000	30.000
Tagri Abu 6	50.000	50.000	50.000
Sub-total	1620.000	1620.000	1720.000
Harvest & Post-Harvest Operations			
Picking Preparation(Cottage)			
Picking	1720.000	2000.000	2000.000
Secking	150.500	182.000	175.000
Pulling sieke & cleaning	250.000	250.000	250.000
Kind cost	150.000	150.000	150.000
Sub-total	2270.50	2662.000	2479.000
Material Inputs			
Seeds	267.600	267.600	362.400
Fertilizer	2552.000	2552.000	2552.000
Herbircide	1100.000	1100.000	1100.000
Inecticides & Application	5600.000	5600.000	5600.000
Empty sacks	537.500	650.000	625.000
Sub-total	2665.695	10169.60	10329.32
Services			
Land & Water Charges	590.000	590.000	590.000
Transport-Zahra Cotton	645.000	780.000	750.000
Station expenses (Ls3Kantar)	27.950	33.800	32.500
Financing cost	1950.000	1950.000	1500.000
Other expenses	15.000	15.000	15.000
Sub-total	2427.950	2748.800	2887.042
Total Cost	17905.55	18550.40	18751.90

Source : Socio-economic Unit, SGB.

Table (5) gives the total picture of the costs and revenues of 1992/93 cotton at the different levels of prices. For E.L.S cotton there is a possibility to move from a loss of 5.5% to profits range of 46.70.0% to 59.3%. For L.s cotton there is a possibility to move from a loss of 21.2% to profits range of 23.7 to 41.6%. For M - S cotton, these are chances to move from & loss of 24.8% to profits range of 18.8 to 29.0%.

If we consider a financing deal in the Gezira of L.s14883 per feddan with 27% profit margin equivalent to L.s4018 per feddan, the expected producer profits will go down by 21.4% for E.L.S cotton, 21,7% for L.s cottton and 22.4% for M.S. cotton.

Table (5) Changes in the Revenue at different price levels for seed cotton 1992/93

(L.s/Feddan)

Revenue

	Cost	At Bank Forward Price	At Government Initial Price	At Actual Sales Price	At Export Parity Price
E.L.S. Cotton	18751.90	17711.17	22523.10	27510.08	31120.00
L.S. Cotton	18550.40	14608.64	18584.00	22951.24	26260.00
M.S. Cotton	17903.55	13467.30	17132.50	21263.55	23100.00

The expected profit range will be as follows:

For E.L.S Cotton From 25.3 to 48.6%

For L.S. Cotton From 2.0 to 19.9%

For M.S. Cotton From -3.6 to 6.6%

There is a clear evidence that the repayment capacity for M.S. cotton producers is doubtful and somewhat also for the L.S cotton producers. At the target yields of 6.00 and 5.75 kontars as envisaged for the plans of the two varieties respectively, there are better chances to attain higher profits assuming fair pries and better financing terms.

Outside the cotton program of the publicly managed irrigated schemes, the private sector was following a program on share-cropping basis with the tenants of one of the White Nile pump schemes. The area grown with M.S. cotton was 3800 feddans. the yield was 6 Kantar per feddan (56% higher than the Gezira average yeild from the same variety). The company valued the crop at the

export parity level, LS6000 per kantar. Assuming the Gezira costs of L.S 17903.55 per feddan and an estimated revenue of L.S 36000, there is a net gain of LS18096.45. The tenant is entitled 50% of the net gain which is approximately L.S9048.23. It is almost 50% of the costs. These results encouraged the private company to attract a consortium of financing institutions (public and private) to support the planned cotton program for 1993/94 in an area of approximately 20000 feddans. The tenants of 14 pump schemes along the White Nile are ready to participate in the program. This is an indication that at favorable financing terms and fair prices successful cotton programs could be achieved under the available production technologies of the sudanese irrigated sector.

The analysis and results of the wheat program will follow in the next issue.