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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

INTERNATIONAL DEVELOPMENT ASSOCIATION

CURRENT ECONOMIC POSITION AND PROSPECTS OF UGANDA

VOLUME II

ANNEXES

A. Agriculture
B. Transport
C. Tourism

June 11, 1969

Eastern Africa Department

EQUIVALENTS

Currency

1 Uganda Shilling	=	U.S. $0.14
U.S. $1	=	U Sh 7.14
£ St. 1	=	U Sh 17.1375

Weight

Unless Otherwise Stated, Tons in this Report refer to Long Tons of 2240 lbs.

THE MISSION

This report is based on the findings of a mission which visited Uganda during November-December 1968. The mission consisted of the following:

Kudlapur G.V. Krishna (IBRD)	-	Chief of Mission and Chief Economist
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* Messrs. D. R. Groenveld and D. J. Wood, both of the IBRD's Permanent Mission in East Africa were mainly responsible for the preparation of the annex on Agriculture in Part II. Mr. Erol Haker (IBRD) contributed to the annex on Transport. The mission is grateful for this assistance.

ANNEX A

AGRICULTURE IN UGANDA

ANNEX A

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ANNEX A

AGRICULTURE IN UGANDA

SUMMARY AND CONCLUSIONS

1. The growth of the agricultural sector has slowed down during the past three years. In comparison with the growth of about 5.5 percent a year achieved during the period 1962-65, growth in the following three years has only been about 3 percent a year.

2. The slow growth during the period 1966-68 is the result both of adverse weather and the decrease in the output of cotton - one of the two major crops - resulting mainly from a drastic reduction in 1966 of the price paid to producers. There are indications that growth will be significantly higher in 1969, in view of the bumper coffee crop and some recovery in cotton production.

3. The output of tea and tobacco has risen steadily over the past few years, and hold promise of making an important contribution to the diversification of output in the years to come. The output of sugar and groundnuts has also risen, although further increases would be limited by market constraints. Progress in the production of milk has been very encouraging, and Uganda is steadily moving towards self-sufficiency in this item. The foundation has been laid for developing the country's immense livestock potential, which will not only enable Uganda to meet its internal needs for meat, but also to develop exports to some of the neighboring markets. There is an upward trend in fish production, and a considerable potential exists. While the quantitative significance of items other than coffee and cotton are as yet limited, there are good prospects that their share of agricultural output will steadily increase.

5. The volume of exports can be expected to increase generally in accordance with the estimates made by the 1966 mission, except perhaps for a shortfall in cotton and increases in tea and tobacco.

6. Imports of agricultural commodities into Uganda are small. Further reductions can be expected, particularly for milk and milk products, meat, oils and rice.

7. During the past two years, the Government has taken a number of measures to improve efficiency in production and marketing within the agricultural sector. These include:

(a) measures to increase the output of Agricultural Assistants, and thereby improve the composition of the staff of the extension services;

(b) the establishment of a new Ministry of Marketing and Cooperatives to deal with marketing problems besetting some of Uganda's crops; the establishment of a Produce

Marketing Board to deal specifically with minor crops, and of a Dairy Industry Corporation to organise the production and distribution of milk and other dairy products;

(c) efforts to improve the structure of the Cooperative Movements in the light of the report of the recent Committee of Enquiry;

(d) the reorganization of the Tractor Hire Service;

(e) the decision to slow down the establishment of Group Farms.

8. Some problems which continue to need attention are:

(a) the need to set up effective planning units in the Ministries concerned with the agricultural sector;

(b) a thorough investigation of the market prospects of crops other than coffee and cotton, as a basis for a policy on diversification of output;

(c) the adoption of a price policy which, while stimulating production, will not create unmanageable surpluses;

(d) improvement in the machinery for the preparation and execution of projects, and for a regular review of programs and policies; and

(e) closer contact between the staff of the Ministries concerned with agriculture, and the Ministries of Finance, and Planning.

AGRICULTURE IN UGANDA

1. DEVELOPMENTS SINCE THE INCEPTION OF THE SECOND FIVE-YEAR PLAN

A. Growth in Production

1. The growth of agricultural production - measured in constant prices - has slowed in recent years. Wide margins of error in basic statistics, and substantial year to year fluctuations in production due to weather, make it difficult to document this slowing of growth with any great precision. During the period 1962-65 the output of the agricultural sector as a whole increased at a little over 5 percent a year, with the monetized part of the sector growing at 6 percent, and subsistence production at about 3 percent or approximately the rate of population growth. However, much of this growth can be attributed to recovery from the severe drop in production caused by drought and floods in 1961-62. Between 1965 and 1967, agricultural output grew at only slightly over 2.5 percent a year.

2. Recent annual changes in output have been typical of a country that depends mainly on rainfed agriculture. In 1966, production was some 4 percent greater than in 1965, while in 1967 output was about 2 percent greater than in 1966. Final figures for 1968 were not available to the Mission, but it is estimated that agricultural growth will only be about 3 percent.

B. Food Crops

3. Statistical analysis of food crop production in Uganda is based on acreage estimates. Total production is customarily derived by multiplying acreage and assumed yield per acre. Some appreciation of the margin of error involved in acreage estimates may be gained from Table 1, which shows data collected from two sources. Since Census 1/ estimates exclude two districts, the figures are uniformly lower than the Department of Agriculture estimates, although the discrepancy is large. However, the pattern of expansion over time, described by the two sets of figures, is not the same. Department of Agriculture estimates record a steady and widespread expansion of acreage (except for plantains), while the picture given by Census figures is of a much more mixed performance, with declines for certain crops outweighing advances for others. The Census figures do not, however, cover plantains, one of the most important foodcrops.

1/ Report on Uganda Census of Agriculture, Volumes I to IV, published during 1965-67 by the Ministry of Agriculture. (The Census is the result of an effort to improve crop acreage and production statistics. Following preparatory work dating back to 1957, a sample survey was made in 1960 to coincide with the World Agricultural Census. Subsequently, a four-year Census was launched in 1963 with assistance from FAO, which forms the basis for some of the figures in Table 1.)

Table 1: FOOD CROP ACREAGES - OFFICIAL ESTIMATES
('000 acres)

Department of Agriculture a/

Year	Plantains	Maize	Millet	Ground-nuts	Beans	Sweet Potatoes	Cassava	Total
1958	1,340	340	1,906	447	529	563	668	5,793
1964	1,844	478	2,082	627	789	709	593	7,122
1965	1,845	703	2,029	621	1,023	783	888	7,892
1966	1,287	756	2,205	691	1,045	1,068	1,342	8,394
Census of Agriculture b/								
1963/64	n.a.	684	1,069	380	762	211	419	3,525
1966/67	n.a.	503	1,106	319	402	211	537	3,078

a/ Figures are based on reports by local agricultural officers.

b/ Figures are based on fairly small surveys; Toro and Karamoja are not included.

Source: Ministry of Agriculture and Statistical Abstracts

4. The comparability of the two sets of figures is limited by the differences in coverage. In the future, when longer series are available and inaccuracies in sampling reduced, the Census should give a more accurate picture of food crop acreages than has hitherto been available. At present, the evidence is largley inconclusive. Apart from a definite expansion of cassava production, and a possible decline in plantain acreage, no marked changes in the pattern of food crop production in recent years can be established. Over the longer term the presumption remains that acreage has expanded roughly in line with population growth.

C. Cash Crops

Coffee

5. Coffee production has fluctuated in recent years, largely due to varying weather conditions. Robusta production reached a peak in 1964/65, and then declined substantially; Arabica production - mainly in the Bugisu area - had a bumper crop in 1965/66, but fell sharply in the following year. Total production in the current crop year is expected to be in the region of 200,000 tons.

Table 2: COFFEE: AREA, PRODUCTION AND EXPORT VALUE

Year	Area ('000 Acres) Robusta	Arabica	Production ('000 tons) Robusta a/	Arabica b/	Export Value (Sh million)
1964 c/	594	43	175	10	708
1965 c/	648	40	208	12	608
1966	780	52	151	15	696
1967	816		148	12	692
1968			135	13	702

a/ Figures are the total quantities of cured coffee which passed through the curing works during the calendar years shown. Bugisu Arabica is excluded, but small quantities of Arabica produced elsewhere are included.

b/ Quantity, in parchment equivalent, purchased from African growers (including Bugisu) during seasonal year ending June 30. Department of Agriculture estimates for Arabica production as a whole: 1967 - 11,800 tons; 1968 - 13,300 tons.

c/ Some coffee from the Congo passed through Uganda in these years.

Source: Ministry of Agriculture

6. Because of yearly differences in weather, it is difficult to ascertain if any longer-term trend is affecting coffee yields. Farmers appear to have been discouraged by the lower farm price (40 cents per lb) from expanding their use of sprays and fertilizers, so that these inputs can hardly account for any substantial part of the current jump in production. One non-recurring factor of limited importance may have been an increase in yield as a reaction to the depressed yields of the previous year.

7. Prospects of disposing of the current (1968/69) coffee crop are, of course, limited by Uganda's adherence to the International Coffee Agreement, under which it is limited to exports of 120,000 tons to quota countries. The Coffee Marketing Board expects to sell between 25,000 and 30,000 tons to the non-quota markets, so that approximately 40,000-50,000 tons will have to be carried forward as stocks.

Prospects for Coffee

8. Since domestic consumption of coffee is only a small proportion of total output, most of the coffee is exported. Exports rose from 131,000 tons in 1962 to 165,000 tons in 1966, but have since decreased. Exports include

sales both to the quota and non-quota countries. The latter reached a peak of 49,000 tons in 1966 but, owing to stricter controls by the International Coffee Organization, have decreased since; estimated non-quota sales in 1968 amounted only to 30,388 tons. Quota sales have increased from 106,000 tons in 1965 to 132,371 tons in 1968.

9. In the coming years, exports will largely be determined by quotas under the International Coffee Agreement. The mission has assumed an average annual increase of 2-3/4 percent in Uganda's quota, which reflects the projected increase in world coffee consumption. Some coffee will continue to be sold to the non-quota market, although sales will not reach the 1965/66 level of 49,000 tons. The mission expects non-quota sales amounting to 25,000 tons in 1969. Exports may increase from 150,000 tons in 1969 to 165,000 tons in 1971. World prices are expected to remain stable. The mission's projections are based on a New York spot price for Uganda coffee of US $34.00 per 100 lbs., the same as in 1968. This would imply a unit value for Uganda's quota exports of Sh 4.90 per kg. Prices for non-quota exports would probably be about 50 percent of this. Under these assumptions, the export value of coffee could amount to Sh 695 million in 1969, rising to Sh 765 million in 1971.

Cotton

10. Cotton is the most widely grown commercial crop in Uganda. It is the major source of cash income for about 60 percent of all family holdings. Average cotton yields are low by any standards. Important factors that influence cotton growing are: first, the rainfall pattern, which necessitates timely planting for satisfactory yields; second, weed growth, which is heavy in most parts of Uganda; third, a high incidence of cotton pests; and fourth, a highly seasonal demand for labor, which is particularly critical at harvest time, when subsistence crop cultivation is also urgent. Soil fertility aspects are of secondary consideration, because only rested land is put in cotton; yet, yields may be enhanced by fertilizer dressings, in particular of nitrogen. Supply of fresh and treated cotton seed is controlled by the government. Its coverage is nationwide, though seed seems to be wasted at farm level.

11. It is the government's policy to encourage farmers, through extension efforts, to plant cotton at the earliest possible time in the season, to cultivate in rows, to facilitate weed control, and to obtain an optimal plant population. The extension efforts have had some success. Cotton is usually planted in straight rows, but optimal plant populations and timely planting are not always achieved. If the first showers of the season are late, farmers have to delay breaking-grass fallows, which in turn delays cotton planting. When the soil is too dry, even tractor power might not be sufficient to turn in grass fallows.

12. Cotton production has declined from the peak reached in 1965/66. The decrease in 1966/67 may be attributed mainly to a fall in yields, whereas the further decrease anticipated for 1967/68 appears to have been caused by a reduction in acreage planted, which, in turn, is attributable mainly, though not entirely, to the steep reduction in prices paid to producers in 1966/67.

Revised figures for 1968/69 indicate that output may reach 408,000 bales, the increase resulting from favorable weather and higher yielding strains.

Table 3: COTTON: AREA, PRODUCTION AND EXPORT VALUE

Year	Area[a] ('000 acres)	Production[a] ('000 bales)	Exports ('000 bales)	Exports (Sh million)
1964	2,138	379	355	317
1965	2,241	438	380	335
1966	2,174	445	384	307
1967	2,149	427	397	303
1968	2,004	345	342	295
1969 (est)		408		

a/ The crop year ends on September 30.

Source: Ministry of Agriculture

13. Informed sources favor the view that the decline in acreage may largely be explained by the reduced farm price in 1966/67. One problem is to distinguish between voluntary (i.e. in response to price incentives) and involuntary reductions in acreage. Involuntary reductions may be caused by a number of factors, such as delay in rains leading to postponement in the start of planting, or difficulty in successfully sowing a finger millet crop, which, as a food crop, has priority over cotton. In view of the competing claims of cotton and food production, the task of easing peak demand for labor at cotton harvest time is a complex one, since it coincides with the demands of subsistence cultivation. One of the ways of tackling this problem would be to improve picking efficiency; however, a long-term solution to the problem of labor peaks at harvest time would have to be sought in the introduction of subsistence crop varieties of short duration, which would permit earlier harvesting dates than those of crops presently grown. Experiments are also being conducted on new varieties of cotton which could be harvested within a shorter time-period.

Pesticides

14. The most important factor in the increase of cotton yields is the efficient and wide-spread use of insecticides to control cotton pests. Presently, pesticides are subsidized at 80 percent and pesticide sprayers at 56

percent. From the farmer's point of view, pesticide use is financially attractive at ruling cotton prices, since he can expect a return of about eight times his expenditure at a subsidized rate of Sh 9.00 per acre 1/. In economic terms, the additional cotton output would cover the cost of the pesticide program.

15. Presently, pesticide use is limited by the budgetary funds made available for pesticides subsidies 2/. Further, the administrative procedures of procuring and distributing subsidized pesticides through cooperative unions could make it difficult to ensure that they are always available at cooperative or country stores at the right time. Increased funding and improved administration of the subsidized pesticide program could have an immediate impact on cotton output, in particular with the higher yielding cotton varieties that are being introduced. Expanding the present pesticide program should therefore be given high priority. Because of the relatively satisfactory farm return, lowering of current subsidy rates might also be considered in order to achieve a wider coverage with currently available funds.

Cotton Processing and Marketing

16. Raw seed cotton is purchased by primary marketing cooperative societies on behalf of District Cooperative Unions, who now have a monopoly for ginning 3/. The price paid to the farmers is fixed by the Government. The mark-up allowed to the primary societies varies from one district to another, but is usually about 0.5-1.0 percent, and barely enables the societies to cover costs. The District Unions must sell all their lint and cotton seed to the Lint Marketing Board at prices again fixed by the Government. The Lint Marketing Board handles cotton sales in a satisfactory manner, mainly through auctions in Kampala, but also through direct sales. Up to 1966, prices were subsidized by drawing on the Price Stabilization Fund, which is now exhausted. The Fund had been used to offer steady prices to farmers at a time when world prices were declining. When the Fund became exhausted, the Government, unable to subsidize cotton out of public funds, lowered the price to farmers from 60 cents per lb. of raw seed cotton in 1965/66 to 40 cents in 1966/67. This sudden drop almost certainly had a great effect on acreages planted in 1967/68 and 1968/69. The Government raised the price to 45 cents per lb for 1967/68 and again to 50 cents per lb. in 1968/69.

17. In its attempts to restore incentives to growers and, at the same time, to reduce the possibility of the Lint Marketing Board going into debt, the Government has allowed very small margins to the ginneries. The result has been that most, if not all, of the District Unions which own the ginneries are now in financial trouble; most of them are burdened with heavy, Government-guaranteed debts on account of the ginneries which were purchased from private

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1/ Sh 5.00 for pesticide, and Sh 4.00 for the amortization of a spray pump.

2/ Costs of these are fully recovered by the Government through the levy of a cotton cess and an export tax.

3/ A few privately owned ginneries still exist, but they can only gin on behalf of, and under contract to, District Cooperative Unions.

owners over the past four years. Although it is presumed that the Government cannot allow the cooperative-owned ginneries to close down, their financial situation does not permit satisfactory operation. If they operate at a loss, the Government would, in effect, be subsidising the farmer, since it must eventually assume financial responsibility for the cooperative unions. This situation, which has been highlighted by the Committee of Enquiry into the Cooperative Movement, should be resolved as soon as possible, in order to put the ginneries on a sound financial basis. If weaknesses in the management of the cooperatives is a contributory factor, this should be remedied by providing management assistance from outside.

18. The Government is giving serious consideration to an upward revision of ginning margins. Since it is undesirable to achieve this by lowering the price paid to farmers, other methods would have to be explored. One of the means previously considered but not implemented was to reduce or even abolish the cotton export duty. This duty brings in an annual revenue to the exchequer of Sh 30-40 million, and hence the Government may have difficulty in foregoing it. It is not inconceivable, however, that revenue sacrificed in this way would be compensated by an increase in import/excise duties, since the abolition of the tax would stimulate demand through higher disposable incomes in the hands of farmers. This matter might well be investigated again, as a basis for a possible adjustment in present practices.

Prospects for Cotton

19. The output of cotton, which reached a peak of 445,000 bales in 1965/66, declined to 345,000 bales in 1967/68, mainly as a consequence of the steep reduction in producer prices since the 1966/67 season. Production in 1968/69 is expected to be higher than in 1967/68. Exports of cotton increased from 329,000 bales in 1963 to 397,000 bales in 1967, but since there has been a decrease owing to reduced output; in 1968, exports amounted to 342,000 bales. In 1969 they may reach about 340,000 bales.

20. Under normal weather conditions, and with expected prices, it will be difficult to attain the high level previously attained in 1965/66. Although domestic consumption has increased from virtually nil in 1955 to about 56,000 bales in 1967, and could increase further to about 85,000 bales by 1971, exports may increase to about 380,000 bales by 1971, if output recovers.

21. After the temporary upswing in 1968, prices are expected to resume a long-term downward trend. The mission expects that the 1971 price level for Uganda cotton will be about 13 percent lower than the 1968 level. The export value would then be Sh 272 million in 1971.

Tea

22. Output of tea has grown rapidly since the beginning of the Plan Period in response to plantings made in the late 1950's and early 1960's. The area planted has also expanded rapidly, promising a substantial expansion of production in the next Plan Period. Part of the increase in area planted is attributable to the inclusion, in recent estimates, of the holdings of

numerous smallholders, who had planted tea without obtaining the required license, and hence had not been previously recorded in the official figures. The impact of these previously unrecorded plantings on future production, may be to raise smallholder output in 1971 to 7.0 million lbs as compared with the original forecast of 6.3 million lbs 1/.

Table 4: TEA: ACREAGE, PRODUCTION AND EXPORTS

Year	Area Planted at end of Year ('000 acres)	Production (million lb. made tea)	Exports (million lb.)	Export Value (Sh million)
1963	22.7	13.6	12.1	40.8
1964	24.5	16.8	13.4	44.2
1965	25.3	18.4	14.9	47.8
1966	30.9	24.7	19.5	63.0
1967	34.5	24.6 (2.1) a/	20.6	69.6
1968 (est)	36.5 (9.0) a/	33.4 (3.2)	25.8	75.0

a/ Figures in brackets represent smallholder production.

Source: Background to the Budget, UTGC

Smallholder Tea Production

23. The Uganda Tea Growers Corporation (UTGC) - a statutory body responsible to the Minister of Agriculture, set up in 1966 - has now assumed full control over smallholder tea production and has made good progress. Making use of extension staff seconded from the Ministry, it has supervised the planting of some 1,325 acres in 1966, 1,470 in 1967, and 1,910 in 1968. (This is some 315 acres below the projected acreage, due to shortages of planting material from commercial sources.) There are now about 9,000 acres of smallholder tea. By the end of 1970 - the period covered by an IDA project - the acreage is expected to increase to 14,000.

24. UTGC has established a leaf collection, inspection and transportation service which will eventually collect all smallholder green leaf from

1/ This revision is based on a recent assessment made by IDA which is financing the smallholder tea project.

centers never more than 2 miles from any farmer 1/. Leaf is rejected if it does not meet certain standards. Construction of a tea training center is almost completed, and training courses for both extension staff and farmers are expected to begin in 1969. It is necessary to ensure, however, that the quality of the staff is satisfactory. Planting material from UTGC's own central nurseries was used for the first time in the April/May 1969 planting season; initial trial distribution of vegetatively propagated planting material -which promises higher yields - is expected in 1969. Considerable success has also been achieved through the use of fertilisers (NPK). Equipment has been ordered for the first two UTGC factories - one in Ankole, the other in Toro - with finance arranged, or under negotiation, with the International Coffee Organization, the British Government and the East African Development Bank. A third UTGC factory will shortly be required in Toro, and purchase of an existing factory in Kigezi is envisaged. Smallholder tea in other areas (Bunyoro, Mityana, Lugazi and Masaka) and parts of Toro will continue to be processed by commercial factories for some time, under arrangements now supervised by UTGC.

25. Climatically, 1967 was a bad year for tea throughout East Africa. Smallholders in Uganda produced about 2.1 million lb of made tea, worth about $7 million. However, 1968 was an excellent year, and smallholder production increased to about 3.2 million lb of made tea, although part of this increase came from increasing maturity of existing plantings. The value of this production, however, increased to only $9.5 million because of the drop in world prices following Sterling devaluation in November 1967. At the farmers' level, this drop of about 15 percent in world prices has been cushioned by the Government's decision to guarantee a minimum payment to growers of 40 cents per lb of green leaf delivered to UTGC in 1968 and 1969. (40 cents is the traditional "first" payment received by growers in the past, with a "second" payment made by factories depending on the year's results. Most factories have now reduced the "first" payments below 40 cents, some to as low as 30 cents.) With no sign of better world prices, and with the Government not being in a position to continue the subsidy, 1970 will be a difficult year for UTGC and the smallholders, and it remains to be seen what effect there will be on future demand for new planting. Under the low price conditions, it is expecially important that smallholder leaf attains high quality standards and that yields per acre improve, particularly in the Toro district where there seems to be most room for improvement.

Prospects for Tea

26. During the remainder of the Plan, there are prospects for a continued expansion of production and an intensification of new plantings. However, there may be weakness in the export price. Given satisfactory weather, a

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1/ Expansion of this service is restricted by the road situation. A considerable network of tea roads is included in a highway project now under consideration by IDA.

growth in production is assured by plantings already in the ground. Some improvement in yields may be expected from the application of fertilizers provided to smallholders on credit; the high cost of fertilisers may, however, militate against their extensive use.

27. The Uganda Tea Growers Corporation is expected to supervise the planting of 5000 acres of smallholder tea by the end of 1970 under the IDA project. Agricultural Enterprises Ltd., has finalized plans for a project costing approximately Sh 14 million in West Nile, which would establish 1,000 acres of tea over a four year period; this would be an estate and not an outgrower scheme. In addition, a further project involving possibly 1,000 acres on the Sese Islands has been under consideration for many years.

28. The possibility of establishing an agreement among the world's tea producing nations to control output and thereby ensure stable prices has been under discussion for some months. At an international conference recently held in Rome, the FAO recommended that such an agreement be accepted by the countries concerned. An improvement in prices - or at least a halt in their decline - is especially important for countries for which tea ia an important crop in their attempts at diversifying output. The question of whether, and if so on what terms, Uganda should enter any agreement on tea is obviously a matter of considerable importance for the future of Uganda's tea production.

Sugar

29. The bulk of sugar production in Uganda continues to come from two large estates and their associated outgrowers. Output at the third estate (Sango Bay) has not reached projected levels because of difficulties with machinery and wet-season transport. Nevertheless, total production has recorded an advance since the start of the Plan Period, though at a lesser rate than anticipated in the Plan.

30. Sugar consumption has remained roughly stationary at just over 100,000 metric tons per year. As a result, the exportable surplus grew to nearly 50,000 tons in 1968, of which some 8,000 tons were added to stocks, bringing the year-end level to 41,800 tons.

Table 5: SUGAR: PRODUCTION, EXPORTS AND STOCKS

Year	Production ('000 metric tons)	Stocks of Year End ('000 metric tons)	Exports ('000 metric tons)	Exports (Sh million)
1966	127.5	34.2	5.5	8
1967	137.4	33.8	35.3	32
1968	149.6	41.8	40.6	n.a.

Source: Ministry of Agriculture, Statistical Abstracts

31. A major development planned for the sugar industry was the creation of the new Kinyala Sugar Company. This project was not initiated in the first part of the Plan Period, although a number of feasibility studies have been carried out during the past few years. One of the main problems is the lack of finance for the field sector. The latest in the series of studies was done in 1968, and a report has been submitted to the Government early in 1969. Even if it is decided to implement the project, production at Kinyala will not add to total sugar output within the Plan Period.

Prospects for Sugar

32. Much uncertainty exists about the future market for sugar in Uganda. In the first place, no systematic assessment has been made of the growth of domestic consumption, which appears to have leveled off in the last two or three years. However, there is a marked disparity in per capita consumption between the Central Region and other areas of the country. It may, therefore, be expected that, even if consumption is relatively stagnant in the Central Region, growth in national consumption will expand as other regions "catch up". One factor supporting this view is the improved distribution system which the National Trading Corporation has set up in outlying areas: sugar is now available on a much more regular basis than before. The Government also expects that a number of its development projects (tea, cattle, tobacco) will boost per capita income in these regions, thus stimulating consumption.

33. Apart from uncertainty concerning domestic consumption, there is also some doubt about purchases of Uganda sugar by Kenya. Kenya is seeking self-sufficiency in sugar, but will have to continue imports for a few more years. The scale and duration of these requirements will have an important effect on Uganda's export receipts, since sugar not sold in East Africa (or to neighboring Sudan, Rwanda and Eastern Congo) must be sold unrefined on the world market at a much lower price. Under a recently concluded International Sugar Agreement, Uganda has been alloted a quota of 39,000 tons but the significance of this is not yet clear.

34. A third element of uncertainty concerns the timing of plantings at Kinyala, but this will not have a significant effect on production in the current Plan Period. Estimates for production in 1971 range between 165,000

and 175,000 metric tons, which is roughly in line with the 1966 Mission estimate, but considerably below the Plan target of 230,000 tons.

Groundnuts

35. Figures on total groundnut production, although subject to substantial error, indicate a modest growth 1/. Export figures show a drop in volume in 1965, a sizeable increase in 1966 and another decline in 1967.

Table 6: GROUNDNUTS: PRODUCTION AND EXPORTS

Year	Production ('000 tons)	Exports Volume ('000 tons)	Exports Value (Sh million)
1964	147	4.0	4.5
1965	140	0.8	n.a.
1966	161	8.4	n.a.
1967	164	1.6	n.a.

Source: Ministry of Marketing and Cooperatives.

36. Present yield of groundnuts on farmers' land is low, but may vary considerably. The average is estimated at 500-600 lbs an acre of dry nuts in the shell. The seed is usually broadcast at too low a seed rate, and somewhat late in the season. These practices cause an increase in rosette disease which could be controlled by higher plant populations and timely cultivation. Planting of improved varieties on a trial basis, combined with adequate cultivation methods, gave satisfactory results and yields up to 2,000 lbs an acre of dry nuts in the shell. Groundnut development through the introduction of high yielding varieties and improved cultural practices has potential, but it is presently constrained by the limited production of improved seed 2/ and by marketing problems. The mission considers that any scheme for expanding groundnut production must be preceded by a thorough market study to determine the pace of expansion.

1/ An indication of the possible margin of error is the estimate of production in 1966 i.e. 161,000 tons, as compared with the 1966 mission estimate for the same year of 115,000 tons.

2/ Seed development is currently assisted by bilateral UK aid, but is limited in its scope. It is expected that seed of improved groundnut varieties would be available to cover about 3,200 acres of commercial production, including confectionary quantities, in 1971.

37. Some work is presently being carried out to produce about 2,000 tons of high quality groundnuts for confectionary use. The nuts will be processed in two grading factories provided under UK bilateral aid. Further expansion of groundnut production for confectionary use is technically feasible, but its development would depend entirely on the outcome of the test that is currently being done in a highly competitive market, and on Uganda's ability to produce, on a sustained basis, the high quality grades demanded in the confectionary market. The present program and its possible expansion would need close observation, and, provided it is reasonably successful, could contribute to the diversification of Uganda's exports.

38. Marketing is still a problem. The Produce Marketing Board, set up in mid-1968, is charged with the responsibility of investigating new markets, advising producers on buyers' preferences and organizing sales. In view of its brief existence, the Board has not yet had much impact.

Tobacco

39. Tobacco has been grown commercially in Uganda since the end of World War II. Official statistics indicate that since 1960 there has been an increase in the production of fire-cured tobacco (from about 2 million lbs in the early sixties to about 4.0 million lbs in 1967). Flue-cured tobacco production increased from 0.2 million lbs in 1960 to 6.1 million lbs in 1968.

40. According to official statistics, the estimated acreage of tobacco was 10,000 in 1962, 19,000 in 1965, and 15,000 in 1967. FAO statistics give different figures for earlier years, but both series estimate the 1966 acreage at 12,000. It is also likely that total production has fluctuated during the sixties between 6 million lbs and 8 million lbs, and that it reached a level of about 10 million lbs in 1968. Flue-cured tobacco production in the West Nile District was stimulated by demand emanating from the British American Tobacco Co. (BAT) factory in Kampala. In 1967 production in this area reached a level of 4.9 million lbs and part of it had to be exported. Uganda exports most of its tobacco to Kenya and Tanganyika.

Table 7: TOBACCO: ACREAGE, PRODUCTION AND EXPORTS

	Acreage ('000 acres)	Production Fire-cured (Million lbs)	Production Flue-cured Cured (Million lbs)	Production Flue-cured Green (Million lbs)	Exports Quantity (million lbs)	Exports Value Sh million
1960	11	2.2				14.5
1964	11	5.1	1.3	1.1	5.5	14.1
1965	19	6.0	2.3		6.7	20.2
1966	12	3.5	2.6	0.4	5.4	13.9
1967	15	4.5	4.2	-	6.4	24.3
1968		4.0	6.1	-		

Source: Department of Agriculture.

41. Production is restricted to three areas. In West Nile it has been organized by BAT, and a high standard of production and curing has been reached. Yields have averaged about 1,300 lbs an acre of cured-leaf on about 3,600 acres. In Acholi and Lango (the area around Gulu) and, to a lesser extent, near Madi also production was organized by BAT, and it is only since 1966 that Government has promoted production under a specific program. Production now covers almost 2,000 acres. The Cooperative Department has been helping the farmers by organizing production and sales on a cooperative basis. Cooperative societies have been enabled to make loans to their members under an overall Agricultural Credit Scheme. The Forestry Department is cooperating in the establishment of firewood plantations, since expansion in the West Nile District may be affected by a shortage of wood fuel. Tobacco is also produced in Kigezi in South West Uganda, but the existence of organizational problems has hampered steady growth. The acreage has fluctuated widely, the present estimated acreage being about 480. Yields are low and, as in the Gulu area, have averaged between 400-500 lbs an acre.

Air-Cured and Fire-Cured Tobacco

42. Air-cured tobacco is grown for snuff, chewing and pipe tobacco, and hand rolled cigarettes. It is not manufactured commercially and is unlikely ever to be exported. Fire-cured tobacco is grown both for the domestic and export markets. Demand is steadily declining, however, and prospects are unlikely to improve.

Flue-cured Tobacco

43. Most Government assistance to the tobacco industry (all smallholder grown) is concentrated on flue-cured tobacco, which has a considerable export market potential, particularly in view of the Rhodesian situation. The Government feels - with some justification - that if it can gain entry into the market in the immediate future, there is every prospect that its position can be maintained or even expanded, even if Rhodesian tobacco reenters in quantity.

44. Exports of flue-cured tobacco from Uganda began in 1966 with some 50,000 lbs, rising to some 700,000 lbs in 1967 and to over 2.0 million lbs in 1968. Shortage of credit facilities and wood fuel for the curing barns is restricting expansion in output; A project for early consideration by IDA is currently being prepared.

45. There are, however, some problems that need to be tackled urgently. The main one is the high nicotine content of the tobacco from the West Nile district (currently producing 4.9 million lbs per annum out of a total of 6.1 million lbs); this is apparently acceptable for production of cigarettes for the local market (1.5 million lbs in 1968) and for exports to Kenya (2.8 million lbs in 1968), but would not be acceptable for international markets. However, present yields are high around 1,400 lbs per acre. The nicotine content of the other main production area is lower and is acceptable internationally, but yields are low (less than 500 lbs an acre). The major problems appear to be a lack of adequate organization, and management. There is some flue-cured tobacco in the Kigezi area, but physical conditions in the area make its organization difficult as indicated by wide year-by-year variations in the amount grown.

46. Although improvements in curing methods e.g. the construction of bigger barns make it possible to achieve economies in the use of firewood, the shortage of firewood could well be a limiting factor in the expansion of tobacco production in the West Nile area. Moreover, present production is supervised by staff of the British American Tobacco Company (BAT) with most of the crop being currently used by BAT for local manufacture or for export to Kenya. If production is to be expanded for export outside East Africa (which BAT are not willing to handle), then the supervisory services would have to be taken over by Government, and such a take-over is currently in progress. Salaries paid to BAT staff, however, are considerably above those that would be paid by Government, and it remains to be seen if staff could be retained in adequate numbers. One possible method by which this problem could be tackled might be to entrust Agricultural Enterprises Ltd., (a UDC subsidiary) with the responsibility for providing supervisory services. Finance would also have to be provided to cooperatives to purchase the existing buying centers and baling sheds from BAT.

47. Export marketing organization will be particularly important in the future. Even if there is not much increase in overall production during the next few years, exports beyond East Africa would have to rise, since BAT Kenya

is expected to switch to Tanzania for its supplies because of price considerations. The Government has therefore retained a tobacco marketing firm (Transcontinental) to inspect and grade all smallholder tobacco, which is then purchased by Government (through the newly created Produce Marketing Board) at prices fixed by Government at the beginning of the growing season. All the flue-cured tobacco is dried and packed by BAT in Kampala on behalf of the Produce Marketing Board. BAT purchases its needs for local consumption and export to BAT Kenya, with the remainder sold abroad by the Produce Marketing Board, using Transcontinental as its agent. Exports to BAT Kenya will eventually be handled directly by the Produce Marketing Board. These arrangements are satisfactory, but Transcontinental have been retained on a year-to-year basis only, and a better service could perhaps be obtained at a cheaper rate if Transcontinental (or another experienced tobacco sales agent) could be retained on a longer term contract.

48. BAT has been paying growers an average of about Sh 3.20 per lb of wet leaf (i.e. after curing in growers' own barns); at this price BAT can produce cigarettes for the local market at a profit. However, exports cannot be placed at these prices, since it is projected that a Mombasa FOB price of not more than Sh 4.40 per lb of dried tobacco will be forthcoming; this is equivalent to around Sh 2.30 per lb of wet tobacco for the farmer. The average price that the Produce Marketing Board can afford to pay to the farmer will therefore depend on the proportions of the crop exported. For the 1968/69 crop, it is expected that the Produce Marketing Board could meet its costs if it paid about Sh 2.85 per lb, but the Government has fixed the price at an average of about Sh 3.00 per lb. It is therefore presumed that the Produce Marketing Board will end its first year of tobacco operations with a slight deficit. Each year, the proportion of tobacco to be exported will rise, and there must be a corresponding drop in the prices paid to farmers. Even at Sh 2.30 per lb, however, tobacco growing is an attractive proposition in the West Nile district, though less so in the Gulu area. The Government is aware that it is a politically difficult task to reduce prices still further. If it wishes to increase production for export without burdening itself with subsidies, an unpopular but needed price adjustment would have to be made. Given the constraints standing in the way of increased tobacco production, output in 1971 is unlikely to exceed 15 million lbs. including about 10.5 million lbs of flue-cured tobacco. This compares with the 1966 mission's estimate of 16.5 million lbs, including 6.5 million lbs of the flue-cured variety.

D. Other Crops

49. Among other crop possibilities, there is a Chinese proposal to expand rice production. Details of this proposal were not available to the mission, but production is unlikely to be significant before 1971. The Department of Agriculture has plans for expansion of irrigated citrus production in Teso, Busoga and Lango (150 acres in each), though the phasing of this planting - and also the ones planned for Acholi and Madi - will have to be adjusted to market prospects in East Africa. The Government is currently trying to arrange a market study. Although the study is somewhat late, it will at least be helpful in planning further expansion.

50. Although there was a large Arabica coffee crop (15,800 tons) in 1967/68, this appears to have been due almost entirely to favorable weather, and hence does not promise a continuing trend in the years ahead. In fact, the Department of Agriculture forecast of 14,000 tons for the current year may be an overestimate. Progress in cocoa production had been held up pending agreement between Government Ministries as to the appropriate scale on which to proceed. Although the Planning Commission has recently agreed to a study being made by the Ministry of Agriculture, no major growth in production can be expected within the Plan Period. The output of horticultural produce could be stepped up substantially, and hence deserves close attention. In particular, the market potential has to be investigated thoroughly.

Maize and Sorghum

51. Maize is next in importance to finger millet as a food crop, and grows well under the soil and rainfall conditions of Uganda. Another important grain crop is sorghum which out-yields maize under conditions of poor soil, low rainfall and high temperature. Under proper care, both crops require less labor input and have a higher yield potential than finger millet. A series of trials to obtain information on the relative yield of the two cereals were conducted during recent years and their results have confirmed this. Sorghum grain has food value similar to that of maize. Its farm gate price is about 85% of the maize price, but production costs are usually below those of maize. Further, sorghum is widely used in Uganda in the preparation of domestic beer.

52. Research and breeding efforts are being concentrated on the evolution of improved varieties and hybrids for both cereals. Some of these new varieties have shown a satisfactory yield potential. They are also fairly well adapted to the varying ecological conditions, and are responsive to cultural improvements. The breeding work has been followed up by a modest seed production program 1/, including high yielding varieties; this program is constrained by a lack of seed processing facilities. Provided the existing bottlenecks in seed production are eliminated, it should be possible to make available by 1971 a sufficient amount of good quality seed to cover about 10,000 acres each of improved varieties of maize and sorghum, thereby creating a basis for commercial production. Farmers' response to new varieties, which have been issued recently on a limited basis, has been satisfactory.

53. The importance to Uganda of expanding the area under high yielding varieties of maize and sorghum with relatively low labor requirements is very great. The current priority given in farming decisions to subsistence agriculture, could be lessened if the farmers' efforts could be directed towards growing their food more efficiently, thus allowing them to devote more time to cash crops. On the other hand, care must be taken to ensure that overall production is not increased beyond the markets available for these crops. Should expanded markets become available, however, the planting of improved varieties would one of the easiest ways of increasing overall production of cash crops.

1/ Assisted by bilateral aid from the United Kingdom.

E. Fishing and Livestock

Fishing

54. The production of fish is ahead of the Plan target. Production amounted to 85,000 tons in 1967, and the estimated output in 1968 is about 90,000 tons. The Plan target for fish production in 1970/71 was 104,000 tons. This target is likely to be exceeded; a yield of 120,000 tons could be attained in 1971. On the basis of recent research it is thought that this yield is attainable without over-fishing.

55. Past efforts to develop fish farming on a commercial basis have not been very successful. However, the research station at Kajansi has formulated a program of applied research to investigate the cost and yield characteristics of various feeding methods used with improved strains of fish. This program, designed to provide a solid basis for commercial fish production, is endorsed by the mission.

56. One problem that deserves attention is the method of financing fishing projects. Characteristically, projects are formulated in small units applying only to a single stage of fish production or marketing, e.g. boats and fishing gear; landing facilities; icing equipment. These stages are, however, closely linked, so that advances on an uncoordinated basis will normally result in a wasteful use of capital. Thus, there is an advantage in considering several small fishing projects as a single package - at least in regard to the timing of finance. The mission commends this procedure both to the Uganda Government and aid-giving agencies.

The Beef Cattle Sector

57. The 1966 mission singled out the livestock sector as one of the most promising avenues for development. It recommended an increase in investment - compared with Plan targets for the sector - as a key element in the overall strategy of agricultural diversification. Major points identified as requiring attention were (a) animal health measures, (b) improved production practices, (c) strengthening of marketing facilities and (d) expanded government services. Some progress has been achieved in each of these areas.

Animal Health

58. There are three primary components in the animal health program. The first is reclamation of land infested with tsetse fly, the vector responsible for trypanosomiasis of cattle. This fly, which renders vast areas of Africa uninhabitable by cattle, has been successfully cleared from 11,000 square miles (7 million acres) in Uganda. The Plan proposed to clear a further 3,200 square miles in Western and Northern Uganda. A project is under way with the assistance of USAID to complete tsetse reclamation in Southern Ankole and to reclaim 800 sqaure miles. In addition, the United Kingdom has been approached for assistance with tsetse reclamation in Acholi, to create a barrier zone for the protection of ranching activity in the Aswa Valley.

59. Although noteworthy progress has been, and is being, made to control the tsetse fly, further efforts in this direction need to be phased carefully. The East African Livestock Survey expressed serious doubts about the economic justification of clearing land from tsetse in order to use it for ranching development. While this need not mean that tsetse clearing should cease, it does imply that prompt and productive follow-up action e.g. settlement, is vital. Any substantial future projects in addition to those already mentioned should be carefully appraised from an economic point of view.

60. A second component in the animal health program is the control of contagious animal diseases such as rinderpest and bovine pleuropneumonia. Efforts are being made to contain these diseases within the north and north-east regions of the country by establishing barrier zones of vaccinated cattle. The Veterinary Department is the process of obtaining five mobile vaccination units which should both speed up emergency control measures, and relieve veterinary staff. Foot-and-mouth disease, which is endemic and of lesser importance, is controlled mainly by quarantine measure; vaccination, because of its high cost, is practiced on a limited scale only.

61. Tick control is the third component in the animal health program. Building upon the successful pilot tick control program in Kyagwe county (Buganda), the Ministry is extending the program on two fronts. In four counties adjacent to Kyagwe, dipping facilities are being provided both for private operation (mainly dairy cattle) and for community control (beef cattle). Also, a project has been agreed for the installation of nearly 1,300 dips elsewhere in Uganda over a five year period. Although the overall tick control program is not as ambitious as that initially conceived and endorsed by the 1966 mission, the program is nevertheless to be commended as a sound extension of the earlier pilot efforts.

62. Tick-borne diseases, particularly east coast fever, have for years been responsible for serious losses in the traditional livestock sector, where dipping is not practiced. Veterinary authorities in Uganda have demonstrated that routine dipping of all cattle effectively prevents losses. This method is now used on all commercial ranches. More recently, plans have been formulated for a national tick eradication scheme.

Meat Production

63. The cattle population is officially estimated at 4.0 million head in 1967. Reliable offtake figures are difficult to obtain since only about 20-25 percent of the cattle pass through established markets 1/. A number of projects are under way which should add significantly to meat production in the next Plan period. The first phase of the Masaka/Ankole ranching scheme has now been completed. The Beef Producers Loan Scheme, assisted with an IDA credit, was just getting under way in early 1969. It includes provision for

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1/ One estimate for 1967, based on estimates of hide sales, is 550,000 head.

credit to large-scale Uganda Livestock Industries ranches, a co-operative ranch, as well as a large number of smaller private ranches. Also a UNDP-supported beef production project at Maruzi has been approved; it will be ancilliary to the fact-finding ranch at Aswa in Acholi.

Beef Marketing

64. Uganda Meat Packers (UMP), a subsidiary company of Uganda Development Corporation, operates a slaughtering plant at Kampala and has recently constructed an additional plant at Soroti. This latter plant is scheduled to process meat mainly for the overseas canned and cooked/frozen markets. The company has had serious difficulties in maintaining adequate supplies to its Kampala facility in recent years and has consequently suffered substantial losses. UMP recently signed a contract for the importation by air from the UK of 1,000 Hereford 20 month old heifers and 30 bulls for about US$ 850,000 equivalent, repayable in three years. This purchase, averaging US$ 850 per head, seems somewhat extravagant when top grade beef breeding cattle are obtainable in East Africa for about $ 100-150. UDC would be well advised to commission an independent study to evaluate the role played by UMP in beef cattle imports and slaughter in Uganda and to make recommendations that might improve operations and mitigate the drain on UDC's limited financial resources each year.

65. Currently underway is a study by a recently appointed Government committee on beef marketing in Uganda. Among the issues likely to be considered by this committee is (1) the establishment of a Livestock Marketing Commission which might absorb the UMP, (2) the request by an organization for monopoly powers for buying cattle, and (3) suggestions for national price controls on live cattle, mainly to reduce the cost of throughput at the Soroti meat works. At this early stage in the development of Uganda's beef cattle industry, the establishment of monopoly buying powers coupled with price controls on the purchase of live cattle, would act as a severe constraint on the orderly development of the beef industry.

66. Road, rail, and water transport facilities are sufficient for the movement of cattle into and within Uganda. East African Railways and Harbors operates two cattle boats weekly on Lake Victoria between Tanzania and Uganda. It has on order more refrigerated railway wagons, to be partially financed under Bank Loan 428-EA, to ensure minimum spoilage for future exports of Uganda's frozen meat. Ample haulage capacity exists to meet the increases in production. USAID has provided ULI with four large cattle trucks. Private commercial ranchers are served by a rapidly developing private trucking industry.

67. However, stock routes, holding and quarantine grounds, watering points, particularly for facilitating movement of cattle from the northern breeding areas to the central fattening and consuming areas, require expansion and rehabilitation. Such planning should be closely coordinated with any proposals for further investment in fattening ranches.

Agricultural Services

68. The Department of Veterinary Services of the Ministry of Animal Industry, Game, and Fisheries is responsible for carrying out all disease control measures, including veterinary diagnostic and research services. Its performance has been impressive. This department has taken the lead in developing the private ranching sector in order to make effective use of lands cleared from tsetse fly. It is also responsible for much of the research on cattle breeding, and has set up an efficiently operated artificial insemination service to livestock producers. To encourage marketing of more cattle from the traditional sector, it has replaced a number of private bargaining markets with auction rings.

69. The Ministry of Agriculture is responsible for pasture improvement and management research in which it is conducting some outstanding work at its Serere Research Station. This Ministry, together with the Department of Cooperatives of the Ministry of Marketing and Cooperatives, provides advisory services to private and cooperative producers. Assistance in the siting and construction of dams for livestock water supplies, an important need in the development of commercial ranching, is provided by the Department of Water Development of the Ministry of Mineral and Water Resources. The provision of water supply facilities is a major element in the so-called livestock Equipment Subsidy Scheme, although other items such as spray pumps, water engines and pumps, fencing wire etc., are also included. Some problems have been encountered in the timely distribution of these latter commodities.

70. Education and training facilities have been expanded recently. The University of East Africa offers a degree course in agriculture at Kampala, and in Veterinary Science at Kabete, Kenya. The Veterinary Training Institute at Entebbe conducts a two year course for the training of veterinary assistants. Outstanding students can continue for a third year leading to a diploma in animal husbandry. However, it is evident that the agricultural sector will continue to need the services of expatriate professional and technical staff for some years to come. Despite efforts to recruit Ugandans for Government services, there are more vacancies than can be filled by qualified Ugandans, particularly in the fields of education, research, planning and the management of development projects.

71. A dairy training school is being established as a section of the Veterinary Training Institute at Entebbe. This will undertake the training of dairy extension workers, mill inspection, and dairy personnel to promote better production, handling, and sanitary standards. An annual capacity of some 50 dairy students is envisaged.

72. Recently, a broad based project committee was formed under the chairmanship of the Department of Animal Industry to coordinate beef cattle development policy by bringing together a number of ministerial, parastatal and private sector representatives concerned with beef cattle. The Executive Secretary is the Project Director of the recently organized Beef Ranching Development Project financed by IDA and the local commercial banks. This committee is likely to become increasingly important to the organization and review of development policy, and future projects affecting the livestock industry.

73. Livestock credit facilities have, under the impact of new development projects, been expanded. The commercial banking system, including the Government-owned Uganda Commercial Bank, is increasingly willing to make medium-term development loans as well as the regular short term loans to established commercial ranchers. About Sh 9.4 million is likely to be available to the beef cattle sector from the commercial banks' own resources during the next 2 to 4 years.

Government Policies on Livestock Development

74. The Government recognizes the important role of livestock development in diversifying agriculture. In the beef cattle sector it plans to invest Sh 90 million in the period 1967-72 compared with Sh 40 million in 1961-66. The bulk of this investment would be expended on clearing further areas from tsetse fly, controlling tick-borne diseases, and expanding quasi-government and commercial ranching. The remainder would be used for improving stock routes and marketing facilities, research on pasture improvement, and the further development of on-ranch water supplies.

75. Beef producers' prices are free from government control and there are no taxes or quotas on the export of meat. A levy is made on the export of hides and skins which in 1965 amounted to 4 percent of their export value. Municipal governments charge market fees of Sh 4 to Sh 10 per head. Imports of virtually all agricultural inputs are free from duty.

Prospects for Beef Ranching

76. In ranching, little attention to date has been given to starting up strategically located fattening ranches to help supply the 100,000 head per annum that the Soroti meat plant can slaughter annually. Uganda Meat Packers has regained its 38,000 acre ranch at Nariam (North East Uganda), and Uganda Livestock Industries is organizing a 40,000 acre ranch at Pager (near Gulu). The organization and planning of appropriately sited additional fattening ranches should be given high priority by Uganda Livestock Industries. These should be sited insofar as possible in northern and north eastern Uganda between the principal pastoral breeding areas and the slaughter facility at Soroti. The siting of such ranches would need to be carefully coordinated into a revamped and expanded system of stock routes, holding grounds and quarantine points. Complementary to such a program would be the establishment of a grid of watering points throughout the pastoral cattle areas, especially in Karamoja. If carefully sited and managed, such a grid of watering points could help to reduce over-grazing near existing water points, and to increase the numbers of surviving male cattle which might be purchased for fattening on ranches south of Karamoja.

77. The most critical short term project required is the marketing study for live cattle and beef referred to earlier. As previously mentioned, Government is completing an overall marketing study. However, it is recommended that a second more technically and financially orientated study be commissioned to review the operations of the Uganda Meat Packers at Kampala and Soroti and to make suggestions to the UDC, Government and the company for improvements.

78. Overall, the Government of Uganda has established a sound program to intensify its efforts for developing its beef cattle industry. The Government has channelled its main effort into disease control (rinderpest, pleuropneumonia, tsetse fly control, and establishing parastatal (Uganda Livestock Industries) and private (both cooperative and individually owned) commercial ranching schemes. The latter schemes have been supported by USAID and IDA. In both areas of disease control and ranching there is scope for further efforts and for somewhat expanding the scope of present programs. Carefully managed tick control schemes have considerable economic merit. Government has applied to the UNDP for assistance in this field as a follow-up to the USAID supported pilot project in Central Uganda.

The Dairy Sector

79. The official estimate of European-type dairy cattle in Uganda in 1967 is 8,500. Most of these have been imported from Kenya. During both 1966 and 1967 about 1,000 head were brought in from Kenya. Since Kenya is experiencing a growing shortage of dairy cows, it may not be possible to import on this scale from Kenya in the future. During 1967 Uganda imported 300 Friesian and Jersey cattle direct from the United Kingdom and Canada. However, in view of the great expense of operations of this type, a dramatic expansion of cattle numbers cannot be achieved in this way.

80. The current structure of dairy farming is predominantly small-scale. In Buganda there are some 16 farms with 100-500 head each; 20 with 40-100 head of cattle; 50 with less than 30 head each; and 200 with under 10 head. Efficient breeding cannot be carried out on small-scale, usually mixed farms. The Department of Animal Industry maintains a Friesian herd at Entebbe, a Jersey herd at Nakyesasa, and the dairy cattle imported from the U.K. at the Mbarara stock farm in Ankole. A dairy young stock rearing farm is to be established to receive the offspring produced on these stations. The young stock will be reared until they reach production age and then will be sold to private farmers. In addition, the Department of Agriculture maintains five dairy herds at various stations.

81. Since only about 5 percent of milk output in Uganda is marketed for consumption in rural areas, production figures are very uncertain. The 1966 mission estimated total output in 1966 at 56 million gallons; The estimated output in 1969 is over 90 million gallons. Despite this, considerable quantities of whole milk and other dairy products have had to be imported from Kenya. Between 1964 and 1968 Uganda imported between 8,000 and 10,000 gallons of milk a day. Imports were, however, greatly reduced in early 1969.

82. The major constraints on expanded dairy production have been a shortage of improved dairy animals, a low level of farm management and tick-borne disease. The measures taken to control tick-borne diseases have already been mentioned (para 61). Several steps have also been taken to ease the other two constraints.

Improvement of Diary Stock

83. Experiments carried out over a number of years have shown that only limited improvements in yield can be achieved through selective breeding of

indigenous Nanda cattle. For this reason a major focus of the dairy program has been an attempt to increase the numbers of improved dairy cows. This can be done in three basic ways. Numbers can be multiplied directly through breeding from existing stock. Alternatively, local cattle can be upgraded either through cross-breeding or through artificial insemination. Finally, improved stock may be imported directly. At present all three methods are being used.

84. The mission feels that priority should be given to upgrading local cattle, since this method is both considerably less expensive and capable of supporting a more broadly based program. Government is in the process of establishing a dairy cross-breeding ranch in Ankole. The ranch is to be stocked with 3,000 selected indigenous cows and, at full development, will produce 1,000 cross-bred dairy heifers annually. Also the artificial insemination service is to be expanded to service a minimum of 40,000 cows annually.

85. The principal criticism of these methods is that they are slow. It would require many years to obtain significant increases in milk yields. There may therefore be some scope for short-term measures to meet a gap in production in the near future. However, these measures should be carefully appraised in terms of their costs and benefits. If breeding of pure-bred stock can only be successfully pursued under the top-level management available at Government research stations, then the cost to the economy of following this method should include the loss of research results which might otherwise be available in the near future. If, on the other hand, exotic cattle are to be raised under less optimal management conditions, then the benefits must be scaled down to the level which can reasonably be expected. In this connection it may be noted that a sample survey of dairy farms in Busoga, East and West Mengo districts showed mean yields per cow of less than 30 gallons per month on farms with fewer than 30 cows.

Improved Farm Management

86. The scope for improved yields per cow through better feeding and management is great. Better dairy cow nutrition depends critically upon improved pasture production and utilization. The work being done in this field by the Serere Research Station has been mentioned; experiments are also being performed at Nakyesasa and other stations. Trials are under way to measure the returns to concentrate supplements as well, although as yet no firm basis for extension service recommendations has been established. Priority should be given to these research activities and renewed efforts should be made to coordinate the work of the Ministry of Agriculture and Forestry and the Ministry of Animal Industry, Game and Fisheries, particularly in regard to small-scale mixed farming.

87. Effective dissemination of research results of course requires a competent extension service. The dairy training school which is being established as a section of the Veterinary Training Institute at Entebbe, will undertake the training of dairy extension workers.

88. A Dairy farmers Loan Scheme exists to provide credit to some 300 existing private dairy farms and an equal number of new dairy units. This

project is somewhat smaller than that envisaged in the Plan. As the constraints on imroved cattle and skilled farm management are eased in the future, it should be feasible to expand the program further.

Milk Marketing

89. Milk production has now reached a point where many farmers who are able to sell their morning milk on a local round, are unable to dispose of the evening milk and cannot afford their own cooling facilities to hold milk overnight. The extra volume of milk that is available from this source may produce a surplus. The Ministry of Animal Industry, Game and Fisheries is establishing and operating collecting centers at strategic sites to provide a regular marketing outlet. In due course, they may be handed over to local milk producers' cooperative societies. Four collecting centers at a distance of 30 to 40 miles from Kampala were opened in 1966, together with a farm tank cooler at one other locality. Eight further centers are planned. These centers will include a high standard building, housing an electrically-operated bulk cooling tank from which milk will be collected twice weekly by tanker vehicle and taken to the main processing depot in Kampala.

90. The marketing of milk is now the responsibility of the Dairy Industry Corporation. Early in 1969 the Corporation took over the Kampala processing plant of the Uganda Milk Processing Company. The plant is capable of handling 2,500 gallons of whole milk in a 6-hour shift. A contract has been signed for the construction of a new milk processing plant with a maximum throughout of 15,000 gallons per 5 hour shift. Construction is expected to be completed in 1970. On May 1, 1966, the Dairy Industry Corporation also assumed responsibility for the distribution of all fresh milk in Kampala.

91. In the last two years, a privately-owned pasteurization plant has been in operation in the Kamuli area of Busoga, handling some 600 gallons a day, mainly derived from local cattle, collected by vans. Two cooperative milk marketing organizations were formed in 1964 in Fort Portal and in Masaka, where the cooperative operates a pasteurizing plant. Milk collection services, handling varied volumes of milk, exist in several other townships in Uganda, the best organized being the Mbale area.

92. The Uganda Government has established a Dairy Board to advise on all matters affecting the industry; to coordinate the efforts of producers and distributors; and generally to promote, organize and regulate the production and distribution of milk.

Prospects for Dairying

93. The prospects for development of the dairy industry in Uganda are excellent. The lake-shore zone is highly fertile with well distributed rainfall and, with control of tick-borne diseases, it is possible to keep European breeds of dairy cattle throughout this zone. A properly established dairy farm, well planned from conception and given the necessary high standard of management, should be profitable under the existing price structure and would be an attractive area for individual investment.

94. The long-term aims are to improve dairy husbandry and milk handling practices, to create an assured outlet for milk production, and to increase actual production of milk. The initial stage of development is seen as the provision of an adequate milk supply to Kampala and environs at prices fair to the consumer, while ensuring economic viability of the dairy farms. FAO has provided technical guidance and will continue to do so, while UNICEF is providing milk reception and cooling equipment for 12 rural centers and one farm cooler and water piping and pumps for these centers. In addition, they will provide 6 vehicles for transporting milk. Since they are concerned with children's welfare, a certain proportion of the milk supply will be diverted for free distribution to needy women and children. These various aspects of assistance will enable these schemes to become a reality.

F. Agricultural Trade

Exports

95. Since 1966, Uganda's agricultural exports have shown only a modest growth. Table 9 shows the results to date as compared to the targets which the 1966 mission considered feasible.

Table 9: VALUE AND QUANTITY OF AGRICULTURAL EXPORTS

		1966		1967		1968	Proj.b/ 1971	
Product	Unit	Volume	Value	Volume	Value	Value	Volume	Value
			(Value in Sh million)					
Coffee	000 tons	164.7	696	157.0	692	702	166	714
Cotton	000 bales	384	307	397	303	295	430	268
Tea	mil. lb	19.5	63	20.5	70	75	28.5	86
Sugar	000 tons	4.9	4	32.6	28		66	56
Tobacco	000 tons	2.4	14	2.8	24		5.9	24
Cotton seed oil	000 tons	5.4	14	7.6	18		12	28
Oil seeds, ground-nuts, etc.	000 tons	13.5	14	9.9	12		50	68
Meat	000 tons	1.2	6	.9	.4			20
Hides and skins	000 tons	4.0	36	3.3	26	16a/		26
Animal feed stuffs	000 tons	93.0	48	95.7	48	30a/	120	56
TOTAL			1,202		1,226			1,346

a/ For first ten months, exports outside East Africa.

b/ From the 1966 Mission report, Table 7. Values in 1971 prices. The sharp drop forecast in unit value for tobacco exports now appears excessively pessimistic. Exports should average about Sh 4.20 per lb f.o.b. Mombasa.

Imports

96. Over two-thirds of Uganda's agricultural imports in recent years have been accounted for by three products: milk and milk products, wheat, and rice. A program has been formulated to expand milk production as rapidly as possible, consistent with the number of high-yielding dairy stock and qualified manpower available. A pilot scheme for irrigated rice production has been completed, and Government is considering plans for a larger scale project. Thus, some scope exists for substitution of agricultural imports.

Table 10: VALUE OF AGRICULTURAL IMPORTS
(Sh million)

Product	1965	1966	1967
Milk and Milk Products	29.3	27.1	26.4
Meat, Meat Products and Live Cattle	4.3	4.7	5.1
Wheat; Millet	18.2	16.9	16.5
Rice	12.2	10.8	12.9
Fruits and Vegetables	4.2	5.6	7.0
Oils and Coconuts	5.6	2.4	1.8
Other	8.5	13.9	3.0
TOTAL	83.3	81.5	72.6

G. Assessment of Food Supply

97. A statistical analysis of the food position in Uganda is complicated by the fact that most of the food is produced on small farms; only very rough estimates can be made of the output of these farms. Nevertheless, this aspect merits closer attention in view of its importance for future planning and policy formulation.

98. Although recent statistical data concerning food supply and its breakdown by calories, and protein and fat content are not available, figures compiled by FAO a few years ago showed that, in comparison with a number of African countries, the per caput availability of starchy foods and cereals (calories) is not poor in Uganda, but that the supply of "body building" foods (proteins, fats) is definitely on the low side. There is no evidence that any significant improvement has taken place in this respect, in recent years. A poor supply of meat, eggs and milk is only partly made good by relatively high supplies of fish and pulses.

99. If the fragmentary and sometimes contradictory evidence available on acreage and yields per acre supports any conclusion, it is that the trends in food crop production may have reinforced this dietary imbalance in recent years. Table 11 shows that production of starchy roots increased over the same period by 77 percent, but that of seeds containing proteins and fats only by 11 percent. If these figures are related to the assumed increase in population over the period of about 33 percent, it seems obvious that, whereas total quantity of vegetable foods increased at least at the same rate as population, the composition of the diet may have deteriorated because of the lag in production of beans and oilseeds. Exports and imports of vegetable foods are small and they do not have a significant effect on the situation.

Table 11: FAO STATISTICS ON FOODCROP PRODUCTION IN UGANDA (1000 metric tons)

Production	Average 1952-56	1962	1963	1964	1965	1966	Index 1952-56=100
Maize	176	190	176	220	300	270	
Millet	376	430	430	430	425	430	
Sorghum	192	235	237	250	245	250	
All Cereals a/	746	857	844	902	972	952	128
Sweet Potatoes and Yams	1,060	1,270	1,190	1,450	1,600	1,500	
Cassava	359	990	1,088	820	982	1,000	
	1,419	2,260	2,278	2,270	2,582	2,500	177
Dry Beans b/	82	110	110	150	160	140	
Groundnuts	166	163	163	163	163	163	
Sesame	303	284	305	305	305	305	
	551	565	578	618	628	608	111

a/ Includes cereals not mentioned above.

b/ Figures about some pulses grown in small quantities have not been included; their inclusion would not change the picture.

Source: FAO Production Yearbook 1967.

100. While it is difficult to arrive at a clear picture of the foodcrop situation of Uganda, it is even more difficult to analyse the situation with respect to meat supply. The reason again is the lack of adequate statistics. It is very likely that the intake of animal products is low, resulting in a poor intake of proteins and fats. In view of the time-lags involved in increasing the output of animal products, remedial measures can only be implemented over a number of years.

101. A review of the food situation as a whole leads to the following conclusions:

(a) the supply of grains and starchy foods seems adequate, and production has kept up with the increase in population;

(b) the production of crops with a high protein or fat content has not increased pro rata with the increase in population;

(c) the consumption of animal foods is very low; whether the increase in population is outstripping the production of meat is not clear; the production of milk is increasing rapidly, but large imports are still necessary to satisfy demand;

(d) subject to the exigencies both of the domestic and export markets, Government policy should be directed towards:

(1) increasing yields of cereals and starchy root crops; and

(2) increasing area and yields of pulses and oilseed crops.

H. Organizational Changes

102. Since the inception of the Second Five-Year Plan, there have been a number of organizational changes affecting agricultural production and marketing. On the production side, steps have been taken to improve the operational efficiency of the Tractor Hire Service, and to strengthen the coordination between agricultural extension work and research. In regard to marketing, the Produce Marketing Board was established. This institution will be discussed later.

Tractor Hire Service

103. The Tractor Hire Service, which is operated by the Special Development Section of the Department of Agriculture, had in 1965 a fleet of about 400 tractors. This has been built up to about 900 tractors in 1967. In the Second Five-Year Plan it was envisaged that 250 tractors would be imported each year, so as to have by 1971 a total of some 1,800 tractors. However, it became more and more clear that THS was operating at a substantial loss, and the Government decided in August 1967 to charge a departmental group with the task of reviewing the operations of the Service in order to increase its efficiency and reduce losses.

104. The review showed that the utilization rate of the tractors was extremely low. It ranged from 230-500 revenue earnings hours per year (REHY), as compared with 1,000-1,200 REHY required for economic operation. Because of the scattered nature of the holdings, much time was spent in moving vehicles from one job to the next, and hence the REHY amounted during 1962-67, to only 69 percent of total running hours. Losses of THS were estimated to be Sh 3.1 million in 1965 and Sh 2.8 million in 1966.

Table 12: TRACTOR HOUR COSTS, 1967 (Sh)

	Per Revenue Earning Hour	Per Tractor Hour
Total Costs	63.55	40.50
Revenue	23.70	15.31
Subsidy (Loss)	39.85	25.20

Source: Tractor Hire Service

105. The Government has accepted the conclusions and recommendations of the departmental review. For the future, it has been decided to take action on three broad fronts - cost reduction, increase of work load, levy of economic charges for tractor work - in order to curtail losses in the operation of THS.

106. A reduction in operating costs is to be effected by:

(a) Improving supervision of field work, and making efforts to reduce accidents, specially by forbidding driving of tractors at night.

(b) Extending the straight depreciation period to 7 years, which is justified for tractors that are constantly underused.

(c) Economizing on overhauling the tractors by concentrating tractors of one make in one region, decentralizing the stocking of spare parts, and contracting with tractor manufacturers for the stocking of spare parts.

(d) Economizing on staff in slack periods.

107. An increase in revenue earning hours is to be achieved by working more closely with extension officers, promoting bush clearing work in off-seasons, and by costing work performed for Government institutions like prison farms and training centers.

108. Efforts to increase the work load of tractors, may, however, conflict with the decision to charge economic rates for tractor work. It is not inconceivable that, in the absence of an element of subsidy, the demand for tractor services may actually decrease.

109. The question of reorganizing THS into a parastatal corporation (possibly under UDC) is still under consideration. It is likely that the Government will want to observe the result of the above listed measures, before taking a decision on any further reorganization. In the meantime, it has decided not to go ahead with the planned purchase of tractors, except when the need for them is clearly established.

Links Between Extension and Research

110. The two principal centres of agricultural research in Uganda are at Kawanda (Northwest of Kampala) and at Serere (for the drier Northern zone). Veterinary research is concentrated at the station at Entebbe, where the Fisheries research station is also located. The Cotton Research Station at Namulonge which belongs to the Cotton Research Corporation (formerly the Empire Cotton Growing Corporation) is to be taken over by the Government in 1971. Research in the field of agricultural economics is undertaken at the Faculty of Agriculture of Makerere University College and also within the Ministry of Agriculture.

111. The basic work done at the research centers is supplemented by practical work at 13 Experimental Farms distributed in various parts of Uganda. In addition, there are over 50 Variety Trial Centers, distributed in all regions of the country, at which new strains are tested under field conditions. Work at many of these centers is concentrated on single crops such as cotton or coffee.

112. In general, the physical facilities for research would appear to be adequate. There has, however, been some loss of senior research personnel - mainly expatriates - and it has not been possible to fill these positions with equally experienced persons. In one or two cases, the departure of key individuals might result in serious dislocation of research, particularly in fields where continuity of research work is important. There are instances where funds available are not adequate to support research on an adequate scale and to maintain its quality. Some improvement is also needed in the liaison between researchers and extension staff.

2. SUPPORTING GOVERNMENT PROGRAMS

113. If the targets for higher and more diversified production during the remainder of the Plan period are to be realized, a wide range of supporting government programs and associated technical inputs will be required. The 1966 mission examined in detail a number of important programs and policies. Most of the conclusions and recommendations of the mission still remain valid,

and hence the present mission has not found it necessary to cover this ground comprehensively again. On the other hand, it is useful to reexamine some aspects, in view of their importance for present and future development of Uganda's agriculture.

A. Extension Services

114. The 1966 mission noted that, following the conversion in 1961 of the agricultural institutes at Bukalasa and Arapai into colleges for training diplomates who would qualify for positions as "Assistant Agricultural Officers" (AAO's), there had been a substantial increase in the number of AAO's, but that the output of "Agricultural Assistants" (AA's) who were previously trained in the institutes had gone down. The mission also expressed some doubt about the justification for increasing the output of AAO's, on financial grounds (since the average cost of an AAO was almost Sh 20,000 a year), and also on the ground that an efficient extension service depended as much on AA's, the output of which would decrease. It is the Government's view that each county should have an AAO and that, as output expands, an AAO would be put in charge of each sub-country. The demand for AAO's from the parastatal organizations also appears to be on the increase. Hence the Government does not propose to slow down the training of AAO's. However, it has taken a decision to reassign the facility at Arapai for certificate level training for AA's.

115. The mission agrees with the Government that the quality of officials at the local level must remain high to enable them to function efficiently. It is important, however, that AAO's maintain close contact with the farmers to keep up the effectiveness of the extension service. If they have too many routine administrative duties, the farmers may be unable to take advantage of their training. Hence thery is a need for some reorientation in the work of AAO's. Equally important is the increase in the output of AA's, since they are strategically located in relation to the influence they can bring to bear on the practices of farmers.

116. The financial implications of paying emoluments to AAO's at the present rate need to be reviewed carefully. In particular, it would be useful to examine the position concerning the planned expansion in the output of AAO's in the light of the increasing output of agricultural graduates from Makerere University College. At present, starting salaries for Diplomates are twice as high as those for Certificate holders, while those of the latter are again twice as high as those of field assistants. In order to make agriculture an attractive career to school-leavers, the Government has recently increased the salaries payable to Certificate holders. This move should make a significant contribution towards improving the quality of the service by helping to retain able personnel.

117. In Uganda where ownership of land is widespread among officials, there may be some merit in offering long-term contracts (of 10-12 years) to AAO's and AA's with a provision for renewal by a further period (5-6 years). The advantage of the contract system is that it would facilitate entry into the ranks of practicing agriculturists of qualified and experienced people, who could

make an important contribution towards improving the performance of the agricultural sector. At the same time, it would attract younger people into the services, and provide them with the opportunity of starting a career as agricultural officials, and following it up with a career in farming.

B. In-Service Training

118. Agricultural education offered in the Diploma and Certificate courses generally tended to be mainly of a theoretical type. After independence, Uganda brought in experts from the United States and Israel to set up a more practical program of in-service training. With their assistance, a series of courses have been organised for the benefit of agricultural officials. Apart from general in-service training, an attempt has also been made to provide training for specific crops or specific agricultural activities. The Uganda Tea Growers Corporation has been providing in-service training of this kind. Some training has also been provided in mechanization.

119. A few short in-service courses have been given at some of the District Farm Institutes. Although these institutes have been set up to train farmers and not officials, there are advantages in using them for in-service training, since these institutes do serve as focal points for activities designed to improve agriculture. The District Farm Institutes have served as the in-service training ground for cooperative officers, community development officers, chiefs and officials of the Department of Agriculture. Opportunites for increasing in-service training would be expanded if the proposed increase in the number of District Farm Institutes takes place; finance for six institutes has been arranged, but is needed for five more. A school for agricultural mechanization is under construction and is financed by the USSR.

120. Besides facilities for in-service training within the country, officials have been sent to U.S.A., India, Australia and UAR for training. In 1968, the in-service training program comprised 21 one-week courses (600 participants) and one two-week course at Bukalasa for 30 participants. In-service training courses geared to tractor maintenance, ox cultivation and special crops have also been offered. The effectiveness of veterinary field officers would be enhanced if the proposed special unit for training in extension methods is established at the Veterinary Institute.

121. The steps so far taken in providing in-service training have been useful. However, the program needs to be expanded considerably, so as to enable officials to stimulate interest among farmers in diversifying agricultural output, which is one of the important objectives of the Plan. It is also important that in-service training improve the ability of officials to advise farmers on farm management problems.

C. Labor Saving Methods

122. In Uganda, where the bulk of the crops are produced by manual labor using simple tools, further expansion and diversification of output are often hampered by the shortage of labor at certain critical times during the crop

year. This is normally the case during the seasons of land preparation, planting, and harvesting. If there is competition between subsistence foodcrops and cash crops for available labor, priority is given by peasants, as a rule, to foodcrops in order to safeguard their subsistence.

123. Recent investigations have shown that several labor-saving methods can now be recommended to the farmers. Among these is the increased use of ox teams for land preparation. Studies recording the number of man-hours required per acre have shown that the use of a pair of oxen reduces this number to a fraction (one-third or even one-tenth) of that necessary for hand cultivation using the traditional hoe. In most areas oxen can be fed on natural grazing land and some farm by-products, so that the cost of keeping them would be low. If, therefore, satisfactory arrangements can be made for training oxen, and for providing credit on reasonable terms to cover the capital cost of purchase, there should be substantial scope for introducing this technique. This is particularly true on smaller traditional farms. Attention is now being devoted to the task of promoting ox cultivation. This program would appear to merit a high priority.

124. Among the other labor-saving methods that are being introduced are the use of a boom sprayer for cotton, bush clearing equipment, tree pluckers, harvesting and threshing equipment for finger millets, cotton planters, and chemical weed control. If improvements are achieved in the operation of the tractor services, this could also make a substantial contribution towards conserving labor, particularly at times when the pressure on labor supply is acute.

D. Fertilizers

125. Fertilizer consumption is low, and restricted to a few cash crops, mainly sugar, tobacco, tea, and arabica coffee. A programme of fertilizer trails on farmers' fields was started in 1963 for cotton, maize, groundnuts, finger millet, and wheat. From 1963 to 1968, 2,929 trials were completed with cotton, 414 with maize, 965 with groundnuts, 543 with finger millets and 89 with wheat, making a total of 4,940 trials. The detailed analysis of the results has not been completed. The trials included applications of nitrogen and phosphate fertilizer at varying levels.

126. On average, incremental yields due to fertilizer dressing were low, and net returns to farmers not very encouraging. This is not surprising, brcause cotton is always planted on rested land, followed by cereals; and the nutrient levels, accumulated during the usual 3 to 4 year rest period, seem to be sufficient to satisfy the nutrient demand of presently grown crop varieties. Somewhat better response was obtained with groundnuts, which usually is the closing crop before the land is left for another rest period.

127. However, the trials indicated certain nutrient deficiency zones, where fertilizer response was somewhat higher. These zones are mainly in areas with a high population density, where land rest periods are apparently shorter than elsewhere, and more extended cropping periods diminish nutrient reserves faster. Future fertilizer promotion should concentrate on these areas and on groundnuts.

E. Irrigation

128. A number of pilot irrigation projects are either being implemented or are under active consideration. There has so far not been any conclusive evidence that irrigation could have a major impact under Ugandan soil and climatic conditions, except perhaps for citrus and a few other high value crops. The UNDP-financed Mubuku project has been extended twice, but its future is uncertain. As against an anticipated number of 100 settlers, there were only 43 settlers in the early part of 1969. A thorough assessment of the project, including recommendations for future action, is to be undertaken by FAO, the Executing Agency for the project. In the meantime, the Government has itself embarked upon a high-level review of the project. A major policy decision concerning Mubuku should, however, await the technical study by FAO, since it is expected to be completed within a short time.

129. Two of the five pilot schemes included in the Second Plan (Labori and Atera) are being implemented with British assistance. It is, however, too early to draw any conclusions concerning them. It is not clear at this time whether the other three schemes will be implemented.

130. A Chinese team has submitted a report on irrigated rice production to the Government. It recommends a project in Busoga, costing Sh 10 million. The Chinese may be willing to provide the bulk of the needed assistance.

131. Irrigated citrus production has already started in Busoga where a hundred and fifty acres have been planted. A start has been made on a further 150 acres in Teso. In Lango, land has been cleared for planting 100 acres, while proposals are under review for planting 50 acres in each Acholi and Madi. Although the impact of irrigation on citrus production could be quite significant, the continued expansion of irrigated acreage may be limited by marketing problems. The main contribution of irrigation is likely to be in rice and, to a lesser extent, sugarcane and cotton.

F. Produce Marketing Board

132. A Produce Marketing Board (PMB) was set up in 1968 as a semi-autonomous body responsible to the Minister for Agriculture. The PMB is now under the jurisdiction of the Ministry of Marketing and Cooperatives which was established at the end of 1968. The PMB's first task was to take over the marketing of tobacco, and apparently the take-over has been smooth. Staffing limitations precluded the assumption by the PMB of responsibility for marketing other crops in 1968, but arrangements are now in hand to enlarge its activities.

133. Since the marketing of the major crops - coffee and cotton - is handled by the respective Marketing Boards, and since tea is handled by UTGC, the most important cash crop handled by the PMB is tobacco. The PMB also has the responsibility for marketing minor crops such as groundnuts, maize, sorghum and millet. There are difficulties associated with the expansion of markets for all these items and the PMB should proceed rather cautiously in assuming responsibility for marketing new crops. Although there would appear to be possibilities for higher sales both in the local and export markets, this would

require systematic market studies and promotional activity. The PMB would require technical assistance to determine the methods by which, and the pace at which, it should assume responsibility for marketing crops.

134. In the coming months, the PMB may be under pressure to handle more crops and, in particular, to buy crops at guaranteed prices. It is essential that the PMB should be insulated against pressures to act too rapidly and on too broad a front. If the prices of some crops are fixed too high, the farmers may produce a volume of output too large to be sold or stored, as previous experience in Uganda has shown.

135. One of the major problems facing the PMB is pricing. The Government fixes minimum prices for certain crops, and this makes it illegal to trade in these crops at lower prices. However, the Government does not itself buy crops at these prices. The net result is often the opposite of what is intended. If the market can stand higher than "minimum" prices, some buyers dupe the farmers into accepting the so-called "Government authorized price". If the market cannot stand the "minimum" prices, the more honest traders are unable to trade; but the unscrupulous try to buy at the lower prices that farmers are prepared to accept under such conditions. In some cases, the prices that farmers receive for products with an export potential (e.g. groundnuts and maize), are too high to enable them to compete abroad without Government subsidy. Groundnuts is a crop with a significant potential market, and hence the PMB should institute the necessary investigation as a matter of high priority. 1/

136. Storage capacity may become a limiting factor in the marketing of minor crops. Although some studies have been made of existing storage capacity, it is not clear where and how much additional capacity will be needed. A request for assistance to establish a storage and produce quality unit under the PMB has been prepared with the assistance of an FAO expert, and the Government proposes to submit the project to UNDP. In the expectation of taking over the marketing of more crops from the Cooperatives, the PMB proposes to build six additional storage centers. It is also considering establishing Primary Buying Centers to be used by Cooperatives when collecing produce from the villages.

137. Some storage facilities have recently been provided by USAID to eight District Cooperative Unions. There is some doubt whether the Unions can make full use of these facilities, since their present financial situation makes it difficult for them to play a key role in marketing crops. The use of facilities of redundant ginneries for storage is also a possibility.

G. Public Lands Act

138. The Uganda Parliament passed the Public Land Act in February 1969. The Act gives legal recognition to the long term rights of land users to a

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1/ At present only groundnuts suitable for the confectionary trade can be exported without subsidy at prices ruling within Uganda. But the market is quite small, and the farmer would receive little more for these grades than for non-confectionary varieties.

specific plot of land. While this is not a drastic departure from present practices, it eliminates legal problems inhibiting land development. It also facilitates - inter alia - the issue of development loans, and encourages the execution of land improvement works. The Act also imposes an upper limit to the acreage to which a person can have title. In general, the limit would be 500 acres but, for special types of agricultural enterprises e.g. ranches, larger areas could be permitted. The execution of the Act is the responsibility of the Land Commission.

3. AGRICULTURAL PLANNING: PROJECT PREPARATION AND IMPLEMENTATION

A. Project Preparation

139. Uganda is basically a country of settled peasant farms, based mainly on rainfed cultivation. No spectacular transformation can be expected in the absence of major programs of settlement or resettlement, and large scale land development projects (irrigation, opening of new areas to transport). The development of agriculture in a country like Uganda must depend on widespread introduction of improved techniques or inputs of a rather simple character. This requires a smoothly-run planning organization, capable of undertaking project preparation and follow-up action. Uganda has not yet been able to establish such an organization. The difficulties which beset project preparation are: (a) lack of relevant information, (b) shortage of staff, and (c) organizational problems.

140. Various instances have been given in earlier sections of this report of the uncertain statistical data with which agricultural planners in Uganda are confronted. Data will gradually become more accurate when further results of the ongoing Census of Agriculture become available. However, a great deal of non-statistical information is also lacking, such as the reaction of farmers to changes in prices, and their responsiveness to newer techniques and inputs.

141. These weaknesses can only be remedied by sustained effort spread over a number of years. An improvement of the factual basis for planning and project preparation could, however, be achieved, if the responsible officers were to establish closer contact with research units (including the Faculty of Agriculture at Makerere College) and business organizations, in order to collect relevant information on costs, performance, yields, staff requirements, etc. Some progress has recently become evident in this regard. In cooperation with the Faculty of Agriculture at Makerere Univeristy College, the Ministry of Agriculture has brought out a Farm Management Handbook, and closer contact is developing among research personnel in the Government and the University college.

142. In order to undertake the formulation of projects and to ensure their efficient implementation, it is necessary to augment the staff of the ministries concerned. The planning unit of the Ministry of Agriculture has an establishment of ten posts, and eight of these have now been filled. In

view of the considerable delay in filling these posts, the preparation of projects has been slow. The Ministry of Animal Industry has no proper planning unit. All three Ministries concerned with agriculture could make of additional experienced staff, perhaps provided under technical assistance arrangements. If foreign personnel are made use of, it is most important for them to be able to train local counterparts to replace them when they leave. In the short-run, it might also be advantageous to use the services of consultants, who are locally available, particularly for preparing feasibility studies.

B. Follow-up on Planning and Projects

143. Tables 13 and 14 compare development expenditures as projected in the Second Five-Year Plan with the adjusted figures suggested by the 1966 mission, and with the Budget Estimates for 1967/68 and 1968/69.

Table 13: UGANDA: CENTRAL GOVERNMENT DEVELOPMENT EXPENDITURES ON AGRICULTURE (Sh million)

Subject	2nd Five Year Plan	1966 Mission Estimate	One-fifth of Mission Estimate	Estimate for 67/68	Estimate for 68/69
Cotton	34.0	33.2	6.6	2.1	6.8
Coffee	44.0	30.0	5.0	0.4	0.8
Tea	18.2	38.8	7.8	-	1.0
Sugar	80.0	18.0	3.6	neg.	1.0
Groundnuts	14.0	14.8	3.0	1.0	0.9
Tobacco	9.2	13.8	2.8	3.4	0.4
Cocoa	6.0	-	-	-	0.3
Sisal	4.0	-	-	-	-
Citrus	3.0	-	-	1.6	0.2
Forestry	5.6	5.6	1.1	1.2	1.6
Group Farms	85.8	92.8	18.6	3.1	5.8
Tractor Hire Service	30.0	12.0	2.4	16.3	17.2
Education	26.4	22.4	5.5	4.8	1.6
School for Ag. Mechanics	-	-	-	-	2.0
Credit	24.0	-	-	-	-
Extension Service	3.4	28.6	5.7	-	-
Seed Multiplication	0.2	8.6	1.7	-	2.0
Marketing Board	-	20.0	4.0	0.4	0.9
Irrigation	-	-	-	1.4	1.3
Variety Trials	-	-	-	.2	0.2
Cattle Improvement Scheme	-	-	-	.1	0.1
Goat Improvement Scheme	-	-	-	neg.	-

Source: First three columns, Annex on Agriculture of "Prospects for Economic Development in East Africa", Vol. IV Uganda: For other columns, Estimates of Development Expenditures 1967/68 and 1968/69, Uganda Government.

Table 14: UGANDA: CENTRAL GOVERNMENT DEVELOPMENT EXPENDITURES ON ANIMAL INDUSTRY (Sh million)

Subject	2nd Five Year Plan	Mission Estimate	One-fifth of Mission Estimate	Estimate for 67/68	Estimate for 68/69
Veterinary School	-	1.2	0.24	-	-
Dairy and Dairy Schemes	46.0	7.6	1.5	0.3	4.5
Meat and Ranches	34.0	10.0	2.0	4.2	1.8
Markets	-	12.0	2.4	Neg.	-
Quarantines, etc.	-	2.8	0.6	0.1	0.1
Tsetse Control	-	25.6	5.1	4.7	8.1
Tick Control	-	130.0	26.0	0.1	2.3
Other Disease Control	-	3.4	0.7	0.4	1.3
Hides and Skins	-	2.2	0.4	-	-

Source: Same as for Table 13.

144. However, this comparison has only a limited value; firstly, the subject headings do not necessarily cover the same items, and secondly, the expenditure in any one Plan-year does not necessarily amount to one-fifth of the amount proposed for the Five-Year Plan. Some projects will be executed mainly in the first years of the Plan, while others may come up for execution towards the end of the Plan. Nevertheless, the two tables reveal some interesting changes in emphasis in expenditure for agricultural development.

145. Table 13 on "Agriculture" shows that:

(a) development expenditure estimates for cotton relate only to the spraying subsidy scheme. Cotton production may, however, also benefit from some of the more general schemes, such as seed multiplication, variety trials and the Tractor Hire Service;

(b) estimates of expenditure for coffee, tea, sugar, and groundnuts, are all far below the level of one-fifth of planned expenditure; considerable sums have, however, been allocated to tobacco and citrus;

(c) estimates for forestry are somewhat above the planned level;

(d) estimates for Group Farms have been reduced drastically; the reasons for this reduction have been discussed elsewhere in the report;

(e) estimates for the Tractor Hire Service seem high, but the bulk (Sh 15 million in 1968/69) is for operating costs;

(f) estimates for education were rather high for 1967/68, but they are far below the planned level for 1968/69; this may be caused by the decision now made to revive education at the certificate level. The School for Mechanics is a new item, resulting from a USSR aided project;

(g) no development expenditure is foreseen for agricultural credit, or for the extension service.

(h) estimates for seed multiplication for 1968/69 are at about the average level;

(i) the low cost estimate for storage, probably reflects the absence of a firm plan on the part of the Produce Marketing Board.

146. Table 14 on "Animal Industry" demonstrates the increased emphasis that the Government has put on the development of the animal industry. Estimates for "Diary and Dairy Schemes" for 1968/69 are far above the level of one-fifth of the mission estimate. Those for "Meat and Ranches" for the two years together are also above that level. Estimates for Tsetse Control Schemes are high, but those for Tick Control Schemes are far below the planned level. As noted in paragraph 59, high allocations to tsetse control depend for their effectiveness upon measures to ensure prompt settlement. The original idea of a nation-wide scheme for tick eradication has been modified to a much more manageable project. It is unfortunate that no funds are being made available for improvement of the processing of hides and skins, and that the allocation for markets and stock-routes is so small.

147. A comparison between yearly averages of the Second Five-Year Plan targets for expenditure and the Budget estimates, shows that both in 1967/68 and 1968/69 estimates for agriculture were much less than the Plan targets.

	One-fifth of 2nd Five-Year Plan Target	Budget Estimates 1967/68	Budget Estimates 1968/69
	(Sh million)		
Agriculture	94	36	37
Animal Industry	16	10	18

The shortfalls in financial allocations are the result of delays in the preparation and implementation of projects and, to some extent, also of financial constraints.

C. Conclusion

148. In view of the very heavy weight of coffee and cotton in the output of Uganda's agricultural sector, and the uncertainty that inevitably results from the dependence of these crops on the export markets, it is important to develop alternative crops and activities. This objective, in fact, figures prominently in the Second Five-Year Plan, and various measures have already been taken to achieve it. Some of the earlier policies which were expensive in terms of resources such as the Group Farms and ambitious mechanization programs have been revised. The marketing of minor crops is now receiving much greater attention than before, and appropriate machinery has been created for this purpose. One of the main problems which has not yet been tackled effectively is the creation of an organization for the formulation of projects in the agricultural sector; this matter should receive high priority. It is also important that consideration be given to the need for adopting an appropriate pricing policy for agricultural products. Some gaps remain as regards the availability of research personnel. These could be remedied through technical assistance from abroad.

ANNEX B

TRANSPORT IN UGANDA

ANNEX B - TRANSPORT

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ANNEX B - TRANSPORT

SUMMARY AND CONCLUSIONS

i. Uganda's internal system is, with some exceptions, sufficient in extent and in adequate condition to meet present and foreseeable needs. The capacity of the vital railway line to the sea, through Kenya and the port of Mombasa needs to be considerably increased, since combined Kenya and Uganda traffic is increasing and costly congestion and delay must be avoided. In this connection, the Bank is currently reviewing a loan application by the newly created East African Railway Corporation (EARC). If approved by the Bank, the major part of the proceeds of this loan will be spent in increasing the capacity of the Uganda-Mombasa railway line.

ii. Road conditions, while still generally good, have deteriorated during the last years as a result of inadequate maintenance, especially with respect to periodic regravelling and bituminous resealing. Financial allocations for maintenance have not kept up with traffic growth or the increasing cost of labor, materials and equipment. Accordingly, the mission recommends a substantial increase in the road maintenance budget, especially for regravelling.

iii. During the next Plan period, some main road sections will require selective improvement as traffic densities exceed their capacity. In some areas of high agricultural production, the secondary and minor networks are inadequate for present traffic. Greater emphasis should be given to their investment needs during the next Plan period. However, there is a need for comprehensive assessment of these requirements and for better liaison between authorities responsible for transport and those responsible for the productive sectors.

iv. The existing organizational structure of the Ministry of Works, Communications and Housing (MOW) suffers from a number of deficiencies, while the shortage of qualified staff has added to the problem. The present staffing situation is having a detrimental effect on all the principal functions performed by the MOW, namely maintenance, construction, execution and supervision and, above all, on planning. The present staffing situation also acts as a major constraint on the volume and efficiency of the MOW's operations.

v. There is no planning machinery to make an economic assessments of investment programs, and the planning backlog is large. A technical assistance program which would form part of a Second Highway Project currently under consideration by IDA is aimed at providing an interim solution to the staffing problem of the MOW, and to train Uganda nationals who will take over at the end of the program. In addition, a road investment and maintenance study is being included in the project in order to lay the foundations of a road development program in the next Plan, based on economic criteria.

vi. The execution of the Second Five-Year Plan for 1966/67-1970/71 is considerably behind schedule. Recently revised forecasts show that only 80 percent of the original financial and 45 percent of physical targets would have been reached by the end of the planning period. Because of lack of adequate staff, the original plan was trimmed down without a systematic examination of priorities.

vii. Airport investments will be more than twice the Five-Year Plan forecast, mainly because the Government decided to build a new runway at Entebbe Airport, instead of improving the existing one as had earlier been envisaged. The new project will cost almost twice as much as the originally planned improvement to the existing runway.

viii. Investment forecasts concerning Uganda's national share in jointly-owned East African facilities, namely airways, telecommunications, and railways will be slightly exceeded, i.e. it will be Sh 494 million compared with a forecast of Sh 480 million for the Second Five-Year Plan period.

ix. The mission focused mainly on the future investment needs for transport facilities under the direct control of the Uganda Government viz. airports and roads. After completion of the Entebbe airport project, only several much smaller projects remain to be considered.

x. Based on a detailed examination of individual projects for which funds have been committed, the mission estimates that Sh 7 million will be spent on road investments during 1969/70 and Sh 72 million during 1970/71, Sh 70 million in 1971/72 and Sh 29 million in 1972/73. 1972/73 is, therefore, the first year for which there is a substantial freedom of choice for considering new projects. Because of the existing backlog in highway planning, it is difficult to be specific about the project context of the next Plan except in general terms already indicated in (iii). To these possibilities should be added the investments in urban transport facilities for Kampala.

xi. Specific project possibilities will become clearer once the results of the road investment and maintenance study are available. There are, however, two general points which need to be emphasized in this connection. These are that considerable foreign assistance is required in order to achieve annual investment expenditure levels of Sh 70/80 million after 1971/72. Secondly, higher investment and increased maintenance expenditures cannot be achieved unless the staffing and organization problems of the Ministry of Works, Communications and Housing are resolved.

1. THE TRANSPORT ECONOMY

The System

1. The basic internal transport system (see Map) consists of about 1,200 km of railway line, about 24,000 km of main, secondary and other public roads, inland water services on Lake Victoria and 12 airports or airfields serving scheduled or charter flights. Since Uganda is a land-locked country, some 1,100 km from the nearest seaport, and with an economy heavily dependent upon import/export trade, a vital link in its transport system lies beyond its national frontiers, namely the main Kenya/Uganda Railway Line to the port of Mombasa. An alternative outlet exists across Lake Victoria to Mwanza in Tanzania, and then by the Tanzanian rail system to Dar es Salaam. Uganda is a joint owner, with Kenya and Tanzania, of these rail links, water services and seaports, which are operated as a Common Service for the three countries.

2. To its west and north, Uganda has links with the Congo, Rwanda and Sudan, although these are not highly developed due to natural barriers and the policies and arrangements inherited from the pre-independence period. Internally, communications are hindered somewhat by the River Nile, which cuts the country from south to north, and Lake Kyoga with its extensive papyrus swamps, which lies across direct access between the populous fringes of Lake Victoria and the less-developed northern parts of the country.

3. Kampala, the capital and major commercial city, is the main transport hub of the country. Most of the import/export traffic by rail originates from or is destined for, Kampala from which the main roads radiate throughout the country. Tororo, on the Kenya border, is also an important transport center where the main rail line divides into two main branches to serve the northern and southern parts of the country separated by Lake Kyoga. The rail line was originally built to reach the relatively rich region of present-day Uganda and it has been a major factor in the country's development.

4. Until recently Uganda's road system was one of the best in tropical Africa in terms of density and serviceability. During the 60's, however, many other countries in the area began to catch up through extensive investment in their road systems while the highway system in Uganda remained unimproved in some respects, even deteriorated. The reasons for the deterioration of the system and the recommended remedies are discussed in Chapter 4.

5. Inland water transport has declined in importance in recent years, primarily because of the cessation of East African Railways and Harbours services on Lake Kyoga and Lake Albert which were phased out with the opening of the northern extension of the railway. Water transport on Lake Victoria, however, is still important to Uganda to the extent that it provides an alternative access to the sea. The economic viability of this route has recently been improved by the introduction of a train ferry between Jinja, Kisumu and Mwanza.

6. Internal air transport is relatively unimportant, since distances are short and most parts of the country are accessible by road in a day's journey from Kampala. The significance of internal air transport lies in administrative communications, and also charter services to the game parks, mainly for tourists. External air communications between Uganda, Kenya and Tanzania as well as overseas, are of growing importance for the tourist industry and modern commerce. Entebbe, the main airport, handles all international traffic.

Demand for Transport

7. Demand for transport in Uganda can be analyzed in two ways: first, in terms of demand associated with exports/imports, demand mainly for local transport services; and second, in terms of demand for the transport of bulky and non-bulky goods. These two main types of demand are, by and large, co-extensive in the sense that most of transport demand on account of bulky goods is related to exports and imports, while most demand on account of non-bulky goods is generated locally. Coffee, cotton, cottonseed cake, and copper are staple bulk exports while POL, wheat, fertilizers and semi-finished iron steel products are the principal bulk imports; together, they account for about 800,000 tons out of 1.9 million tons of commodities carried by the railways in 1967. In addition, a number of bulk commodities are also carried by the railways for the local market, the principal ones of which are salt, cement, timber and other building materials.

8. Demand for road transport is associated with two types of movements: first, on account of commodities requiring transportation to and from the nearest railhead which are then shipped to Mombasa or for the distribution of imports arriving by rail from Mombasa to various processing and consumption centers; and second, on account of short-hauls purely for the local market consisting mainly of cement, beverages, textiles, flour, sugar and other foodstuffs.

9. Rail and road facilities almost entirely meet demand for transport. In addition, small amounts of cargo are carried by lake through the Port of Jinja and Port Bell. Finally, a small but rapidly increasing amount of cargo is carried by air, mainly overseas. The major proportion of passengers is carried by road in the case of local traffic and by air for international traffic. Demand for transport of goods has been increasing at about 8% per annum during the period 1962-67 both for railways and roads. This compares with a 5% GNP growth rate during the same period. On the basis of experience concerning countries at a similar stage of development, the two rates are consistent.

10. A comparison between the capacity of the transport system and the present and projected demand for the facilities suggests that with some exception the system is sufficient in extent and in adequate condition to meet present and foreseeable transport needs. The most notable exception is the need to increase the capacity of the railway line between Kampala and Mombasa, on which Uganda's foreign trade is virtually dependent. Traffic

on this line has increased substantially in the past few years. A loan application by the EARC to increase the capacity of the railway is currently under review by the Bank. If approved, an important part of the proceeds of this loan will be used to increase the capacity of the Kampala-Mombasa line.

11. The road system requires selective improvement and capacity additions as traffic increases mainly in conformity with projected agricultural development. The road system also requires increased maintenance outlays to stop the recent deterioration in its condition.

Transport Coordination

12. From the above account of the transport system and the demand for transport facilities it is clear that the rail and road system of Uganda are largely complementary. For this reason, there were no licensing restrictions on the transport of goods by road in Uganda. The complementarity of railways and roads in Uganda is particularly true when viewed in an East African context. Road transport in Uganda does not seriously threaten the long-haul trunk line traffic, the mainstay of railway finances. For Uganda's export/import traffic, the long average length of haul to the sea has been sufficient to protect this traffic from serious road competition, despite the differential tariff which has tended to distort transport demand patterns elsewhere.

13. Within Uganda itself, however, there has been some parallel development of transport facilities along some routes, with resultant under-utilization of capacity. The Government has found it necessary to subsidize certain rail lines and extensions by arbitrarily directing to the railway all traffic over which the Government has control, including that of the cotton and coffee marketing organizations, and the transit traffic to and from the Congo. This has taken place regardless of possibly cheaper alternatives.

14. Rail extensions in Uganda have been justified on financial grounds, by crediting to branch lines and extensions a large part of the revenue generated on the trunk line from traffic fed by the branch lines or new extension. The "branch line formula", as it is called, especially favors rail extensions in Uganda because of its distance from the sea. Even viewed in an exclusively financial context, this formula ignores the fact that most of these long-haul revenues would also have accrued to the railways from improved road connections to the rail-head, because the railway would carry the traffic over the subsequent very long haul from and to the sea. From an economic point of view, the investment in these extensions is questionable since the economic alternatives of road and rail have not been adequately assessed.

15. A study on transport coordination in East Africa has recently been completed, with financial support from UNDP, and the Bank acting as Executing Agency. The object of the study which was sponsored by the three East African Governments was to provide them with a sound basis for formulating their transport policies. The study was expected to develop an appropriately phased series of measures to coordinate the use and development of the various modes of surface transport in and among the three countries, so that economic

resources are used in the most efficient manner. The conclusions of the study are now under review by the Governments and the Bank, and will form the basis for discussions related to future Bank Group operations in the transport sector of the three East African countries.

16. In brief, the consultants who carried out the study recommend the raising of those few railway tariffs which presently do not cover variable costs to a level at which they would be covered, to lower tariffs on certain commodities based on "value of service rendered" in order to prevent loss of traffic to the economically more expensive mode of road transport, and to discontinue uneconomic services and railway lines.

17. In the road sector, total revenue received from vehicle use and ownership has increased from about Sh 45 million in 1961/62 to Sh 117 million in 1967/68 (Table 1). This increase is attributable more to upward revision of tax rates on road users than to an increase in vehicle use and ownership. The revenues are about twice the current expenditures on roads, and cover the major proportion investment expenditures as well (Table 2). This suggests that tax rates are on the high side (Table 1). The consultants of the East African Transport Study (EATS) indicate, however, that the incidence of taxation is high for trucks. The consultants recommend that fixed costs should be covered by fixed charges in the form of license fees and variable costs by a variable charge in the form of a fuel tax. Under existing conditions this would entail the lowering of the diesel tax.

18. The effect of the consultants' recommendations concerning both road and rail traffic on transport demand patterns inside Uganda is not likely to be of significant scale, although Uganda is vitally affected by railway tariffs to be charged on the Kampala-Mombasa line which carries practically all its export/import trade.

2. THE RAILWAY SYSTEM

19. The East African railways system is a partnership operated by the three East African countries and as such it was examined on an East African basis by the 1966 mission. As the present Economic mission covered only Uganda, the subject of railways has been dealt with rather briefly.

20. The most important development since the 1966 mission was the decision to divide EAR&H into an East African Harbours Corporation (EAHC) with headquarters in Dar es Salaam, and an East African Railways Corporation (EARC) with headquarters in Nairobi, in conformity with the Treaty for East African Cooperation. The date for the separation of EAR&H still remains to be fixed, but most of the senior staff have been divided between the two entities which already operate on a *de facto*, if not *de jure* basis.

21. The details of the charter of the newly established EARC have still not been worked out. According to expectations the new charter will give greater emphasis to a policy of decentralization. This policy involves the establishment of three regional offices based on national demarcation lines, which will be given a large degree of autonomy concerning the day-to-day operation of the railways. The autonomy of the regional offices is emphasized by the fact that their managers will be appointed by the National Governments, which also approve their tenure of office. It is, however, not certain whether the realities of railway management will permit such a degree of decentralization. As a result the EARC may have to be based on a greater degree of central management.

22. The heavy use of the Kampala-Mombasa line mentioned in the report of the 1966 mission did not diminish during 1967 and 1968. An increase in the lines capacity is urgently required, mainly in terms of additional locomotives, rolling stock, lengthening of loops and heavier railings. There have been additional delays in the procurement of locomotives, which should have been in operation already by 1968. Contracts have still not been signed.

23. The Bank is currently considering a US$100 million project aimed at increasing the capacity of the railway system and in particular that of the Kampala-Mombasa line. The project includes the strengthening of the Uganda section of the line with heavier railings and the lengthening of loops between the Kenya border and Jinja. The consultants of the EATS Study (The Economist Intelligence Unit) briefly examined some investment and dis-investment possibilities concerning Uganda railways. They have recommended that passenger traffic on the Kampala-Kasese line be discontinued and that, from an economic viewpoint, the proposed West Nile extension of the railway system is not feasible.

3. ROADS AND ROAD TRANSPORT

The Network

24. The highway system of Uganda can best be described in terms of a semi-circle with Kampala as its center and with the circumference broadly following the international boundaries of the country. This system is supported by a network of radials emanating from Kampala towards the circumference and reinforced by secondary and tertiary roads, linked with either the circumference road or its radials. At present there are about 24,000 km of roads (see Table 3). Of these, about 6,000 km are trunk roads administered by the Ministry of Works, Communications and Housing (MOW), consisting of about 1,500 km of paved and 4,500 km of good quality gravel roads. The remaining 18,000 km of the road system is administered by local authorities under the jurisdiction of the Ministry of Regional Administrations but receives some technical and financial assistance from the MOW.

25. The good condition of the highway system until the past few years was due to a long tradition of communal labor, the existence of an abundant supply of good road materials and the presence of a competent and well-staffed highway administration. An additional contributing factor has been the fact that road development was not regarded as a serious threat to the competitive position of the railway. The recent deterioration in the condition of the road system was caused by the loss of large numbers of personnel at executive and administrative levels, and a reduction in the funds available for road maintenance, discussed in greater detail further below. Parallel to these developments, traffic was increasing so that many of the roads built for light traffic became less and less adequate to cope with the increased volumes.

Growth of Vehicle Fleet and Road Use

26. In 1967 there were about 44,000 vehicles in Uganda (Table 4) giving a vehicle density of one per 180 persons. This is about average for Africa, south of the Sahara. The vehicle fleet consisted of about 29,000 cars, 13,000 trucks and vans and about 900 buses; of these about 15,000 were concentrated in Kampala. The average growth rate for the vehicle fleet for the period 1957-67 was 5% per annum. However, between 1964-67, the growth rate accelerated especially for the truck fleet which grew at 8% per annum. The mission agrees with the Government estimate, that during the next 10 years the recent growth rate of the vehicle fleet will be maintained; this rate is consistent with the projected GNP growth rate of about 4.5 percent per annum.

27. Traffic counts have been taken in Uganda since 1951 and the number of counting stations has been gradually expanded to about 250 in 1968. Counts are taken twice a year, for periods of one week, at each of the counting stations. Since 1964 the quality of the counts has improved considerably, but central direction is still lacking and the present system is still unable to produce accurate ADT's adjusted for seasonal variations.

28. The available data indicates that Uganda has one of the highest trunk road traffic densities in Eastern Africa including 400 km with 1967 ADT's of 1,000-7,000, and an additional 1,100 km with ADT's between 250-1,000. According to the results from some 70 stations for which continuous counts over the past five years are available, traffic has been growing at about 8% per cnnum. This growth rate is corroborated by data on fuel consumption (see Table 5) which shows petrol consumption was growing at 5% between 1962-67 and diesel consumption at 8.5% during the same period.

Highway Administration

29. The Ministry is divided into three Divisions: Housing, Communications, and Works. The Communications Division is concerned with aviation, railways and other transport and communication matters falling within the framework of the Common Services operated under the EAC. The Works Division is responsible for the development and maintenance of the

water supply system, airfields and the primary and secondary road systems. It consists of a head office at Entebbe and four regional offices. The head office is divided into five branches: (a) water supply and drainage; (b) planning, design and documentation; (c) construction and maintenance; (d) mechanical; and (e) materials. Executive responsibility for maintaining the primary and secondary road system lies with the four regional offices of the MOW, while the responsibility of the headquarters is confined to general policy and budgetary control. Improvement and maintenance of the tertiary road system are carried out by Local Governments with their own funds supplemented by grants from the Central Government.

30. The MOW is presently being confronted with important organizational and staffing problems that are limiting the capacity of the Works Division in terms both of the volume and efficiency of its operations. A shortage of qualified staff has developed in the past years. In 1957 MOW professional staff consisted of 32 engineers engaged on roads on a full or part-time basis. Their number has now declined to 17 even though highway expenditure has risen from about Sh 14.5 million to Sh 70 million in 1968 (see Table 4). Three key expatriate personnel will be leaving shortly. One cause of this is the salary structure, which is not conducive to attracting and holding competent expatriates until Uganda nationals have been trained. This shortage of trained staff has imposed a serious limitation on the volume of new highway work which the MOW can undertake.

31. The MOW has become increasingly aware of its staffing deficiencies and has asked the Bank to finance a technical assistance program under the Second Highway Project currently under consideration. The principal objectives of this program are to (a) meet immediate staffing deficiencies mainly for executive functions; (b) keep highway management at a staisfactory level; and (c) train Uganda nationals who will eventually take over executive positions. Under the program, the services of 13 expatriate experts will be obtained for a period of three years, consisting of 4 engineers, a transport economist, a cost accountant, a senior administrative officer and 6 other skilled personnel for maintenance functions. All the positions are directly related to the planning, administration, design, construction and maintenance of the road system. Five of the 13 will have executive responsibilities heading branches of the Works Division. The estimated cost of the technical assistance scheme is about US $450,000 equivalent.

32. The deficiences of the existing organizational structure are principally due to the absence (a) of a clear division of responsibility in meeting the needs of roads, airports, and water supply and drainage; (b) centers of responsibility for planning and for administration; and (c) clear lines of authority between headquarters and regional offices.

33. The MOW has recently formulated some proposals aimed at getting a clearer division of functional responsibility concerning roads, water supply and drainage, and airports. The MOW has also proposed a reorganization of the Works Division on the basis of its four principal functions, namely (a) forward planning; (b) design and documentation; (c) construction; and (d) maintenance.

34. The proposals of the MOW are essentially sound, but many of their details are still to be worked out before they can be executed. Furthermore, not enough emphasis has been put on the organization of maintenance work and on the relationship between headquarters and the four regional offices. These two subjects are closely inter related. The MOW has rightly decided to postpone major reorganization pending the results of a road investment and maintenance study which will also examine some organization problems related to maintenance operations.

35. The MOW has, however, agreed to undertake a limited reorganization of the Works Division pending the results of the study in order to maximize the effectiveness of the Technical Assistance Program. The limited reorganization consists of (a) the splitting up of the present construction and maintenance branch into two separate branches; (b) the confining of the present planning, design, and documentation branch to design and documentation and the creation of a new branch for advanced planning; (c) the establishment of a new branch for administration and costing. Details concerning the reorganization have been worked out by the MOW, and the first phase of its implementation could be undertaken in the near future.

Maintenance

36. Maintenance of the road system is deteriorating as expatriate staff leave the country and as the amounts allocated for maintenance (Table 2) become increasingly insufficient to keep pace with the growth of the road network. Despite an increase of about 40% in traffic volume on the national highway network between 1962-67, maintenance expenditures have declined from about Sh 17.5 million to Sh 15.5 million. The above expenditures represent an average total expenditure on maintenance operations of US $360 in 1967 per km of road compared with an average of about US $500 during 1962. If an allowancê is made for general cost inflation and reduced efficiency in maintenance operations due to loss of expert staff, the decline in the quality of maintenance becomes even more striking.

37. Budgetary allocations for current maintenance expenditures are determined on the basis of an allowance of US $175 pér km for bitumen and US $260 for gravel-surfaced roads excluding regravelling, resurfacing and maintenance equipment depreciation. Allocations for the regravelling and resurfacing requirements of roads are determined on the basis of a yearly review, and these have been insufficient during the past years. A maintenance report prepared by the MOW in connection with the 1969/70 budget estimates that the regravelling of roads in the primary and secondary road systems is overdue by an average of eight years and the resurfacing of those with a bitumen surface by about four years; the backlog on regravelling alone is estimated at Sh 30 million. The 1969/70 maintenance estimates submitted for treasury approval total Sh 37 million compared with Sh 15.7 million for 1967/68 and Sh 18.0 million for 1968/69. There is no doubt that allocations need to be increased. If the present situation is allowed to continue, the condition of the main road system will deteriorate to a point where substantial reinvestments for reconstruction will be required.

38. The maintenance requirements of the main road system will be examined by the road investment and maintenance study included in the Second Highway Project currently under consideration, and recommendations will be made for a suitable organization to take care of the roads, giving estimates of funds required. The maintenance of 18,000 km of roads under Local Government has been entirely the responsibility of the local authorities in the past, through their revenue and other resources including local labor levies. Recently, however, a program of central government aid for the maintenance of local roads has been inaugurated. Maintenance expenditures for these roads totalled Sh 15 million during 1967/68 averaging about US $100 per km. This sum is not adequate and explains the rundown condition of local roads.

Construction Industry

39. Road contractors in East Africa can move freely from one country to another. The construction industry is made up of branches or subsidiaries of large European firms, mainly British and Italian. However, over the past year, Yugoslav, German, and Israeli firms have won contracts in East Africa. In view of the large amount of construction under way and planned in the area, which will absorb most of the capacity of the present firms, further works should be offered in large enough contracts as to attract more firms and to keep prices at a reasonable level. Small contracts such as for culverts, small bridges and other labor-intensive works are carried out by local firms which are mostly Asian-owned. Except for haulers and truckers, there are no African firms in the road construction business in East Africa.

Design Standards

40. Design standards in Uganda are generally high. This is particularly true for roads in mountainous terrain. The most outstanding example in this respect is the Mbarara-Ntungamo road constructed under German bilateral assistance for which construction costs for a 15-km section running through mountainour terrain average US $180,000 per km. In 1967 ADT on this road was below 200 vehicles. Other examples of overdesign concern tea roads for which investment costs were running into the US $20,000 per km category for expected opening year ADT's of less than 10 vehicles. The question of appropriate design standards for various types of roads in Uganda will be examined in the investment and maintenance study included in the proposed Second Highway Project.

Planning

41. The basis of road planning in Uganda is a list of projects prepared by the Government which is periodically revised both as to its content and to costs. Currently it consists of about 90 projects with a total estimated cost of some Sh 700 million. It represents the accumulated experience and judgment of the road development requirements of the country for the 1966-76 period although the basis of the judgment is not explicit. The Planning Commission, operating at ministerial level and including representatives from the Treasury, Works, Agriculture and Planning, reviews applications for additions and deletions of individual projects. These applications are intended to be processed by a

working party consisting of staff representatives of the same ministries prior to a review at ministerial level, but this procedure has generally not been followed.

42. Priorities are determined at ministerial level, after which financial assistance is sought for individual projects. The principal aid donors have so far been the Federal German Republic, the United Kingdom, and IDA. The inadequacy of present highway planning activity will be increasingly felt as traffic outstrips the capacity of existing facilities without prospects of getting economic solutions to growing transport requirements. The mission noted a growing awareness of the need for closer coordination between the Ministries of Planning, Works, Agriculture, and Commerce and Industry.

43. The technical assistance program which is included in the Second Highway Project and recommendations concerning the interim reorganization are geared to strengthening the planning function in the Ministry by the establishment of a new Planning Branch which will be headed by a highway engineer with a transport economist acting as his deputy. The two experts will be backed by existing staff dealing with traffic counts. Within the overall constraints of the technical assistance program, it is not possible to allocate a greater number of expatriate experts in view of other priorities. If other sources are available, however, it would be possible to strengthen the Planning Branch with an additional highway engineer and a traffic specialist.

4. AIR TRANSPORT

44. Uganda is presently served by a main international airport at Entebbe, and 11 small airports and airstrips serving mainly internal passenger traffic. Tourist Demand is a sizeable element both in the international and the domestic traffic. The Entebbe airport is served by some 16 or 17 international carriers, in addition to its primary use by the East African Airways Corporation. The latest available data on passenger arrivals and departures show that although their numbers are still small (about 220,000 in 1967) they increased rapidly at a rate of about 18% per annum between 1962-67.

45. As a landlocked country, Uganda is aware of the important role which air transport should play in the economic and political life of the country. This has strongly influenced decisions about the need for expanded airport and air terminal facilities. Air transport is a subject on which the national interests of the three countries and those of East Africa as a whole, to some extent, clash with one another.

46. Present national policies concerning air transport are aimed generally at the independent development of facilities. Economic considerations would indicate that some rationalization is possible and desirable. However, there is no indication that the three countries would agree to changes which, in their view, would subordinate their national interest.

47. The main runway at Entebbe is capable of handling the present generation of jet aircraft, such as the Boeing 707 and the VC-10 although restrictions have had to be imposed on the take-off weight of aircraft. There is evidence that the runway is beginning to show signs of deterioration. At the very least, the existing runway would need fairly major investment in order to lengthen it. This would mean severely curtailing Entebbe airport operations for up to a year. Furthermore, there is no doubt that facilities at the existing passenger terminal are inadequate for the rapidly growing volume of traffic served.

48. For these reasons the Government decided sometime ago to construct an entirely new and longer runway, with technical specifications which will enable it to meet demand in the foreseeable future, and also to build a large, modern airport terminal to serve both anticipated passenger and air freight needs. The main question concerned the means by which the investment would be financed. Towards the end of 1968, the Government signed a construction contract with an Italian firm, which will also finance the project. The cost of construction, including related equipment and contingencies, is now estimated at US $10.9 million, which is considerably above the cost (US $6 million) of the originally planned improvement of the present runway. The terms of financing are 5-1/2% interest and a maturity period of 12 years.

49. Other airport project plans exist for several up-country airports in Uganda. These involve a possible lengthening of the Jinja airport runway to 2,000 m. at a cost not yet established. A runway lengthening to 2,000 m. at Kasese, to serve Queen Elizabeth Park would cost an estimated US $450,000. A similar runway plus an improved passenger lounge at Murchison Falls would cost about US $550,000. Some improvements may be needed at Soroti and Lira, Moroto, Mbarara and Arua.

5. EXECUTION OF THE SECOND FIVE-YEAR PLAN (1966/67-1970/71)

50. Uganda's Second Five-Year Plan is expressed primarily in financial rather than physical terms. In the transport sector the Plan calls for an investment by the Government of Sh 280 million in roads and Sh 40 million in airports. In addition an investment of Sh 480 million is envisaged as Uganda's national share in joint East African investments on railways, airways, ports and telecommunications although the specific projects in Uganda reflecting these investments were not elaborated in the Plan.

51. The highway investment program in the Five-Year Plan was not firmly based either on prepared projects or on established priorities. The road program which was to be executed under the Plan consisted of a list of 85 projects, but the 1966 mission estimated that they would cost about Sh 640 million to complete. Most of the projects were carried over from the First Five-Year Plan and were at the time in very early stages of preparation. Although the Plan itself was not expressed in physical terms, most of the road projects were expected to be undertaken during the Plan period with about a 20-30 percent carry-over of construction into the next Plan period. This suggested that, with more realistic cost estimates, the physical plan would involve a total expenditure of close to Sh 520 million in roads, compared to Sh 280 million allowed for in the Plan.

52. It, therefore, became clear to the 1966 mission that it was financially out of the question for Uganda to attain the physical targets set for the Plan. The physical targets proved to be unattainable also because of limitations in the capacity of the MOW to plan and implement projects. Moreover, the substantial increases in cost estimates for particular projects cast considerable doubt on their economic justification, even though some of them were in an advanced stage of preparation. The MOW was, therefore, faced with the large task of reviewing th list of road projects and establishing priorities on the basis of cost/benefit analyses and its capacity to carry out works within the overall financial constraints of Sh 280 million for the planning period. Since the Ministry did not at the time have the staff for this task it reduced the physical scope of the program, mainly on the basis of the degree of project preparation and availability of foreign assistance for specific projects. The 1966 mission was able to confirm that the attainment of the financial and revised physical target of Sh 280 million was feasible, with improvements in the staffing of MOW.

53. It was, however, not possible adequately to remedy this problem and, as a result, investment expenditures have further lagged behind. During the first three years of the Plan (1966/67-1968/69) only Sh 90 million would have been spent. In the most recent revision of the Plan, total planned expenditures are shown as Sh 289 million, but based on a detailed examination of work progress for individual projects, the mission believes that about Sh 230 million is a more realistic target corresponding to almost 45 percent of the original physical plan target. The Table below summarizes investment forecasts as recently revised by the Ministry of Planning and Economic Development.

UGANDA FIVE-YEAR TRANSPORT INVESTMENT PROGRAM
(in Sh millions)

	Roads	Airports	Railways	Airways	Telecommunications	Total
1966/67	6.3	2.9	51.3	64.5	10.5	135.5
1967/68	30.2	2.3	66.1	15.7	14.8	129.1
1968/69	55.4	15.1	54.3	19.6	12.7	157.1
1969/70	79.7	36.6	40.2	41.7	13.3	211.5
1970/71	117.5	37.1	37.6	38.6	13.1	243.9
Total	289.1	94.0	249.5	180.1	64.4	877.1

54. The preceding Table shows that investment on account of airports will be more than twice the original forecast of Sh 40 million, mainly as a result of the Government's decision to build a new runway, rather than to improve the existing one. The 1966 mission had recommended that the economics of the airport expansion scheme be examined before any large-scale commitments were decided upon. On this basis, the mission recommended the scaling-down of investment forecasts for airports from Sh 40 million to Sh 30 million. The Government has, however, decided to proceed with the new project at a cost of Sh 78 million, or nearly twice the cost of the originally planned improvements. In addition, the Government has plans to construct a new passenger terminal between 1970 and 1973 at a cost of Sh 60 million.

55. Investments on account of railways, airways and telecommunication may total Sh 494 million compared with forecasts of Sh 480 million. The main investments are in locomotives, wagons, aircraft and new telephone exchanges.

6. FUTURE INVESTMENT AND PROJECT IDENTIFICATION

56. Transport facilities under the direct control of the Uganda Government are airports and roads, and the mission, therefore, focused its attention on their future investment needs. Concerning airports there do not appear to be investment projects of any significant size after the Entebbe project currently under consideration. Based on a detailed examination of individual projects for which there are various degrees of commitment the mission estimates that Sh 77 million will be spent on road investments during 1969/70, and Sh 72 million during 1970/71.

57. It is difficult to be specific about the new project content of the Plan. From the description of the planning organization activities of the MOW, it is clear that project identification efforts between the dates of the 1966 mission and the present Bank mission have been very limited. Specific project possibilities will become clearer once the results of the road investments maintenance study are available. In the meantime only some general indications concerning project possibilities can be given at this stage as follows:

(a) Greater emphasis should be given to the feeder road requirements of developing agricultural areas. The provinces of Kigezi, West Nile and Lango are areas which should be given special attention in this respect.

(b) The upgrading of road facilities which were deliberately neglected, lest they should encourage competition with railways, should be looked into. In the case of Uganda, However, this category of projects may not amount too much with the exception of Kampala-Fort Portal road.

(c) The investment requirements of heavily trafficked road connections, such as Kampala-Jinja and Kampala-Entebbe should be examined. These roads were built during the late 40's and although amply adequate for the needs at the time, are now showing signs of failing due to increases in traffic volumes. The effective capacity of the Kampala-Entebbe road has now been reached and signs of congestion are increasingly in evidence.

(d) In regard to the urban transport requirements of Kampala, a transport master plan has recently been produced by NORCONSULT, a Norwegian consultant, indicating some project possibilities for the Kampala municipal area.

58. In addition to the above indications, there are, however, two general points that can already be made without waiting for the results of the study. These are that considerable foreign assistance is required if the forecast annual investment expenditure levels of Sh 70-80 million for 1969/70 and 1970/71 are to be maintained during the next planning period. Secondly, such investment levels and increased maintenance expenditures for the existing system cannot be achieved without solving the staffing and organization problems of the MOW.

Table 1: REVENUE FROM ROAD USERS (Sh '000)

	1961/62[a/]	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68
A. Import Duties							
Gasoline	20,380	29,100	34,820	37,660	41,260	45,460	49,917
Diesel	5,120	7,000	8,360	9,680	10,840	11,680	12,857
Lubricating Oil	620	700	720	720	780	840	882
Tires and tubes	2,240	2,800	3,400	3,060	3,580	3,860	
Spare parts	2,460	3,620	4,140	5,460	7,060	6,860	11,004
Cars	3,180	5,560	7,400	9,140	12,300	12,860	12,432
Trucks and buses	1,640	3,240	4,440	6,060	8,560	9,080	9,611
Other vehicles	200	340	220	-	560	500	350
B. Licenses and Fees							
Under traffic ordinance	9,540	9,820	9,480	12,720	13,200	13,660	13,880
Drivers' permits	540	720	600	920	1,220	1,400	1,600
Registration fees	140	500	1,380	1,740	2,420	2,260	2,440
Other fees and licenses	520	660	1,820	1,980	2,060	2,160	2,210
Total	46,580	64,060	76,780	89,140	103,840	110,620	117,183

a/ 1968 tax rates are gasoline U Sh 0.48 per liter, diesel U Sh 0.41 per liter, lubricating oil U Sh 0.22 per liter, tires U Sh 2.80 per kg, vehicles and spare parts 30% on c.i.f. prices.

Note: Fiscal Year begins July 1.

Source: Statistics Division, Ministry of Planning and Economic Development.

Table 2: EXPENDITURE ON ROADS BY CENTRAL GOVERNMENT
(Sh million)

	CURRENT				
Year[a]	Administration[b]	Maintenance[c]	Total	Construction	Total
1959/60	16	15.0	31.0	28.2	59.2
1960/61	16	17.0	33.0	28.0	61.0
1961/62	16	17.4	33.4	22.6	56.0
1962/63	16	17.0	33.0	8.2	41.2
1963/64	16	14.6	30.6	26.0	56.6
1964/65	17	15.8	32.8	14.7	47.5
1965/66	17	15.1	32.1	25.4	57.5
1966/67	17	14.0	31.0	17.5	48.5
1967/68	18	15.7	33.7	37.2	70.9

a/ Fiscal year beginning July 1.

b/ Estimated on the basis of Ministry of Works overheads about U Sh 32 million as 1964/65-1967/68 average of which about 60% is related to roads.

c/ In addition expenditure by African Local Governments on road maintenance have been about U Sh 15 million during 1967/68 and U Sh 12-14 million annually for previous years. Local Governments' license revenue was about half this sum.

Source: Budget Estimates.

Table 3: LENGTH OF CLASSIFIED ROADS - 1958-1966 IN km[a/]

	Ministry of Works		Local[1/]	
	Bitumen	Gravel	Authority	Total
1958	794	3,870	9,047	13,711
1959	794	3,870	9,047	13,711
1960	892	3,797	10,666	15,355
1961	1,145	3,634	9,792	14,972
1962	1,188	4,194	17,355	22,737
1963	1,188	4,194	17,355	22,737
1964	1,190	4,540	17,355	23,085
1965	1,188	4,550	18,080	23,818
1966	1,278	4,680	18,080	24,038

a/ As at June 30.

Note: Roads maintained by local authorities consist mostly of earth tracks, except where they usually have a gravel surface.

Source: Uganda Government Statistical Abstract and Ministry of Works, Communications and Housing 1967.

Table 4: LICENSED MOTOR VEHICLES, 1957-67 a/
('000)

	Cars	Commercial Vehicles	Buses	Total
1957	17.6	9.4	0.5	27.5
1958	19.9	10.1	0.6	30.6
1959	21.0	9.8	0.6	31.4
1960	22.6	9.8	0.6	33.0
1961	22.9	9.5	0.6	33.0
1962	22.2	9.6	0.6	32.4
1963	23.8	10.1	0.7	34.6
1964	25.8	10.9	0.7	37.4
1965	27.5	11.8	0.8	40.1
1966	28.0	13.0	0.9	41.9
1967	29.3	13.8	0.9	44.0
Annual Growth Rates (%)				
1957-67	4.0	6.3	7.0	5.0
1964-67	4.5	8.1	8.5	5.8

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a/ On December 31 each year. Includes Government vehicles except military vehicles.

Source: Uganda Government Statistical Abstract (1967)

Table 5: GASOLINE AND DIESEL FUEL SALES ('000 tons) a/

	Gasoline	Diesel	Total
1957	480	207	687
1958	499	242	741
1959	500	251	751
1960	513	265	778
1961	489	268	757
1962	490	276	766
1963	534	288	822
1964	570	331	901
1965	587	368	955
1966	590	388	978
1967	618	413	1,031
	Annual Growth Rates (%)		
1957-67	2.5	7	4
1962-67	5	8.5	6.5

a/ Original figures were in imperial gallons which have been converted to tons on the basis of 285 gallons equals one ton.

Source: Uganda Government Statistical Abstract 1967.

ANNEX C

TOURISM IN UGANDA

ANNEX C - TOURISM

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ANNEX C - TOURISM

SUMMARY AND CONCLUSIONS

i. Tourist traffic to Uganda has increased appreciably in recent years, though the statistics of visitor arrivals are incomplete and do not provide a reliable series. There are good prospects for continued growth in the context of the expansion of tourism to East Africa as a whole. Given rising incomes in the principal market countries of Europe and North America, the prospective further reduction in the costs of air travel and the fast expansion of air charter traffic, a continued growth in tourist arrivals to East Africa at a rate of 15 percent to 20 percent annually seems probable if tourist facilities are expanded on an appropriate basis.

ii. The Uganda authorities have formulated a broadly satisfactory program of investments to meet the expected growth of traffic over the remaining years of the current Five Year Plan. This program envisages expenditures of Sh 26 million on hotels and lodges and about Sh 14 million on the development of wildlife areas. Large expenditures will also be incurred on infrastructure investments, particularly highways and a new runway at Entebbe airport. Much of the required finance has already been obtained, notably for the major infrastructure investments, and financing is in sight for a major part of the planned investment in hotels and lodges. However, the financing of the hotel program is not yet complete and progress here is urgent if the planned expansion is to be realized by 1971.

iii. The economic return on investments in tourist facilities in the past has not in all cases been satisfactory, due partly to excessive capital costs and partly to the provision of capacity considerably in excess of demand at the time when provided. While returns in the private sector have often been favorable, returns in the public sector have been small or even negative. It is essential that, in planning new hotels and lodges, capital costs should be brought down to more realistic levels. While maintaining adequate standards of comfort, it should be possible to bring down the average cost per bed to about Sh 40,000 from the Sh 60,000 spent on park lodges in recent years. If the lower figure is attained and if the capacity increases are adjusted closely to the growth in demand, tourism can make a valuable contribution to the Uganda economy.

1. PROSPECTS FOR TOURISM DEVELOPMENT

The Growth of Tourism

1. From the statistics available, it is difficult to obtain a clear picture of the past growth of tourism. The Immigration Department has recorded visitors arriving in Uganda from outside East Africa for whom Uganda was the first point of entry, but not those coming via Kenya and Tanzania, nor visitors originating in those two countries. For 1966 to 1968, the Ministry of Tourism 1/ has processed all entry forms completed by visitors to obtain more comprehensive totals for these two years, but in the absence of immigration posts at all main points of entry until 1968, it is possible that significant numbers of visitors did not complete entry forms.2/ The two series are shown below:

Table 1: Visitor Arrivals in Uganda: 1962-1968

Year	Immigration Dept.	Ministry of Tourism
1962	8,970	n.a.
1963	12,250	n.a.
1964	12,690	n.a.
1965	9,130	n.a.
1966	11,770	24,000
1967	15,620	38,200
1968	16,140 (Jan.-Sept.)	53,960

2. The difference between the two series is large. This is partly explained by the large numbers of visitors who arrive in Uganda from Kenya and to a smaller extent from Tanzania, numbering more than 14,000 and 19,000 in 1967 and 1968 respectively, as recorded by the Ministry of Tourism. No clear explanation is available for the remaining difference between the two series.

3. While the Immigration Department figures show an appreciable growth in numbers of visitors since 1962 (14 percent annually) the Ministry figures show increases of almost 60 percent and 30 percent in 1967 and 1968. This is partly explained by improved coverage in 1967 and 1968 so that the real increases were smaller, but the Immigration Department figures and other data point to a substantial rise in traffic in the last two years. These large increases reflect several factors. Political disturbances in the mid-1960's led to a fall in visitor numbers, and recovery apparently did not gather real momentum until 1967. Expanded accommodations at the main tourist centers also helped the fast growth in these years, while the rapid expansion of air charter business in recent years was also a contributing factor.

1/ Ministry of Information, Broadcasting and Tourism - here referred to as Ministry of Tourism for brevity.

2/ From January 1969, the Immigration Department has recorded all visitors to Uganda.

Pattern of Tourist Traffic

4. In the following paragraphs figures relating to 1967 have been used in some instances as complete figures for 1968 are not available. Available data are insufficient to give a clear picture of visitor itineraries and length of stay in Uganda. The Ministry figures for 1967 show 1,200 visitors in transit, 32,000 on holiday and 4,500 on business. The business visitors presumably spend a large part of their time in Kampala/Entebbe, though many also visit the National Parks. The most usual holiday circuit includes visits to Kampala/Entebbe, and then to one or both of the major National Parks - the Murchison Falls and Queen Elizabeth Parks. The great majority of holiday visitors to the Parks go to Murchison Falls Park where they spend an average of two nights. A portion visit also the Queen Elizabeth Park but few visit the latter alone. The National Park visitor statistics do not distinguish between foreign and local visitors, but foreign visitors make up the great bulk of guests at the Park lodges. In 1967 there were about 14,000 visitors to the lodges at Murchison Falls. The difference between this figure and total holiday visitors of 32,000 is presumably accounted for by those holidaying elsewhere (e.g. perhaps many of those coming from Kenya, Tanzania, Rwanda and the Congo), paying one-day visits to the Parks and visiting other attractions in Uganda. Nevertheless the difference is very large and in the absence of additional information on where these visitors stay and what they come to see and do, the basis for planning the development of tourism in the future must be subject to some doubt. Attention has until now been focussed on the principal tourist circuit (Entebbe/Kampala - Murchison Falls National Park - Queen Elizabeth National Park) though the figures, if correct, indicate that perhaps about half the total number of holiday visitors do not stay in the Parks.

5. Statistics on the length of stay of visitors are partly estimated. The Ministry of Tourism has divided visitors into two categories: short- and long-term. The average length of stay of short-term tourists (amounting to 85 percent of all visitors in 1968) is estimated at 6.4 days and of long-term tourists 34.3 days. The Ministry believes that the 6.4 days estimate could be overstated by 1 to 2 days. Other data indicate that the average length of stay of visitors to the main tourist circuit is almost 5 days, but there is no independent source of data on the length of stay of other visitors.

6. Data on sources of visitors is somewhat confused owing to the wording of the immigration form. However, in 1967, 39 percent of all arrivals were British nationals, 15 percent U.S. nationals, and 12 percent nationals of E.E.C. countries. Citizens of India, Kenya and Tanzania accounted for most of the remainder. Though only 15 percent of all visitors, U.S. citizens probably accounted for a much greater proportion (perhaps almost half) of visitors to the main tourist circuit.

Characteristics of the Trade

7. Visitors from overseas have normally included Uganda in a tour of East Africa. Most visitors arrive in East Africa by air and, until recent years, most holiday visitors came on organized tours by scheduled airlines (IT Tours). Given the distances from the main countries of origin -

Europe and the United States - this has been a high priced market where the air component in the total cost was high and where the standards of comfort required by visitors were also high. In the past three years, however, there has been a very fast growth of air charter package tours from Europe to East Africa at greatly reduced costs (particularly for the air component), and part of the sharp increase in the number of visitors to Uganda in 1967 and 1968 reflects this growth.

8. Kenya has been the principal destination for the air charter tourists, the majority of whom spend part of their holiday at a beach resort and part visiting game areas. Geographically, Uganda is at some disadvantage vis-a-vis Kenya and northern Tanzania in attracting the air charter tourist owing to the greater distances from Mombasa and Nairobi, hitherto the main destinations of charter flights. For this reason, though figures are lacking, it is probable that the bulk of holiday visitors to Uganda continue to come on IT or group tours by scheduled airlines.

9. The principal objective of holiday visitors to Uganda has been to visit the National Parks and game reserves. Lacking ocean beaches, the country's wildlife resources are of even greater relative importance than in Kenya and Tanzania. By comparison with those countries, the chief characteristic of Uganda is its abundant water in lakes and rivers which support a different variety of animals and bird life. The second major attraction of the country is the Murchison Falls. The Murchison Falls National Park has attracted the larger number of visitors, combining as it does views of the Falls with a launch trip on the river below the Falls where hippos and crocodiles can be seen in large numbers together with a great variety of other animal and bird life. The visitor can also see game, particularly elephants and buffalo on road circuits in the Park as well as the scenic attraction of Lake Albert and the Albert Nile. The Queen Elizabeth Park which offers a similar variety of animals (except crocodiles) and magnificent scenery, has attracted fewer visits; in 1967 only about 40 percent as many as the Murchison Falls Park. Few visitors go to the Kidepo National Park in the remote northeast of the country, which is very difficult to reach by road.

10. The trade is rather seasonal with peaks determined partly by weather and partly by the timing of holiday seasons in the tourist originating countries. Peaks come in December-March and July-August and low points in April-June and October-November, which tend to coincide with the long and short wet seasons in Uganda. Although total tourist arrivals in June 1967 (the lowest month) were less than a third of those in December (the peak), average bed occupancy at the more successful (and better located)lodge at Murchison Falls was as high as 65 percent for the year. Higher occupancy rates were achieved at some Kampala hotels where business visitors are important.

Tourist Facilities:

11. Hotels: On the principal tourist circuit (Entebbe/Kampala-Murchison Falls Park - Queen Elizabeth Park) substantial investments have been made in providing new and improved hotel accommodations in the last few years. The major additions to capacity have been the construction of a new 600-bed luxury hotel and a new 68-bed medium level hotel in Kampala approximately

doubling capacity in the Kampala/Entebbe area, while in the National Parks three lodges have been built in the past five years (two of which replaced smaller and simpler structures) which together have a capacity of 268 beds at present. The accommodations at the lodges are of a standard expected by today's more affluent international tourist. Given the characteristics of the present tourist traffic, capacity in the higher priced hotels at Kampala/ Entebbe is at present in excess of demand. There is, however, a clear shortage of capacity during the peak seasons at the Murchison Falls Park, though data are not available on the extent of the unfilled demand.

12. National Parks: In the National Parks and game reserves, though the amounts spent on development in recent years have been small, the road circuits for game viewing and the river launch services provided by the National Parks authorities at both the Murchison Falls and Queen Elizabeth Parks are broadly adequate for present visitor numbers, but new circuits and additional launches will be required to meet the expected growth in traffic. Game poaching is a continuing problem but it is not so serious as to threaten the existence of the Parks. Encroachment by farmers into Park lands is also a problem, as is the build-up of excess numbers of some species, particularly hippo and elephant. Selective game cropping is practiced and the Parks authorities are planning a 5-year research program into habitat management to guide them on the measures required to ensure the permanent preservation of the Parks and their animal populations.

13. Internal Transport: Access to the Murchison Falls and Queen Elizabeth Parks from Kampala is possible by road and by air. The roads to both Parks are already partly bituminized and the reconstruction of the remaining sections to full bitumen standard has begun. A regular air service (using DC 3's) is operated by East African Airways to Murchison Falls and Kasese (serving the Queen Elizabeth Park) and there are airstrips in all three parks suitable for light aircraft. Partial data indicate that probably almost 90 percent of tourists visiting the Murchison Falls and Queen Elizabeth Parks travel within Uganda by road, many in vehicles provided by the tour operators. A much higher proportion fly to the Kidepo National Park, but there were only 893 visitors to this Park in 1968.

14. Local tourist road transportation services appear well organized. The business is shared between tour operators based in Kampala and others operating from Nairobi. With small fixed investments, capacity is adjusted readily to the growth in demand. As road improvements are made, it may prove economic to use larger vehicles to carry visitors between Kampala/ Entebbe and the Parks, though probably only with traffic volumes substantially greater than at present.

2. TOURISM IN THE SECOND FIVE-YEAR PLAN

Plan Targets

15. The 1966-1971 Development Plan, as published, did not include a specific program for tourist development, since the Government had engaged a firm of consultants to draft recommendations for such a program. The report

of the consultants was made available to the Government in the latter half of 1966, and a program for the development of tourism was outlined in some detail in a Sessional Paper (No. 4 of 1968) published in the middle of 1968.

16. The 1966-71 Development Plan did, however, include a provisional target for the growth of foreign exchange earnings from tourism (trebling to reach Sh 68 million in 1971) and a projection of Central Government development expenditures on game and tourism during the Plan period of Sh 35 million. Official estimates of foreign exchange receipts from tourism show a rise from Sh 46 million in 1966 to Sh 92 million in 1968,1/ while Central Government development expenditures on hotels and game parks during the first two years of the Plan totalled Sh 24.2 million. Hotel investments made by parastatal and private investors totalled a further Sh 11.2 million in the same period. In the tourism sector, therefore, the provisional targets included in the Plan have proved conservative.

Developments during the Remainder of the Plan

17. The Sessional Paper on Tourism projects the growth of tourist numbers until 1971. Taking the 1966 inflow of 24,000 as the base, growth is projected at 20 percent in 1967 increasing to 25 percent in 1971. The average for the period is 23 percent per annum. On this basis, 67,500 visitors are expected in 1971. To meet the projected growth in traffic substantial additions to capacity in hotels and in national parks are required.

18. In planning the expansion of capacity, the Government and private investors are giving priority to the development of the established tourist circuit: Kampala-Murchison Falls-Queen Elizabeth Park. In regard to hotels, new capacity planned by public and private investors in or close to the two principal parks and in the Semiliki Valley will add approximately 400 beds to the existing 277 in permanent structures. In the same circuit, the authorities hope that private investors might increase hotel capacity at Fort Portal, while in the expectation of increasing tourist traffic with the Congo, Rwanda and Burundi, an increase in capacity at Kisoro is suggested. This might also encourage tourists to go from Kampala to the scenic south-western part of the country, particularly after the completion of the new highway to Kabale. In the current Plan period, only a small expansion is planned at Kidepo, with the addition of 20 beds to the existing 20 at the Apoka lodge.

19. The timing of construction is not yet firm for all parts of this program but there is a good chance that the main components could be completed by the middle or the end of 1971. The cost is estimated at approximately Sh 18 million. Part of the finance for the expansion of park lodges will come from a recent Danish loan to the Uganda Government. This sum could amount to Sh 4 million. Other sources of finance are likely to include the Commonwealth Development Corporation, the Aga Khan's Industrial Promotion Services and local private investors.

1/ These estimates are commented upon in paragraph 47 below.

20. Hotel capacity in Kampala is in excess of demand in the high-price range, but the authorities believe that there is room for additional capacity in the middle-price range and have included in the revised Plan a new 300-bed hotel in Kampala or Entebbe estimated to cost Sh 12 million. The plans for this hotel are still very tentative; financing is not yet in sight and part of the projected addition to capacity may come from the expansion of existing hotels. At Entebbe the program to modernize the existing Lake Victoria Hotel is to continue.

21. The program of development of the National Parks until 1971 includes provision for additional river launches for both the Murchison Falls and Queen Elizabeth Parks, additional vehicles to transport visitors arriving by air, new road circuits for game viewing, and essential housing and office accommodation. The program also includes part of the habitat management research project referred to in paragraph 12 above. The total program for the three years 1968/69 to 1970/71 is estimated to cost approximately Sh 11.4 million. Finance to the extent of Sh 2.5 million for the purchase of river launches, road vehicles, other equipment and new water supply systems is being provided from a British loan. The game Department, responsible inter-alia for the Semiliki Game Reserves, has projected development expenditures of Sh 2.1 million in this period, of which a substantial part would be for road construction.

22. Of considerable importance for the growth of tourism are the improvements of infrastructure scheduled for completion in the next two to three years, particularly the reconstruction of the road north from Kampala to Gulu which passes close to the Murchison Falls National Park, and of the roads from Mbarara to the Queen Elizabeth Park and to Kabale near the Rwanda border. Also important is the construction of a new runway to jumbo-jet standards at Entebbe airport, which will be followed by the construction of a new airport terminal building there. Except for the last, finance for these projects has been arranged.

23. Apart from investments in infrastructure, spending on tourism development - hotels, national parks and game reserves - in the three years ending in 1971 is projected at about Sh 40 million, phased approximately as follows:

Table 2: Development Expenditures on Tourism 1966/67-1970/71

(Sh '000)

	1966/67	1967/68	1968/69	1969/70	1970/71
	Actual		Projected		
Hotels and lodges	25,620[a/]	6,920	4,920	13,600	8,000
National Parks	1,200	1,500	4,480	5,200	1,720
Game Reserves	-	80	1,240	840	
	26,820	8,500	10,640	19,640	9,720

a/ Primarily on the Apolo Hotel, Kampala.

Comments on the Plan

24. Though the average rate of growth in the numbers of visitors to Uganda projected by the Ugandan authorities at 23 percent a year is high, it is not clearly impossible of attainment given vigorous promotion policies and active steps to increase visitor accommodations. Taking into account, however, the close relationship between tourism in Uganda and in Kenya and Tanzania, the slow down in the past two years in the rate of growth in tourist arrivals to East Africa as a whole despite the fast growth in air charter traffic, and Uganda's relative disadvantage hitherto in attracting this type of traffic, the expected rate of growth in traffic to East Africa of about 15-20 percent a year might prove more realistic if also applied to Uganda.

25. However, in view of the uncertainties about visitor statistics in past years, no overall growth target can be taken as a guide to investment policy without adjustment. As indicated above, the main accommodation bottleneck is developing in the Murchison Falls National Park, and only a proportion (perhaps one half) of total holiday visitors actually stay in the Parks. The expansion of accommodations planned for Murchison Falls would, if realized, mean approximately doubling capacity by 1971. Assuming the same occupancy levels as in 1967 this would be sufficient to accommodate double the number of visitors, which would mean an average growth rate of the order of 17 percent a year. However, taking all lodges together, a higher overall occupancy rate should in time be achievable, so that the growth in visitors accommodated could, if necessary, be higher. The expansion program at Murchison Falls appears to be justified, though its realization may be delayed unless adequate finance can be speedily arranged.

26. Besides providing for additional numbers of visitors at the Murchison Falls Park, the authorities aim to extend the visitor's average length of stay. The construction of a "Treetops" in the Queen Elizabeth Park and the expansion of the lodge in the Semiliki Valley (lying between the Murchison Falls and Queen Elizabeth Parks and adjacent to the Ruwenzori Mountains) have this objective in view. At present the attractions of the Murchison Falls Park are to an extent duplicated in the Queen Elizabeth Park. It is important that new elements should be introduced to keep the visitors interest, and the construction of the Treetops, which would provide for viewing a variety of game including the rather rare Chimpanzee should contribute to this. A further possibility which should be carefully studied in cooperation with tour operators is that of a boat service on Lake Albert which would enable visitors to travel part of the way between the two main parks by water.

27. Although efforts should be made to encourage the visitor to stay longer in Uganda, it must be remembered that most visitors to East Africa can spend only a limited time in each country. East African Statistical Department figures indicate that the average visitor spends about 10 percent of his time in Uganda. This pattern probably cannot be radically changed quickly, so that in planning the expansion of tourist facilities the right balance between developing the main and subsidiary tourist attractions must be kept in view. Figures for past years point to first priority being given to Murchison Falls, and in this connection the proposed additions of 160 beds

and 140 beds to the existing 170 and 96 beds in the Murchison Falls and Queen Elizabeth Parks respectively may mean rather too great an expansion in the latter.[1] Clearly a variety of factors must be considered, and with vigorous promotion a higher proportion of visitors may be attracted to the Queen Elizabeth Park. Nevertheless, a somewhat greater emphasis on expansion at Murchison Falls would seem justified.

28. The Ugandan authorities are anxious to attract air charter tourists, and the construction of the new runway at Entebbe airport to jumbo-jets standards is designed in part with this object in view. The development of resorts on Lake Victoria as an alternative to ocean beach resorts is hampered in part by the problem of bilharzia, and in relation to the established pattern of air charter traffic, as already mentioned, Uganda suffers some disadvantage. Until now, the cost saving to the air charter visitor has been mainly in the air component and in the favorable rates obtained from beach hotels. The prices charged on tours to game parks are no different for the charter flight visitor than for any other visitor. As the price of the tour is significant in determining what tour a charter flight visitor will make, Uganda might be able to attract more of this class of visitor if tours to the Uganda Parks could be provided more cheaply. The cost of tours at present averages about Sh 200-220 a day. A large part of this is the cost of transport. The prices in park lodges at about Sh 80-100 a day (inclusive) are comparable with those charged in the parks of Kenya and Tanzania. Present plans for additional lodge capacity in the Parks are based on maintaining present standards and prices. This seems right in view of market prospects, but a careful study should be made of the economic feasibility of providing cheaper accommodation of a somewhat simpler standard to attract the less affluent visitor in the future. This would be particularly important if cheaper accommodations and cheaper tours are organized in Kenya and Tanzania in the next several years. The proposal to build in Kampala/Entebbe a middle level hotel of 300 beds fits in with this approach, but it seems desirable to link it with the expansion of appropriately priced facilities in the National Parks. Before such an integrated program of development is undertaken, an adequate market study should be made.

29. Still another category of accommodation might suitably be provided in the Parks for local visitors, whose interest in the Parks must be retained and increased in the longer term if the Parks are to survive. The National Parks authorities are very conscious of this need, and have made budgetary provision for the development of camp sites at both the Murchison Falls and Queen Elizabeth Parks. At a later stage simple permanent structures may well be justified.

The Murchison Falls Power Project

30. The projections of visitor numbers and the formulation of the development program have been based on the assumption of exploiting further Uganda's existing tourist attractions. In the shorter-term this is justified, but in the longer-term the project to build a major hydroelectric generating station at Murchison Falls may have a considerable impact on Uganda's tourist potential. The project, which would be developed in stages over perhaps as long as twenty

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1/ The proposed expansion of the Acholi Inn at Gulu would seem less desirable than a further addition to accommodations in the Murchison Falls Park itself.

years, envisages the eventual installation of 600 MW of generating plant, which would require a water flow of 530 cumecs on average, though more at times of peak demand.

31. From the point of view of tourism, the project could have an impact on the attractions of Murchison Falls National Park both during and after the construction stage. Fears have been expressed that the disturbance to animals during the construction stage, both from the construction activity proper and from poaching of animals by workers on the project, would do serious damage to the tourist attractions of the Park, though possibly only in the short-term. A further anxiety has been the permanent impact on the Falls themselves as a tourist attraction of the diversion of water for power generation.

32. The Uganda Electricity Board, which would have responsibility for the construction and operation of the proposed project, envisages that to minimize the disturbance to animals during the construction phase the great majority of construction workers (estimated in total at about 750) would be housed outside the Park with perhaps only 60 living at the construction site. Past experience seems to show that the animals, if unharmed, become accustomed to traffic fairly readily, though the traffic on the access road to the construction site would be heavy, and animals would tend to move away. However, as the main construction site and the access road would be well away from the principal tourist circuits the effect on game viewing would probably be small.

33. The longer-term impact of the project is more uncertain. The proposed dam would be placed about a mile upstream from the Murchison Falls and would not be visible from the Falls, and the power station would be placed underground, so that the impact on the visual amenities of the Park would be small. The impact on the water flow over the Falls would be greater. The volume of water in the Victoria Nile has been at a high level since 1961, and the flow is at present approximately 1200 cumecs. From past records, it is calculated that the long-term average water availability is about half this amount, or approximately 600 cumecs. With 530 cumecs of this diverted for power generation, it is calculated that by means of a regulating storage dam, a flow of 100 cumecs could be maintained over the Falls during daylight hours. This would still provide a spectacle for tourists, though clearly of a different kind to that provided at present. However, during periods of below average flow, it might be difficult, or indeed impossible, to maintain a flow over the Falls and still generate the required quantities of power.

34. The Uganda Electricity Board plans to institute studies of the likely impact of the proposed project on the animal populations of the Park, and to investigate further the questions of water flow regulation. Further investigations of the geology of the area are also to be made, and it is unlikely that, should it be finally decided to go ahead with the project, construction work could begin within the next two years. The initial stage of the project would involve only a diversion weir and the installation of 150 MW. The impact on the tourist amenities of the Park of such a development would probably be small if adequate precautions are taken. It is not possible to attempt an assessment of the likely impact on tourism in the longer term until further studies are completed. The probable timing of these studies is such that their results could be taken into account in

planning the expansion of tourist amenities beyond those now envisaged.

3. ORGANIZATION

The Role of the Public and Private Sectors

35. The responsibility for developing tourism is shared between a number of government departments, parastatal bodies and private interests. At the governmental level, the Ministry of Information, Broadcasting and Tourism has general responsibility. The National Parks, administered by a Board of Trustees, are the responsibility of this Ministry, while the Game Department which carries out similar functions in game reserves outside the National Parks is responsible to the Ministry of Animal Industry, Game and Fisheries.

36. At the parastatal level, a number of subsidiaries of the Uganda Development Corporation are concerned with tourism. Uganda Hotels Ltd. owns and operates the major hotel chain in the country, while its subsidiary National Park Lodges (Uganda) Ltd. owns and operates the lodges. Another subsidiary, Uganda Wildlife Development, Ltd. originally set up to organize hunting safaris, increasingly acts as a general tour operator and owns and operates the lodge in the Semiliki valley. The new Apolo Hotel is owned by a company - Apolo Hotels Corporation - of which the whole of the equity is held by the Government.

37. A number of hotels, principally in Kampala, are privately owned. These are mostly single units, but three hotels are part of a chain which owns hotels elsewhere in East Africa. With the exception already mentioned, the tour operating companies are private ventures, as are the few road transport and air charter companies.

38. Notwithstanding the important roles of state and parastatal bodies in tourism promotion, co-ordination in the formulation and implementation of a development program has not been easy. The Ministry of Planning has contributed to the formulation of the tourism development program, and insofar as public expenditures are required the Ministry of Finance is directly concerned. As regards hotel financing, the U.D.C. has to approve and in co-operation with the Government find the financing for expansion programs of Uganda Hotels, National Park Lodges, and Uganda Wildlife Development. The Government will be asked to participate in part of the proposed private sector development, and it must decide on the conditions for private investment in lodges in the National Parks.

National Tourist Board

39. With the object of achieving closer co-ordination, the Government has established a National Tourist Board. Besides its coordinating role, the Board is intended to be an investor in the tourist industry, as well as a promoter with publicity and promotion offices in the main markets abroad. It is envisaged that Uganda Hotels, and Uganda Wildlife Development might become subsidiary companies of the Board, that the tour organizing function of Uganda Wildlife Development might be split off under a new subsidiary

company, and that the National Parks should become responsible to the Board. The Board might also set up a central booking office for all hotels in Uganda. The Board is intended to be a commercial venture with an initial share capital of Sh 8 million to be contributed by the Government. The chairman, who will be also the full-time managing director, and other members of the Board will be Government appointees. Among Board members there will be a representative of the hotel industry and a representative of travel agents.

40. As it has been envisaged, the Tourist Board could have two main functions, apart from that of being the main coordinator of development in the field of tourism. It could be an owner and operator of hotels and a financier of investments in tourism and at the same time it would be responsible for tourism promotion and publicity both in Uganda and abroad. These two roles may not easily be combined. As a hotel owner and operator, it may be difficult for the Board to avoid promoting and publicizing its own particular interests rather than tourism in Uganda generally. But equally important will be the financial burden of promotional activities. Insofar as the Board fulfills its obligations to establish tourist promotion and publicity services both in Uganda and abroad, for the benefit not only of its own commercial tourist enterprises but those of the tourism sector in general, this will involve heavy expenditures for which there will be no direct financial return to the Board regarded as a commercial enterprise. This would be a serious drain on the Board's resources; it would limit its ability to finance new ventures and also its creditworthiness as a borrower of funds.

41. Tourist promotion services should benefit the industry as a whole and the whole economy. As such they should be financed from general government funds or to a limited extent from an industry-wide levy, perhaps on visitor-nights.[1/] But in these circumstances it is essential that the promotion activities should not favor one particular group in the industry over others.

42. In respect of tourist promotion services abroad, there would clearly be great economies to be gained from a joint promotion service mounted by Uganda, Kenya and Tanzania, rather than each working independently. At present there are fears that the main beneficiary of a joint service would be Kenya; this in the view of Tanzania and Uganda was the case in the past. Nevertheless if promotion offices were set up with staff drawn from all three countries and if promotion material were designed jointly and approved by all, the legitimate interests of each participant could probably be protected. Given the differences between the attractions of each country, their continguity, and the desire of many tourists to visit more than one East African country, the three countries would seem to have more to gain by pooling their resources and promoting tourism to East Africa than by each attempting to go its own way.

43. The Tourist Board could have a useful role in financing investment in the industry provided it can mobilize resources. One of the problems in the past has been the financing of hotel development. The Board's initial capital funds, though useful, are not large and it would presumably expect

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1/ which was the incidental benefit of yielding good hotel visitor statistics.

to look for partners in new ventures. Private investors will probably welcome participation by the Board under suitable conditions. If it is to fill this role adequately, it is essential that the burden of financing tourist promotion should not fall on the Board. These considerations point to the need to draw a rather sharp distinction between the proposed functions of the Board: on the one hand the function of promotion, which could be combined with the supervision of hotel standards, the grading of hotels and the representation of the industry in its relationships with Government; on the other hand the function of hotel ownership and management, linked with tour operations and the financing of new investments in the industry.

44. In implementing the proposed organization and operation of the Board, care should be taken to avoid damage to private interests in the industry. The Board may have under its control a hotel chain and a company organizing tours. There is a possibility of a private group of investors establishing a similar link between a hotel chain and a tour organizing company. Such links can clearly be of value, but in the situation of Uganda they could result in pressure on those tour operators having no financial stake in either hotel chain. These tour organizers have contributed significantly to the growth of tourism in the past and have gained valuable experience and foreign connections. Their legitimate interests could be safeguarded in various ways. Whatever arrangements are devised,however, it would not be in the best interests of Uganda for the tourist industry to become the exclusive preserve of one or at most two groups, even if one were in the public sector. The proposal to establish a central booking service by the Tourist Board is related to this point; such a service could be valuable insofar as it supplements existing services and is operated on a co-operative basis.

45. While welcoming the proposed establishment of the Tourist Board as a means of coordinating the development of tourism, the mission believes that the reconciliation of all its objectives may be difficult, and that there would be merit in separating more clearly some of its proposed functions, as indicated above.

4. THE ECONOMICS OF TOURISM IN UGANDA

Foreign Exchange Earnings

46. A number of estimates have been made of Uganda's earnings of foreign exchange from tourism. Some of these estimates are based on estimates of average daily expenditures and of average lengths of stay. In a recent study made by the Ministry of Information and Tourism, expenditures are estimated at Sh 240 a day for short-term visitors (staying 5 days on average) and Sh 140 a day for long-term visitors (staying 33 days on average). Total earnings on this basis in 1968 are estimated at Sh 92 million. As indicated in paragraph 5, statistics on visitor days are largely estimates, and the estimated average length of stay has been reduced somewhat in calculating foreign exchange earnings. Average expenditures of Sh 240 a day accord quite well with the average daily cost to the visitor of organized tours in Uganda, but the numbers of visitors taking organized tours is much below the estimated total of short-term visitors. For the remainder average daily expenditure in many cases is probably less than

Sh 240, though for business visitors it could be higher. In these circumstances, the estimate of exchange earnings must be regarded as very approximate only; the data on visitors to the parks and their average length of stay point to a substantially lower figure.

47. Even if the total of exchange earnings is uncertain, there can be little doubt about the fast rate of growth in the past three years. Moreover, tourism prospects are such that even if the more conservative projection of visitor numbers is taken, exchange earnings would double within five years. Thus, although on the basis of the estimate given above, gross foreign exchange earnings from tourism equal less than 6% of earnings from commodity exports, their rapid rise at a time when earnings from commodity exports are tending to stagnate, points to a higher investment priority being accorded to tourism development than a simple arithmetical comparison might suggest.

48. The impact of this rise in earnings on the growth of income in Uganda is related to the import component in visitor expenditures. In regard to current consumption, partial data indicate the import component to be of the order of 25 percent, while if capital costs are added the total import component is probably about 30 percent.

Employment

49. So far tourism is not a large employer of labor in Uganda. The numbers of workers directly employed probably do not exceed more than a few thousand out of the total of nearly a quarter of a million employed in the economy. If secondary employment is taken into account as well as the sales of handicrafts and other local products to tourists, the impact on the economy is of course considerably wider.

Economic Returns

50. While tourism is making a significant contribution to the economy and to foreign exchange earnings, its results in terms of financial returns on investment have not in all cases been satisfactory. Taking only the hotels on the main tourist circuit, some individual units have earned a satisfactory return, but others, notably the new Apolo Hotel in Kampala and the lodges in the National Parks, have not, and it is likely that overall the economic return on investment in these facilities has been very small or even negative. This reflects in part the provision of capacity considerably in excess of demand in the case of the Apolo Hotel and one of the Park lodges, and also the high capital costs of these units. Investment costs ranged from Sh 58,000 to Sh 64,000 per bed in the Park lodges and amounted to Sh 70,000 per bed in the Apolo Hotel. As indicated above, the standards of facilities in these hotels are high, but standards adequate for the great majority of visitors can be provided at considerably lower cost, while luxury suites for the very wealthy tourist can be included in hotel plans. Given the seasonal nature of the traffic, an average bed occupancy of about 65 percent in Park lodges is probably close to the maximum attainable. At present tariff levels, and with good management, this should provide a very satisfactory return on investment, if capital costs are at realistic levels. Experience elsewhere in East Africa points to a cost per bed of Sh 40,000 as being about the upper

limit at present if an adequate return on investments in Park lodges is to be achieved. With good design, a lodge of a standard expected by today's international tourist can be built at such a cost.

51. Unfortunately on preliminary estimates, the cost of some of the new facilities to be provided in the Parks will be substantially higher, partly because financing is tied to foreign procurement. The estimated cost of the extension of the existing lodge at Paraa near Murchison Falls is Sh 40,000 per bed, even though no extensions to the public rooms are required; while the proposed "Treetops" is provisionally estimated to cost Sh 50,000 per bed. The "Treetops" will have some special features, and an above-average daily rate will be charged, but for the more orthodox game lodge extensions it is most desirable that efforts should be made to prune capital costs.

52. If consideration of the returns on investments in tourism is broadened to include investments in National Parks and in the required infrastructure, it is more difficult to identify the appropriate costs and benefits. Large sums have been and are to be spent on improving the main highways used by tourists and on new airport facilities. Adequate figures are not available to apportion these costs between tourists and other users, and the identification of benefits has not so far been attempted by the Ugandan authorities. The National Parks do not cover their operating costs from current revenues. This position is unlikely to change rapidly even with a rapid increase in numbers of visitors. Returns on investment made by tour operators appear high, though in this area investments are small in relation to the organization and labor services provided. There is insufficient data to enable an assessment of the overall returns to the economy of past investments in tourism to be made, though there are clear indications that returns in the private sector have often been favorable while returns in the public sector have been small or negative. With investments more carefully adjusted to the market and good management, an improved performance in the public sector could be achieved. This is vital if tourism is to make the full contribution to the economy of which it is capable.

Conclusion

53. Though its contribution to output and to foreign exchange earnings is still small, tourism in Uganda has good growth prospects and merits continued support from the Government. The planned expansion of hotel and lodge accommodations and of facilities in the National Parks appears broadly justified. The financing of the hotel development program is not yet complete; progress in this is urgent if the planned expansion of capacity is to be realized by 1971. In order that the new hotel facilities should yield an adequate return on the investment required, it is essential that capital costs should be kept to the minimum consistent with maintaining adequate standards of accommodation; a cost per bed of about Sh 40,000 should be attainable rather than the Sh 60,000 per bed spent on the park lodges in recent years. If the lower figure is attained and if capacity increases are adjusted closely to the growth in demand, tourism can make a valuable contribution to the expansion of the Ugandan economy.

5. TOURISM PROJECTS

54. As the major infrastructure investments (highways and Entebbe airport) required to meet the growth of tourist traffic in the next several years have already been largely financed, with the exception of a new terminal building at Entebbe airport, financing still required relates largely to hotels and national parks. Substantial funds for the present hotel investment program have been mobilized, but additional funds will be required for parts of the present program and for accommodations to be added after 1971. Financing for the National Parks which has already been partly financed from a British loan, faces the problem of a very small foreign exchange component. Thus the projects for which the Bank might consider providing finance are the airport terminal at Entebbe and new hotels and lodges. It would be preferable if lending for the latter could be channelled through a suitable financial intermediary.