PAPER 5

IMPORT SUBSTITUTING PRODUCTS

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1. SUGAR AND JAGGERY[1]

ROOTS OF CURRENT PROBLEMS

Background Information

Sugar production was at its peak in Uganda in 1968 when 152,418 tonnes were produced but since then the industry has dramatically decreased. In 1974 total production was 40,033 tonnes. Exports reached their maximum in 1969 when 47,876 tonnes were exported but within a year they halved and since 1972 none has been exported. In fact since 1971 Uganda has been a net importer of large amounts of sugar to meet local demand.

2. There were three mills by - the late 1960s - Sango Bay, Lugazi and Kakira with total capacity of 170,000 tonnes. Sango Bay closed in 1973. A new mill with 45,000 tonnes capacity was opened by National Sugar Works at Kinyala in 1976. This brought total capacity to 195,000 tonnes. Cane is not only used to produce sugar in mills. Many small-holders sell their cane to mills which make jaggery, a crude brown sugar, which may be used instead of refined sugar, or as the base for the distillation of enguli which can be consumed raw, or can be sold for further refining at the waragi distillery in Kampala (See Paper 11).

3. Demand and consumption of sugar has risen with population growth and changes in consumption patterns that come with modernisation. On a per capita basis consumption rose from 12.4 kg. in 1968 to 14.9 kg. in 1969. It dropped to 13.6 kg. per capita in 1970, picked up somewhat in 1971, only to fall to 13.8 kg. in 1972. Since then no statistics of consumption are available but it is probable that it fell further because of shortages and inflation.

4. Sugar mills have traditionally been supplied with sugar cane by their own plantations and outgrowers. The total area available to the plantations for cane is 65,000 acres which at 77 tonnes per acre should provide 5.0m. tonnes of sugar cane to the mills. In 1977 the plantations had 46,900 acres under cane, i.e. 72% of all the acreage available for cane, but this statistic is misleading unless it is read together with statistics that indicate the quality of the cane. Sugar cane is at its best and ideal for cutting at between 18 and 20 months of age. Beyond 22 months, yields begin to be materially affected and because of its hardness and dryness it begins gradually to damage parts of the mill. At Lugazi and Kakira close to a quarter of the cane is 4th and 8th ratoon and over half is older than 22 months. In fact, some areas under cane are already developing into bush and forest. They have not been touched for over 72 months. Kinyala was planned eventually to have 25,000 acres under cane and to commence operation in 1975. In the event only 10,000 acres have been planted and of this nearly 70% has reverted to bush.

5. In 1970 outgrowers supplied 220,000 tonnes of cane to the mills but by 1973 they supplied only 49,600 tonnes; and in 1979 they are supplying none. At Kakira some outgrowers have established jaggery mills and have purchased cane from the plantation for processing.

6. The three operating plants have a nominal capacity of 195,000 tonnes of sugar but in 1977 Lugazi was operating at 7% of capacity, Kakira at 28% and Kinyala at 30%. Lugazi is an old plant, whose lay-out and design, in the opinion of UNIDO experts who visited it in April 1976, is of 'the late 1920s and since then extensions have been made on an ad hoc basis'. They went on to say that 'in the team's opinion, this plant is in a highly dangerous condition and the likelihood of a boiler explosion is now very real'.

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[1] This and the following two sections were written in association with Mr. S. Montsi.

In fact, there is a multitude of problems at this mill. The engines cannot give adequate power, insulation on pipes and boilers is leaking, boiler performance is low, brick-work on low-pressure boilers is dilapidated, plates are wearing dangerously thin, rotary vacuum filters are unserviceable, the power plant is giving problems, factory floors are badly worn out and are hazardous and the roof leaks badly. According to the UNIDO team of experts 'the question is no longer about the extent of rehabilitation but, in our view, it is when should the plant be closed for complete reconstruction'.

7. Since 1971 the operation at Lugazi has been losing money. But the then owners were sufficiently diversified in more profitable areas to absorb the losses. Since the owners left Uganda in 1972 the factory's operations have experienced a sharp decline in output and a dramatic increase in losses. In 1977 the loss was Shs. 43m. or Shs.10,488 tonne produced. In 1978 it was Shs. 43m. (Shs. 44,565 per tonne produced). The operations have depended heavily on government support and bank loans and overdrafts, and at present levels of operation the factory will continue to sink deeper into debt.

8. Kakira was also in bad shape until a contract was signed with an Italian firm for the factory's rehabilitation. The US $29m. contract will rehabilitate about two thirds of the essential parts of the factory so that it can operate at approximately 70% of rated capacity. Work is progressing albeit slowly but the contract does not provide for a stock of essential spare parts nor for some other materials necessary for the workshops. Neither does the contract cover the rehabilitation of the plantation which in its present state cannot support a mill of more than 12,000 tonnes capacity. Both the transport and the workshops at the mill and plantation are in a bad state of repair and need replacements but these are not covered by the contract. It is also silent on the management and other key personnel required for efficient running of the mill and plantation.

9. Kinyala Sugar Works was completed under a contract with Messrs. Walchandnagar of India (WIL), and commissioned in 1976 with a rated capacity of 45,000 tonnes. The target year for completion and commissioning was 1972 but, due to a variety of problems, this could not be achieved. However, programming and preparations for the opening of the plantation were not changed so that the planted cane overmatured, and much reverted to bush. It was planned that 4,000 acres would be planted by outgrowers but only 700 acres materialised. Most of the original outgrowers in the scheme abandoned it before 1976 when it became obvious that they could not sell their cane. A further problem facing this factory is that a number of works remain incomplete e.g. fencing the water pumping station, building waterproof side walls, flooring the cane yard, security fencing, factory laboratory, labour camps and senior staff housing, etc. Like Lugazi and Kakira the operations are run at very low capacity, i.e. 30%.

Problems Facing the Industry

10. Management problems have been experienced in the industry since 1973 when government took over. The original owners had clear management structures and they also had people with some basic training and extensive experience in the key management and technical positions in the industry. Unfortunately, Ugandan Africans rarely held these positions. Under the new operators not only were management structures not clear but people with no experience at all were put in management and other key positions in the industry. This naturally led to inefficiencies and demoralisation of personnel in the whole industry.

11. Chronic shortages of labour have been experienced in the plantations since 1973. Sugar cane production has always been labour intensive in Uganda. For full production Kakira requires over 6,000 men and Lugazi over 5,600 but in 1979 they each had less than 1,000. This has led to the failure to cut the majority of cane available at the right time. The shortage of labour is due to:

- The withdrawal of migrant labour from Rwanda, Burundi and Zaire for economic and political reasons. Inflation in Uganda rendered their pay worthless and while some of the migrants returned home others branched into magendo. This led to their banning by the Government.

- Wages in the plantations were not attractive in an inflationary economy. The present level of Shs. 253 per month is well below that needed to cover essential commodities. In the past there were fringe benefits such as rations of food and sugar, free medical treatment, subsidised primary school facilities, scholarship schemes and transport within the plantation but in most cases these were discontinued after 1973. Wages paid by outgrowers who sell to jaggery factories now stand at Shs. 350 per month.

- Recruiting schemes whereby recruiting agents and chiefs were paid a fee for every labourer they provided to the plantation were dropped. Instead, monthly paid recruitment officers were hired and thus the incentive to bring more labour no longer exists.

- Bad management and general deterioration in day-to-day operations demoralised labour. Recently cases of non-payment of wages for about three months have been reported at Lugazi.

12. Financial and foreign exchange problems have made it impossible to repair or replace old ploughs, transport, loading, and other equipment at the plantations and the factories. Most of the vehicles and other equipment inherited were old and obsolete and failure to obtain the necessary parts for them has meant that most have had to be abandoned. As a result serious problems are being experienced in the transportation of sugar from the plantation to the mill both at Lugazi and Kakira. However, even if plantations had worked smoothly not all cane would have been milled because of problems of mill capacity and their constant break-downs.

THE TASK AHEAD

13. Ugandans consider that white, or at least mill-white, sugar is an important item in their diet and its availability at a low price will help reduce those forces leading to higher wages. In addition, Uganda has the potential not only for achieving self-sufficienty in the production of mill sugar but of becoming an exporter. The export market for sugar is, of course, a notoriously risky one and in the first instance it would seem appropriate only to seek to achieve self-sufficienty. That goal will not, however, be rapidly achieved. Until it is, we recommend that adequate funds be set aside for imports.

14. The successful and economic production of sugar requires that the entire process from the cultivation of cane to the disposal of the refined product and by-products be run as a fully integrated process. Central to this, of course, is the mill, which - if it is to be run economically - must operate continuously, utilising a high proportion of its rated capacity. Milled cane should be fresh and in good condition. The by-products of milling - molasses and bagasse - are themselves valuable. The former may be used as the basis for the production of ethanol and the latter is able, providing the mill is run at a sufficient level, not only to provide fuel for the mill but also to provide the raw materials for cardboard or related products. It is obvious, therefore, that an adequate supply of cane must continuously be available throughout the milling season, which in Uganda can continue throughout the year. This requires forward planning so that areas of cane to be cut and transported to the mill are specified long in advance. The mill must be well maintained, of course, to exploit the year-round production pattern on the plantation side.

15. An adequate supply of essential spare parts for both field and mill machinery must always be on hand. The potential rewards for successfully integrating the entire production process are great, but the costs of failure to do so, as has happened in Uganda, can be enormous. It must further be added that the cost of rehabilitation, once the production process has been disrupted are also considerable.

POLICIES AND RESOURCES REQUIRED

16. Each of the three operating units, that is the three factories and their surrounding cane, faces different but related problems. It is our view that each requires a fully integrated rehabilitation and development programme which can only be drawn up after detailed and careful analysis. It is, of course, not possible for these to be given here and we therefore recommend that the Government, as a matter of priority, commission a set of such analyses. We should, however, wish to add some words of caution. It is

essential that the rehabilitation and development programmes be drawn up only by consultants who are capable of looking at the entire process, from cultivation to milling. Too often the Ugandan industry has suffered from the advice of not necessarily disinterested parties who have focused on a single apparent constraint with the result that, despite the expenditure of considerable resources, little improvement has taken place.

17. It should further be added that the consultants be given clear guidelines as to what government policy is in regard to each operating unit. This is especially so with respect to outgrowers. We believe that there are good reasons, both sociological and economic, why a large number of outgrowers should be associated with each mill, but this requires that they be adequately incorporated into the overall management strategy of the production unit. Thus, not only should they be supplied with planting material and chemical inputs, but also their deliveries of cane to the mill should be according to a systematic schedule.

18. The desired proportion of cane from the estate and outgrowers should be specified to the consultants and, if outgrowers are to be employed, government should specify how they are to be organised and what will be the responsibilities of the mill and government with respect to agricultural extension services for them. In this regard it may be added that a successful sugar unit should be well capable of financing satisfactory extension and management services for outgrowers. It is essential, however, that safeguards be established to prevent the central mill management from imposing unfair prices upon outgrowers.

19. It will be necessary, too, for government to decide within broad limits how much the sugar industry is to depend on hand labour in the estate fields. It is our view that the labour shortage presently being experienced by the sugar industry is temporary and that it will disappear as a result of the adoption of the policies recommended elsewhere in this report. Accordingly we consider that it will be appropriate to use cane-harvesting machinery only as a supplement to field labour at times of peak seasonal demand. The consultants should be invited to comment on the appropriate labour - machine mix for each production unit.

20. A further essential decision to be made by government, prior to obtaining consultants for the various projects, is the method of management and ownership of the production units it wishes to adopt. Large, internationally recognised and competent firms may be willing to enter into some form of management/ownership relationship with the Government in one or more of the sugar projects. We recommend that the Government seriously consider such possibilities, noting that through such arrangements the necessary immediate needs of foreign exchange for the rehabilitation of the sugar industry may be more readily obtained than would otherwise be the case.

21. Each of the production units has a different, but related, set of problems - and their rehabilitation and development programmes accordingly will differ. We sketch these below.

<u>Lugazi</u>

22. A dilapidated but operating mill is associated with neglected cane planted over a wide area. It is debatable whether the entire plant should be closed down until a new mill can be built and the plantation re-established, or whether the mill be partly rehabilitated while plans are made to replace it. If the mill is closed, cane could be sold to jaggery factories. This policy would certainly lead to a short-term cash saving but it would also involve the dissipation of the present labour force, especially the technically competent middle management. If it is decided first to rehabilitate the mill it will be especially necessary to overhaul both the high and low pressure boilers and to purchase centrifuges (out of a total of 21 only 5 are running). This will be expensive; if possible, those that are bought should be compatible with the new mill. It would seem, therefore, that if the mill is to be rehabilitated, it should be supervised by the engineers commissioned to construct the new one.

23. The entire planted area needs to be rehabilitated. This requires that it be successively put under the plough. Heavy tractors and the associated machinery will be required for this. Replanting with existing cane varieties would be satisfactory in the first instance, but a start should be made, either at Lugazi, or elsewhere, on the

development and multiplication of improved varieties. In this regard it should be noted that the sugar industry as a whole, once rehabilitated, should be capable of financing its own agronomic and other research.

24. The entire cane transport system needs to be overhauled. Roads are in disrepair, cane handling cranes need replacing, and many prime-movers and 20-ton trailers need to be purchased. We recommend that, until the consultants' overall plan for Lugazi is obtained, the necessary spare parts be obtained for the vehicles and cranes and that possibly two graders be purchased. Once the pattern and method of development of the production unit is established it should be financed as a whole. It is essential that the entire project be seen as an integrated programme. If this is not done the rehabilitation will be an expensive failure.

Kakira

25. The mill at Kakira is currently being rehabilitated and it is anticipated that when completed it should be satisfactory. Emphasis there needs to be on the complete rehabilitation of the cane fields and transport system. It is recommended that a suitably qualified consultant, that is one who has had experience as a field manager of a sugar plantation in which considerable emphasis is also placed on outgrower production, be commissioned to draw up a suitable rehabilitation programme. Alternatively, instead of commissioning its own consultant, the Government might choose to enter into a management/ownership agreement with an international firm with specialised experience in the production of sugar from such units.

Kinyala

26. This sugar production scheme is in need of a total rehabilitation and development programme. The mill itself has a number of design defects and uncompleted work which should be checked by a suitably qualified engineer, independent of WIL with whom National Sugar Works Ltd. have had a management contract.

27. The major problem with Kinyala is to re-establish a satisfactory area of good quality cane. The present 3,000 acres of millable cane should be harvested as soon as possible and then re-planted. Simultaneously planting should commence on the estate and on outgrowers' holdings. As in the case of Lugazi and Kakira it is essential that a consistent overall development programme be drawn up by suitably qualified consultants. Special attention should be given to cane harvesting techniques. The heavy equipment which has been ordered, and 75% paid for, does not seem to be satisfactory for the harvesting of the entire crop. Further, as ordered, it is capable of cutting only 200 tonnes of cane per day whilst the mill has a capacity of 1,500 tonnes per day and requires 3,000 tonnes before a run can be commenced. It may be that the equipment should be used only to 'top up' the capacity of the field labour force.

28. Kinyala has provided a detailed list of their capital requirements. We counsel against the purchase of any equipment, other than necessary spare parts, until the consultants' report is received.

Small-holder Cane

29. The production of jaggery is a well established intermediate technology industry. We believe that it should be encouraged. One improvement which could be made is through the introduction of the open-pan sulphitation process which can operate at a level of production of 1,000 tonnes of sugar per year (i.e. it requires about 100 ha. of cane). We recommend the Government investigate the possibility of establishing a trial plant of this sort. Alternatively, foreign exchange could be made available to a private entrepreneur who wished to establish such a plant.

External Exchange Requirements

29. Because of our recommendations that no major action be commenced until the receipt of consultants' reports, or until management/ownership agreements are entered into, we are not providing detailed foreign exchange budgets.

31. Necessary spare parts etc. are likely to require Shs. 45.0m. (US $6m.) in

1979/80 and possibly Shs. 4m. (US $0.5) should be set aside for consultancy fees, etc. Requirements for 1980/81 will be dependent upon consultants' reports, etc.

2. TOBACCO

ROOTS OF CURRENT PROBLEMS

Background Information

32. The tobacco industry in Uganda was started by the British American Tobacco Company. Initially production was aimed at meeting the needs of its cigarette factory at Jinja but in 1968 Government decided to promote exports. By 1974 exports earned approximately Shs.15m.

33. Two types of tobacco are grown - fire cured and flue cured. The production of each is restricted to a separate area - fire cured in Bunyoro District and flue cured in West Nile, Acholi and Lango Districts.

34. Tobacco production reached a peak of 5m.kg. (3.2m. kg. flue-cured and 1.8m. kg. fire cured) in 1972. Since then production has dropped steadily, falling to an estimated 1.5m.kg.(1.2m. flue cured and 0.3m. fire cured) in 1978. No tobacco was exported in that year. Whilst the National Tobacco Corporation has estimated that production in 1979 will total 900,000 kg. that seems, as is discussed below, a gross exaggeration. Indeed, it appears probable that in order to meet the demands of Ugandan cigarette smokers, tobacco will need to be imported.

35. The National Tobacco Corporation, which was established in 1977, is responsible for the production and processing of tobacco. The Corporation is charged together with the Ministry of Agriculture with coordinating and assisting in the production of tobacco by small-holders.

a) Flue - Cured Tobacco

36. Production of flue-cured tobacco is currently restricted to the mid-north of Uganda.[1] Sowing of the crop in nurseries normally commences in January and seedlings are planted out from late March onwards. The crop is labour intensive and, unless yields are seriously to be affected, it is desirable to use both fertilisers and nematocides. For flue-curing it is essential, too, that adequately constructed curing barns, together with sound flue-pipes, be available. Considerable quantities of fire-wood are also required.

37. The prices paid to farmers are centrally determined according to a formula based on an estimated cost of production. Since 1972 they have become increasingly unsatisfactory to farmers and many have transferred to the production of the more profitable foodcrops. This has occurred even after land has been opened for tobacco. Farmers also found, because of the shortage of machine-made cigarettes in the area, that they could more profitably sell tobacco leaves direct to workers instead of to their primary societies. Others, because of the general shortage of consumer goods, felt that cash-crop production was just not worthwhile. Not only was the price considered unsatisfactory; there were often long delays before payment was actually made - some growers had to wait for up to 12 months. Until 1976 tobacco farmers were able to obtain some of their essential inputs on credit from their primary societies but since then credit has no longer been available.

38. The availability of purchased inputs, and especially of fertilisers, steadily decreased after 1972 and by 1978 none was available to farmers. Such items which actually reached the region were diverted by government officers. Fertiliser was

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[1] A very small amount is also produced in Northern Kigezi. There is no ecological reason preventing its production in most other parts of Uganda. Total area and location is controlled by the Tobacco Corporation and the Ministry of Agriculture.

resold in Kenya and galvanised iron was used for the construction of private houses.

39. Tobacco farmers have traditionally relied heavily on tractors for the initial opening of their land but as the number of operational tractors in the area decreased this became more difficult and costly and many farmers could no longer afford it. This problem was further exacerbated by the gross shortage of hand hoes. Hoes sent to the area were, on a ministerial directive, distributed by the Governor's Office instead of through the cooperatives and many were sold in Zaire. When locally available they cost, on the magendo market, anything up to Shs. 200, far too much for an ordinary farmer to pay.

40. The most serious shortage, however, was that of fuel. Eucalyptus plantations are, in many cases, a considerable distance from the tobacco farms and, in the absence of tractors, transport is very difficult. To this difficulty was added the problem of the burning out of many of the eucalyptus stands. Sometimes this was accidental but at other times, apparently, it has been deliberate - foresters who had not been paid set plantations on fire as an act of protest and frustration.

41. The liberation war itself has had a serious effect on the planting of flue-cured tobacco. In June the production areas were still disturbed and it seems likely that there will be no crop in 1979.

b) Fire - Cured Tobacco

42. Fire-cured tobacco is grown in Bunyoro district into which it was first introduced in 1927. It is entirely a small-holder crop, many of the farmers coming from West Nile, Kigezi and Acholi districts and also some from Zaire.

43. As was the case with flue-cured tobacco there was a steady decline in production after 1970. Yields, too, fell by almost two thirds to 155m. kg/ha. in 1978. This was due to a complex of factors, dominant amongst them being dissatisfaction with prices, which although they increased yearly, did not keep pace with the level of price rises occurring in the economy at large. For this reason farmers planted food crops rather than tobacco and, as with flue-cured tobacco, they often transferred to other crops after their land had been opened for tobacco. The high price of cigarettes also led to the development of a market for the illicit sale of cured leaf to smokers. Some such sales were made across the border with Zaire.

c) Processing

44. The Tobacco Corporation owns and operates a processing plant in Kampala and a cigarette making plant in Jinja. Both operations were soundly engineered and are well run. The capacity of the Kampala plant is 7m. kg. of tobacco per annum. This level of production has never been reached due to shortage of tobacco. The capacity of the cigarette manufacturing plant is 500,000 M. (1 M = 1,000 cigarettes) per month but short supplies of tobacco have reduced production to about 150,000 M per month. In 1970 monthly production averaged 128,000 M; this rose to 167,000 M in 1974 and fell to 123,000 M in 1977.

45. All production has been locally consumed except for 1970 and 1971 when some 33,000 M and 146,000 M cigarettes respectively were exported to Rwanda and the Sudan. Management believes that there is a large market in these countries which, conditions being right, could be exploited.

46. Cigarette making requires the importation of a large number of inputs including cigarette paper, cork tips, filters, inks, glues, metallic foil and other packaging. Assuming production at 75% rated capacity, these inputs would consume Shs. 2m. per month in foreign exchange, but of course, if production stopped, cigarettes would most certainly be imported, thus using foreign exchange but losing the important benefits of value added in the tobacco industry and employment.

47. The Corporation lost materials, equipment and vehicles to looters. Loss of vehicles has rendered it impossible for corporation staff to service tobacco growers adequately.

48. A problem facing the Company is old and obsolete machinery which, though presently in a fair state of repair, will sooner or later require replacement. This would cost Shs. 77m. The proposed renewal and expansion plans should be examined and, if found viable, overseas institutions could be approached for finance.

THE TASK AHEAD

49. We believe that the disruption due to the war in the growing areas is such that it is likely that very little tobacco, possibly no more than 500,000 kg. will be produced in 1979. The important task is rapidly to rehabilitate the extension service and to provide the necessary inputs so that the 1980 crop can be planted under good agronomic conditions. That crop could well be 3 m. kg. To achieve this will require the repair and rehabilitation of the curing barns and the provision of adequate transport and chemical inputs. Whilst we believe that, in general, Uganda should aim not to be dependent upon tractors for its small-holder farm production, we recognise that there are special circumstances for tobacco which justify their use - farmers have become dependent upon them for opening their lands and for flue-curing - they are essential to transport fire-wood. We counsel, however, that steps should immediately be taken to prevent the industry from continuing in its dependence on tractors. Trials and demonstrations with ox-drawn equipment should be undertaken with the view to having it replace tractors.

50. The prices available to tobacco growers have proved, from their point of view, most unsatisfactory. Indeed a recent analysis of cash-cropping by the Planning Unit of the Ministry of Agriculture showed tobacco to be the least profitable of all cash-cropping activities. If farmers are to be expected to sell it on official markets it is essential that the Corporation's prices be greatly increased.

51. The only major problem confronting the Corporation as far as processing is concerned is the supply of tobacco. This year it might have to import upward of 500,000 kg. but, potentially at least, Uganda could by 1980 once more be producing more than its own requirements.

POLICIES AND RESOURCES REQUIRED

52. From the production point of view the most important policy is that prices paid to farmers be increased. This can be achieved by a self-financing adjustment of official producers' prices and cigarette prices, both set by the National Tobacco Corporation.[1]

53. The rehabilitation of the flue-cured industry will require that old barns be repaired and new ones built. A heavy input of fertilisers, etc. is also required for seedbed preparation and field use. Woodfuel plantations require to be extended and, as mentioned above, we believe that some tractors should be made available for hire. On the basis of data provided by the Tobacco Corporation we estimate the costs of these measures to be as follows:

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[1] Cigarettes are currently sold at prices in the magendo market which are considerably above the official prices. In the situation we are recommending, part of this economic rent is captured in order to increase the cigarette supply and bring the rent to successively lower levels.

Table 5.1

Cost of Rehabiliting The Flue-Cured Tobacco Industry, 1979/80 - 1980/81

	1979/80 Shs. m.		1980/81 Shs. m.	
	Total	F.E	Total	F.E
Tractors	15.0	15.0	3.0	3.0
Seedbed preparation	1.0	0.5	1.0	0.5
Vehicles (staff)	6.0	6.0	4.0	4.0
Transport vehicles	7.0	7.0	4.0	7.0
Field operations (fertilisers etc.)	11.4	8.0	15.0	10.0
Barn construction & rehabilitation	8.0	5.0	4.0	2.5
Establishment of woodfuel plantations	1.0	-	1.0	-
Construction of baling centres	3.0	-	4.0	-
	52.4	41.5	36.0	27.0

54. It is further recommended that steps be taken in 1980/81 to establish at a later date a research centre to specialise on the problems of the tobacco industry. We suggest that Shs. 0.05m. be set aside in 1980/81 to obtain an expert in this area.

55. If the processing of tobacco is to proceed satisfactorily it may be necessary to import leaf as well as the usual inputs in 1979/80. We estimate that this might require Shs. 4m. which together with the normal imported inputs will cost Shs. 28m. in 1979/80. In 1980/81 only Shs. 24m. should be required for imports (see Paper 8).

56. The National Tobacco Corporation is eventually due to take over the entire responsibility for extension and marketing of farmers' crops. This will require the transfer of some of the existing staff from the Ministry of Agriculture but should not require additional manpower.

3. LIVESTOCK PRODUCTS

ROOTS OF CURRENT PROBLEMS

Background Information

57. In Uganda meat and milk are important items in the consumption pattern and their prices have an important effect on the cost of living.

58. In Uganda livestock is kept both for subsistence and commercial purposes. Whilst the majority of animals remains in the small-scale sector, the number of cattle on ranches comprises nearly 6% of the total. The number of ranches increased rapidly, to 148, in 1970 and under Amin continued to rise, reaching 329 in 1974. The number of cattle on ranches did not, however, increase at the same rate. A similar situation existed for fenced dairy farms, which increased from 1,400 in 1970 to 3,030 in 1974, but whilst the herd increased from 56,000 in 1970 to 152,000 in 1973, in the next year it fell to 77,000.[1]

59. Both tryponosomiasis and East Coast Fever are enzootic in Uganda and seriously affect production. The former is carried by the tsetse fly and the latter by the cattle tick. Thus their control requires the local eradication of tsetse fly and the maintenance

[1] Later figures are not available.

of a regular dipping programme. Other diseases which occasionally occur are rinderpest, contagious bovine pleuropneumonia and foot and mouth disease. Their control requires good management, the provision of vaccines and the possibility of enforcing quarantine.

60. The indigenous cattle, though hardy, are poor producers and various efforts have been made to upgrade them through the introduction of new blood. Whilst such animals are more productive they are susceptible to disease and require a high general level of husbandry. Unfortunately, since 1972 this has become increasingly difficult. Shortages of foreign exchange restricted the availability of drugs, vaccines and dipping materials. Many cattle dips fell into disrepair fromlack of cement and timber. Veterinarians became increasingly restricted in their movements due to lack of transport and the supply of basic equipment, such as syringes, became inadequate.

61. In the late 1960s a network of milk collection centres was established under Dairy Corporation and cooperative ownership. At its peak there were 81 active centres equipped with refrigerated cooling vans. Eight refrigerated tankers took the milk to central dairies of Mbale and Kampala. Whole milk collection, though it never approached the installed capacity of the dairies, reached a peak of 19.5 m. litres in 1972. Since then it has fallen effectively to zero, principally because the price offered to farmers was inadequate. Until 1977 the Corporation paid Shs. 1.60 per litre but it was then increased to Shs. 3, paid monthly. When milk was available to the Corporation, it sold it first to hospitals and schools and then to urban households at Shs. 2.20 and later Shs. 5 per litre. Such a price differential is apparently satisfactory in a locally saturated market, in which case farmers are apparently happy to deliver their milk to the centre rather than hawk it around at a higher price. Generally, however, the demand for whole milk has by no means been saturated in which case the free market price has been greatly in excess of the 'official price'. Indeed, prices have reached in excess of Shs. 20 per litre, and commonly have been from Shs. 8 to Shs. 10 in urban areas. Under such circumstances it has been far more profitable for farmers to sell their milk direct to the public.

62. Supplementary feedstuffs became increasingly difficult to obtain over the period of the economic way, and farmers who managed to buy them often had to pay up to Shs. 1,000 per tonne for cotton seed cake. Rice bran has been as high as Shs. 2,400 per tonne. Obtaining feedstuffs, at any price, was also made difficult by the increasing lack of rural transport as lorries and tractors fell into disrepair. As a result many farmers have ceased to use concentrates and yields have further declined.

63. Whole milk collection was also hampered by poor transport facilities. No milk churns have been imported since 1973 so that many farmers have not had the means of carrying the milk. The shortage of bicycles on which the churns can easily be carried has added to this transport problem, as has the shortage of pick-ups and lorries. Once the milk reaches the collection station it must be transported to the central dairy where, again, the absence of adequate transport has proved crippling. The Corporation initially had a fleet of 8 milk collection tankers of 8,000 litres capacity but by 1977 none was operational.

64. The dairies themselves were not badly affected by inadequate machinery, but they had troubles with spare parts. More serious was the shortage of labour. However, the liberation war and its associated looting resulted in the dairies being made inoperable. Extensive repairs and replacement of equipment, with the exception of office furnishings and motor vehicles do not, however, seem to be necessary.

65. Since the commencement of the 'economic war', commercial poultry farming has declined. Hens kept under intensive conditions require an adequate diet of concentrated feedstuffs. These may be produced on the farm or purchased. The former case requires that the unit be dependent either on a relatively large labour force or be mechanised. Neither of these options was possible over the period under review. The wages which poultry growers were capable of paying even when they sold their eggs well above the official price were inadequate to attract sufficient labour and the maintenance of tractors etc., became increasingly difficult. Being dependent upon purchased feedstuffs became increasingly risky and expensive, with the result that in many instances birds went off the lay entirely or even died. In 1972, there was a peak of 8,981 production units with nearly three million birds, but within two years these had fallen to 1,785 units with nearly 400,000 birds. It has continued to decline since then. As a result of the liberation war the entire breeding stock at the Ministry of Animal Resources' poultry

unit has been lost. This stock was used as the source for commercial farmers productive stock (both layers and broilers).

THE TASK AHEAD

66. The major task ahead is to reduce the price of meat and milk. This requires that animal products be increased through the most rapidly applicable of measures. Milk prices will best be reduced through the provision to the mass market of reconstituted milk leaving the fresh whole milk for those who are willing and able to pay the market price for it. On both markets supplies should be increased to bring prices to more acceptable levels.

POLICIES AND RESOURCES REQUIRED

67. It is essential that animal health be maintained and improved. This requires the immediate re-introduction of tick, reinderpest and foot and mouth disease control. This requires that the cattle dips throughout the country be rehabilitated over the next two years and that necessary drugs and vaccines be imported. Sets of veterinary instruments are also required. It is also essential that field staff of the Ministry of Animal Resources once more become mobile. Diagnostic laboratory facilities throughout Uganda have fallen into disrepair. We suggest that four such laboratories be established in the next two years.

68. Whole milk is a most nutritious food but unless taken fresh from cows grazed on grass it is universally very expensive. Milk reconstituted from dried skimmed milk (DSM) and vegetable or animal oils is equally nutritious but, given the world surplus of DSM due to the widespread policy of subsidising dairy farmers throughout the 'developed world', it can be manufactured for a fraction of the cost of fresh whole milk delivered to urban areas. If policy is to provide a nutritious food at a low cost in urban areas, there seem to be few grounds for continuing with the proposed 'Dairy Development Scheme'. Under this, DSM and butter oil will be imported for a period of five years under the World Food Programme while at the same time the Government provides counterpart foreign exchange funds to recondition the physical equipment required for the collection and central processing of whole milk.

69. A second possible reason for the encouragement of the dairy industry might be that it is a means of providing an additional income for farmers and through them the rural area as a whole. This has a certain appeal but it must be emphasised that dairy farmers are by no means the most needy of farmers and that they already have the possibility of achieving good incomes through the direct sale of their whole milk.

70. Our recommendation is that the Dairy Corporation withdraw from the whole milk market altogether and that it concentrate on producing and distributing through licensed retailers reconstituted milk in urban areas. Accordingly we recommend that the Corporation divest itself of all its equipment associated with the collection of whole milk. Dairy farmers should be free to sell their milk direct to the public or, if they choose, through cooperatives which could take over existing collection units. Considerable premia are payable in Uganda for fresh whole milk and we do not believe that our proposals need reduce dairy farm income, nor would they reduce the incentive for the industry to expand. We suggest that as whole milk production increases in response to market prices, a series of small dairies be established at regional centres. These could be operated by private individuals or groups of farmers organised as cooperatives.

71. Njeru dairy farm near Jinja could well provide a basis for the first such dairy. It is basically a well established farm, with a very well equipped dairy parlour. However, both farm and dairy equipment have fallen into a considerable state of disrepair. Pastures need rehabilitation and present transport facilities are inadequate. With little additional building it could provide a satisfactory base for extension work first amongst neighbouring dairy farmers and later to farmers further afield. We recommend also that a diagnostic laboratory be built at Njeru. This programme would require the appointment of three additional Animal Husbandry Officers and two Veterinary Officers, and also a Technician to maintain the plant.

72. The Ministry of Animal Resources' poultry hatchery requires complete restocking. This can most rapidly be done by importing adult birds. Simultaneously, day-old chicks should be imported. Until the feedmill at Jinja is in satisfactory production it will be necessary to import feedstuffs. We suggest that an overseas expert be made available on a twelve-month appointment to assist in the rehabilitation of the hatchery.

73. The quality of dairy cattle needs upgrading. We believe that this can most economically be done through the re-establishment of the Artifical Insemination Unit. This unit would be greatly assisted by the appointment of three overseas experts, possibly from a UN agency. In the meantime we recommend that two high quality bulls be imported. Pig quality too has degenerated, In this case it will be necessary for the Ministry to import an entirely new breeding herd. We suggest that five centres, each with two boars and 20 breeding sows be established.

74. We estimate that the cost of the rehabilitation programme including the provision of DSM for the reconstituted milk programme, is as follows:

Table 5.2

Costs of The Livestock Rehabilitation Programme, 1979/80 - 1980/81

	1979/80 Shs. m.		1980/81 Shs. m.	
	Total	F.E	Total	F.E
Staff vehicles	2.0	2.0	3.0	3.0
Motorcycles & bicycles	1.6	1.6	1.6	1.6
Lorries	2.5	2.5	5.0	5.0
Dairy spare parts, churns, etc.	0.5	0.3	0.5	0.3
Drugs, vaccines, etc.	75.0	60.0	100.0	80.0
Poultry product stock	0.5	0.5	-	-
Feedstuff for poultry	0.5	0.3	0.5	-
Bulls	0.3	0.3	-	-
Pig breeding stock	0.3	0.3	-	-
Diagnostic laboratories	0.2	0.1	0.4	0.2
Barbed wire, etc.[1]	6.0	6.0	8.0	8.0
DSM	50.0	50.0	50.0	50.0
Experts for A I and Hatchery	0.5	0.3	2.0	2.0
A I Centre	0.5	0.3	0.2	0.1
Private import of breeding stock etc.[1]	3.0	3.0	2.0	2.0
	143.4	127.5	173.2	152.2

Note: [1]These items require an allocation of foreign exchange by the central bank to private importers.

4. OTHER IMPORT SUBSTITUTING PRODUCTS

75. Wheat, barley and kenaf production projects were set up by the Amin regime with assistance from the Saudi Arabian Government. The recently reconstituted Ministry of Animal Resources, whose responsibility these are, has been unable to provide any details. We recommend that responsibility for these projects is transferred to the logical body, the Ministry of Agriculture, and that an early appraisal is made by its Planning Unit of the economic benefits to be obtained from continuing, modifying or discontinuing them.