

AN OVERVIEW OF THE AGRICULTURAL SECTOR

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BASIC CHARACTERISTICS AND ASSUMPTIONS

Agriculture looms large in Uganda both in terms of its place in the overall national economy and of its size relative to the other sectors. Since agriculture is the dominant source of livelihood and the rural areas are where the great majority of the population lives, the sector's features are stamped on many issues of policy-making and planning at the level of the national economy. The more general of these issues have been outlined in the preceding paper on the general economic situation in Uganda. They are

- the growing disparity between different districts in population pressure on the land;
- the fact that differences in the relative prosperity of the major agriculture products can cause politically sensitive imbalances in inter-regional income distribution;
- the primary importance of the small-scale or peasant mode of production both in terms of total output and, by implication, employment.

2. It is useful to mention at this point three more intimate aspects of the agricultural sector which fundamentally affect productivity and income distribution within it. These are

- the distribution of land ownership;
- the choice of production techniques;
- the operation of the inter-sectoral terms of trade.

3. Across half the area of Buganda Region a landlord and tenant system of tenure obtains. This 'mailo' system (so-called from the square mile unit of land measurement) has been substantially modified from the time of its introduction in 1900. Tenant rights have been protected so that rents are now entirely nominal, tenancies are heritable and dispossession is difficult and must be adequately compensated. Also, by the processes of sale and subdivision on inheritance the original 3 - 4,000 estates have been increased to a very much larger number, probably in the order of 200,000. The modal land holding therefore, whether tenant-held or freehold, now lies in the 2-4 ha. range. There are a relatively small number of larger holdings in the 10-40 ha. range which provide the opportunity for commercial farming. These have been influential in the past in providing the basis for dairy farming and sugar production on an outgrower basis linked to the sugar factories at Lugazi and Kakira.

4. Other factors have been more significant in the formation of large-scale agricultural units in the private sector. Excisions from public land were being made in the 1960s to enable influential individuals to own large estates. This process had been greatly accelerated under the Amin regime, so that large areas of fertile land suitable for high-value crop production are now enclosed, mainly for extensive beef ranches.^{1/} Also estates formerly owned by expatriates and Ugandan Asians were allocated after 1972 to

^{1/} The Ministry of Lands and Surveys declined to provide information on the size and location of land grants made under the Amin regime on the grounds that their records had been looted. It was not possible to verify this statement. Clearly, if it is true, it is essential that a new land register is compiled from district records or if necessary by a new survey which could be incorporated in either of the proposed national surveys of population (1980) or agriculture (1980/81).

parastatal corporations or again to influential individuals. Many of these estates have been abandoned in the last few months, so that a new set of decisions about their ownership and use must now be taken.

5. A major current feature of the agricultural sector is the scarcity of the labour supply and the associated increase in informal sector real wages in the rural areas. This is not fully revealed by rises in the rate per day or month as the size of the task also varies. In present circumstances, the standard task frequently requires only two-three hours to complete, so that labourers can work for several employers, or work the majority of the time on their own plots or engage in magendo trading and smuggling activities. The shortage of labour for crop and livestock production is caused primarily by the availability of these profitable alternative activities in the submerged informal sector of the economy.

6. An extension of this statement to neighbouring Rwanda in part explains the disappearance of the normal short-term migrant workers from that country and the return of permanently resident Banyarwanda workers, in some instances, to that country.^{1/} The increase in profitable opportunities for these people in Rwanda is explained by (i) the actions of leading figures in the military regime who established prosperous smuggling and commercial enterprises in that country, and (ii) other opportunities for trade with the south-western part of Uganda, given the unattractiveness of the official trade channels. As the borders become more tightly controlled and magendo activity in Uganda declines, the artificial boom in the Rwandan economy may be expected to subside and labour to return to seek work in Uganda.

7. One effect of all this has been that many estate managers found it profitable to apply herbicides - when they could be obtained. In other cases more long-term action has been taken; one state sugar firm has ordered four mechanical sugar harvesters from Australia, while other agriculturists are actively exploring the potential suitability of mechanical tea harvesters and cotton harvesters. In our view, this is to seek solutions to a short-term problem which will become increasingly inappropriate as the economy returns to normal. We have appraised the use of capital-intensive techniques in the reconstruction period in the expectation of a fairly rapid return to normal conditions of surplus labour (over-valued wage rates in the formal sector) and scarce foreign exchange (over-valued domestic currency). Consequently, agricultural mechanisation can be justified in those cases where it achieves substantial output gains and creates additional employment in ways that are not possible with less capital-intensive methods. At the same time, the fact that part of the unskilled labour force comes from Rwanda and, to a lesser extent, Zaire does provide a useful reserve of employment opportunities for Ugandans against the inevitable time when new land settlement is no longer an option.

8. It is also relevant to note that in the agricultural sector by far the greatest part of real capital formation has resulted from the transformation of natural resources, labour and indigenous management skills into such assets as cleared and/or drained land, planted perennial crops, food stores and traditional livestock of various kinds. Further scope exists for capital formation of this type on a widespread scale.

9. Some discussion is also required about the behaviour of the set of prices which together make up the sectoral terms of trade for agriculture. Given the widespread growth, under normal circumstances, of cash crops for export, the official rate of exchange is a crucial variable in the overall structure of incentives; it is on this, ultimately, that the price the producer receives for his export crop and the cost of his inputs and wage goods depends. These two items, however, do not balance out, so that a devaluation would generally be favourable to farmers, redistributing income to them and away from those whose expenditures are more dependent upon the import sector. Repeatedly, farmers and officials have emphasised to the team that producer prices are crucial in farmers' decision-making processes. It is upon these prices and the associated levels of output that the farmers' gross incomes depend and Ugandan farmers have shown that they quickly respond to these signals.

^{1/} An additional explanation was the decree of the military Government banning temporary migrants from working in Uganda. However, this was announced after the growth in international smuggling, and would not be capable of effective enforcement in any case.

10. Product prices in Uganda can also be affected by those paid in accessible markets in neighbouring countries. Uganda has long land and lake frontiers with Kenya, Tanzania, Rwanda, Zaire and the Sudan, where different pricing policies have been followed. The incentive at the border to sell goods outside the country has been strengthened through the de facto devaluation of the Uganda shilling on the currency black markets, largely reflecting the relative scarcity of consumer goods within Uganda. Farmers have not been slow to take advantage of the better terms of trade offered through these illicit markets.

11. Important, too, in the farmers' decision-making process is the cost of their inputs. Especially important is the cost of labour. Small-holders mostly employ their own household labour but there are times, such as at harvest, when they require additional labour. If a small-holder cannot afford to hire labour his output is reduced. The production of tea especially is very labour intensive and the inability of small-holders to pay labour more than the minimum rate has prevented them from obtaining an adequate labour force. As a result large areas of small-holder tea - estimated at 80 % of their planted area - has been neglected or abandoned altogether.

12. In Uganda, as elsewhere, wages are not determined by demand alone. Almost all Ugandans have access to land and they are therefore able to provide the means of their subsistence. If they are to enter the wage labour force they expect to be able to achieve a sufficient income to purchase an adequate supply not only of food but also of a few basic necessities such as soap, paraffin, some textiles and also, possibly a few 'luxuries'. The set of prices of such items relative to wage rates becomes, therefore, an important determinant of the supply of labour. If wages are not adequate to enable a labourer to purchase such items he may either not enter the cash sector at all, retreating to subsistence agriculture, or find employment where wages are more favourable.

13. Theoretically, if inputs, wage goods and services are to be allocated efficiently by the market mechanism, only one price, which should be known to all buyers and sellers, should prevail within any particular time period. It is possible to provide a justification for the coexistence of more than one price, but this requires that the market be capable of separation, on consistent grounds, into discrete, non-communicating, sectors. During the past five or six years, however, there have been simultaneously three prices for most goods. Consequently, marked shifts of production and employment have occurred within the agricultural sector. These changes are outlined in the following section. This analysis of the effects of changes in the terms of trade leads to an emphasis on the importance of restoring a normal incentive structure through appropriate pricing policies; this area is discussed in Paper 3.

14. Finally in this section, the nature of the specific approach adopted in these papers is compared with other feasible alternatives. We have based the recommended strategy for the rehabilitation of the agricultural sector almost entirely on the restoration of previously demonstrated production capacity, which can be rapidly activated through the provision of production, transport and processing inputs made available under foreign aid terms. Although the greater part of this productive capacity lies in the small-holder sub-sector, the fact that a process of restoration rather than development is entailed should enable the lengthy processes of adaptive research, pilot projects and painstaking appraisal of project benefits to be circumvented in this case. Large and speedy assistance is the essence of the reconstruction strategy, predicated on a high pay-off with low attendant uncertainty in these particular circumstances.

15. Our analysis has been oriented, therefore, to identifying commodity programmes and component projects which can be initiated by central government or parastatal agencies using public aid resources.

16. This leads necessarily to a centralist, top-down approach to agricultural planning ^{1/} and to a focus on productive efficiency rather than on distributive equity. Whilst we think that these emphases are appropriate to the task of restoring momentum to the overall economy, we would not wish to give the impression that this is an adequate or

^{1/} We tried to counter an excessively centralist viewpoint by visiting farms, estates and projects in 16 out of the 22 rural districts. Time and various military activities prevented the desirable total coverage from being achieved.

even desirable approach for the long-run development of the agricultural sector. Other planning procedures urgently need to be put in hand and decisions taken in key areas which are not discussed explicitly in this report.

17. In particular, only decentralised planning at the level of the local rural economy is able accurately to identify operational constraints on development, neglected potential and disadvantaged groups by-passed by the development process. Whilst broad inter-regional income disparities can be reduced by adjusting price relativities at the national level - in the manner employed in Papers 3 and 25 - an adequate approach to intra-rural equity and accelerated development also requires the supplementation of the present fragmented commodity-by-commodity approach by a multi-sectoral coordinated approach at the level of the local economy, and embracing the wider infrastructural considerations.

18. Fortunately, considerable experience with decentralised multi-sectoral planning has been gained over the past six years in Tanzania.^{1/} It would seem probable that some adaptation of the Tanzanian system would prove suitable and (given the smaller number of regions) even more workable in Uganda. Initially, we would suggest that the suitability of a three tier structure is examined with planning at the level of the region, the district and integrated rural development project areas below the district level. Such an approach would have implications for the distribution and number of, for example, agricultural extension and specialist field staff required. An early decision in this area is desirable, so that manpower planning and training decisions can be made which are consistent with it. We recommend that a planning mission be sent on a study tour of selected Tanzanian regions at the earliest opportunity.

19. Table 2.1 illustrates one aspect of this approach; an operational system would be elaborated in more detail at the level of multi-activity project areas within each zone. Not all agricultural production activities would combine at the farm system level. This applies particularly to livestock, where at the present stage of development an integrated approach is required more at the level of the local economy (including land-use alternatives, shared infrastructure, impact on employment and income distribution, etc.) than at the level of the farm unit.

20. A second urgent set of decisions for future agricultural development needs to be taken about the use of areas recently excised from the public domain and abandoned by their owners. Rather than proceeding automatically into a further round of 'allocations', we would urge that a perspective planning exercise is first conducted on the demand for land resources derived from population projections and consumption targets. Land excisions and the length of leasehold titles should be adjusted to match this perspective plan framework.

THE ROOTS OF THE CURRENT PROBLEMS

Effects of the Liberation War 1978/79

21. The most visible damage to the productive capacity of agriculture resulted from the effects of the liberation war; coffee factories and cotton ginneries have been damaged or destroyed. Almost all vehicles owned by cooperative unions, estates or government departments have been removed by one army or the other, and other machinery or spares were also widely stolen. The physical damage has been particularly severe in the case of the cooperative unions. The financial and other implications of this damage is discussed in the sections on robusta coffee, arabica coffee and cotton in Paper 4 below.

22. The less obvious but in some areas more serious consequences of the liberation war were the disruption caused to the planting programme. Cotton seed has not been dressed for planting, and, when dressed, it has not been distributed because of a general lack of transport. In Masaka, Acholi and West Nile Districts no cotton has yet been planted. Tobacco too would normally have been planted during the period when fighting was most intense. The time of planting is critical for both crops and it is likely that little will be harvested later in the year.

^{1/} Regional planning in Tanzania is the responsibility of the Prime Minister's Office which is located in Dodoma with a subsidiary office in Dar-es-Salaam.

Table 2.1

Production Components by Agro-Ecological Zone for the Agricultural Sector in Uganda

Agro-ecological Zones	Major Cash-earning Activities	Food Activities with good Cash-earning Potential	Subsistence Food Activities	Location by Administrative District
I. High effective rainfall, high altitudes	Arabica coffee Tea Pyrethrum Temperate fruits	European potatoes Temperate vegetables Dairy cattle Bananas	Sweet potatoes Wheat Peas	S. Kigezi W. Ankole Upper Rwenzori Toro Bugisu Sebei
II. High effective rainfall, middle altitudes	Robusta coffee Tea Spice crops Cocoa	Bananas Field beans Soya beans Dairy cattle Maize	Sweet potatoes	Masaka Mubende C. & S. Bunyoro E. Mengo) central W. Mengo) and south W. Busoga
III. Medium rainfall, middle altitudes	Cotton Tobacco Cashew Groundnuts Maize Sunflower	Sorghum Sim-sim Field beans Beef cattle Dairy cattle	Finger millet Cassava Cow-peas Goats	N. Kigezi Lower Rwenzori W. & E. Bunyoro N. Buganda Achoi, Lango, Teso, Bukedi, E. Busoga
IV. Lower rainfall, middle altitudes	Beef Cattle	Sorghum Goats	Cassava Pigeon peas	Karamoja N.E. Teso
V. Areas with high insolation, middle altitudes	Sugar Rice Tropical fruits High value vegetables	Dairy cattle Poultry Pigs		Central & northern areas

Effects of the Policies of the Military Regime, 1972-79

23. Some of the major cumulative effects of mismanagement and dishonesty by the Amin Government on the agricultural sector have been pointed out in Paper 1 on the general economic situation. The major consequences were

- the drastic decline in recorded production of the major agricultural export crops between 1970 and 1978;
- a particularly marked decline in productive capacity in the capital-intensive estate sub-sector;
- the overwhelming, and increasing, dependence upon coffee for Uganda's foreign exchange earnings;
- the smuggling of large quantities of primary produce, especially coffee, across Uganda's international borders;
- the switch of agricultural resources from cash crops into food surpluses in areas with access to urban markets;
- intensified problems of low income in some of the remoter districts;
- the unsupportable debt burden placed on many of the key cooperative marketing unions through rising costs and falling throughputs of primary products.

24. Certain of these aspects justify fuller discussion here. The fact that three sets of prices obtained for many agricultural products or wage goods over long periods was mentioned above. Official or controlled prices were specified by Government for many commodities, especially basic items such as sugar, soap, cigarettes and beer, and also for the various inputs of the productive process, such as tools, fuel and labour. In addition the prices of imported goods, for those who had access to foreign currency at the official rate, were determined by the official exchange rate. A second series of prices may be termed 'army prices'. These were invariably less than the official prices. When goods were confiscated, the price was zero and at other times, such as when goods were sold at the local market at gunpoint, the price was much less than otherwise would have been the case. A third series of prices existed on the magendo market. This market operated for almost the entire range of commodities. These prices were determined by supply and demand. This included the supply and demand from neighbouring countries, given the open nature of the land and lake borders and their deliberate breaching by influential Ugandans in or close to the military leadership in Government.

25. The prevalence of the magendo market enabled some groups of individuals, and especially members of the army and their friends, to make enormous profits, whilst those who did not have access to the limited supplies of consumer goods at controlled prices had to pay high prices even for necessities. Because wages were fixed many Uganda wage-earners were forced to enter the magendo market to supplement their income, others left wage employment to devote their entire time to magendo. As inflation continued, more time was diverted to magendo, not only by labourers but also by all levels of employees. A particularly important form, as far as agriculture was concerned, was smuggling. Large quantities of coffee (up to 50,000 or even 60,000 tonnes a year has been estimated) and some cotton and livestock, were taken illegally across the borders of Uganda to countries where prices were far higher. Such smuggling was by no means on a small scale - individuals who had good contacts were able to obtain an army escort for trucks and trailers as they crossed into Kenya. Indeed, it has been suggested that 75% of the volume of smuggling in the more recent years was carried on at that scale.

26. Various forms of financial mismanagement in cooperative unions or marketing boards resulted in farmers receiving payment for their products long after they delivered them. This was especially so in the case of cotton and tea, payment for which was, in some cases, delayed for up to 12 months. A principal reason was the failure to ensure that sufficiently large crop purchasing funds reached the primary societies. One cause was the slow transport of produce, especially tea and coffee, from the unions to the marketing boards. In the case of lint, however, this becomes the property of the Lint Marketing Board as soon as it is ginned but, even so, the Board often failed to pay the

ginneries within a reasonable period. When credits finally arrived, unions often found it necessary to use a large proportion to pay their wage and salary bills. Thus funds which would otherwise have been available for the purchase of farmers' production were depleted, and as a consequence the primary societies often found themselves with less cash than was required to purchase stocks sufficient to fill their available storage space. In such cases they often took delivery on credit even though it was illegal to do so.

27. Whilst official prices remained fairly constant throughout the period of the 'economic war', prices for uncontrolled items, especially of locally produced foodstuffs such as bananas, groundnuts and simsim, soared in response to the magendo prices of salt, sugar, paraffin and other basic commodities. Farmers who had the opportunity to take advantage of the higher prices were quick to transfer their resources into the production of the more profitable crops. Others, less happily placed geographically, retreated into self-sufficient subsistence.

THE TASK AHEAD

28. The overall objective of any reconstruction and rehabilitation proposals for the agricultural sector must be to restore overall levels of productivity per capita to the 1970 levels as rapidly as possible. The major foreign exchange earners - coffee, tea and cotton - and the import-savers - sugar, tobacco and livestock products - require rapid disbursement of financial aid and technical assistance to support well-designed projects. Other assistance is required for the crucial supporting infrastructure - in transport, processing, extension, credit, agriculture, planning and statistics, etc. Other minor projects with development potential and the research network require some assistance - if only at a care and maintenance level - to prevent further deterioration and the loss of valuable infrastructure or information.

29. Table 2.2 shows the peak levels of production of the major agricultural products. It also lists the estimated costs of the two year rehabilitation programmes we have proposed. These expenditures together with appropriate policy measures are deemed to be adequate to restore production to the peak levels. It can be seen that the pay-offs in terms of net social benefits will be considerable.

30. Aid alone will not be sufficient to achieve the goal identified above. The operating environment within which agricultural production and marketing activities occur needs systematic reform. Of primary concern is an improvement in the sectoral terms of trade facing the agricultural sector. This reflects the component set of product prices, input prices (including wage rates) and wage goods prices. These in turn reflect fiscal policy, exchange rate policy and transport and processing costs amongst others. The complex set of simultaneous actions required to reverse the mutually reinforcing distortions of the past eight years have been brought together in the main report. In the realm of agricultural policy in the narrow sense, emphasis is placed on revising product prices - including both their relationship to export or import parity levels and the relationship between prices themselves as they affect inter-regional income distribution within the country. Other crucial areas relate to the financial structure of the cooperative movement and the performance and control of the statutory marketing boards.

31. In initiating a return to the productivity levels of 1970, we are not advocating the reproduction of the precise pattern of productivity or institutional framework found at that date. Some gains have been made, especially in the smallholder or informal sectors. An expanded capability in small scale production of jaggery, which could be converted to the production of sugar, has been created. Backyard and village level skills in implement repair and manufacture has been established or re-established. The urban milk supply is now obtained by reconstituting low-priced dried skimmed milk, which offers the eventual possibility of the cheap supply of a nutritious foodstuff to lower-income urban residents. These gains should not be destroyed in a blind rush backwards to 1970. It will be particularly important, however, to restore previous planning capacity and its reliable data base so that both the growth and distributional consequences of the rehabilitation programmes - and of further exogenous changes - can be carefully monitored, and appropriate adjustments or new policies or projects be introduced as speedily as possible.

Table 2.2

Returns to Restoring Peak Production Levels of Major Agricultural Products

CROP	Peak output		Current output		Gap '000 tonnes	1979 Value Shs.m.	Additional produc- tion inputs required to achieve peak production 1979/80 and 1980/81 Shs.m.	Ratio (vii) : (vi)
	Year	'000 tonnes	'000 tonnes	Value Shs.m.				
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	
Coffee	1969	251.	180.	5100.0	71.	1991.6	349.7*	0.18
Tea	1972	21.	11.	82.5	10.	201.0 ⁺	282.1	1.40
Cotton (^{'000} bales)	1970	467.	60.	128.0	407.	870.0	370.9*	0.43
Sugar	1970	144.	20.	39.0	124.	241.8	160.0	0.66
Tobacco	1972	5.0	1.5	22.5	3.5	52.5	88.4	1.68

* 21,000 tonnes Shs. 13.50 per kg. made tea less 11,000 tonnes at 7.50 per kg.

⁺ Includes restoration of war damage and costs of the ginnery rehabilitation project.

SUMMARY OF RECOMMENDATIONS

Policies

32. One essential component without which the goals of the rehabilitation programme for agriculture cannot be achieved is a substantive increase in the producer prices of the major cash crops - coffee, tea, cotton and tobacco. Ugandan farmers have shown themselves to be very responsive to changes in relative prices and there can be no doubt that increasing their real returns from export crops will rapidly lead to an increase in export earnings. Especially important in this regard is the coffee price; at its present level a large proportion of the crop is likely to be smuggled out of the country. Tea exports could, within six months, also respond to an increase in producer prices. Cotton exports will take longer to recover but it is essential that increases in the prices paid both to the ginneries and the farmers be announced by the end of 1979, if output is to rise from the 1980 planted crop onwards. Our recommendations are presented in more detail in Paper 3.

33. We also recommend that resources are secured for the cooperative marketing unions to provide crop finance, restitution of major war damage, especially to key plant and vehicles, and to postpone (at least) the repayment of the burden of debt inherited in large part from the general economic mismanagement of the military regime. This also is discussed in greater detail in Paper 3.

34. Other considerations in a farmer's decision to plant a particular crop are the costs of his inputs and wage goods. In the case of Ugandan farmers, the prices of the physical inputs - chemicals, seed and tools - are particularly relevant, and some of these should be subsidised (see the product papers). But even more important are the prices of various consumer goods. We strongly support the recommendations made elsewhere in the Team's report to reduce the prices paid for these by all consumers, which will also serve to improve farmers' terms of trade. In most cases this requires that supplies be increased so that magendo prices will no longer apply. Adequate transport for the distribution of consumer goods into rural areas is also an integral part of this package.

35. The efficient and honest administration of the major produce marketing boards is an essential element in the restoration of the agricultural sector. We have made four specific sets of recommendations in this area:

- (i) The affairs of the Coffee Marketing Board be subject to an official committee of enquiry and its management and policy-making structure reconstructed (Paper 4);
- (ii) The Uganda Tea Authority be reconstituted with streamlined responsibilities as the Uganda Tea Board (Paper 4);
- (iii) The Dairy Corporation continue to concentrate its activities on the manufacture and sale of reconstituted milk rather than moving back into the collection and processing of whole milk supplies from the rural areas (Paper 5);
- (iv) The produce buying activities of the Produce Marketing Board be suspended (as they have been in practice), the Board be wound up and its processing companies be disposed of to another parastatal or to a private firm (Paper 6).

36. Agricultural mechanisation policy should concentrate on:

- the supply of adequate quantities of cheap and reliable hand equipment;
- the supply of an increased quantity and range of animal-powered implements (including the establishment of additional domestic manufacturing capacity);

- training mechanics and technicians in the maintenance and repair of agricultural processing equipment i.e. coffee hullers, tea making machinery, cotton gins and presses, sugar mill equipment, etc;
- restricting tractor cultivation to the few areas where alternative techniques are not feasible or have not yet been developed i.e. sugar cultivation and harvesting and tobacco cultivation;
- scaling-down bush clearing capacity to one reduced unit to be shared by the Ministries of Agriculture and Animal Resources.

Projects

37. We have recommended a rehabilitation programme for both robusta and arabica coffee. The former involves two projects, one aimed at demonstrating improved agronomic practices and the other at the provision of chemical inputs to farmers. The arabica programme is based on projects aimed at the rehabilitation of its production in both Bugisu and the Western Region. An additional project is aimed at the control of coffee berry disease. We have estimated the cost of this programme to be Shs. 117.6 m. in 1979/80 and Shs. 89.1 m. in 1980/81.

38. The rehabilitation programme for tea is aimed at bringing back into production the large areas of tea which have been abandoned. It consists primarily of the provision of fertiliser and the improvement of transport for the movement of green leaf to the factories, the repair and maintenance of existing factories and the completion of three factories for the processing of small-holders' tea. We estimate that the programme will cost Shs. 149.3 m. in 1979/80 and Shs. 132.8 m. in 1980/81.

39. Our programme for cotton is aimed at restoring output to 1970 levels. Fundamental to this is an improvement in the provision of extension services and the provision of chemical inputs to the farmers. This requires an improvement in transport facilities and also the provision of equipment and chemicals for extension workers. Chemicals and equipment will also need to be made available to farmers. We recommend, too, that ginneries be supplied with adequate transport and that their machinery be repaired. This requires the provision of spare parts. The ginnery rehabilitation programme will need to be completed within three years if the ginneries are to cope with production in excess of 450,000 bales. The estimated cost of our recommendations is Shs. 31.9 m. in 1979/80 and Shs. 59 m. in 1980/81.

40. The rehabilitation of the sugar industry poses special problems. Much money spent on the industry has, in the past, been wasted. Accordingly, we recommend that a careful appraisal of the three production units be made before any significant expenditure on development plans is commenced. We have included in the Summary Table estimates for necessary spare parts and maintenance of the sugar industry, but not for any development of it, which should await consultants' reports.

41. The tobacco programme is aimed at the reconstruction of tobacco farms and wood fuel plantations for the flue-cured crop. We recommend that tractors be made available for transport and the opening up of land for tobacco and that in 1980/81 a start be made on the establishment of a Tobacco Research Centre. We estimate that the programme will cost Shs. 52.4 m. in 1979/80 and Shs. 34.0 m. in 1980/81.

42. Food crop production has been restricted by the lack of tools and improved seed. We recommend that these be imported. We also recommend that steps be taken to set up an early warning system to monitor the adequacy of potential food-deficit areas to provide their food requirements. The cost of our recommendations will be Shs. 151.7 m. in 1979/80 and Shs. 113.7 m. in 1980/81.

43. Several special projects for the production of vegetable seed, citrus, cashew nuts, etc. have been brought to our attention. We recommend that they should proceed and will cost Shs. 5.3 m. in 1979/80 and Shs. 10.5 m. in 1980/81.

44. Our programme for the rehabilitation of the livestock industry is aimed at increasing the supply of meat and milk. We recommend that the National Dairy Corporation divest itself of all involvement in fresh whole milk and that it repasturise milk from imported dry skim milk and vegetable oils. We recommend, too, that animal health be improved through the mobilisation of veterinarians and the provision of the necessary drugs and vaccines and the rehabilitation of dips. We recommend also that four veterinary diagnostic laboratories be established. Breeding stock will need to be improved for the Ministry of Animal Resources' Poultry Breeding Unit. We recommend also that two bulls be imported and that an Artificial Insemination Scheme be re-established. We also recommend that a number of pigs be imported for breeding purposes. Other recommendations are that fresh whole milk be sold on the free market and that extension to dairy farmers be increased. We recommend that, with this end in view, Njeru Dairy Farm be rehabilitated and further developed. We estimate that the cost of our programme will be Shs. 143.4 m. in 1979/80 and Shs. 179.2 m. in 1980/81.

45. We recommend that the low cost farm implements factory, together with the cultivation demonstration unit be rehabilitated. This will cost Shs. 1.7 m. in 1979/80 and Shs. 6.4 m. in 1980/81.

46. The rehabilitation of the Ministry of Agriculture requires expenditure not only on physical facilities but also on agricultural education which is provided at various levels from schools and district farm institutes to Makerere University. We recommend that expenditure in all these areas be increased. The total cost of this, together with the rehabilitation of the Ministry's own extension, planning and research facilities will cost Shs. 90.9 m. in 1979/80 and Shs. 64.7 m. in 1980/81.

47. Details of our recommended programme are given in Table 2.3. In summary, it involves the expenditure of Shs. 824.2 m. in 1979/80 and Shs. 765.4 m. in 1980/81.

Table 2.3

Summary of Recurrent and Capital Costs of Agricultural Rehabilitation Programme 1979/80

	1979/80			1980/81					
	Recurrent		Capital	Recurrent		Capital			
	F E	Total	F.E.	Total	F E	Total			
Coffee	55.1	55.1	62.2	62.5	55.1	55.1	-	34.0	34.0
Tea	29.5	31.1	96.5	118.2	29.5	31.1	-	101.7	101.7
Cotton	11.4	13.4	16.5	18.5	39.3	43.0	2.0	14.0	16.0
Sugar	-	20.0	50.0	60.0	-	20.0	10.0	50.0	60.0
Tobacco	8.5	13.4	33.0	39.0	10.5	17.0	2.5	16.5	19.0
Foodstuffs	-	9.5	109.5	142.2	-	9.5	32.0	72.2	104.2
Special Projects	0.3	0.3	4.3	5.0	-	-	1.4	9.1	10.5
Livestock	114.1	129.5	13.4	13.9	20.7	154.5	0.5	18.2	18.7
Small Industries	0.2	0.3	1.4	1.4	1.7	2.0	-	4.4	4.4
Research, Extension, Planning	2.5	7.4	55.6	83.5	5.3	14.3	15.5	34.9	50.4
TOTALS	221.6	280.0	442.4	544.2	162.1	346.5	63.9	355.0	418.9