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## INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT INTERNATIONAL DEVELOPMENT ASSOCIATION

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THE ECONOMIC DEVELOPMENT

AND PROSPECTS

OF

TANZANIA

(in four volumes)

VOLUME II

ANNEX I: AGRICULTURE AND RURAL DEVELOPMENT

ANNEX II: TOURISM

ANNEX III: URBAN DEVELOPMENT AND HOUSING

June 22, 1972

CURRENCY EQUIVALENTS

1 Tanzanian Shilling	=	U.S.\$0.14
1 U.S. Dollar	=	Sh 7.14

This report is based on the findings of a mission which visited Tanzania during August/September 1971. The mission consisted of the following: Messrs. Lyle M. Hansen (mission chief); Pieter Bottelier (general economics); John Cleave (agriculture); Andrew Hayman (tourism); Esref Erkmen (power); Raimundo Guarda (consultant on housing and urban development).

ANNEX I

AGRICULTURE AND RURAL DEVELOPMENT

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#### A. Background

1. Agriculture in the Economy. Agriculture and related activities continue to make up the largest single sector in the Tanzanian economy. In 1970, 40 percent of GDP was derived from this sector, and rather over half of the value of the sector's output was derived from subsistence production. In 1970, agricultural exports <sup>1/</sup> accounted for 77.9 percent of national total. Coffee, cotton and sisal are the major foreign exchange earners. About 94 percent of the country's population of 13.2 million live in rural areas and 90 percent of the economically active people are engaged in the agricultural sector. Except for population, which is growing at about 2.7 percent p.a., these figures have not changed significantly in recent years. Land is generally plentiful, but there is localized population pressure on Mt. Kilimanjaro, in the Usambara and the Southern Highlands, and in the Lake Victoria basin.
2. Most production is from smallholdings, cultivated by hand using family labor. Large scale agriculture is represented by estates, engaged in sisal, coffee, tea and coconut production; and State Farms, mainly in wheat, rice and livestock. Estate production has diminished in importance particularly as sisal has declined, and the State Farm program remains small. Tanzania's national herd of 13 million cattle is the second largest in Africa. The herd is largely of Zebus, grazed extensively over the 40 percent of the country which is free from tsetse infestation. There is limited use of oxen for cultivation, mainly in the western cotton areas. Tanzania is largely self-sufficient in staples, but 11 percent of total imports in 1970 were foods among which dairy products, wheat and maize were major items.
3. The Second Five-Year Plan. The emphasis in SFYP is on rural development. The major aim of the Plan is to make significant progress towards socialist organization of rural activity, based on ujamaa vijijini. State Farms fill a need for larger scale production units, but the approach to mechanization is to be cautious, based on proven viability. A similar caution is expressed towards irrigation development. Agricultural production is to be increased within a framework of crop priorities based on production possibilities, market prospects, and a desire for increased self-sufficiency. High priority is given to raising nutritional standards in the country, and to the expansion of selected export crops including cotton, flue-cured tobacco, tea, oil-seeds and cashewnuts. Sisal, pyrethrum and coffee are given lower priority. Increased efficiency in production is noted to be important for wheat and maize, and quality improvements are important to tea, flue-cured tobacco, cashewnuts and coffee. A vigorous policy for the development of public marketing institutions is foreseen, and cooperatives are to play a central role in primary marketing.
4. The previous Bank economic mission to Tanzania was in the country shortly after SFYP was launched. The mission made a close appraisal of the

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<sup>1/</sup> SITC sections 0, 1, 2 less 27 and 28, and 4.

Plan proposals for agriculture and rural development, but performance under the Plan obviously could not be appraised. This Annex focuses on progress so far, rather under half-way through the Plan period, and attempts to outline prospects by the end of that time. Production and prospects of major commodities are dealt with in Section B. Some of the more important programs and current policy issues are discussed in Section D.

B. Commodity Production and Prospects

5. Recent commodity production levels and performance and prospects for major commodities in the SFYP period are discussed below. A summary view of agricultural growth prospects and its effect on the economy is given in Section C.

Cotton

6. In recent years cotton has given way to coffee as Tanzania's most valuable single crop and highest export earner. It has, however, the greatest potential for absolute growth of any agricultural product in the country. The Mwanza, Shinyanga, Mara and West Lake Regions, around Lake Victoria, accounted for 96 percent of production in 1969/70<sup>1/</sup>. Production is very variable. Peak production was in 1965/66, a year of exceptionally favorable weather, when over 436,000 bales <sup>2/</sup> were ginned and this level was approached in 1969/70, another climatically good year. However, average production is well under 400,000 bales which was taken as the base output for the first year of SFYP, and a long way short of the SFYP trend target of 615,000 bales by 1974. <sup>3/</sup> Over the past decade production has about doubled, but the growth has been far from steady. If this average rate of expansion were to continue, the target would not be achieved until 1977 or 1978.

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<sup>1/</sup> The cotton growing season in Tanzania starts with planting in late November or in December and ends with harvesting in May to August in the following year. The season referred to throughout this report is this growing season: in this case the year of harvest, 1970. The LSMB records a season which refers to ginning and selling, and would in this case be 1970/71.

<sup>2/</sup> All bale figures used in this report are standard bales of 400 lbs net weight. Running, or actual bales, reported by LSMB, are heavier by up to 5 percent.

<sup>3/</sup> SFYP, Volume I, p. 197. The Plan is inconsistent on this, however, and quotes 700,000 bales in Volume II, p. 57, and 700,000 in climatically favorable years in Volume I, p. 44. 700,000 bales was quoted by Tanzania as the target at the Inter-Cotton Advisory Committee meeting in May/June 1971.

Table 1: COTTON PRODUCTION AND EXPORT VALUE

<u>Season</u>	<u>Production</u>		<u>Export Value</u> <sup>/1</sup>	
	<u>Actual</u> ('000 bales of 400 lbs)	<u>3-yr Average</u>	(Sh million)	(% of Exports)
1960/61	167.5	190.0	154	14.4
1964/65	370.1	365.5	256	17.2
1965/66	436.2	366.8	350	19.8
1966/67	294.2	337.8	251	14.5
1967/68	283.1	323.5	283	16.9
1968/69	393.2	366.5	235	13.3
1969/70	423.2	383.9	247	13.4
1970/71	<u>335.2</u> <sup>/2</sup>	-	n.a.	n.a.

/1 In calendar year in which production season ends. Includes inter-territorial trade.

/2 Provisional.

Source: Kilimo and East African Customs and Excise.

7. The last Bank economic mission considered the 700,000 target ambitious and in its report noted the need to overcome a number of problems if this was to be achieved. These included:

- (a) the lack of an integrated cotton production campaign;
- (b) a low input of agricultural staff in the cotton areas, poor quality of staff, and inadequate liaison between extension and research;
- (c) an expected 15 percent decline in world cotton prices for 1969-74, likely to be reflected in producer prices;
- (d) alternative cash crops competing for resources in the cotton area, and receiving emphasis in Kilimo programs;
- (e) a low use of fertilizers and insecticides.

8. There has been little change in the average level of production of cotton since the last mission, and to the problems noted - all of which remain - may be added a short-term but critical shortage of trucks which seems

to have affected distribution of seed for the 1971/72 crop, and may affect collection of the crop in 1972; and possible disruption caused by the reorganization of the Nyanza Cooperative Union (NCU). There is little chance that the Plan target will be met even with a major effort to increase production, and no prospect of it being reached without such an effort. The 1970-71 Economic Survey refers to a major exercise, under way by Kilimo, to increase cotton production. Little evidence was found of any consistent and concentrated effort, however, in spite of the fact that achieving the higher cotton target could gross an increment of Tsh 200 million (\$28 million) a year in foreign exchange, compared with anticipated increments of Tsh 82.1 million (\$11.5 million) by 1978 from tobacco developments and a projected Tsh 6.4 million (\$8.9 million) at maturity (about 12 years) from a recently negotiated tea credit. Increases are possible both from expansion of area and intensification.

9. Scope for Production Increases. There are no reliable figures on which to judge past changes in area or yields. Overall yields have increased in the last 3 decades almost entirely as a result of improved seed, but it seems that most recent growth in production has come about from area expansion. Continued increases in area can only take place in limited areas. Some can be anticipated in new areas of Mara, Tabora and West Lake Regions, and a limited extension of area within the present cotton-growing areas of Shinyanga and Mwanza Regions. Continued expansion of area at the rate of population growth in Mwanza and Shinyanga, and at the trend rate of production increase (7.2 percent) in all other areas implies an expansion in production of about 45,000 bales in 3 years from this source.

10. Further area expansion could come about if farmers who have recently shifted from cotton production into rice and maize return to cotton growing. The two crops compete directly with cotton for labor time, and have been favored by relatively high statutory prices. Between 1965/66 and 1968/69, the price of rice to farmers rose by about 25 percent, and production costs are just double recent quotations for major foreign producers. 1/ In contrast cotton prices rose only 10 percent in this period and remain as much as one-fifth below the levels of the 1950's and early 1960's. The rice price policy has probably cost considerable cotton exports as well as depriving consumers of relatively cheap food. The area transferred to rice production has not been established. One considered estimate is that 1970/71 production was down 68,000 bales as a result of the relatively favorable price of rice. Paddy purchases from the combined Mara, Mwanza and Shinyanga Regions in the last 6 years are recorded as follows (m tons):

<u>1965/66</u>	<u>1966/67</u>	<u>1967/68</u>	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>
4,340	3,420	5,820	11,650	15,620	18,000 (est.)

1/ Malawi, 1969: \$66.14/m. ton at central depot. Madagascar, 1967 \$65.00/m. ton, delivered mill, compared with \$127 ex main agents store in Tanzania.

Rice prices should be cut, but not too rapidly for fear of over-reaction by producers. A feasible rate of change of policy on rice prices could possibly result in an increase of 20,000 bales by the end of the next three years: more if this was combined with increases in producer prices for cotton.

11. Yield increases will come about from use of new seed varieties, application of fertilizers and spray, and improved management. Plans exist for the distribution of UK 69 seed to cover an area currently producing 180,000 bales. A 20 percent increase in yields from improved seed would give an increment of 36,000 bales. The acceptance of fertilizer and spray would depend on relative prices of the inputs and cotton, the proven increments from fertilizers, the effectiveness of the ultra-low volume (ULV) sprays on which experiments are being conducted, and the coverage and quality of extension staff.

12. Fertilizer recommendations for the Western cotton zone are the application of 125 kg/ha of ammonium sulphate or its equivalent, plus 125 kg of single superphosphate per ha, for a total cost, at present unsubsidized prices, of about Tsh 150/-ha. This is a blanket recommendation for the whole of the zone. The average increment to be expected from small farms does not appear to have been established. On experimental plots increments of 25-50 percent are obtained regularly. This is on early planted, correctly spaced, sprayed cotton on which the average yield of control plots is typically at least twice that of the average on farmers' plots in the Western Cotton Growing Area (WCGA). Applied to the average yield in WCGA of about 500 kg/ha, a 25 percent increment would barely pay for the fertilizer: a full 50 percent would leave about Tsh 150/-ha to cover extra labor for fertilizer application, interest on any loan, profit, and risk.

13. Risk is a very important element in farmers' decisions, and will be viewed relative to income expectations. Given the wide range of climatic and soil conditions in WCGA, the individual farmer is exposed to considerable risk of under or over applying fertilizer and not achieving a worthwhile return in consequence. More locally, specific recommendations should be developed for sub-areas or Districts to reduce this risk. Fertilizer use is thought to have been applied to only about 15,000 ha in recent years. Even if this reached 40,000 ha in the next 3 years, the increment would only be about 9,000 bales. High acceptance rates are, however, unlikely without more specific, lower risk, recommendations. Once these are made they should be adhered to, because another problem met with in WCGA is that recommendations have changed frequently in recent years, confusing farmer and extension worker alike. A proposal for strengthening soil analysis facilities has been made, and this combined with existing research results is believed to be enough to enable refinement of present recommendations. Resources should be devoted to this work; but it cannot have much impact within the remaining 3-year period of SFYP.

14. Tanzania has been quick to see the advantages of ULV sprays. In pilot projects in 1970/71, 800 ha were sprayed, and a further experimental program for 1971/72 will treat 2,000 ha. Rather extravagant claims have

been made for the increment to spraying - about 1,500 kg per ha. A more realistic level would be 250 kg/ha. The ULV technique increases acceptance because the rate of application can be 6-8 times that using conventional hand pumps with water-soluble high volume sprays, and the task of drawing 30 gallons of water per ha - a grave disincentive to correct spraying in the conventional system - is avoided. The organization of spraying teams will take time to develop, and it is doubtful whether more than 20,000 ha or 5 percent of the planting can be fully covered by 1974, and to be effective this must also receive fertilizer application. An increment of 10,000 bales could come from this source, however.

15. An element in the acceptance rate for fertilizer, spray and improved management techniques - which are needed to complement the new inputs - is the coverage by extension staff both in numbers and quality. There appears to be one extension worker to every 1,000 farmers in the cotton zone, a poorer ratio than in the country as a whole. Surveys have shown that even cursory contact is made with only 30 percent of farmers in the area in any year, and that the quality of the advice given is often unsatisfactory. Increases in numbers of staff may help boost cotton production: reorganization of the extension system - as, for example, is proposed in ujamaa villages: and better maintenance of skills, supervision, and follow-up could increase effectiveness of existing staff. However, the impact of an extension service will depend above all on the economic viability of the recommendations being made. The yield increases reliably expected from fertilizer and spray application, from modifying the timing of operations, from better land preparation or weeding, must give returns of several times the farmers' cost if the improvements are to be accepted. Generally, this has not applied to the recommendations made in WCGA. The full benefit of individual recommendations is, however, only achieved when the other improvements are also made. This is the argument for a package approach to the provision of inputs and extension advice, an approach which would be eminently suited to the WCGA where a high proportion of farmers are engaged on the same crop. A number of different packages could be designed to fit varying conditions, although to be effective the quality of extension staff would have to be improved by re-training and closer supervision.

16. The value of returns, and acceptance of new ideas will be effected by the prices paid to farmers. In the face of falling world prices, increased prices to growers may not be possible by the mid-1970's. A temporary halt in the decline, occasioned by a world shortage of cotton, allows this to be done if export duties are drastically cut, or removed, and marketing and ginning made more efficient. Export duty takes about 7 cents/kg seed cotton from the farmer, and it has been estimated that a further 6 to 9 cents/kg could be pared from primary society and ginning costs. A recent estimate put the price elasticity of supply of Tanzania cotton at 2.44, but the price in this case is a long-term "normal" expectation. If this is accepted an increase in price by 4-5 cents/kg seed cotton, maintained through the plan period, could lead to a further 35,000-40,000 bales increase by about 1974. Because cotton prices are expected to fall, producers prices

probably could only be raised and held by this amount if the export duty were paid into a stabilization fund which could be run down as prices fell.

17. In summary, a crude estimate of possibilities for production increases in the immediate future would be:

(a) Area expansion

(i) new land opened up	45,000 bales
(ii) reduction in rice price	20,000 "

(b) Yield increases

(i) improved seed	36,000	"
(ii) fertilizers	9,000	"
(iii) ULV sprays	10,000	"

(c) Area and yield response to  
price increases

40,000 "

160,000 "

or anything from 100,000-200,000 bales. Variations in weather conditions can cause 100,000-bale changes in the crop from year to year, but a normal year in 1974 may be looked upon as 540,000 bales; a good year perhaps 580,000 bales. This is 75,000-120,000 bales short of the target figures but assumes a continuation of present efforts plus revisions of price policy. There seems to be very little chance that the target will be reached on schedule, and clearly a renewed effort needs to be made to reach and surpass this in the near future.

18. Diversion for domestic consumption has increased recently to about 110,000 bales a year. This could rise to about 130,000 bales by the end of SFYP, leaving 410,000 bales for export, or 450,000 in a favorable year.

19. A Cotton Campaign. The previous Bank economic report set out nine recommendations for lines of action on a cotton campaign. Principal among them are:

- (a) a drastic reduction or elimination of the export duty on cotton;
- (b) the appointment of an Interregional Committee to draw up a campaign to increase cotton production;
- (c) the development of a "package approach" as part of the campaign;
- (d) an examination of the feasibility of introducing a subsidy on insecticides for a definite period;

- (e) mounting a full farm management survey in WCGA;
- (f) accelerated interpretation of fertilizer trials to produce district-level recommendations; and
- (g) when these recommendations are available, to consider the possibilities of introducing a subsidy on fertilizers to encourage acceptance.

Except for the establishment of a cotton campaign committee which does not seem to have been very active, the recommendations have not been pursued, although they remain generally valid. Any insecticide subsidy should be applied to endosulfan and, if necessary, an insecticide effective against dysdercus and calidea, for delivery by ULV sprays. Alternatively, the subsidy element could be applied to spraying teams organized by Kilimo to provide a spray service to farmers. The fertilizer recommendations should be developed for each district, and it is probably possible to develop specific recommendations for ujamaa villages. There appears to be some justification for additional feeder roads in Maswa and Shinyanga districts.

20. A project to boost cotton production in Geita district has been under preparation since November, 1970. It is proposed that it should be submitted for Bank Group financing. The project, touching on 50,000 farmers growing 60,000 ha of cotton, would result in an increment of close to 100,000 bales a year when fully operative. This is, however, based on very high yield and management assumptions. The preparation of the project has been delayed by new policy requirements that all production under the project is based on ujamaa villages, and that extensive tractor mechanization is introduced. The area is one of the more difficult ones in which to encourage ujamaa villages, and mechanization is not likely to pay in the conditions under which it will operate. The project as at present envisaged will not produce rapid results, will divert resources from more feasible programs, and will be unnecessarily difficult to manage. Insisting that only farmers who have accepted ujamaa production should benefit in a scheme of this type is clearly politically justifiable, but it is far from clear that mechanization helps either political or economic objectives in Geita. A program for Geita should initially concentrate on a low capital-cost approach in which farmers - if desired, confined to those who have developed an ujamaa plot - can obtain inputs or credit in a package. More rapid growth of ujamaa production will be achievable in new, peripheral, areas. In these new areas, also, because labor rather than land is the dominant constraint, some mechanization could be justified. Improved techniques should not, however, be thought of only in terms of ploughing land. A major labor bottleneck in cotton production typically occurs in weeding, and another at, and following, harvest time. In spite of the high yield penalties to late planted cotton in unimproved systems these are often more important than land preparation, and point not only to the limited usefulness of tractor mechanization applied to land clearing only, but also to the possibilities in herbicides, and the need to examine whether time spent on cotton sorting and

marketing could be reduced. Sorting at the time of picking has been shown to reduce labor needs, and it may also be questioned whether the present grading of seed cotton is necessary for at least that part of the crop consumed within Tanzania. Time spent by farmers on the physical marketing of cotton may also be reduceable by changes in collection and payment systems.

Coffee

21. Since 1968, coffee has surpassed cotton as Tanzania's largest single earner of foreign exchange: in 1970 the value of the crop was an all time record of Tsh 312 million, over 18 percent of total exports. A major factor was the firm price, which followed a frost in Brazil.

Table 2: COFFEE EXPORTS

	Arabica		Robusta		Total Value	
	'000 m tons	Value million Tsh	'000 m tons	Value Tsh	Million Tsh	% of exports
1960-62 av.	21.7	127.0	3.6	10.3	137.3	
1966	35.9	251.5	9.3	49.6	301.1	18.0
1967	32.7	202.3	7.0	34.3	236.6	14.4
1968	34.9	221.4	8.4	42.2	263.6	16.7
1969	35.8	215.9	8.3	41.5	257.4	15.4
1970	33.1	245.8	5.3	66.6	312.4	18.5

Source: E.A. Customs and Excise.

22. Brazilian production was less hard hit than anticipated, however, and prices weakened in late 1970 and 1971. By mid-1971, the average price for Tanzania milds on quota markets was 10 percent below levels of the previous year. Milds account for 80 percent of production. Total Tanzanian production is well in excess of the present 622,511 bag (37,350 m. ton) quota under the International Coffee Agreement. For years, a considerable quantity of Tanzania coffee has been sold on non-quota markets on which prices are on average 10-15 percent below those of quota sales for the same type of coffee. The estimated crop for 1971/72, 48,000 m. tons, is about 67 percent of the Plan target level for 1974 and about equal to the 1972/73 production goal (810,000 bags) under the ICA. In spite of vigorous selling on new markets, Tanzania can be expected to develop considerable surplus stocks of coffee: probably mostly of the lower priced hard coffees dominated by Robustas from the West Lake region. A provisional figure of 180,000 bags

(10,800 tons) will be stored by the Tanzania Coffee Board (TCB) at Moshi, and later, storage for Robustas will be established at Tanga port. Surpluses are soon likely to exceed the 180,000 bag level, however.

Table 3: COFFEE PRODUCTION AND SALES

	Production ('000 m. tons)			Coffee Board Sales			
				Mild		Hard	
	Mild	Hard	Total	Volume ('000 m. tons)	Price (Tsh/ton)	Volume ('000 m. tons)	Price (Tsh/ton)
1966	39.0	13.0	51.9	34.9	6,124	14.8	4,848
1967	29.7	10.4	40.2	30.4	5,530	10.9	4,592
1968	35.1	16.4	51.5	36.8	5,210	14.2	4,344
1969	35.9	10.3	46.1	40.7	4,754	13.2	3,850
1970	32.5	16.1	48.7	24.8	6,758	15.1	5,110

Source: The Economic Survey, 1970-71.

23. Crop Prospects. The SFYP aims to reduce dependence on coffee by expansion into new crops, including tobacco, and to cut the rate of growth of coffee production. This is to be effected by diversification within the growing areas and by pricing and marketing measures. The diversification program includes the development of tea in Mbeya, West Lake and Tanga, and dairying in Kilimanjaro and West Lake. The tea development is moving well. There has been some movement into dairying by private estates -- currently responsible for one quarter of Tanzanian coffee production -- and a 1,100 acre dairy state farm is planned for Bukoba. An additional cess of Tsh 8 million is to be raised in 1971/72 to pay for the purchase of a coffee curing works and storage at Moshi. This implies a tax of 7-8 cts per kg on growers prices, and is the equivalent of a 25 percent additional collection from export duty.

24. The International Coffee Agreement has succeeded in stabilizing coffee prices within agreed limits. It is assumed that the agreement will continue beyond its expiring date of 1973. Given the continued existence of the ICA and restraint in coffee planting, coffee prices in the mid-1970's will probably be between the high level of 1970 and those of the surplus situation of 1969 while world exports grow at about 3 percent p.a. Prices are projected to drop by a further 4-5 percent by the end of the decade.

25. Tanzania should clearly continue with efforts to divert resources into production of alternative crops, particularly in the areas of the lower value and more eratically priced hard coffees. Consideration could be given to continuing a levy in place of the storage cess in following years, to

further discourage marginal producers. It could replace, as a source of revenue, the current export duty on cotton. The average price of seed cotton to growers could then be raised by 5-6¢/kg without loss of central government revenue.

26. Little research effort is currently going into coffee. This policy is understandable given the surplus production situation, the limited research funds available, and the existence in neighboring Kenya of knowledge which can be adapted to the Tanzania situation fairly readily. A close watch should, however, be kept for the spread of Coffee Berry Disease, present in the Kilimanjaro area. Control of this virulent fungus is achieved by copper sprays which can be applied by farmers themselves. Efforts to improve coffee quality, particularly by improving pulpery management, should continue. A high priority study into the causes of varying performances by pulperies was suggested in the 1971 preinvestment program and should be proceeded with without delay.

Sisal

27. Tanzania continues to produce about one-third of the world supply of sisal, a position it shares with Brazil. Sisal is the third most important source of foreign exchange. The export value of over Tsh 170 million represents 10 percent of all exports. A decade ago, sisal was easily the leading export, and earnings of Tsh 310 million were well over one-quarter of the total.

Table 4: SISAL FIBRE - AREA PRODUCTION, EXPORTS AND PRICE

	Mature Area ('000 ha)	Production (....'000 m.tons...)	Exports	Value of Exports (Tsh, million)	Export Price (£/1 m.ton)
1960-62 av.	213.8	217.4 <u>/2</u>	196	284	72.6
1966	228.6	221.6	184	223	60.6
1967	236.6	216.6	191	191	50.6
1968	230.1	208.0	178	91	49.6
1969	227.5	212.1	161	151	54.8
1970	n.a.	202.2	204	170	48.8
1971	n.a.	168.0 <u>/3</u>	n.a.	n.a.	n.a.

/1 Sisal export prices are usually, as here, quoted in £ sterling.

/2 1962.

/3 Provisional.

28. The threats of oversupply on a slowly declining market and competition from synthetics continue. In recognition of these factors SFYP aims to reduce export sales to 152-173,000 m. tons, cut production costs, and find new end-users for sisal. Both the reduced production and the increased efficiency targets are being achieved. The provisional production figure for 1971 is probably below trend, and is below Tanzania's quota for exports of fibre and cord under the new informal agreement between producers.

29. The Future of Sisal. The important issue will be Tanzania's ability to produce at a cost which is low enough to compete on the one hand with Brazilian sisal - produced mainly by smallholders - and on the other hand with the synthetic substitute, polypropylene. If Tanzanian production costs are close to the Brazilian level, there is far greater likelihood of survival of the quota agreement reactivated in May 1971. The earlier agreement, after holding prices stable for 18 months, had collapsed early in 1970 following overselling by Brazil. It has been estimated that the lowest price Brazil could stand (in 1970) was the equivalent of Tsh 740 m. ton/ex-estate, or about Tsh 775 f.o.b. Dar-es-Salaam. With or without the agreement, however, prices will have to hold at a level which excludes the possibility of a switch by spinners and users to polypropylene products. This level is hard to define but could be in the range of £65-£70 per m. ton, cif London, or Tsh 800-900 per m. ton fob Dar-es-Salaam.

30. Limited information shows a wide range of costs on Tanzania estates. The best can produce in the Tsh 650-850/m. ton range, and this has to be the target for all estates which are to continue in production. In 1968 under one-third of all estates were in this range. Factors affecting costs will be estate size, labor wages and productivity, and sisal yields. There is no fixed optimum size of estate, but very small estates are unlikely to be efficient. Unit labor costs are tending to rise - both wages and indirect costs in housing and welfare services - and can only be held down per unit of output if productivity is increased. Major strides have been made in this direction in Tanzania, at the cost, inevitable in this declining-market situation, of cutting employment. Apart from sound management, labor productivity will also be improved by high fiber yields, a function of estate location and planting material. In the present rationalization program these factors are recognized by confining replanting to the larger, better sited, high yielding estates, while smaller estates are allowed to go out of sisal production. Use of higher-yielding hybrid material is presently limited by its susceptibility to disease. The diversification program for estates which cannot compete should continue, in spite of the problems it is facing. However, this objective should not divert attention from the prime need to continue to improve productivity in the sisal industry.

31. Hopes of finding new end-uses for sisal are pinned to the development of a sisal pulp mill, to process annually 3.2 million m. tons of green sisal into 120,000 m. tons of air-dry pulp for the manufacturing of high quality paper abroad. Tsh 360 million are earmarked in SFYP for this project, but current cost estimates are between Tsh 900 million and one billion.

The project has been subjected to several studies and is still being appraised by NDC officials. A location near Hale in Tanga region has been selected because of the availability of power, water, good transport links, new sisal land and existing sisal estates. The latter will provide only 20 percent of material. The mill would be planned to depend on new planting for most of its requirements, and to ensure an even supply this would probably be grown on an estate basis. Both bolls and leaves would be used, but only 15 percent of available bolls can be incorporated in the pulp.

32. Assuming reasonably rapid progress with pre-investment requirements, the earliest date at which the mill could begin operations would be 1976. Full capacity would be reached about 1982, when the export value would be about Tsh 220 million, about 12 percent of the present total exports.

Cashew

33. Tanzania remains the second largest world producer of cashewnuts with a third of the world crop. Cashewnuts, exported in shell are Tanzania's fourth largest export, currently worth about Tsh 120 million p.a. About 15-20 percent of the crop is processed in Tanzania and there is a small export of locally shelled nuts. Growth in export value has averaged over 11 percent p.a. over the last decade but has stagnated in the SFYP period. However, the crop has potential for considerable further development. Early estimates for purchases of the 1971/72 crop put it at a record 140,000 m. tons.

Table 5: CASHEWNUTS: PURCHASES AND EXPORTS  
(in shell)

	1960-62 av.	1966	1967	1968	1969	1970	1971
Purchases /1 ('000 m. tons)	n.a.	73.1	80.7	76.6	111.0	114.2	113.1
Exports ('000 m. tons)	46.0	72.2	70.9	79.7	82.2	77.4	n.a.
Export value (Tsh, million)	42	100	92	107	119	115	n.a.

/1 July of previous year to June of year under reference.

Source: NAPB and E.A. Customs and Excise.

34. Cashewnuts in Tanzania are harvested by smallholders. Ninety-eight percent of the crop is grown in Mtwara, Lindi and Coast regions. Marketing is by cooperatives selling to NAPB which has a monopoly for export and local sales. Prices to growers are fixed for each of 13 zones and declared annually before the main harvest. The whole raw nut export crop is sent to India for shelling and re-export. Shelling is a skilled but unpleasant hand

operation which has not attracted Tanzania labor. Improvements in machines for processing, and the recent creation of an Indian monopsony which is alleged to have forced Tanzania prices down by about 15 percent in 1971 have encouraged new interest in processing the crop in Tanzania. However, Tanzania's harvest comes at a time (September-February) when alternative supplies for the Indian processors are seasonally short. This has caused the processors to compete strongly for the crop, giving Tanzania a price advantage but making the establishment of economic processing plants in Tanzania more difficult. This makes it more likely that the India State Trading Corporation will relax its buying policy when faced with the threat of losing supplies to Tanzanian processors. An analysis of the possibilities of cashew processing in Tanzania was carried out by a firm of consultants which submitted its report to NDC in January 1970. Seven hand-processing plants have been set up with the help of UNDP technical assistance and a further 7 are planned. These are based on Ujamaa villages and are reported to be doing well.

35. Increasing Returns to Cashew. The previous mission pointed out the desirability of more active extension effort on growing cashew than is envisaged by SFYP. Given the good long run price and volume prospects for the crop this advice remains pertinent. Shorter term gains to the economy can be achieved by:

- a. increasing the harvest of the existing crop - this may be achieved by improving access to remote areas and improving primary marketing efficiency;
- b. improving the quality of the crop, which depends largely on regular gathering of fallen nuts, keeping the ground beneath trees clear of weeds, good drying by farmers, and improved storage at primary society level; and
- c. local processing of the crop which will give considerable foreign exchange and employment benefits but for which quality improvements are prerequisites if processing is to be viable.

36. The report on cashew processing sets out a sound development plan which includes the introduction of quality standards and price differentials for quality, the introduction of re-drying facilities, and the establishment of both hand and mechanical processing. A program is set out under which machine processing gradually replaces hand shelling and, if early action is taken, 90 percent of the crop could be processed in Tanzania by 1980. Early research is needed into improved storage methods, and to identify nut qualities relevant to processing yields and which can be measured in the field. The gross value added in processing is about Tsh 600-900 per ton of raw nuts: the net foreign exchange gain of locally processing the present crop could be about Tsh 75 million per annum, and the value of Cashewnut Shell Liquid (CNSL) recovered from the shells could add a further Tsh 10-12 million. This assumes achievement of high quality nuts, but gives some measure of the potentially achievable returns.

37. A medium priority study of the cashew industry was included in the Bank-prepared 1971 preinvestment study proposals. The priority rating does not reflect the added urgency for action since the formation of the India State Trading Corporation, and omits a need to draw up a feeder road and storage program in Mtwara and Lindi Regions. Local estimates are that one-third of the present crop is not harvested. If these are accurate the pay-off from feeder road construction would be considerable. Good roads are important because the crop is harvested throughout the rains.

38. Some NAPB overhead costs are charged as a percentage of selling price and FOB price, rather than in approximate proportion to the cost of handling, and this hits unfairly at high value crops like cashewnuts over low-value bulky crops such as cassava and maize. Levies made on this basis, including export tax at 7.5 percent, account for Tsh 200 out of Tsh 400 estimated costs added between Board buying price and FOB. The possibilities of modifying this method of charging should be examined; and the benefits of devoting the proceeds to increasing producer prices or increasing directly productive investment in the cashew crop should be weighed. In 1970/71 some Tsh 4 million from the Levy was devoted to storage development for the crop. A close watch should also be kept on the marketing costs of cooperatives. There is strong evidence of inefficiencies with some societies, particularly in Mtwara and Lindi Regions, and these reduce producer prices and incentives, and therefore the growth of a foreign exchange earner with good prospects. A recent study estimated that prices to producers could be increased by at least 15 percent by improving marketing procedures. The figure could well have been put higher. Other savings could be achieved by some amalgamation of societies. Those handling under about 400 tons of nuts a year appear to have excessively high unit costs.

39. Some extra return to the cashew crop will arise from the use of cashew apples to produce "moshi", the local raw spirit which is to be re-distilled in a newly opened distillery in Dar-es-Salaam to produce the national liquor, Konyagi. Under 1/2 percent of available fruit is needed for planned production, however, so the value of the joint product will not stimulate cashewnut production.

Tea

40. The growth of Tanzania's tea production has been considerable since the early 1960's. Recent acreage and production figures are shown in Table 6.

Table 6: TEA AREA, PRODUCTION AND VALUE

(Area - '000 ha: Production - kg million, made tea: Value - Tsh million)

	1962	1965	1966	1967	1968	1969	1970	1971
<b>Area under tea</b>								
Immature /1	1.7	1.6	.8	1.5	1.4	1.4	1.8	2.2 /2
Producing	6.4	7.8	8.2	8.9	9.4	9.8	10.1	11.5 /2
Total	8.1	9.4	10.0	10.4	10.8	11.2	11.9	13.7 /2
Production	4.3	5.7	6.8	7.2	7.9	8.8	8.5	n.a.
Value /3	32	29	45	43	45	56	52	n.a.

/1 Planted less than 3 years.

/2 Estimates.

/3 Average export price, applied to total production.

Source: TTA and E.A. Trade Reports.

41. The drop in production in 1970 was caused by a partial failure of the long rains: a crop of 9.5 million kg can be expected for 1971. Continued expansion through the plan period is expected with the assistance of an IDA credit (1972) for a smallholder tea development. NORAD is also participating in this project. Total project costs are estimated at Tsh 115 million of which Tsh 76.5 million will be financed by IDA.

42. Expansion Prospects. The expansion of smallholder tea planting will take place in Rungwe and Njombe districts in the southern highlands, in Bukoba, and in Korogwe. The IDA project covers 8,345 ha of the total 9,700 ha expansion called for in SFYP. It will make little impact within the Plan period, but at full maturity, about 1984, the project will produce about 9.5 million kg of made tea. This will double Tanzania's present production, half of which will then be in the hands of smallholders. The value of Tanzanian tea exports, by the mid-1980's, given only the current expansion, could be Tsh 120 million.

43. The Plan also calls for an additional 20,000 ha of planting in the five years following. This is an ambitious target, but there seems every reason why Tanzania should plan to continue tea expansion beyond the present plan period. Prices may be expected to be rather lower than those obtained recently but the good quality and high yields obtainable by Tanzania smallholders should assure them of a competitive place in the world market. Even a 10,000 ha expansion in the late 1970's could raise the value of Tanzania's

tea exports to about Tsh 175 million per annum by 1984 and Tsh 200 million when in full production.

Flue-cured Tobacco

44. In the last 5 years, flue-cured tobacco production has been expanding at an average rate of 18% p.a., mainly by smallholders. The 1970/71 crop was smaller than anticipated due to a drought in the western growing region. The crop is currently worth about Tsh 45 million to growers, and all tobacco exports, mainly flue-cured, are valued at about Tsh 59 million, making it the 5th agricultural export of the mainland.

Table 7: FLUE-CURED TOBACCO - PRODUCTION, PRICE, AND VALUE

<u>Crop Year</u>	<u>Production</u> (m. tons)	<u>Av. Price to Growers</u> (Tsh/kg)	<u>Value to Growers</u> (Tsh '000)
1963/64	1,497	5.54	8,316
1966/67	3,576	4.76	17,022
1967/68	4,592	5.20	23,878
1968/69	5,103	5.16	26,331
1969/70	8,137	5.12	41,661
1970/71	8,926	5.12	45,701

Source: T.T.B.

45. Development Plans. Flue-cured tobacco development is being assisted by an IDA credit of US\$9.0 million (Tsh 64 million) for a project which aims to increase flue-cured tobacco production by about 9,000 m. tons by 1978 at which date total production is planned to be over 20,000 m. tons. While significant progress has been made during the first two years of the SFYP, the Plan target production growth rate of 25% p.a. appears to be overambitious. The target production level for 1974 of 15,900 m. tons will probably not be achieved.

46. The tobacco project involves the settlement of 15,000 new tobacco growers in villages of 100 farmers each, 10 such villages being served by a cooperative society. Seasonal and medium-term credit, the construction of curing barns, grading sheds, access roads and water supplies; the provision of extension staff, and the construction of storage, processing facilities, and auction floors are included in the project.

47. The rate of settlement of farmers has been slower than anticipated, and received an absolute set-back with the net loss of nearly 200 settlers in

the last quarter of 1971. Another problem requiring early attention is the present serious shortage of wood in the Iringa area (this has been a factor in the poor quality of the Iringa crop), and the slow development of firewood plantations in the new areas. Priority should be given to an economic appraisal of using alternative fuels to wood. The urgency in this study is accentuated by the need to construct different types of curing barns if wood is not used for curing. Improvements to a number of links are needed - particularly Tabora-Kitunda and Chunya-Gua. The development of flue-cured tobacco involves a number of ministries, divisions and parastatals, and both central and regional officers. Aggravated by budget cuts in FY 1971/72, this is causing problems of coordination and is slowing development of the crop. Consideration is being given to the creation of a Tobacco Authority. This would be a sound move, and it is to be hoped that the central control given an Authority would extend to research and training as well as production operations.

48. Export market prospects for flue-cured tobacco are good, but prices may be influenced by developments in Rhodesia. A current slight up-trend in prices could be revised if Rhodesian farmers re-enter the world market on a big scale as before the sanctions imposed following the country's Unilateral Declaration of Independence in 1965. Tanzania can also expect to have to export a higher proportion of its crop to overseas markets -- as opposed to East Africa -- at lower average values. Tanzanian officials are convinced that they can hold on to their markets even if Rhodesia does export again. Complacency would be misplaced however. Rhodesian exports probably would not reach to former levels, and would presumably not have the advantage which Tanzania has of associate status in the important EEC market. The high quality Rhodesian produce will particularly compete with US exports, but the efficiency of the Rhodesian producers who have stayed in tobacco production make their potential entry into other markets an ever-present possibility. The importance of Tanzania retaining a high quality product, and low-cost production, cannot be overstressed.

#### Other Tobacco

49. Production of fire-cured tobacco in 1970/71 suffered from bad weather at harvest. The modest expansion of 6% p.a. envisaged in SFYP, if based on the average production for 1968/69-1970/71, will give about 4,000 m. tons by 1974, and this is probably as much as the market will absorb.

Table 8: FIRE-CURED TOBACCO -- PRODUCTION, PRICE AND VALUE

<u>Crop Year</u>	<u>Production</u> (m. tons)	<u>Av. Price to Growers</u> (Tsh/kg)	<u>Value to Growers</u> (Tsh '000)
1963/64	862	n.a.	n.a.
1966/67	1,527	1.48	2,260
1967/68	3,161	1.83	5,785
1968/69	2,159	1.78	3,843
1969/70	3,527	1.75	6,172
1970/71	2,143	1.69	3,622

Source: TTB

50. Prospects for Burley tobacco are rather brighter than for fire-cured. In the absence of Rhodesian flue-cured, Burley has been used for tobacco in which aroma has been added, and world exports grew by about 5% p.a., in the last half of the 1970's. This would be a suitable crop for Morogoro Region, and could be established without elaborate prior research using information available from neighboring countries.

Pyrethrum

51. From a rather minor crop of under 300 tons of dried flowers grown on European-owned estates in the early 1950's, pyrethrum production in Tanzania rose to a peak of 6,000 tons, one-third of world demand in 1967. Ninety-five percent of the Tanzania crop in 1967 was grown by smallholders. The following year, prices were reduced by over 20% following a lead by Kenya, and production declined steadily. The fall in production also occurred in Kenya and Ecuador, the other significant producers, to the point that there has been a world shortage of pyrethrum and a price increase.

Table 9: PYRETHRUM PRODUCTION AND EXPORTS

	<u>Production (Dried Flowers) (m. tons)</u>	<u>Pyrethrin Content (%)</u>	<u>Export Value<sup>/1</sup> (Tsh million)</u>
1962	1,276	1.29	7.0
1965/66	4,153	1.23	30.5
1966/67	5,971	1.23	31.1
1967/68	5,184	1.17	20.3
1968/69	4,833	1.20	22.9
1969/70	2,455	1.25	12.9
1970/71	2,709	n.a.	n.a.

/1 Extract, flowers and residues.

Source: Kilimo and E.A. Customs and Excise.

52. The combined net export value of flowers, powder, extract, and residues of Tsh 12.9 million in 1970 represents about 1% of Tanzania's agricultural exports in that year. In 1967 it was about 2% of agricultural exports. The SFYP aimed at discouraging expansion of production while looking for new markets. The production response since 1967 to the price fall has, however, been excessive, and growers are being asked to increase production. The small 1971 recovery may have been in response to official encouragement of growers in the Southern Highlands or to a small rise in the average price actually received in 1970. This would reflect the higher pyrethrin content of that year, because the basic price to growers, set at Tsh 4/05 per kg of dried flowers at 1.30 percent pyrethrin, remained unchanged.

53. It appears that Tanzania has, however, been slow to react to changed conditions on the market. Official encouragement and a higher base price to growers caused Kenya smallholders to expand production from under 6,000 m tons of flowers in 1969/70 to nearly 10,000 m tons in 1970/71, and production there is expected to top the 1967/68 record in the current year. New producers - Zaire, Rwanda, and Kashmir - are appearing, and Tanzania will lose its place in the world market unless early steps are taken. There are two principal lines of action which Tanzania should be taking to maintain this small but valuable smallholder crop:

- (a) ensure that as much of the market price as possible is passed on to growers, and
- (b) raise productivity by improving yields and pyrethrin content.

54. Faced with the same world market, Kenya growers received Sh 4/65 per kg for 1.30% flowers, 16% more than Tanzania growers, and they further benefit from average pyrethrin contents as much as 10% above Tanzania's. 1/ In 1970/71, not only was the increase in world prices not passed on to Tanzania growers, but there is some evidence that cooperative society levies on this price tended to increase in absolute as well as relative terms. This may reflect increasing costs, aggravating the effect on unit prices of diminishing volumes, but it also calls for a close look at the efficiency of the cooperative marketing organizations, including the possibility of amalgamating societies which handle small quantities of flowers. A study of the pyrethrum industry, to decide future production, processing and marketing policies, has been included in the program of the Marketing Development Bureau and work has started on this. Although emphasis in the terms of reference is on overseas marketing it may be anticipated that action on the rationalization of the collection system will prove of more immediate importance.

55. A comparison of smallholder and estate yields, and of Kenya pyrethrin content with the Tanzania average, indicates the scope for improvements in smallholder productivity. Smallholder production has competitive advantages over estates which is becoming increasingly important as low cost synthetics are developed. This advantage can only be realized, however, if improved varieties with higher yields and pyrethrin content are used, and if drying and handling is adequate to preserve the quality of the crop.

56. There are good prospects that the use of natural pyrethrins in insecticidal sprays will continue in spite of the development of a synthetic substitute. So far no one synthetic which is non-toxic to humans combines the knock-down ability, killing power, and non-persistence of pyrethrin. Much will depend on how quickly these properties are developed, on the relative prices of natural and synthetic forms, and the continued use of pyrethrins in conjunction with man-made insecticides. Likely technological advances such as the development of ultra low volume sprays, and increasing the persistence of the spray, both of which could make the use of pyrethrin sprays economical for agricultural use, appear to favor the continued use of pyrethrum as much as they support synthetics.

#### Oilseeds

57. Only a small part of groundnut, castor, sesame and sunflower production is recorded as marketed. SFYP states an aim to increase production in contrast to the decline in the 1960's, and one or more of these crops is in the first three crop priorities in 21 districts. However, purchases by the NAPB have generally continued to decline in the Plan period, and no local or national extension effort has been put into oilseeds. World market prices have fluctuated but the trend has stayed level for the past 15 years. However, increased marketing costs since oilseeds became commodities handled by NAPB have reduced the level of producer prices by 25% or more. Into store prices on groundnuts have been raised recently (and a further increase may be

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1/ In June 1971, Kenya declared new prices for the 1971/72 season giving the farmer Sh 4/96 per kg for 1.30% flowers.

planned) but the effect of this on producers may have been lost through excessive deductions by Cooperative Unions. Drought also hit production in 1970/71.

Table 10: OILSEEDS - RECORDED PURCHASES, /1 BUYING PRICES, /2 EXPORTS AND VALUE

	1960/62 av.	1966	1967	1968	1969	1970	1971
<u>Groundnuts</u>							
Purchases (m. tons)	12,612 <sup>/3</sup>	7,530	7,692	6,412	3,487	3,106	5,000 <sup>/4</sup>
Buying price (Tsh/ton) <sup>/5</sup>	n.a.	1,230	1,230	1,230	1,345	1,380	1,450
Exports (m. tons)	8,756	4,900	5,853	3,850	1,102	1,363	n.a.
Export value (million Tsh)	11.8	7.0	7.3	5.5	2.1	2.3	n.a.
<u>Sesame</u>							
Purchases (m. tons)	n.a.	6,890	8,008	5,685	7,870	5,166	7,500 <sup>/4</sup>
Buying price (Tsh/ton) <sup>/6</sup>	n.a.	1,210	1,400	1,400	1,380	1,340	1,340
Exports (m. tons)	10,358	7,386	6,484	7,062	7,563	5,287	n.a.
Export value (million Tsh)	13.1	12.2	11.7	10.0	11.2	9.8	n.a.
<u>Castor Seeds</u>							
Purchases (m. tons)	n.a.	13,160	8,763	10,618	5,725	13,101	13,500 <sup>/4</sup>
Buying price (Tsh/ton) <sup>/6</sup>	n.a.	740	685	830	920	820	780
Exports (m. tons)	14,410	16,127	14,144	7,822	9,026	2,807	n.a.
Export value (million Tsh)	13.5	12.9	13.0	8.1	8.7	2.4	n.a.
<u>Sunflower Seeds</u>							
Purchases (m. tons)	n.a.	5,460	5,059	7,560	5,925	5,895	7,600 <sup>/4</sup>
Buying price (Tsh/ton) <sup>/7</sup>	n.a.	560	535	535	565	555	575
Exports (m. tons)	11,888	5,557	4,212	4,809	4,714	10,088	n.a.
Export value (million Tsh)	6.8	5.2	3.2	3.5	3.5	8.9	n.a.

/1 Crop year - year under reference and following year.

/2 FOR coast.

/3 1961-1962 average.

/4 Estimates. These appear to be rather optimistic.

/5 Edible nuts. Edible nuts fetch a premium of about Tsh 200/m ton FOR Coast over crushing nuts.

/6 FAQ.

/7 Tanzania mixed.

Source: NAPB and E.A. Customs and Excise.

58. In 1970/71, some 450 ha were under soya on Nachingweya State Farm and yields of 1,200 kg/ha are reported. About 100 m. tons of soya beans were exported in 1970.

59. Net exports of oilseeds in 1970 were worth about Tsh 23.4 million, and net exports of vegetable oils were valued at a further Tsh 1.2 million. Both of these figures exclude copra and copra oil, discussed below. World market oilseed prices have recently been buoyant having risen 30-40% from 1968 through 1970. The peak - caused largely by short groundnut crops in Nigeria and Senegal and unexpected retention of sunflower seeds by the USSR - has passed, and prices are expected to be back at 1968 levels by 1974/75. With growing local domestic demand (which will only partially be met from cotton seed oil), it is expected that exports will continue at, or below, the current level.

Copra and Copra Oil

60. There are no statistics of coconut production, but copra and copra oil exports have been recorded since 1968.

Table 11: COPRA AND COPRA OIL - NET EXPORTS AND VALUE

	<u>1968</u>	<u>1969</u>	<u>1970</u>
COFRA - Exports (m. tons)	11,752	16,276	9,093
Export value (Tsh million)	16.8	18.6	11.5
Av. value (Tsh/m. ton)	1,426	1,159	1,263
COPRA OIL - Exports (m. tons)	1,460	2,649	8,935
Export value (Tsh million)	4.4	6.8	22.0
Av. value (Tsh/m. ton)	3,030	2,557	2,458
Total export value (Tsh million)	21.2	25.2	33.5

61. The plan target for copra production of about 14,500 m. tons was exceeded in 1969, and considerable added value is being achieved by increasing local processing and export of oil. Competition with sales of fresh nuts is reported to be restricting growth, but the crop clearly has considerable potential. There is little information available on producing areas or anticipated increases in production. The 1970 export of oil and copra suggests the produce of about 18,000 ha being marketed for export, and the only known planned development of the crop - 200 ha planted on Zagarene State Farm - will make no impact within SFYP period, and little in total. Export projections made later in the report assume the equivalent of 25,000 m. tons of copra exported, with 80 percent processed in Tanzania and prices slightly below 1970 levels.

Wheat

62. The aim of SFYP is self-sufficiency in soft wheat, estimated at 85 percent of total need. This objective is far from being reached although 1970 was a good production year. Demand is estimated to be rising 15 percent p.a.

Table 12: WHEAT - PRODUCTION AND IMPORTS  
('000 m. tons)

	1960-62 <u>av.</u>	1966	1967	1968	1969	1970
Soft wheat production	11.5/1	33.3	29.7	27.2	25.0	37.6
Soft wheat imports ex Kenya	19.0	4.4	23.7	28.5	5.1	17.8
Total whole wheat imports	25.9	19.6	29.1	36.0	9.7	19.5
Milled wheat imports	4.3	4.5	0.1	8.9	6.5	9.3
Value of wheat imports (Tsh million)	19.7	15.2	18.7	26.9	11.3	18.8

/1 1961-62 average.

Source: NAPB and E.A. Customs and Excise.

63. Ten State farms were to have been the main instrument for expanded wheat production. In fact, only 3 have been developed, namely Milondikwa, Ilindi, and Sumbawanga (Nkundi), all in the Southern highlands. Following highly unsatisfactory results, the intention is now to concentrate efforts on these through the plan period. Yields on the farms have varied between 3 and 15 bags/ha: even the higher level is barely economic. It has proved difficult to find a satisfactory nutrient balance on the varied soils of the farms, rust attack caused significant losses, and the research on wheat problems has been concentrated on the Arusha area where growing conditions are very different. The difficulties of growing wheat on the State farms are aggravated by lack of skilled management, a problem which has hit the whole State farm program. There has been some wheat production by ujamaa villages especially in Iringa Region. They appear to be successful but the impact on total needs must be small and unless yields are at least doubled the crop will not give continuously attractive returns to growers.

64. The world market price of wheat, which declined in 1969, is likely to continue to be relatively low but stable, through the 1970's. A sharp rise in 1970 was caused by a shortage of feed grains and a consequent increased demand for soft wheat. It was a temporary phenomenon and prices are now back to pre-rise levels.

65. A program of wheat research which includes soil investigations is now underway, financed by a \$100,000 grant from Canada. Until useable results are available from this work, the present restraint on wheat production on State farms should continue. There has been no declared change in SFYP policy on wheat production, however. The recommendations of the previous mission remain relevant. These were that the priority accorded wheat in SFYP

regional programs be relaxed, that smallholder production should only be encouraged in the northern areas where it is clearly economic, and that a production economist examine the prospects for wheat production, pricing and marketing and guide government policy on the basis of his findings. A low priority study included in the program of the Marketing Development Bureau does not, as presently framed, sufficiently emphasize production policy aspects to cover this need.

Maize

66. Maize is the staple food of many of the people in rural Tanzania and the most important cereal in the country. Only a small proportion of the crop passes through official marketing channels and this residual therefore fluctuates widely. The SFYP objective is to be self-sufficient in the crop and carry sufficient stocks to maintain supplies in years of bad harvest. Average purchases and sales by the statutory marketing institution over the past decade have been 100,000 m. tons, varying between 47,000 m. tons in 1969-70 and an estimated 175,000 m. tons in 1970-71. In 1972 maize is being imported.

67. The basic policy of maintaining self-sufficiency is sound. Exports are typically at a loss, and imports when needed tend to be costly because of transport charges. The major problem is maintaining an even, low cost, supply for the commercial markets. Government is attempting to establish stocks which would cover random fluctuations in supply but must be hindered in this by an inflexible pricing policy and high marketing costs, discussed later in this annex. Costs of production could be lowered by the adoption of high-yielding hybrids available e.g. from Kenya and using fertilizer. A campaign to introduce these techniques, which have been such a success in neighboring Kenya and Zambia, has started. Higher yields will simultaneously benefit the producer, allow lower prices to urban consumers, and encourage poultry producers.

Sugar

68. Sugar is an estate crop, produced entirely for domestic consumption. SFYP calls for self-sufficiency by 1974, estimated in the plan document to require production of 112,000 m. tons. A more recent estimate puts domestic sugar demand at 115,000-125,000 m. tons by the end of SFYP period. Production in 1970/71 was set back by an insect attack on the largest estate, TPC at Arusha Chini, and generally production is barely keeping up with demand.

Table 13: SUGAR PRODUCTION, IMPORTS AND CONSUMPTION

	1960-62 av.	1966	1967	1968	1969	1970	1971
Production ('000 m. tons)	32.7	71.0	71.8	82.4	92.0	87.3	92.9
Imports ('000 m. tons)	23.8	1.0	1.5	7.5	3.6	4.9	18.0/1
Consumption ('000 m. tons)/2	60.4	76.2	75.8	82.9	88.7	102.8	n.a.
Consumption per capita (kg)	5.75	6.37	6.18	6.59	6.86	7.74	n.a.

/1 Estimate.

/2 Includes Zanzibar.

Source: Economic Survey, 1970-71; E.A. Customs and Excise.

69. Per capita consumption of sugar in Tanzania is about half that of neighboring Uganda and Kenya. It is however increasing rapidly although erratically; the trend over the five years through 1971 has been about 8 percent growth p.a.

70. A consulting group, reporting in July 1969, has provided guidelines for expansion. The report considers the domestic industry can provide 125,000 m. tons by 1974 and 180,000 by 1979. The immediate extra production can come from existing estates, but a new factory unit is required and it is suggested that this should be developed on the Mtibwa estate. The capital cost of the expansion of production to 125,000 m. tons is estimated at Tsh 75 million. For the further development to meet 1979 demand it will probably be desirable to develop a completely new estate and factory, although some additional expansion at Mtibwa may also be justified. Preliminary surveys to obtain information for a final decision should start now. Location will be influenced more by production conditions - adequate land, availability of irrigation water, and climate - than by market location. A site in Kigoma may be suitable, but a rigorous economic investigation should be carried out.

#### Rice

71. The aim of SFYP is to transform Tanzania from a net importer of rice to an exporter. Production has risen faster than consumption so that considerable surpluses of rice are in store, but exports are only possible at a loss.

Table 14: PADDY PRODUCTION, SALES, AND PRICES, AND RICE IMPORTS

	<u>1961/62</u>	<u>1965/66</u>	<u>1966/67</u>	<u>1967/68</u>	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>
<u>Paddy</u>							
Production ('000 m. tons)	n.a.	131.3	110.2	n.a.	n.a.	n.a.	181.1
Purchases ('000 m. tons)	30.3	19.8	37.5	30.1	46.1	50.3	63.5
Stocks ('000 m. tons)	n.a.	1.4	1.6	3.5	8.0	30.5	59.0
Price/ <sup>1</sup> (T Sh/m. ton)	n.a.	600	610	680	750	750	750
<u>Rice</u>							
Imports/ <sup>2</sup>	2.1	13.6	2.7	15.1	8.0	7.3	n.a.

<sup>1/1</sup> Into-store price, standard grade.

<sup>1/2</sup> Calendar year of second part of crop year.

Source: ERB, NAPB, Kilimo, E.A. Customs and Excise.

72. Paddy Policies. Production has been stimulated by high producer prices, about 55-60 cents/kg, but at the same time consumption has been restrained by high fixed consumer prices and an inadequate distribution system. Exports at prices which cover cost of production are not possible because this cost is double the price at which rice is being sold on the world market by major producers, and quality is below world market standards. In consequence, paddy representing over one-year's demand for marketed rice is being held in stock. In May 1971 stocks were calculated to be 69,650 m. tons equal to 47,000 tons of rice. The spread between producers and consumers prices is probably excessive. The Cooperative Union and Society costs, deducted from the basic into-store price to arrive at farmers prices, need close scrutiny, while fixed milling and wholesale margins are large enough to allow efficient and inefficient operations alike to function.

73. The over-high fixed prices for rice have several effects. Among these, they:

- (a) cause a direct diversion of resources from other crops of higher national value - e.g. the reduction in cotton production in the NCU area attributed to rice growing;
- (b) encourage a mis-allocation of capital into mechanized, irrigated rice because this appears viable at the declared prices;

- (c) are causing excessive demands for investment and working capital for storage, which is probably causing NAPB a financial loss; and
- (d) responsible for being consumers charged unnecessarily high prices for rice and rice products; effective demand is thereby reduced.

74. The objective of national self-sufficiency would be valid, provided production could be carried out in areas in which unused resources were available because they lack alternative crops, and if foreign exchange were critically short. However, as the last mission recommended, Tanzania should drop the goal of trying to export rice. It is recommended that a gradual downward adjustment in prices be effected and price differentials introduced to favor smallholder production in areas such as Rungwe over the Lake Victoria area where competition with cotton is working against the national interest. At the same time, every effort should be made to narrow marketing margins at all levels, and reduce consumer prices of rice.

75. Some changes have already been made and the government is clearly aware of the problem facing it. A Paddy Study Group was established in May 1971, charged with examining cost structures and margins allowed in the paddy price formula and to suggest improvements in the marketing system. The retail price of rice was dropped by 14% (from T Sh 1/75 per kg for Grade I to T Sh 1/50/kg) in December 1971. However, for the first time producer prices were fixed for the 1971/72 season. These appear to be at levels generally at or above those paid in 1970/71. The prices are not uniform throughout the country. The highest are in the cotton zones of Mwanza and Shinyanga regions at 61 cents/kg, and lowest, at 57 cents/kg, close to Dar es Salaam. The rationale behind this pattern is not clear, but the likely effect, unless poor weather intervenes, is a record rice crop and further inroads on the cotton crop.

#### Beef Cattle

76. Tanzania's beef supply is drawn from mixed herds of indigenous breeds raised under extensive traditional techniques in the areas (about 40 percent of the country) clear of tsetse fly. Two-thirds of the herd is located in Shinyanga, Arusha, Dodoma and Mara Regions. The second largest in Africa, the herd has been growing at 3 percent over the last 50 years but this rate has accelerated in the past decade. Offtake has tended to be about 9 percent of the herd, but under a third of this has been for sales of slaughter stock. Three-quarters of the sale for slaughter goes to urban and rural markets in Tanzania as fresh meat. The rest, exported as processed and live beef cattle was valued at Tsh 29 million in 1970, 2 percent of total exports.

Table 15: NATIONAL HERD SIZE AND OFFTAKE  
(<sup>'000 head</sup>)

	<u>1961</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
Total herd size	8,139	10,524	11,087	11,685	12,323	13,003/1
Recorded sales/2	234	284	251	237	364	318
Sales as % of herd	2.9	2.7	2.3	2.0	3.0	2.4
Total offtake/3	1,333	1,180	951	979	1,150	1,192
Offtake as % of herd	16.3	11.2	8.6	8.4	9.3	9.2

/1 Other estimates put current figure at 11.7 and 12.5 million.

/2 Official sales of slaughter stock excluding immatures.

/3 Assumed equal to hide exports.

Source: Kilimo

77. Development Prospects. Over the past two decades, urban consumption has risen at an average rate of 9 percent p.a. On reasonable assumptions of population growth, continuing urbanization rates, real income increases, income elasticity of demand, consumption is expected to continue increasing at 7-13 percent p.a. On the supply side the key variables are the rate of growth of the national herd and the rate of commercial offtake. The latter has averaged about 2.5 percent but could reach 4 percent, a rate already exceeded in some districts. Middle range results from different assumptions on these variables and different opinions on the true size of the herd, suggest an export surplus by 1976 of 90,000 to 190,000 head of cattle. On the basis that the rate of offtake will be rather slow to increase at first a judgment has been made that the exportable surplus in the next 5 years will grow to an average of 110,000 head by 1976 and that improved rates of offtake which could become effective by 1980 could double this surplus in that year. This assumes that a recent reversal of the old pricing policy which has encouraged domestic consumption in urban areas and discouraged cattle sales, is adhered to. This reversal - effected in January 1972 - involved an average cattle price increase to the farmer of nearly 40 percent. This price increase is also aimed at eliminating unrecorded cattle export to neighboring countries.

78. Beef offtake, the rate of live weight gain, and growth of herd size are greatly limited by the traditional management of cattle and the attitude of herders to them. Offtake will also be effected by the efficiency of the marketing organization, and returns to stock will also be lowered by shrinkage and mortality between purchase and slaughter. A disappointing offtake in 1970 has been blamed in part on the elimination of company buyers at District markets and the inability of District Councils to fulfill this function.

Through 1971 this has been further effected by the policy of holding beef prices down in urban centers. These markets take over half the offtake for sale, but butchers prices averaged around Tsh 250 per head of cattle in 1970 compared with export prices of Tsh 400. As mentioned in the preceding paragraph, prices were raised substantially in January 1972 and it is assumed that this particular problem has been overcome.

79. A major beef development project submitted for Bank Group financing aims to tackle these problems in 8 sub-projects to develop new production units, produce vaccine to control Foot and Mouth Disease, improve stock routes and holding grounds, establish a major new buying organization and open new processing plants within the producing areas to turn out products for domestic and overseas markets. The improved marketing structure and cattle-route improvement is central to the project. The marketing company is proposed as a subsidiary of NAFCO, and the opportunity should be taken on its establishment to rationalize control of livestock production in Tanzania, at present divided between the Advisory Services Division and Production Development Division of Kilimo, with research separated again in the Research and Training Division; Maendeleo, and the parastatal NACO. A Livestock Coordination Committee has been formed to recommend a more workable structure. The increase in annual beef production derived from the project at maturity (13 years) is estimated at nearly 50,000 m. tons cdw, worth Tsh 176 million. The project, the parts of which are integrated and interdependent, envisages a 5-year investment program totalling Tsh 278 million.

#### Dairying

80. In 1970, Tanzania's imports of milk were the equivalent of about 155,000 liters a day, a non-significant reduction from the level recorded by the last mission. Milk and dairy imports were valued at Tsh 42 million in 1970, up from Tsh 32 million in 1968. However, nearly 60 percent of milk imports in 1970 were in the form of dried skimmed milk with a landed value of Tsh 0.40 per liter and under 2 percent was as fresh whole milk from Kenya, imported at Tsh 1.75 per liter. Since the last mission there appears to have been a rational move towards providing more of Tanzania's nutritional requirements from low cost sources.

81. Dairy Projects. Declared dairy policy remains to develop low-cost local production to replace imports. For the commercial market this will require production from about 40,000 exotic and upgraded cattle. A growing local demand in producing areas can also be expected and should be met. Three major projects are being developed: these incorporate dairy State Farms as components. The projects are:

- (a) The establishment of two plants in Musoma region to process milk presently used for ghee into "long-life" milk and dried milk. Supplies approaching 25,000 liters a day are available. The Tsh 9 million project has been largely financed from Danish program loans and the dried milk plant is scheduled to

start operations in April 1972. Two dairy State Farms in the Region will provide a further 5,000 liters per day.

- (b) The development of a Freisian herd of 1,000 and a condensed milk processing plant on the Kitulo plateau. The project is in a detailed planning stage and dairy production levels of 20,000 liters in 1982 and over 60,000 liters in 1990 are forecast. Low-cost production is anticipated. The scheme would also provide stock for local farmers and provide an alternative source of income to coffee farmers in Rungwe.
- (c) Production by small farmers in the Kilimanjaro, Arusha and Tanga Regions to utilize surplus capacity in the Arusha creamery. A State Farm at Oljoro and the 800-ha NACO farm at Rongai produce cross-lined stock for farmers to replace 7,000 existing unimproved milkers. The project still requires further planning.

82. These schemes, together with a dairy program in Bukoba district, planned as part of coffee diversification plans for the area, could produce about 25 percent - 30 percent of present imports by 1985. This is less than the likely increase in demand. There is a need and a potential for much greater dairy development including the establishment of small, low-cost units, close to major population centers to supply high value fresh milk, and more production by small farmers using improved stock to supply rural needs. Such a small milk unit could be a standard feature of ujamaa villages in tsetse-free areas.

83. The importance of dairying as an import substitution development and as a cheap source of improved nutrition indicates a need for greatly intensified and coordinated effort. Responsibilities are again divided between divisions of Kilimo and parastatals. Much of the development effort so far has been ad hoc, depending on bilateral aid offers or the availability of coffee diversification funds. A coordinated program should be developed covering production, distribution and processing into the range of needed milk products. The program should cover production for local markets as well as urban centers for which centralized processing is necessary. It should take account of needed infrastructure including water supplies, collecting points and transport, veterinary and services and farmer training, and stock multiplication. The program should be based on a detailed study aimed at framing an optimum mix of locations, producing units and products in the light of anticipated demand and alternative sources of supply. A study on these lines was proposed in the 1971 pre-investment study program and should be pursued with high priority. It could be carried out by the Dairy Working Party, suggested by the last mission. High level technical assistance will be needed and could be obtained under a bilateral aid program.

#### Fisheries

84. A bad year on both marine and freshwater fisheries in 1969 interrupted what appears to be a fairly strong rising trend in Tanzania's fish

production suggesting that SFYP targets will be exceeded. Nearly 90 percent of production but only two-thirds of value, is derived from freshwater fisheries, dominated by Lake Victoria.

Table 16: FISH PRODUCTION ('000 m. tons)  
AND VALUE (Tsh million)

	1964		1967		1968		1969		1970 <sup>/1</sup>	
	Weight	Value	Weight	Value	Weight	Value	Weight	Value	Weight	Value
Freshwater	87.3	43.1	98.6	59.0	120.1	63.8	95.8	49.6	165.5	80.0
of which										
Lake										
Victoria	49.4	33.6	43.8	33.4	59.4	40.2	53.9	33.4	n.a.	n.a.
Marine	<u>10.1</u>	<u>12.2</u>	<u>19.6</u>	<u>30.6</u>	<u>22.0</u>	<u>34.4</u>	<u>17.0</u>	<u>28.8</u>	<u>20.5</u>	<u>40.8</u>
Total	97.4	55.3	118.2	89.6	142.1	98.2	112.8	78.2	186.0	120.8

/1 Preliminary.

Source: Fisheries Division.

85. Recorded trade in fish showed exports of Tsh 28.7 million in 1970, or 1.7 percent of total exports, mostly of smoked and dried fish. Imports totalled Tsh 4.6 million. This healthy trade balance is a relatively new feature. The fisheries division of Maliasili suggests that a large proportion of the benefit is absorbed in market costs and improvements in marketing may be a profitable approach to fisheries development.

Table 17: INTERTERRITORIAL FISH TRADE, 1966-1970  
(Tsh million)

	1966	1967	1968	1969	1970
Net balance	-1.0	-0.3	+5.5	+21.3	+24.1

Source: Fisheries Division.

86. The industry is in the hands of some 35,000 fishermen, operating about 15,000 vessels, only 3 percent of which are equipped with engines. Production is about 20-25 m. tons per vessel p.a. on Lake Victoria and averages under 10 m. tons p.a. elsewhere. Plans are in hand to develop fishing units included as projects in SFYP. Villages are to be established with modern facilities, including ice plants, storage, powered craft with modern equipment, auction halls, processing kilns and drying racks. Thirty inland and 10 coastal sites have been chosen. A number of trial units are reported to be working well in the 2-3 years since their establishment. Development

loans are recovered by fisheries division staff at the rate of 1/3 of the value of the catch. Other developments include boat building. Two yards established under the first Plan are operating, and three more included in SFYP are due to open. The yards are run by the fisheries division, although this type of operation would, perhaps, be better run on commercial principles

#### Forestry

87. The export performance of the forest industry is shown in Table 18. The unfavorable trade balance, which started immediately after 1960, is caused by paper imports which in 1969 made up 82 percent of total wood product imports.

Table 18: FOREST IMPORTS AND EXPORTS

	<u>1960</u>	<u>1966</u>	<u>1967</u>	<u>1968/1</u>	<u>1969/1</u>
<b>EXPORTS</b>					
<u>Roundwood (logs)</u> <sup>3</sup>					
Quantity '000 m <sup>3</sup>	2.4	1.4	1.7	1.7	4.6
Value million Tsh	1.8	0.9	0.9	0.9	1.9
<u>Sawnwood</u> <sup>3</sup>					
Quantity '000 m <sup>3</sup>	25.7	21.5	17.2	18.9	28.1
Value million Tsh	14.1	11.6	9.7	11.1	19.2
<u>Wood Products</u> <sup>3</sup>					
Quantity '000 m <sup>3</sup>	n.a.	n.a.	n.a.	n.a.	n.a.
Value million Tsh	*	2.6	1.4	2.8	3.2
Total Exports (Tsh million)	<u>15.9</u>	<u>15.1</u>	<u>12.0</u>	<u>14.8</u>	<u>24.3</u>
<b>IMPORTS</b>					
<u>Sawnwood</u>					
Quantity '000 m <sup>3</sup>	6.6	9.2	9.9	15.2	14.5
Value million Tsh	1.3	2.4	2.6	4.2	4.0
<u>Wood Products</u> <sup>3</sup>					
Quantity '000 m <sup>3</sup>	n.a.	n.a.	n.a.	n.a.	n.a.
Value million Tsh	10.1	40.2	40.9	50.4	51.5
Total Imports (Tsh million)	<u>11.4</u>	<u>42.6</u>	<u>43.5</u>	<u>54.6</u>	<u>55.5</u>

/1 Include Zanzibar.

Source: FAO

88. An inventory of forest resources is now being undertaken with Canadian technical and financial assistance under an agreement signed late in 1970. The inventory will cover the whole country. Preliminary results, due late in 1972, will provide the first data on which detailed appraisals for major investments in forest industries can be based. These appraisals were recommended in the Bank's 1972 pre-investment study program.

89. Responsibility for forestry projects, formerly under NDC, was taken over by the newly created Wood Industries Corporation (TWIC) in September 1971. TWIC has sole responsibility for timber exports although it is not yet involved in direct marketing and is currently responsible, through 3 operational companies, for 15 percent of timber products in the country. It is anticipated this proportion will be increased 3-4 times.

90. A survey of the best location of the wood industry is needed for the Third Plan. Two studies are proposed in the Bank's 1971 pre-investment program - one for hardwood development and the other for softwood. A start on relevant work has been made in an ongoing UNDP project. An interim report on Forest Industries Development Planning was published in 1971. The original project could not be completed because of lack of a forest inventory and has now been extended to include an indicative forestry development planning was published in 1971. The original project could not be completed because of lack of a forest inventory and has now been extended to include an indicative forestry development plan. As the forest inventory results become available, projects will also be identified, and detailed studies arising from these should be given high priority.

C. Summary of Export Growth Prospects

91. Major influences on agricultural growth are the prospects for export earnings, particularly of cotton, coffee, sisal, cashew and tobacco. Estimates of agricultural exports in 1974 are given in Table 19.

Table 19: PROJECTION OF AGRICULTURAL EXPORTS

Commodity	1970 (Actual)			1974 (Estimate)			Change	
	Quantity ('000 m. tons)	FOB Price (Tsh.)	Value (Tsh, million)	Quantity ('000 m. tons)	FOB Price (Tsh.)	Value (Tsh, million)	Value (Tsh, million)	%
Coffee	44.8	6963	312	55.0	5855	322	+10	+3
Cotton	60.7	4075	247	81.8/1	4010	328	+81	+33
Sisal	217.2	837	179	220.0	850	187	+ 3	+4
Cashewnuts	77.4	1487	115	130.0	1485	193	+78	+68
Tobacco	7.5	7898	59	13.5	7740	104	+45	+76
Tea	6.9	6084	42	10.9	6300	67	+25	+60
Pyrethrum Products	-	-	13	-	-	15	+ 2	+15
Oilseeds (Net) & vegetable oils	-	-	25	-	-	24	- 1	- 4
Coconut Products	22.2/2	-	33	25.0/2	-	39	+ 6	+18
Meat and meat Products	4.2/3	8620	36 )	8.2/4	8000	66	+27	+69
Live animals	10.2/4	315	3 )	—	—	—	—	—
Total			<u>1064</u>			<u>1345</u>	<u>+281</u>	<u>+26</u>

/1 Assuming good weather conditions.

/2 Copra equivalent.

/3 In 1969, 6,200 tons.

/4 '000 head.

This represents a rate of growth of 6% p.a. in the 4-year period, given favorable weather for cotton. Poor weather could reduce average growth to 4.5%. The most significant growth prospects in the SFYP period are in cashewnuts, tobacco and cotton. The rise in cotton production assumes a consistent and concerted campaign is pursued immediately. Production, however, will still be well below the SFYP target. Export growth is lower because, in the 4 years, domestic consumption is assumed to increase by

20,000 bales, worth Tsh 14.5 million at export prices. No major increase in local processing of cashewnuts is assumed in the 4 year-period and export growth assumes increased marketing from the existing crop. The rise in tobacco assumes no continuing delays in the development of the IDA assisted project.

92. In the period to 1980 the best prospects for continued growth probably rest with cotton (the 700,000 bale good weather target should be achievable as a standard crop by 1980), tea (exports of which are expected to treble by 1984), and beef (assuming proposals currently under discussion come to function). Continuing expansion in tobacco can be anticipated as current projects mature in the late 1970's, and in cashewnuts as Tanzania develops local processing.

#### D. Services, Programs and Policy Issues

93. Most of the issues raised in this section were treated in Part III of the Annex to the report of the 1969 mission and where possible that report is taken as the base in the following discussion.

##### The Ujamaa Village Program

94. There has been a tendency for outside observers to interpret Tanzania's unique Ujamaa village strategy narrowly as a villagization or a resettlement program. This is too limited a view of the ujamaa policy, which is one of developing a socialist society throughout the country, in both urban and rural areas, and encouraging cooperative forms of activity as a means of establishing this social transformation. The immediate objectives are social and political - to foster a sense of self-reliance through self-help, to achieve equality of income, and to raise rural incomes in order to close the rural/urban gap and reduce the flow of people to the major towns. It is, however, recognized that to be successful in these spheres, the strategy must be economically viable, and cooperative production - only possible with the new social attitude - is set as the final goal. The formation of vijiji vya ujamaa or ujamaa villages, which is one of the more conspicuous features of the execution of the policy, is important in those rural areas of Tanzania where the greatest progress towards ujamaa has been made so far. However, cooperative production can take place without any change in location of settlement and in many areas, particularly the most closely settled ones, will probably be developed on that basis.

95. Progress in Ujamaa Development. It is hard to gauge progress with ujamaa in quantitative terms, for progress is marked by the acceptance of a cooperative attitude to working and living and the economic success of this approach to production. A count of ujamaa villages and the population involved in them is some guide. However, village formation is reported in 3 stages based on sources of finance open to the village. The first stage dominates

the statistics but is sufficiently unspecific to allow widely varying interpretations. There is some evidence of over-reporting in this category in the latest figures available 1/, given in Table 20. The stages shown in the table are:

- (a) A formative stage during which villages require financial aid for activities such as clearing bush, access road construction, purchase of initial equipment. In practice, they often also need food aid which cannot always be raised locally. At this stage the Regional Development Funds are the major source of assistance. Villages that are members of primary marketing cooperatives also receive the same servicing facilities as individual members.
- (b) A growing stage in which the village members learn to live and work together increasingly putting more of their work effort into commercial crops and activities. The village has a workable constitution, and when it has become economically viable registers as an Agricultural Association. Credit may then be obtained from the Rural Development Bank (RDB).
- (c) The final, mature, stage is when the ujamaa village registers with the Registrar of Co-operatives as a full multi-purpose cooperative society, and has adequate security to attract commercial credit from, for example, the National Bank of Commerce, Cooperative Unions, and the Marketing Boards. The assessment of when this stage is reached is carried out by the local Cooperative Officer, Agricultural Officer, and TANU secretary.

96. By October 1971 about 40 villages had been registered with the Registrar of Cooperatives and were accepted as being in Stage III.

97. As Table 20 shows, progress with the development of ujamaa villages varies considerably by region, and even greater differences are to be found between smaller administrative areas. The differences reflect both the variety of motives which bear on the formation of villages, and the social and geographic conditions of the areas. The greatest development has been in the three districts bordering the Ruvuma river, the boundary with Mozambique. One-third of all the people recorded as in ujamaa villages are in this area - the recently reduced Mtwara Region - where the dominant motivation has been defense. Elsewhere the largest number of villages has been formed in areas which have limited involvement in the cash economy, are sparsely populated, and have a rather harsh environment. This covers the central plateau area

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1/ For example, local officials reported only 59 villages in Stage I in Iringa Region, not 349 as published. On the other hand, Dodoma is now reported to have over 300 villages in process of development.

Table 20: FORMATION OF UJAMAA VILLAGES  
(Progress to April 1971)

Region	Number of Villages				Approximate Population in Villages		
	Stage I	Stage II	Stage III	Total	Regional total in villages	Percent of regional population	Average per village
Arusha	38	5	1	44	9,000	1.3	200
Coast	31	26	1	58	55,000	6.0	940
Dodoma	132	17	1	150	47,000	5.9	310
Iringa	349	-	1	350	84,000	10.8	240
Kigoma	93	15	-	108	32,000	6.3	300
Kilimanjaro	9	2	-	11	2,000	0.3	190
Mara	226	20	4	250	95,000	15.5	380
Mbeya	191	-	3	194	50,000	4.6	260
Morogoro	21	2	1	22	5,000	0.7	210
Mtwara	651	21	-	672	282,000	44.1	420
Lindi	162	26	-	188	79,000	18.3	420
Mwanza	38	3	-	41	8,000	0.7	190
Ruvuma	105	15	-	120	12,000	2.7	100
Shinyanga	131	1	-	132	13,000	1.3	100
Singida	42	15	-	57	13,000	2.7	230
Tabora	35	43	4	82	20,000	3.2	240
Tanga	113	32	1	146	23,000	2.7	160
West Lake	43	-	-	43	11,000	1.5	250
Total	<u>2,410</u>	<u>241</u>	<u>17</u>	<u>2,668</u>	<u>840,000</u>	<u>6.3</u>	<u>315</u>

Source: The Economic Survey, 1970-71.

of Tanzania, and includes Dodoma where there has been a concentration of planning effort and technical assistance, and Kigoma where such an effort is scheduled. It is in these areas where the concept of physical movement into concentrated villages (probably located on a new water supply), and the introduction of new crops (necessitating rather intensive technical guidance, modern inputs and credit), is a particularly appropriate approach. Because of the real need for services, and the flexibility which available land presents, these areas are probably the easiest (after the border areas which are felt to be threatened) in which to get acceptance of ujamaa. The publicity given to the growth of ujamaa villages in these areas has also given the impression that the form of village found here is a blue-print for the country.

98. Progress in numbers has been noticeably slower in two types of area. These are: (i) the densely populated highland areas where individually owned land is under coffee, tea or bananas - such as in Kilimanjaro, Bukoba and Rungwe districts - where ujamaa will be based on cooperative work on existing crops and is unlikely to involve any shift of settlement. If a work organization can be developed which relates the reward of the individual to his effort a cooperative approach to crop production, marketing and processing could develop smoothly and provide economic benefit in these areas. (ii) Generally less densely populated areas with established cash crops such as cotton, tobacco, and cashew. These are drier regions than the mountains with more extensive cultivation, and marked seasonal peak labor requirements, currently met by hiring. Progress towards ujamaa in the Coast and Lindi Region cashew areas is reported satisfactory, but technical and social problems seem particularly likely in the important cotton area around Lake Victoria. In this area there is sufficient pressure on land for there to be landless workers; there is considerable variation in farm size, and among many groups a highly individualistic attitude, typical of first-generation settlers.

99. The extent to which farmers have really accepted the principles of ujamaa, and the effects of communal farming on production are very difficult to judge in the short time that active ujamaa development has been under way. The total impact has probably not been big so far. Villages have mainly been established in the politically easiest and economically poorest areas, and while farmer/adviser contact has probably been enhanced the acceptance of new ideas is usually a gradual - but snowballing - process. In the early years of ujamaa development, over-zealous officials exerted pressure on farmers to form villages. Firm action was taken against those who thus transgressed against the basic principle of ujamaa formation, that it takes place on the un-coerced initiative of members. This principle has been adhered to for the last three years, but there are signs of undue persuasion again being used, almost certainly without the approval of central policy makers. This can arise from the very great powers now resting with Regional Commissioners who can interpret ujamaa principles in their own way. It is, also, extremely difficult to operate the stated policy of giving ujamaa villages priority with social services without unduly depriving other farmers of their due and without using the policy to coerce those who have been slow to accept ujamaa rather than as an encouragement for them to conform.

It will do great harm to the ujamaa movement if these new departures from principle continue unchecked.

100. Economic Impact. If there is economic justification for communal farming it rests on (a) greater production arising from economies of scale and division of labor, and (b) the more economical - and therefore increased per capita - provision of government services such as extension advice, water supplies, schools and dispensaries. The case for economies of scale is based on (i) sharing bulk orders of inputs, and group marketing; (ii) making more efficient use of labor and hand or powered implements, enabling a greater area to be cultivated; (iii) allowing specialization of function, such as herding and tool repair, in the village, and (iv) enabling wider access to and acceptance of yield-increasing technical advice and new techniques. There is probably validity in the argument that a group of farmers will accept an innovation regarding which individuals might be indifferent. There is, however, a lack of empirical evidence on where economies of scale are achievable in commercial production and on optimum scale of different operations. There are also few signs that it is recognized that radical changes are needed in farm management as production becomes increasingly communal and larger scale. In a gradual transition, adequate managers might evolve from among the villagers, but more rapid change to communal farming is likely to lead to expensive mistakes which cannot be corrected by an extension service that is not familiar with or trained in decision making on large farms. The potential savings arising from the provision of services to groups are clearer, and it is stated policy to give priority to requests from villages where people have adopted the principle of ujamaa. The service aspect of ujamaa villages probably is over-emphasized at the expense of the more fundamental production-increase considerations which need priority in planning and evaluation.

101. The channelling of agricultural credit will probably be facilitated by the creation of cohesive ujamua units, and so will the economic distribution of packages of inputs supported by extension services. Potentially, ujamaa villages extend the coverage of cooperative marketing organization - which is the only form of marketing organization left to Tanzanian farmers with the exodus of the Asian traders who formerly filled this role. For crops such as tea and coffee with fairly even labor profiles and measurable labor inputs and production there is no obvious difficulty with communal production. Any problem is likely to arise from rights to land and past investment (particularly in densely populated areas where the crops are already established) and not from the nature of the crop per se. The considerably higher management requirement of tobacco and the need for care in handling and grading calls for special consideration in this crop. The marked seasonal labor profile of cotton, the high pay-off obtained from timely operations, and its inclusion in a rotation with food crops, probably makes the crop more difficult - although by no means impossible - to handle in a communal system which excludes seasonal labor employment. Successful introduction of ujamaa principles to cotton growing probably calls for major changes in farm management techniques. These would include new rotations and crop proportions, introduction of minimum

tillage techniques, intensification of cultivation from use of low-volume sprays and fertilizers, the development and use of herbicides to overcome the major labor bottleneck, and changes in picking and sorting - the latter possibly including elimination of seed cotton grading for at least part of the crop to overcome the second labor peak. There may be some scope for mechanization but this would need to follow intensification and a reorganization of landholdings. It cannot economically be imposed on the existing low-yield system. The problems inherent in the introduction of economic mechanization have shown themselves in Tanzania before. They should not be forgotten when consideration is given to its application to ujamaa production.

102. The emphasis in the development of ujamaa settlements, where these are called for, is supposed to be on low capital cost through self-help and maximum local participation. There are some good examples where villagers have been supplied with basic materials, particularly cement and corrugated galvanized iron sheets, and, with some technical guidance, have erected schools, barns and water storage tanks. On the other hand there has been a recent divergence from this principle in the tobacco project villages, and everywhere there is a considerable hidden cost in the building of new villages arising from the diversion of labor from cultivation to new construction work, while existing homesteads are still intact. This cost will be lower if most construction is done in the dry season when the alternatives open to labor are limited, but high if it extends into the cropping season, as it has tended to do.

103. Mobilisation and Services. The mobilizing force in ujamaa development has been the party, TANU. Organized down to cells of ten families, TANU certainly reaches the grass-roots of the rural areas, and in its pyramid structure rising through village development committees and ward organizations has an effective hierarchy to channel both policy decisions and local opinions. At village level it provides a forum within which the decision of a group of farmers to cooperate can be debated and agreed upon, and through which technical advice (e.g., on site selection, crops to grow, areas to plant) and rudimentary planning to support the change can be channelled. The Ministry principally charged with furthering the development of ujamaa villages is Maendeleo, and technical support is given by other Ministries, especially Kilimo.

104. Maendeleo 1/, the portfolio for which is held by the President, has an Ujamaa Village Division which controls the ujamaa village program, co-ordinates with TANU and other executive Ministries, and undertakes continuous evaluation of the operation of the ujamaa policy. Maendeleo's Rural Development Division is responsible for all training of staff, work-group leaders, and farmers in ujamaa ideology and skills and for the organization of rural construction units of which 45 were established in 1970-71, and 17 more are planned. To operate its training program the Division has taken charge of all District Training Centers, and Farmers Training Centers and amalgamated them to form Rural Training Centers (RTC). It has also drawn

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1/ The Ministry has recently become a part of the Prime Minister's office, following a major reorganization of the Government, announced in February 1972.

up outline curricula in ujamaa ideology, agriculture, construction skills, rural industry, home economics and health. To reach the target of one RTC in each of the 62 Districts of the country a further 32 will have to be built.

105. Agricultural services to ujamaa villages are provided by the Agriculture, Food and Advisory Services Division (AFAS) and the Production, Development and Technical Services Division (the Production Division), of Kilimo. AFAS is the main extension arm of the Ministry in both crop production and livestock. An aim of ujamaa policy is to attach an extension worker to each village of sufficient size but so far little progress has been made with such a reorganization. There would be insufficient diploma and certificate holders to staff a full program, but proposals are under discussion for these to be supplemented by trained Voluntary Agricultural Cadres drawn from primary school leavers, selected and supported by the villages. The work of the production Division directly effecting ujamaa villages centers on running State Farms, seed multiplication centers and poultry hatcheries, and providing mechanical cultivation services. State Farms were seen as the solution to the production in a socialist state of cash crops which can be grown most economically on a large-scale basis, or where a combination of research and development was required. State farms were also to provide services such as workshop facilities to nearby ujamaa villages. For a variety of reasons the production side of the State Farm Program has been cut back and the number of farms developed will be less than originally planned. The service role will continue, however, but additional service centers may need to be opened, perhaps based on strategically sited, established, ujamaa villages. It is anticipated that the production side of Kilimo will be played down in favor of an increased service function.

106. Problems. There can be little doubt that the major problems of ujamaa development are still ahead. It is in the districts in which cash crop production is most developed, individual rights in land are most entrenched, cattle are most important in the social system, or pressure on land is greatest, that the least progress has been made so far and the most resistance can be expected in the future. The districts concerned contain half the population of the mainland. Formulae which do not depend on physically moving village sites, but which allow for reapportionment of land holdings as an essential component will be necessary in many of these areas, and considerable social and technical research into a valid approach to ujamaa in these areas, is going to be needed. The ujamaa approach aims at replacing the individual profit motive with new, social incentives, but the individual still expects to receive a reward which reflects his effort, and returns on production being shared on the basis of work done. Forms of work organization and farm planning which fit the ujamaa concept and enable the individual to see he receives a fair return still have to be developed. An ujamaa village research section is already conducting studies on these questions with reference to tobacco, tea and dairy production, and ranching areas. The government is clearly aware of the potential difficulties ahead. It is important that the objective examination of progress with the program should

continue, and greater efforts made to quantify economic costs and benefits as well as political and social gains.

107. In other areas, established social services are going to place increasing burden on recurrent expenditures and on the small stock of well-trained manpower. A corollary of a greater impact by extension staff is the need for these staff to be fully competent and efficient, not only technically but also in the principles of ujamaa. The Rural Development Division of Maendeleo has been operating ujamaa training courses for 3 years, but is itself short of staff for this task, and considerable technical training of new staff and retraining of existing extension workers is still needed. It will also be necessary to adapt many existing research results to the new conditions of ujamaa production. The need to make an adequate economic impact on an individual village to maintain initial enthusiasm will probably restrain the speed of development of village numbers. The government's "frontal" approach, which implies allowing the growth of ujamaa villages wherever there is a demand for them, may be incompatible with government resource constraints - both financial and manpower. This is clearly recognized in the current strategy of concentrating on limited regions at a time in the provision of special planning teams. Not only are there shortages of funds and technical personnel for village development, but there have been considerable problems of coordination between village planning efforts on the one hand and district and regional authorities, and executive ministries, on the other. A strengthening of regional planning capacity - already a plank of policy - and a greater development effort on a regional basis should assist in overcoming this problem. Difficulties within villages, which are likely to be a continuing concern, are the lack of organization, leadership and management skills among village members, and problems of measuring the share of communal production which is the due of the individual. The former can be helped by planning, training, and with assistance from extension services. The authorities are aware of the problems. However, they may not have adequately appraised their impact on the speed of ujamaa village development.

#### State Farms

108. Great emphasis is put in SFYP on the development of State Farms, to cover over 100,000 ha in the plan period. The exact number of farms proposed is not clear in the plan document but is about 30. The farms, operated by the Production Division of Kilimo, were to be at the same time production units, training and testing centers for the agricultural service, and service centers for ujamaa villages. As the last mission pointed out, the program was launched without adequate technical data being available, and lacking adequately trained managers, and without even elementary economic analysis of the proposed production methods.

109. The Present Position. Progress with the program is summarized in Table 21. The ambitious SFYP targets have been curtailed for each type of State Farm. One-third of the number planned have become operational and it

appears that plans to develop 19 or 20 of the farms have been shelved. Only four farms - two dairy farms, the Vine State Farm in Dodoma, and the Rice State Farm at Kilingali - have an assured future, and of these, the Dodoma and Kilingali farms are not economic.

Table 21: PROGRESS WITH STATE FARMS, 1969-1971

	Number in Plan Plan	Area in Plan (ha)	Area		Present Status
			Number Operating	Planted (ha)	
Wheat	10	35,000	4	1,500	Plans for 6 dropped: rest under review. 2 now mixed farms
Rice	4	2,500	1	500	3 dropped. Kilingali to expand to 600 ha cropped.
Vines	1	400	1	45	Plan reduced to 80 ha.
Oil Palm	1	2,000	1	180	Expansion frozen.
Coconuts	2	4,800	1	300	1 dropped. New clearing on Zegerni halted.
Dairy	4	n.a.	1	n.a.	2 dropped. 1 due to be stocked mid-1972. Expansion to 4,500 ha planned.
Beef	8	n.a.	nil	n.a.	6 mixed farms dropped. Others not yet stocked and future of one uncertain.
Goats	1	n.a.	nil	nil	Dropped.
Oilseeds	1	1,600	1	450	800 ha planned for 1971/72.
	32	46,300	11	2,975	

110. Three of the operating wheat farms are in Mbeya Region. Over 10,000 ha are available at the Milundikwa Wheat State Farm, but not more than 700 ha has been planted in any one season and due to shortage of finance only 400 ha were to be sown in 1971/72. Although 15 bags/ha has been obtained on the farm, in 2 years of erratic rainfall aggravated by stem rust attack and lack of knowledge of the nutrient balance of the varied soils of the area, only 7-8 bag/ha were harvested. Average performance has been no better at Nkundi (Sumbawanga I) where maximum planting has been 800 ha, and in the first year of operations at Ilindi only 3 bags/ha were obtained from 325 ha, probably due to potash and trace element deficiencies concerning which there has been little or no research. In 1971/72 Ilindi is to be diversified with livestock. This change has also been made on Rwanakoma Farm in Mara Region where, following

wheat crops of only 4-6 bags/ha dairy cattle have been added and are now the main enterprise. A Rural Craft Workshop was established on this farm in 1970. It is unlikely that wheat areas on State farms will increase beyond the present level at which they account for perhaps 3% of Tanzania's production.

111. The Rice State Farm at Kilangali in Kilosa District is now in its third year of operations. Of 600 ha of irrigated land available, the maximum so far cropped has been 340 ha but expansion to the full area is planned. Moderate paddy yields of 25 bags of 90 kg per ha have been obtained and the cost of production has been covered by the price received. However, the NAPB into-store price is artificially high - at Tsh 750/m.ton, twice possible import levels - and it is to this import price that the costs and returns should be related. Moreover, the Farm still lacks a drainage system the installation of which is needed if salinity is to be avoided and which will add significantly to production costs. On data available, if fully developed and fully cropped, the farm could produce at about Tsh 660 m. ton at present yields. If yields were raised to 40 bags/ha with the use of fertilizer costs could be reduced to Tsh 400-420 m. ton, still rather more than would market prices and above smallholder costs in other areas.

112. The Vine State Farm in Dodoma is not to be expanded to the level originally proposed following a decision that wine grapes should be grown in ujamaa villages from planting material issued from the State Farm. Of 45 ha planted in 1971, about 30 were in production in 1971. Farmers are paid the high price of Tsh 2/50 kg, and between this and the low throughput the winery is presently losing Tsh 5/00 per bottle of wine which wholesales at Tsh 8/00. The 40,000 bottle production in 1970/71 is a small fraction of capacity. Soya beans grown on the Oilseed State Farm at Nachingweya are reported to have yielded 1,250 kg/ha and received Tsh 1,180/m. ton. Costs were not available, but at these rates the mechanical cultivation of 450 ha should have been profitable. Of the Dairy State Farms, the Oljoro Farm in Arusha Region is stocked with 400 mixed breeds. These are to be replaced by 500 Friesians which will supply the Arusha Creamery. The Utegi Farm in N. Mara is due to be stocked in mid-1972. The Coconut State Farm at Zegereni was scheduled to be 400 ha in extent. Plans have now been reduced to 325 ha of which 180 ha have been planted. Further clearing has been stopped because of budget cuts in FY 71/72 and work is being concentrated on the cleared area. The farm can be expected to yield its first crop about 1977. Proposals for a farm at Lindi have been dropped.

113. Prospects. For FY 1971/72 the State Farm program has been put on a care-and-maintenance basis. It may not be revived. It has been suggested that Kilimo will de-emphasize its direct production side and become primarily a service organization providing research, and extension services, and farm inputs. It would appear logical that the production side of any viable State Farms should be run, on strictly commercial lines, by NAFCO companies. The farms should be subjected to a long overdue economic analysis and non-viable farms should be closed. If there is economic justification for maintaining

any farms which are not financially viable, the operating company should receive a payment which covers the difference. Training and service facilities, if still provided at these sites, should be charged separately from operations so that the costs are clearly identifiable. Depending on how many farms were considered commercial prospects, NAFCO would probably require considerable extra staff, both technical and managerial, to run the farms, and would need to strengthen head-office planning and management. Foreign technical assistance should be sought for such posts.

114. The over-riding problems which have faced the State Farms have been the shortage of competent and experienced managers to run complex enterprises for which technical and economic data were lacking. This has been aggravated by the inflexibility of government accounting systems. The lack of prior planning and research has been reflected in unexpectedly low yields, to which bad weather, disease, and bird and pest attack have also contributed. Although adequate data are not available to establish costs, it is clear that high cost production has been the general result.

#### Tractor Mechanization

115. The Second Five Year Plan takes a balanced view of mechanization. It puts emphasis on the need to improve hand and animal drawn equipment, but at the same time points out that tractors can be introduced in selected areas after careful study has established their viability. This caution towards tractor mechanization is a reflection of the unfortunate history of tractors in Tanzania including major losses on bulk introduction of tractor to cooperatives during the First Plan. Private tractors are, however, operating in Tanzania, many of them successfully, and imports have continued to rise during SFYP period. A major growth in the number of ploughs sold occurred from 1967 through 1970. 616 agricultural tractors were imported in 1968, 704 in 1969 and 812 in 1970, making up two-thirds of the total cost of farm machinery imported in that year. The majority of the tractors are probably used in agriculture, and the largest number is in the Western Cotton Growing Area.

116. Problems of Mechanization. In accordance with the policy of scaling down tractor cultivation services, only two pilot tractor hire units (THU) have been operating. These were established in 1970/71 at Rufiji and Urambo, with fleets of 18 and 15 tractors respectively. There have been proposals for an enlargement in the number of tractor units, although it was intended that the operating results of the two pilot units should be firmly established before any new expansion in tractor hire services was attempted. The exact status of the proposal to create new THU is not clear. The policy on mechanization is, however, clearly evolving, and there are indications of a new enthusiasm for tractor cultivation.

117. In its right setting, tractor mechanization in Tanzania is justified and can be economic. Its history is not a happy one, in Tanzania or elsewhere in Africa, but enough experience has been gained for the conditions which limit

economic tractor mechanization to be understood. Some of the problems are common to all forms of organization of tractor operation, others apply only, or especially, to government-run hire units and not to individually owned tractors or contract hire units. In a nutshell, tractor mechanization in tropical Africa has generally been faced with a tendency to high unit costs on the one hand, and low returns to operations on the other.

118. High costs result from an initial cost of equipment which is rather high by the time it has been transported from a distant country of origin. A similar high cost of spares, aggravated by poor maintenance and repair services; and a high level of breakages resulting both from operating in fields which are inadequately cleared of stumps, roots and rock, and from poor handling by inexperienced drivers. In government-run units a further cost usually arises from a need to have supervision of operations, and to carry a staff to measure jobs, and collect and account for fees. The most important cause of high unit costs is, however, the most ubiquitous and intractable. This is the low total paying hours achieved in the years' operations and over which the fixed costs must be spread. Even for tractors that are operating over 1,000 hours a year fixed costs typically make up 55-60% of costs.

119. Short revenue-earning hours are a direct result, on the one hand, of the short agricultural season of the tropical savannah, dictated by the period of rains, and on the other of the small range of operations which tractors can carry out on farms still practicing traditional methods of cultivation. The limits imposed by the seasons cannot be modified significantly, and therefore operations have to be planned to give maximum revenue-earning within the time available. This means that tractors must be kept working throughout the twelve hours of daylight, seven days a week, during the cultivation season. Consequently drivers and maintenance facilities must be organized on double shifts. This has proved difficult to achieve in government-run services, although there is no overriding reason why it should. A high level of non-revenue earning hours in the cultivation season also tends to arise from poor access to farms and plots which are typically small and irregular in shape resulting in excessive time spent maneuvering. It is also typical that only a small proportion of farmers in any area demand tractor services. Operations therefore tend to be widely scattered and time is wasted in travel between farms. This is a slightly less intractable problem than those of access and plot conformation, because when dealing with individual farms, it can be reduced by a realistic pricing policy that differentiates between charges for work on farms that are near-contiguous and close to the tractor base, and those which are scattered and distant. It is a problem which is also largely overcome by block farm operations and it is an advantage of ujamaa villages that they could provide a means for undertaking cultivation in good sized blocks. The villages must still be of sufficient size or sufficiently close together to keep turn-round and travel time to a reasonable level. Excessive idle time on tractors is also caused by undue delays in obtaining spares and undertaking repairs. Where commercial facilities are inadequate, this delay is the usual reason for establishing government workshops and stores. All too often, however, the cost of these relative to the cost of delays is not evaluated, and projects are typically over-capitalized as a result.

120. The limited range of paying operations which is carried out by tractors aggravates the problem of a short working season. The major use of tractors in Africa is tillage operations. Transport is probably the second highest consumer of hours, though more as a means of using otherwise slack time than because tractor-and-trailer transport is the most economical form of transport. Little planting, spraying or weeding is tractorized and virtually no harvesting. But weeding, rather than initial cultivation is the major labor bottleneck in much of the agriculture of tropical Africa, and this may be aggravated by mechanization of initial cultivation. Harvesting operations also are frequently an important constraint and will be increased by extended tillage. The apparent potential of tractors is not tapped because successful operation on non-tillage work needs even greater complementary changes in traditional agricultural methods than does ploughing - particularly pure cropping, row-planting and improved seed with even-ripening and uniform stand characteristics as minimum requirements. In addition a whole range of new management skills need to be learnt by farmers who, however shrewd in their own familiar field, have little or no education to facilitate the absorption of radically new ideas.

121. To mechanize successfully on a large scale, major changes in the whole pattern of agriculture must be brought about. These are also needed to offset higher paid-out costs under mechanization. A switch in cropping patterns to emphasize high-value crops, improved seed, use of insecticides, fertilizers, and improved post-harvest handling will all be needed to increase returns to land to make tractor cultivation viable. These in turn lead to an increased demand for extension services and seasonal credit, and an organization to support it. In short, widespread use of tractors needs intensification of agriculture as a pre-requisite. It is not a substitute for the difficult problems of introducing improved management into smallholder agriculture. Indeed, intensification of existing areas will frequently be a better approach to transforming agricultural production than an extension of area using tractor power, particularly as costs of new clearing are tending to rise relative to end returns.

122. Mechanization in Tanzania. In the first year's operations at Urambo and Rufiji, the problems outlined above show in the operating results. At Urambo, an average of 560 hours of running per annum was achieved, but much of this was for transport. Revenue was only 70 percent of the cost. At Rufiji, where work was on communal paddy and individual maize and paddy, each tractor achieved 60 ha operations in the year, and the nominal revenue was 79 percent of the cost. It is understood that a large part of this revenue has not been collected, and, as only 2/3 of the area which received a first ploughing was in fact planted, farmers may be faced with an extremely high bill relative to their returns. Major losses have also been experienced in cooperative tractor operations in WCGA. It has been reported that recently LSMB was paying over Tsh 2 million a year towards cooperative society losses. This is the equivalent of about Tsh 6/00 per ha of cotton grown, whether mechanically cultivated or not.

123. The problems aggravating seasonal utilization, as reported from the Urambo and Rufiji THU, are similar to those found elsewhere in Africa. These included breakages to tractors and equipment because land had not been adequately cleared of stumps and because of inexperienced drivers; a high proportion of unproductive travelling; idle time caused by lack of spares, and shortage of tools with which to undertake repairs; and thefts of fuel and equipment.

124. The lessons learned from these pilot units will point the way to sound agricultural mechanization in Tanzania. Any analysis of the overall advantages and costs of mechanization must however cover more than financial operating results. In superficial analyses tractor operations often look better than they are. There are two basic reasons for this:

- (a) frequently not all costs are taken into account when senior planning and supervisory staff engaged in the administration of schemes are not charged to them, and bad debts are ignored;
- (b) prices taken into account are distorted. This is likely in Tanzania where produce prices are, in some cases, above import parity, e.g. wheat and rice. Distortion also occurs when the prices of alternatives to mechanization are above market levels (e.g. labor, where this is subject to minimum wage legislation, and fertilizers manufactured domestically at prices higher than those on the market), and where the exchange rate undervalues the foreign exchange with which tractors, tractor equipment, and fuels have to be bought.

125. The pilot units should continue operations, and until the problems presented are analyzed and ironed out, an expansion in the number of government THU should be delayed. Consideration could also be given to a different approach from THU's, which appears more suited to the Tanzania situation. This would be to start now on a training program for drivers, mechanics and agricultural staff to prepare them as teaching staff for ujamaa villages. The ultimate objective would be to provide these personnel to fully established ujamaa villages which are large enough (or close enough to a similar village to provide adequate acreage on a share basis) whenever the village is ready to own its own tractor. The trainees, who should live in the village for the period necessary to train members of the village in their skills, would be provided at less than cost as a normal extension function. There may be a need for government operated workshops and stores. These could be sited on strategically placed ujamaa villages which adopt tractors relatively early, and services should be provided on a cost basis to neighboring ujamaa villages. A careful cost/benefit analysis should show any such center to be viable before it is established.

126. The need for high level management and intensification of agriculture applies even more to ujamaa villages, than it does to individual

smallholders. In ujamaa villages there is the increased possibility of more rapid improvement of management and the introduction and acceptance of improved practices. However, these changes will not occur overnight, and the introduction of tractors should be viewed as a later stage in the development of ujamaa farms. Mechanization has been spoken of as an added incentive to farmers to form ujamaa villages. In the short run this may be true, but the premature introduction of high capital cost mechanization could, as it has done with smallholders and with cooperative groups before, place a debt burden on ujamaa villages which would threaten their future as economic entities.

#### Marketing, Cooperatives, and Prices

127. Most agricultural products destined for export, and a number of crops sold entirely internally, are handled by, or at least regulated by, statutory marketing agencies. The Boards, and a summary of their activities in 1970, are shown in Table 22. In 1971 NAPB handled 10 scheduled crops, dried cassava having been added to the list. "Oilseeds" covers groundnuts, sesame, sunflower and castor. The scheduling of millet, sorghum and mixed beans is under consideration.

128. Since 1961 an increasing number of major crops have been sold exclusively through Cooperative Unions and their member societies. There has in consequence been a rapid growth of cooperatives and of the Cooperative Development Division of Kilimo. In 1961 there were 799 active registered societies of which 721 were produce marketing societies. At the start of SFYP the total had risen to 1,700 and in 1971 there were 1,775 with 1,326 marketing societies.

129. Prices to producers of most of the crops handled by boards are controlled to varying degree. These have generally been into-store prices from which cooperatives have deducted their costs to arrive at prices for members. These therefore vary according to the efficiency of the society. Oilseeds, cereals, cashew and cassava have been in this category. For other crops, notably cotton and tobacco, fixed producer prices for different grades are set. Prices on wheat, cardomoms, and different tobacco grades are the same for all parts of the country. For 1972/73, differences by area have been set for paddy and oilseeds. For the 1971 cotton harvest, price differentials were set according to the time seed-cotton was marketed, a bonus being given on the mid-season price for early sales and a penalty set on late cotton. This differential both acknowledged savings in processing costs on early cotton and the added production from early planted cotton. It is therefore regretable that the penalty was later rescinded. It is intended that prices should be declared in October or November, in good time to influence planting, but this is not always achieved. The ultimate responsibility for setting prices rests with the Economic Committee of the Cabinet.

130. Problems in Marketing. Before the launching of SFYP, Kilimo commissioned a comprehensive study of the marketing and pricing system, and the

Table 22: MARKETING BOARDS - QUANTITIES HANDLED, ACTIVITIES AND PRICING

<u>Board</u>	<u>Produce</u>	<u>Volume handled ('000 m.tons)</u>	<u>Percent Tanza-nian output</u>	<u>Value of Sales (Tsh million)</u>	<u>Major Activities</u>	<u>Basis of Pricing the Produce</u>
Coffee	Coffee	50	100	300	Licenses handlers and buyers. Sets grades; administers ICO quotas; finances produce upon receipt at curing works; runs auction. Extensive accounting.	Auctions, Moshi and Mombasa. Most sales are in auctions.
Lint & Seed	Raw Lint	77	100	330	Kilimo announces purchase prices for Lint and producer prices for seed cotton. LSMB buys all lint and seed at ginneries; establishes grades & marketing dates; licenses handlers, mills and ginneries.	Auctions in Dar es Salaam. Board pays no geographical differentials. Sales also by tender and private treaty. Seed to domestic oil mills by negotiation.
	Cotton-seed	150	100	25		
Tobacco	Tobacco	11	100	50	Sets grades and conditions for handling, purchases from societies and/or unions, stores, re-dries and sells. Sales made through brokers.	Private treaty. Board pays no geographical differentials.
Pyrethrum	Pyrethrum	2.5	100	13	Contracts with extraction plant at Arusha for sale; gives general guidance to societies on shipment to plant. Registers producers (societies).	Negotiation with extraction plant on basis of world market conditions. Price based at Arusha.
Sisal	Sisal	202	97	175	Administers quotas, licenses handlers, agents and estates.	Private treaty, brokers sell to manufacturer users.
Sugar	Sugar	87	90	122	Licenses producers and handlers, generally directs their operations; purchases product from producers at prices set and contracts with State Trading for sales.	Determined on the basis of conditions within the country. No differentials.
Tea	Made Tea	8.5	100	52	Board merely licenses producers and exporters, no direct function in marketing and pricing. Tanzania Tea Authority will continue above and take direct action in allocating additional acreage to small holders, building roads and erecting processing plants.	Auction at Nairobi or private treaty.
National Agricultural Products Board (NAPB)	Maize	145	10-20	60	Establishes grades, licenses processors, announces prices for full season and other terms of purchase, appoints buying agents who take all offerings on behalf of Board. Board sells all cereals for internal use, exports and imports as required. Most cashew and all oilseeds exported. Domestic sales at prices announced at start of season.	Cereals based on internal conditions; maize and rice above export parity, wheat above import parity. Cashews auctioned and negotiated, all oilseeds negotiated. No differentials for cashews or cereals.
	Wheat	24	95+	16		
	Rice	28	25	24		
	Cashew	111	100	154		
	Oilseeds (4)	23	95+	27		
	Cardamoms	0.15	100(?)	7		
Dairy	Involved to a limited extent in pricing fluid milk and making plans for the processing industry in Upper Mara.					

Source: Kriesel et al: 'Agricultural Marketing in Tanzania' (1970); and NAPB.

organization and management of the marketing boards and cooperatives. The study report was submitted in June 1970. <sup>1/</sup> The report suggests that existing internal pricing and marketing policies are presenting serious obstacles to growth, and reflect historical needs more than current policies and needs. The problems vary according to the commodity or board concerned, and at board, union and society level. Central to them, however, are a tendency to high costs of marketing, and distortions to the economy arising from the policies.

131. Unnecessarily high costs are arising from several sources. With the piecemeal growth of centralized marketing the flow of produce to market has become more complex. As regulations have replaced prices as guides to marketing, an increasing flow of directives and a growing apparatus for licencing, inspection and enforcement have to be paid for. There has been some tendency to duplicate functions, especially between boards and unions. In some cases direct selling by society to board would seem highly desirable. Inefficiencies have been detected particularly at society level. In some, overstaffing and overpayment of committee members and staff are found. In others competent personnel cannot be retained at the salaries offered. Unit marketing costs of societies are typically in inverse relation to the quantities handled, and many societies are too small. But there is some evidence of produce losses increasing as total quantities handled increase. Unions' non-operating expenses have been high. In 1967 handling costs made up only about half their total costs, while 46 percent consisted of losses from other operations (mainly tractors), bad debts, and cash losses. As with societies, wide variations of unit costs between unions indicate scope for improvements in efficiency. Important among these are reductions in transport costs. An illustration of increasing marketing costs, and the pressure they cause on producer returns is given in Figure 1 which shows the relative changes in producer and retail prices and estimated marketing charges for maize in Iringa Region from 1956-60 to 1969.

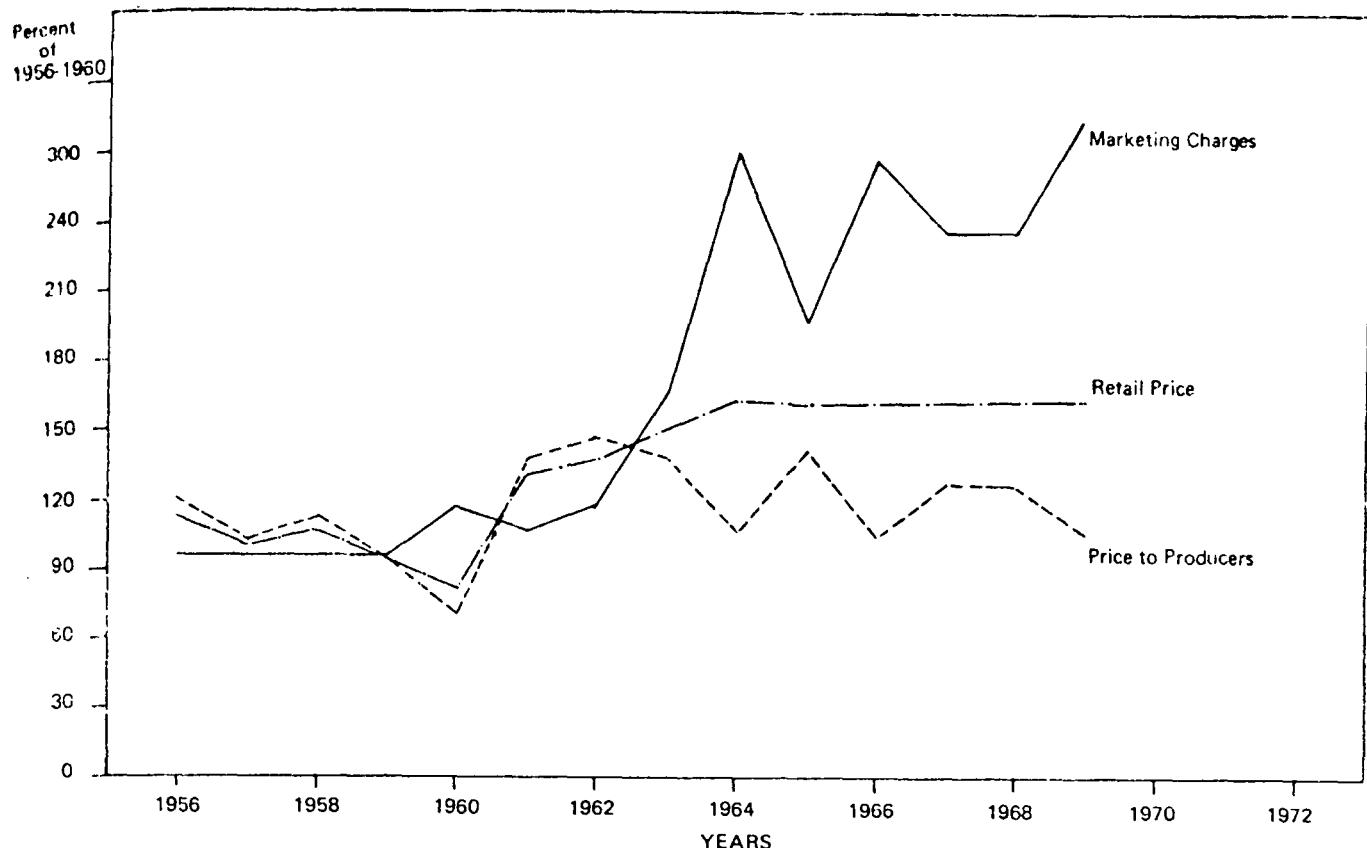
132. Distortions arise from the inflexibility of a bureaucratic marketing system, and, particularly, from pricing and cost allocation policies. In various ways these have favored production of food crops - rice, maize, and cassava - against the foreign exchange earners, cotton, oilseeds and cashewnuts. Lack of differentials by location favors distant, high-cost growing areas over those close to the market, and prices which are unvaried for a whole season encourage use of scarce central, high-cost storage, while on-farm capacity is under-utilized. Control of consumer prices on, e.g., beef and cotton seed oil discriminates in favor of urban dwellers over producers - counter to stated policy - and has inhibited production.

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<sup>1/</sup> Herbert C. Kriesel et al: "Agricultural Marketing in Tanzania: Background Research and Policy Proposals." Project sponsored jointly by Tanzania and US AID under contract with Michigan State University.

Figure 1. INDEX OF PRODUCER AND RETAIL PRICES OF MAIZE, AND ESTIMATED MARKETING CHARGES, IRINGA, 1956-1969

(1956-1960 Average = 100)



Source: Kriesel et al: Agricultural Marketing in Tanzania. (1970)

133. Price control has given some stability in prices, and this appears to be a policy objective, at least for NAPB. It may be questioned whether this is a worthwhile policy objective, however, and whether the costs of achieving it do not outweigh any advantages. An approach which would cause less distortion would be to set guaranteed minimum prices, applicable at a central point or points, at which Boards would always buy, but leave scope for paying higher prices at different times in the season or if market conditions warrant it. This could give farmers more stable incomes, which would seem to be an objective compatible with overall policy, while still giving price guarantees. The present policy, in stabilizing prices, destabilizes income on crops whose yields are subject to unforeseeable fluctuations, and, in the absence of large reserves which would absolve the government from a need to be cautious in price-fixing, probably depresses average income to producers as well.

134. Current Action. Major changes in the organization of the Boards are now underway, based on - although not exactly following - the 1970 marketing report. Two new agricultural corporations are being formed which will between them handle the internal marketing and export of most of the agricultural products of Tanzania. These are:

- (a) The Foodcrops Marketing Corporation (FMC) the nucleus of which will be NAPB and which will handle the internal marketing of all food crops, including two new additions to the list of scheduled crops, vegetables and fresh fruits; and
- (b) The Agricultural Products Export Corporation (APEX) which will handle all export crops and take over the functions of the Boards now handling cotton, coffee, pyrethrum, sisal, oilseeds, cashewnuts, and cardamoms.

Crops which have both domestic and export markets will be handled entirely by whichever Corporation would be responsible for marketing the larger part of the crop. Thus domestic sales of cotton and cashewnuts will be made by APEX. Tea, tobacco and livestock products are excluded from this reorganization.

135. Small savings in management costs are expected from this reorganization, and rather more from the centralizing of some of the existing Boards' services, such as statistics, research, transport and storage. It is proposed that APEX be divided into a Planning Department and a Commodities Department, with Divisions for each commodity or commodity group in the latter, and a Produce Inspection Section providing services to all Divisions. FMC, on the other hand, will probably be organized on functional lines, the major departments covering Marketing, Storage, Research and Development, and Audit. It is proposed that both corporations should be strengthened by the provision of technical assistance experts in the key areas of accounts, marketing, storage and economic studies.

136. A service which will be common to both corporations is the supply of market forecasts and long-term economic information by the Marketing Development Bureau, to stay in Kilimo where it also provides research for policy guidance. This is a 4-1/2 year UNDP/FAO project which officially started in January 1970, and was expected to have 5 experts operating by year's end. The Bureau has made an impressive start with objective commodity studies, and under its terms of reference will also be providing training courses, conducting feasibility studies, and collecting market information.

137. The establishment of APEX and FMC is a step towards the rationalization of marketing in Tanzania, but major problems remain. These refer particularly to pricing policy, and the efficiency of cooperatives. Attention should now focus on these concerns, and especially:

- (a) the scope for more flexible pricing, which still offers peasant farmers guarantees, but more effectively guides production and resource use in the national interest, including through the effective operation of buffer stocks by FMC;
- (b) methods of reducing costs incurred by cooperatives, including the scope for amalgamation of societies, the possibilities of direct society-to-marketing corporation operations, the elimination of duplication of function between marketing corporation and union, and the best approaches to improving staff quality.

The rationale for controlled marketing in Tanzania is the elimination of "exploitation", the expropriation by an individual or group of an unfair share of the returns on production. If the efficiency of the controlled marketing system is not improved, it itself will be a major instrument in the exploitation of both producer and domestic consumer.

#### Regional and Rural Development

138. Government policy is to give top priority to rural development, an emphasis which implies the diversion of more money and manpower resources to rural areas at the expense of urban areas. The policy is reflected in three related measures, although more clearly in the Plan than in the act, or in budgetary allocations. The three measures are: (a) a policy of regionalization, (b) the policy of Ujamaa Vijijini, and (c) a policy of developing nine towns away from Dar-es-Salaam.

139. The policy of regionalization aims to take project planning and execution away from the center and put it firmly in the 18 administrative regions, each under a Regional Commissioner heading a Regional Development Committee (RDC). As part of a major reorganization of Government announced in February 1972 Regional Commissioners were given Ministerial status. The decentralization policy is also reflected in a recent reorganization

of the structure of the cooperative movement towards multi-purpose cooperatives with a regional coverage, instead of specialist cooperatives, with a multiregional or only local coverage. The Rural Development Bank (RDB) is also planning to operate on a regional basis, and there is increasing allocation of the Rural Development Fund (RDF) to the Regions for allocation by RDC. The major impact and the major effort in Ujamaa Village development has been in rural areas, and the program has been most effective in the more backward regions where the attraction of social services and the attentions of government personnel is the greatest. Any rural development program in Tanzania should work through and use Ujamaa villages and there is a need to integrate ujamaa planning and Regional Planning.

140. The policy of developing nine towns, away from Dar-es-Salaam, is primarily an industrial location policy which has not so far been particularly successful. The towns selected are all regional capitals and are designated as poles for future growth. The policy is however, probably too narrow in conception, and should embrace the growth of a larger number of towns, or better a hierarchy of towns of different sizes as urban service centers providing facilities and employment opportunities to the rural areas of the country.

141. The trend towards more regional autonomy could facilitate local participation in the development process and ensure expression of local views, although the TANU structure does seem to offer adequate potential for this. The policy is not without problems, however. The RDC's do not as yet have sufficient trained manpower to undertake detailed planning. To build up adequate teams at this point in time will place a big strain on limited manpower resources. There is also a fine line between the advantages of giving expression to local needs and the disadvantages of uncoordinated development. It is not clear how this balance will be kept. The Regional Commissioners have substantial real power in their areas. Their power will increase as a result of the February 1972 Government reorganization which inter alia will in future also increase the share of total development funds directly available to Regional authorities. Regional Commissioners, who are appointed by the President are responsible for the local interpretation and implementation of such policies as ujamaa development, with the consequence that developments crossing regional boundaries can be subject to diverse directions, not always in line with stated policy. There appears to be a need to distinguish more clearly between the advantages of devolving economic planning as opposed to political decision making. The regionalization of cooperative unions could impose an over-stratified organization on the management, which could increase marketing costs, and create rather artificial areas of operations. However, although the break-up of NCU may be unfortunate on grounds of efficiency, the demand for the change did apparently come from the component regions and could be justified from the view point of increased local identification with operations.

142. The emphasis placed by the Tanzania government on rural and regional development points to possibilities for creating in the country

one or more integrated regional development projects. The potential for such a project was given a superficial examination during the mission, with particular emphasis placed on one region - Kigoma - more to make the examination of potentials and problems specific than because this is necessarily the only or best area for such a development. There does appear to be scope for a project in this area, based on a river basin.

143. Kigoma Region. Kigoma is the most westerly region of Tanzania. The regional headquarters is in the town of Kigoma on Lake Tanganyika, at the end of the Central Line from Dar-es-Salaam. Most of the region has an annual rainfall of over 1,000 millimeters (39 inches). Precipitation is reliable. The soils of the area vary from a group of low fertility with moderate potential for pasture and less demanding annual crops, through to soils of high fertility with high potential for tree crops, wheat and horticulture, and a considerable alluvial area with great potential, in some parts requiring flood control. Most of the area is plateau at between three and four thousand feet, but high ground rises to six thousand feet. Kigoma Region has a population of about one-half a million people. The population density overall is 33 per square mile but approaches 60 per square mile in the central District of Kasulu. The area has provided a considerable seasonally migrant work force to the cotton and tobacco areas of Mwanza, Shinyanga, and Tabora. New home-based employment opportunities are required for the area. The Region is in the direct path of the spontaneous permanent migration which has transformed Sukumaland over the past two decades, and with good land available can expect an influx of new settlers from a continuation of this movement. By mid-1971, 6.3 percent of the Region's population was living in Ujamaa villages - the national average - but the Region is earmarked as the next one (after Dodoma) on which a major effort would be concentrated. Through Kigoma Region runs a perennial river, the Malagarasi, which, on its circuitous course, encloses the area of highest potential in the Region. The Malagarasi Basin offers a suitable natural region on which to base a development scheme. The basin is embraced by a single regional administrative organization.

144. Although the Kigoma Region has considerable potential, it is, on a per capita basis, the second poorest Region in the country. This is partly a reflection of the isolation of the region, but it has been argued that it is more the result of past policies of not developing an area which provided a valuable labor supply for other cash-crop areas. On balance it appears that Kigoma has a considerably higher potential than its present production indicates.

145. The area of the Malagarasi Basin has possibilities for the growing of tea, wheat, oil palm, rice, beef cattle, and horticultural crops. There is probably also potential for expanding cotton and oil seeds, and for dairy development. There is an under-exploited fisheries potential in Lake Tanganyika for which the twin town of Kigoma-Ujiji is the obvious center. Tea nurseries have already been established and the results are reported promising, although the area is not included in the present tea expansion

program. Oil palm has been established, but no program has been evaluated or pursued and hybrid palms have not been used. A ranch area, Uvinza, in the south of the Malagarasi Basin, is included in current plans for live-stock development, and over 6,000 acres are reported to be under cotton.

146. Investments in the area are required in adaptive research for crops, in farm planning, agricultural inputs, vermin control and credit. A tsetse clearing program is called for, and an enlargement of fish landing facilities and fisheries research are needed. A considerable part of the established fishing industry is based on the export to Zambia of a small high protein fish (locally known as "dagaa") and there is scope for the expansion of this export trade. Flood control could be combined with supplemental irrigation, and low-cost power from the Malagarasi River. Preliminary studies covering these aspects of developing the river are already available in Tanzania. Road communications within the region are poor and both main and feeder roads would be needed in a development program. There is a need for telecommunications between the two major population centers of the area, Kigoma and Kasulu. A large investment in rural water supplies is probably not needed, but health and education services in the region are well below average for the country. There is a small tourism potential in the site of Livingstone's meeting with Stanley in 1871 at Ujiji, and in the Gombe Chimpanzee Reserve. Hotel facilities at Kigoma are at present inadequate for the realization of this potential.

147. In spite of its remoteness, the region has a number of factors which may give it a comparative advantage over other rural areas for agro- and other industries. Chief of these is a situation on an established railway line which crosses the entire country. This is combined with favorable agricultural conditions, including an irrigation potential, possibilities of cheap power, available labor, and its situation close to land-locked export markets in Zaire and Zambia. Kigoma could well have a higher claim for such developments as sugar growing and manufacture, and vegetable canning than other areas presently considered, and has a potential for fish processing.

148. A rural development project in the Malagarasi Basin, or in Kigoma Region in general, would involve a wide range of disciplines. Planning and execution should be based on the existing regional development committee, which would provide local knowledge and participation, but which badly needs support in planning and execution. It would provide services on an integrated basis which it is the objective of the Government to provide, but which at present it cannot do because of shortage of resources. A project of this nature would fit in well with Government's philosophy of assisting the more backward areas in priority over those that are already reasonably well developed. A project would directly touch on a quarter of a million people if confined only to the Malagarasi Basin, and to nearly double that number if embracing the whole Region.

149. If the concept of a rural development project of this nature is to be developed, early action is needed on a pre-investment study to identify the best area for investment, identify the components of the investment

program, and assess the likely size of aid, including technical assistance, required.

Irrigation

150. Irrigation development in Tanzania continues as an uncoordinated program and shares with the State Farm program and mechanization developments problems of lack of research, management and personnel. About 1 percent of the crop area of the country is irrigated, but little thought appears to have been given to the need for irrigation in a country which is short of capital and trained manpower and in which rainfed agriculture has considerable scope for further development. Because of high development costs, poor yields, and lack of markets for high value crops, irrigation schemes in Tanzania have been high cost and uneconomic. Those that approach financial viability only do so because rice prices are artificially inflated.

151. Since the last mission, the Water Development and Irrigation Division (WD and ID) has been moved out of Kilimo again and is now in the Ministry of Water Development and Power (Maji). The integration of irrigation development and agricultural planning hoped for after the 1969 reorganization has not taken place, nor has a proposed Tsh 4 million program for training 40 irrigation field staff been effected. An FAO agricultural economist has, however, been attached to WD and ID for 2 years and has submitted a report on the economics and planning of irrigation which is now under consideration.

152. Progress in the Second Plan. During SFYP, some 30,000 ha have been covered by topographic and soil surveys and designs covering nearly 9,000 ha in 14 schemes have been completed or are in preparation. Construction has been carried out on 9 government schemes including 1,400 ha on the Kahe scheme, 1,000 ha on Kilangali state farm, and a 325 ha paddy development at Ruvu National Service Camp. Extensions are continuing at Kaha and Ruvi and a 1,600 ha extension at Mbarali was started in 1971. The total increase in irrigated area in the first two years of SFYP was 2,500 ha, about 60 percent of target. The developed area of Kahe has been handed over to NDC for kenaf production and plans are to triple the area by 1974. However, research on best varieties to grow, on the best cropping pattern, and on the economics of the project are still lacking. The Mbarali scheme has been faced with high costs because of poor yields. It needs further leveling before adequate water distribution and weed control can be achieved, and trials of IRRI rice varieties have only just been started. These must be evaluated before introduction, but some improved varieties will have to be introduced if high enough yields are to be achieved to make the scheme viable. The expansion of the scheme before these problems are settled appears premature. It is, however, to be run as a self-contained, vertically integrated, unit under Chinese sponsorship and under this management could become a viable proposition. The Ruvu NS camp is only an hour's journey from Dar-es-Salaam. It seems likely that fresh vegetables for the urban market would be a more profitable crop than the paddy presently grown. This possibility should be examined.

153. A program of sub-irrigation schemes for ujamaa villages has been embarked upon and is reported to have been extended to 20-30 villages. Water is supplied to vegetable plots through sub-surface plastic pipes at capital costs in excess of Tsh 11,000 per ha and annual maintenance costs over Tsh 1,500/ha. The economics of this approach compared to alternatives do not appear to have been evaluated. An appraisal should be carried out before the program is continued with.

154. Future Action. The irrigation policy for Tanzania needs reappraisal. Irrigation is costly and difficult, and at this stage in Tanzania's development is probably diverting scarce resources from more productive use. Production schemes which could pay off will be for the limited markets for high-value crops, and localized smallholder developments undertaken at minimum cost and possibly a few developments on flood plains which do not require major engineering and drainage investments. Any other program should consist of long-term pilot projects on which agro-economic aspects of irrigation agriculture can be tested.

155. The separation of the irrigation program from Kilimo is causing considerable problems of coordination. A new change in policy is reported however, whereby Maji undertakes all engineering of irrigation works but then hands the area over to Kilimo for operation. This organization could be workable provided the initiative for developments comes from Kilimo, and plans are drawn up on the basis of rigorous feasibility studies developed in cooperation between Maji and Kilimo, and - for any large-scale developments - with the cooperation of the NAFCO company which would operate the scheme. Irrigation works must be planned on the basis of need and proven viability, not on technical feasibility, and must be regarded as one of several alternative approaches to production and not an engineering operation which is an end in itself.

156. Research on crops and cropping systems which will give high enough yields to justify the cost of irrigation is lacking and needs to be developed. So does training of management and staff who would operate schemes or provide extension advice on smallholder operations. The size and priority of such research and training should depend on the results of the new look at policy. The analysis of SFYP correctly points up the criteria that should guide irrigation development but these have not been followed in the act. They should be.

#### Research

157. Agricultural and livestock research remains the responsibility of the Research, Training, and Farmers' Education Division of Kilimo. The division operates some 40 research stations, substations and laboratories (major centers are listed in Table 23) and has a professional establishment of 100. Due to continuing shortages of funds and staff, however, research has been on a care and maintenance basis for some years, and the lack of central direction in the research program which was noted by the previous

mission continues. During 1970, at the request of the government of Tanzania, a definitive study of Tanzania's research needs was undertaken by a USAID team. The report, submitted in April 1971, is under consideration. Little action on fundamental problems had been taken up to October 1971.

158. The many issues relevant to the research program in Tanzania focus on five principal considerations: the provision of funds, the establishment of a policy for research, staffing, the research organization, and the use of research results. These are inter-related problems. Funds serve little purpose if staff cannot be recruited or retained. Adequate funds are unlikely to be voted if research priorities in the national interest have not been established or if staff are lacking.

159. The following points emerge from reports, papers and discussions on agricultural and livestock research in Tanzania:

- (a) the Research Division budget has been cut and this certainly restricts work. Pre-requisites to securing a claim on more funds are to get research priorities established, show research to provide a high pay-off relative to other uses of limited funds, and show that staff would be available to fill posts;
- (b) no economic evaluation has been made which would guide research policy at the national level (to establish crop priorities, weigh advantages of different levels of applied research and chose between alternative approaches to production), while at farm level (where it is needed to identify problems in crop production most in need of attention) the posting of farm management researchers to research stations, although very useful, was shortlived. The USAID report reiterates the need for a strong agricultural economics research program. The little work currently going on in this field is scattered and uncoordinated. An exception is the badly needed census of agriculture, currently underway, discussed below;
- (c) the recruitment and retention of professional staff has been adversely affected by excessive transfers of officers and short-term contracts for expatriates. Morale in the Research Division is low, and work is suffering badly from lack of continuity and the understandable frustration of research personnel. This is the most easily solved of the problems facing research in Tanzania, but has persisted for the last three years;
- (d) over half the established professional posts and a number of technical positions are vacant. Most of these should be

Table 23: MAIN RESEARCH ORGANIZATION (i) (ii)

	<u>Cereals</u>	<u>Edible Legumes</u>	<u>Root Crops</u>	<u>Other Foods</u>	<u>Oil Crops</u>	<u>Fruits/Nuts</u>	<u>Horticulture</u>	<u>Fibres</u>	<u>Stimulants, etc</u>	<u>Livestock and Feed</u>	<u>Disciplines</u>
Mkingano (Tanga)			Cassava		Oil palm Coconut	Citrus Pawpaw	Tropical	Sisal Kenaf Other	Cocoa Spices Essential oils		Botanical gardens Herbaria Soil analysis
Liyamunge (Kilimanjaro)	Wheat	Dwarf beans	Irish potatoes	Bananas		Temperate fruits Macadamia	Sub-tropical		Coffee		Plant imports Plant pathology
Uwirigura (Mbeya)	Maize Sorghum (with Serere) Millets (with Serere)		Sweet potatoes					Cotton (by CRC)		Pasture	Soil analysis
Muruku (buloba, West Lake)				Bananas (with Makarere)				Tea (with TRU) Coffee		Pasture	
Ilongi (Kilosa, Morogoro)	Rice Maize	Other leg.		Indigenous crops				Cotton (testing)	Pyrethrum	Pasture fodder	Food science Soil analysis
KATRIW (Ifakara) (Ulanga, Morogoro)											Rural Sociology Irrigation agronomy Entomology Food storage Soil analysis
Mtwara (Mtwara)		Soyabean Groundnuts			Sesame Sunflower Other oil seeds	Cashew					
Mboya (Mbeya)	(Wheat) (Maize)	(Various)	(Potatoes)					(Pyrethrum)	(Dairy) (Beef) (Sheep)		
Tumbi (Tabora)								Tobacco			
Mpapwa (Doloma)									Dairy Pigs		Artificial insemination
Malya (Maswa, Shinyanga)									Beef Dairy Goats Sheep		
West Kilimanjaro LRS Kilimanjaro									Beef Dairy		

filled by recruitment overseas on five-year contracts, with options for extension, to fill the time until qualified Tanzanians are available. Competition for the best professional men is strong, and they will only respond to Tanzania's need if they can work on a consistent program which will contribute to the professional career which they must continue elsewhere after completing their work in Tanzania. More use still could also be made of overseas research organizations. The Cotton Research Corporation (CRC) is already employed, and in consequence cotton research has the best continuity of any in Tanzania. The shortage of professional staff also implies that extra strenuous efforts should be made to ensure that the time of those available is devoted to priority research and not lost on administrative duties or low-value projects;

- (e) there appears to be a gap between the research and extension arms of the agricultural service. This can be closed by a number of measures. Closer attention to farm-level problems calls not only for farm management research but for personal contact between farmer and researcher, only possible from farm visits. Many research workers in Tanzania do make such visits, but the record suggests more should. If research work is to make an impact on farm production, results must be fully recorded, analyzed from both technical and economic viewpoints, published in useable form, and transferred to farmers. Publication of research results has lagged in recent years with the result that a body of knowledge is not available to the extension service. Priority should be given to an effort to publish all available results. Generally, too, field staff in contact with farmers are not technically equipped to interpret results and give advice. To interpret fully quantified research results and turn these into sound, useable advice for farmers is a skilled task requiring knowledge of experimental design and statistical techniques, skill in economic evaluation, familiarity with the limitations of the extension service, and close acquaintance with farmers' problems, comprehension levels, and reactions. A device which has operated successfully in West Africa is to establish an Extension/Research Liaison Unit whose function is to appraise and interpret research results and frame those which are economically and technically useable into recommendations. The unit publishes the recommendations, instructs extension workers in them, and follows up their application in the field. Such a unit is also a valuable source of advice to researchers on farmers' needs and problems.

160. Research facilities in Tanzania are generally adequate, particularly if the efforts Kilimo staff, the University faculties and related organizations, and the parastatals, can be coordinated. Proposals for establishing a central research institute (or separate institutes for agriculture and livestock) have been under discussion for some time, and the idea of a single national center is endorsed by the USAID report. The aim, of strengthening and coordinating the research program is a worthy one, but one which could be achieved within the existing organization. Given the shortage of staff and funds, this proposal would not seem to merit high priority at present.

Census of Agriculture

161. A most welcome development is the carrying out of a 1-year sample census of agriculture, started in October 1971 by the Statistics Bureau and Kilimo under the supervision of an FAO advisor. All regions except Zanzibar are included in the census, which consists of a 100 percent postal census of large-scale farms, defined as estates, state-farms, ranches and other holdings on which more than 5 people are regularly employed, as well as a 1 percent sample of peasant farm households, recorded by 400 enumerators. Stratification is by Divisions and the census is designed to have a sampling error of under 5 percent at Regional level and under 2 percent at National level for major criteria.

162. The census coverage includes data on the farming populations, areas and tenure of holdings, land use and crop areas, livestock and poultry numbers by type, age and sex. Information is also being obtained on ownership and use of farm machinery and implements, availability of credit, and use of fertilizers. Crop yields will be calculated from measurements from random plots.

163. The results of the livestock count, due to have taken place on or about 31 December 1971, should be published by about July 1972. Preliminary tables of other results are expected to be ready in mid-1973. They should therefore be available in time for the preparation of the 3rd Five-Year plan. A system for the continuing collection and analysis of current agricultural statistics should be established as a follow-up to the census program.

Organization, Services, and Production Programs

164. A major reorganization of the then Ministry of Agriculture took place early in 1969 and the present formal title of Ministry of Agriculture, Food and Cooperatives was adopted.<sup>1/</sup> Since 1969, the Natural Resources Development and Utilization Division, covering fisheries and forestry, has

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<sup>1/</sup> This structure is shown in Chart I of the Annex to the previous mission report. The new structure is shown in Figure 2 of this report.

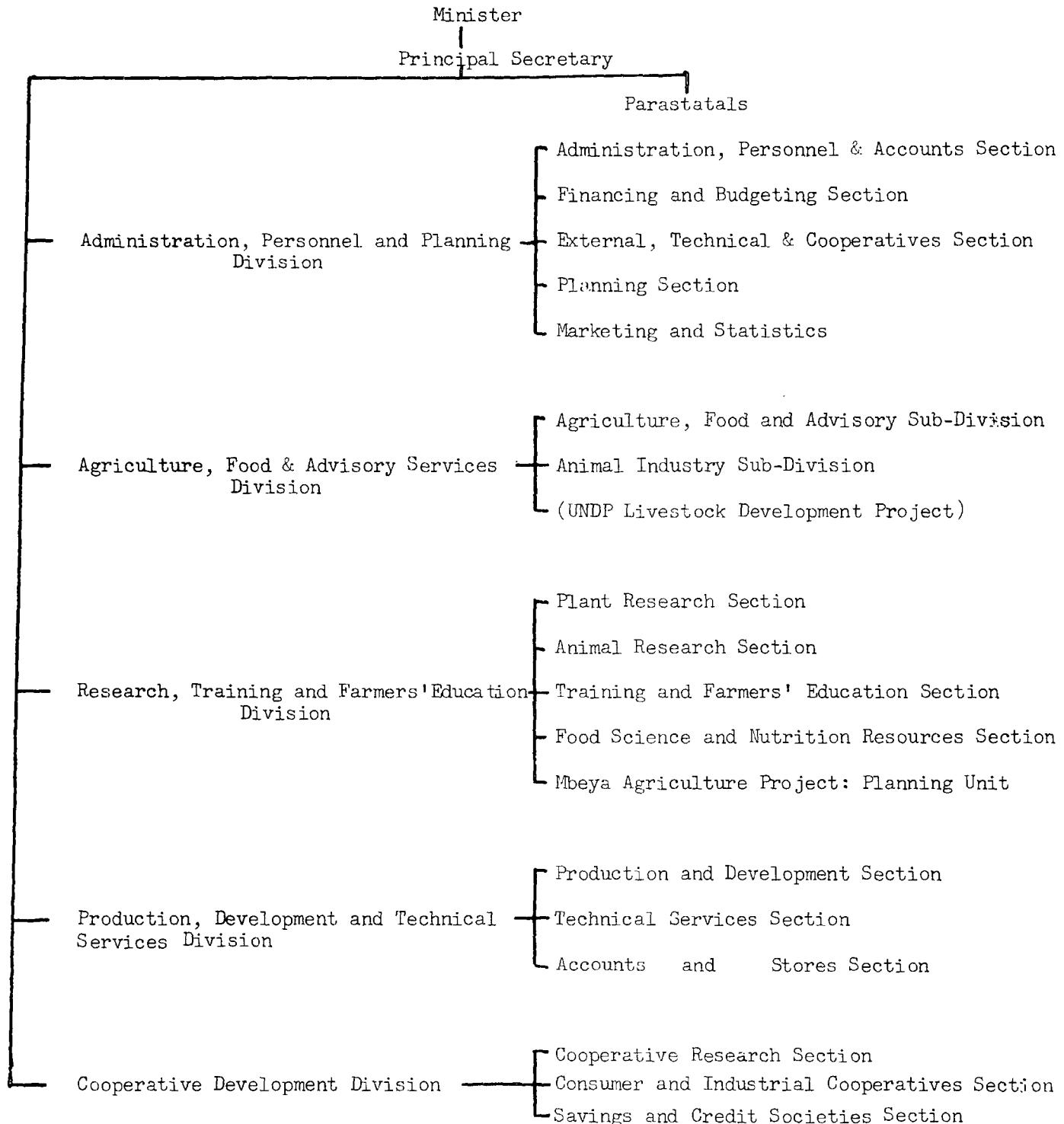
been transferred to the Ministry of Natural Resources and Tourism, and WD and ID has gone to the Ministry of Water Development and Power (Ubongo). Further reorganization is possible as the result of a survey of the whole structure of government currently being conducted by a consulting firm and arising from a change in emphasis in Ministry policy away from involvement in direct production. There has also been a proliferation of parastatals and their subsidiary companies, concerned with agriculture, but some consolidation is taking place with the formation of two major marketing boards APEX and FMC.

165. Frequent major changes in organization are obviously unsettling, and when dealing with a program as large as the agricultural one, usually involve some trade off between disadvantages and desirable features. The 1969 changes had the great advantage of bringing all major governmental agricultural programs into one Ministry and facilitating integrated research and advisory programs. The changes made since then, presumably to reduce the size of the organization, have been logical in that the sections transferred were those which least required close coordination with the main programs. It would, however, seem to have been better to have split WD and ID, keeping the agronomy section and some economic planning capability within Kilimo so that only purely engineering aspects were dealt with by Ubongo. There does appear to be a most unfortunate lack of coordination within Kilimo between the Research Division on the one hand and the Advisory Services and Production Divisions on the other. This does not, however, seem to be a case for dividing control of the research program by a reorganization in the Ministry, but rather calls for much stronger central direction of the three services into established lines of policy.

166. The Production, Development and Technical Services Division of Kilimo is responsible for seed multiplication, providing breeding stock and tractor services to ujamaa villages and farms close to State Farms (but not for the main THS which comes under the Cooperative Development Division), providing planning services for ujamaa villages, as well as having the unenviable task of running State Farms without trained manpower and within the constraints of a government budgetary system. If expansion of the State Farm program is stopped and existing viable farms are run by companies of a parastatal organization, the Division will presumably be free to devote more attention to ujamaa village plans. A similar refocusing of attention is also needed from the Research and the Advisory Services Divisions. Linking extension workers directly to ujamaa villages has potential advantages in building links between farmers and government agricultural services, in getting advice accepted, and in achieving control of the extension staff. At the same time it requires a higher standard of competence from extension workers - and improved access by them to technical advice - and, as the ujamaa village program builds up, will call for many new staff. The use of agricultural volunteers, chosen by the village and supported by it during training is one of the proposals to help meet this gap which appears to have great merit. A move which should be avoided is the wholesale transfer of trained staff from the high potential areas in which ujamaa village development may be slow, to the agriculturally poorer areas which are making most rapid progress towards ujamaa

Figure 2

MINISTRY OF AGRICULTURE, FOOD AND COOPERATIVES (Kilimo)



production. Not only is the production of the high potential areas vital to Tanzania, but also these staff, who have presumably developed some skills in the particular crops of their area, will be needed to help in the rather difficult adjustment towards communal farming in their present areas.

167. More manpower could certainly be used in Kilimo, but it seems that shortage of finance is a more immediate constraint on developing the Ministry's programs. A cut in the 1971/72 development budget to 45 percent of planned expenditures, and an increase in recurrent budget which does not even cover the annual increment in personal emoluments of existing staff are indicative of the immediate problems. On the other hand, a number of studies show poor performance by staff, particularly in the extension service, and a number of projects, including some financed with Bank/IDA credits, which call for high staff-farmer ratios are moving ahead. Both these considerations point to a need to retrain the present personnel, and to make transfers from within existing cadres. This in turn calls for a careful and objective survey of staff productivity, to provide a basis for selection for training and posting. The previous mission made a number of points on this topic which remain pertinent. Dispositions of staff as at September 1971 are summarized in Tables 24 and 25.

168. Under pressure of shortages of funds Kilimo programs have been somewhat reduced in scope and are also apparently slipping in their execution. Table 26 indicates mission estimates of the status of Ministry projects at the end of 1971. The figures are SFYP expenditure estimates, not actual expenditures. Equivalent data for parastatals were not available, but most projects are understood to be underway. In several cases they are, however, behind schedule.

Table 24: KILIMO: STAFF DISPOSITION BY PROGRAM (September 1971)

	<u>Agricultural Officer</u>	<u>Field Officer</u>	<u>Assistant Field Officer</u>	<u>Field Assistant</u>	<u>Total</u>
<b>AGRICULTURE (Crops)</b>					
Extension & ujamaa villages	28	143	989	907	2,067
Tobacco projects	5	23	152	21	201
Tea projects	2	39	103	24	168
Horticulture	1	2	62	-	65
Produce inspection	-	1	16	109	126
Sub-Total	<u>36</u>	<u>208</u>	<u>1,322</u>	<u>1,061</u>	<u>2,627</u>
<b>PRODUCTION DIVISION</b>					
State Farms	16	53	75	<u>150</u> <sup>/1</sup>	294
Land Planning	2	18	146	24	190
Mechanization	-	14	66	47	127
Irrigation	1	6	27	1	35
Bird Control	-	3	3	4	10
Sub-Total	<u>19</u>	<u>94</u>	<u>317</u>	<u>226</u>	<u>656</u>
<b>AGRICULTURE (LIVESTOCK)</b>					
Animal husbandry	41	119	343	539	1,042
Dipping program	-	-	75	882	957
Tsetse control	3	25	64	275	367
Hides and skins	-	8	62	85	155
Sub-Total	<u>44</u>	<u>152</u>	<u>544</u>	<u>1,781</u>	<u>2,521</u>
<b>TOTAL</b>	<u><u>99</u></u>	<u><u>454</u></u>	<u><u>2,183</u></u>	<u><u>3,068</u></u>	<u><u>5,804</u></u>

/1 Estimate.

Source: Kilimo

Table 25: KILIMO: AGRICULTURAL STAFF (CROP AND PRODUCTION)  
DISPOSITION BY AGRICULTURAL ZONE  
(Excluding field assistants)

Zone	Ujamaa villages in Zone				<u>Total</u>
		<u>A0</u>	<u>F0</u>	<u>AFO</u>	
HQ	-	13	4	2	19
Mara, Mwanza, Shinyanga, W. Lake	466	7	59	365	431
Coast, Morogoro, Mtwara, Ruvuma, Tanga	1,206	12	92	468	572
Arusha, Kilimanjaro	55	7	26	133	166
Dodoma, Singida	207	4	24	131	159
Iringa, Kigoma, Mbeya	652	9	76	366	451
Tabora	82	3	27	203	233
<b>Total</b>	<b>2,668</b>	<b>55</b>	<b>308</b>	<b>1,668</b>	<b>2,031</b>

Source: Kilimo

Table 26: SFYP PROJECT STATUS (1971): KILIMO ONLY

Projects	Plan Value of Projects		
	Total (Tsh, million)	Proportion of Plan Expenditures (%)	1969/70 and 1970/71 Investments (Tsh, million)
Completed	8.9	1.3	7.9
Underway and Continuing	401.9	60.1	125.4
Underway but Suspended	22.2	3.3	7.7
Dropped from Program	90.0	13.5	10.9
To be Implemented	60.0	9.0	17.8
Under Review	<u>22.1</u>	<u>3.3</u>	<u>6.4</u>
<b>Total</b>	<b><u>605.1</u></b>	<b><u>90.5</u></b>	<b><u>176.1</u></b>
Transferred to Other Ministries	35.8	5.4	14.1
Funded by Other Agencies	<u>27.6</u>	<u>4.1</u>	<u>8.0</u>
	<u>63.4</u>	<u>9.5</u>	<u>22.1</u>
<b>Plan Expenditures/1</b>	<b>668.5</b>	<b>100.0</b>	<b>198.2</b>

/1 Includes Tsh 33.1 million in anticipated revenues from Production Division

Actual expenditure in 1969/70-1970/71 is not known but was well under Tsh 150 million. Without this information and more detailed information on progress on the group of projects which have been started, no close evaluation of progress can be made. An assessment of progress was being conducted by Devplan at the time of the mission, and results were not then available.

APPENDIX II

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ANNEX II

TOURISM

Attractions and infrastructure

1. Tanzania has abundant physical resources for the development of tourism. They include unrivalled concentrations of game distributed through National Parks (40,000 sq. km), Game Reserves (70,000 sq. km), and Game Controlled Areas (64,000 sq. km). In addition, it has some 800 km of coastline, with many fine and as yet undeveloped beaches within easy reach of Dar-es-Salaam international airport. The scenery over much of the country is impressive, Mount Kilimanjaro being a particular attraction. The climate is generally pleasant, although the rains make access to some game areas difficult at certain times of the year.

2. The main appeal of Tanzania is its wildlife, although a start has been made to attract tourists to its beaches. Almost invariably, a visit to Tanzania has in the past been combined with a visit to Kenya. Secondary attractions which could grow in importance are the off shore islands of Zanzibar, Pemba and Mafia, the marine resources, and the 5,300 square kilometers of inland water. Conditions in Zanzibar are not conducive to the development of tourism at the present time.

3. The Dar-es-Salaam airport can take intercontinental jets, and the possibility of further extending the runway and building a new terminal is being considered. The new Kilimanjaro Airport midway between Arusha and Moshi was completed late 1971, and will accept the largest aircraft currently in commercial service. Eighteen domestic airports (including Zanzibar, Pemba, and Mafia) are served by East African Airways Corporation (EAAC) scheduled services. There are in addition many landing strips for light aircraft, some of which are inadequate. Although relatively little of the country's road network is bitumenized, progress is being made towards completion of the Tan-Zam Highway which runs through the Mikumi Park, and not far from the Ruaha Park and the northwestern corner of the Selous Game Reserve. Many areas at present of interest to tourists can be reached by gravel all-weather roads, though there still remain many circuits restricted to dry weather only. This accounts for the sharp drop in the number of visits to National Parks during April, May and June.

Accommodation and other facilities

4. There are 1,785 rooms (3,432 beds) in hotels throughout Tanzania which are considered to be of a suitable standard for international tourism. Of the 541 rooms in Dar-es-Salaam, 465 are in hotels that cater almost exclusively for non-holiday guests, such as businessmen, aircrews, and resident expatriates seeking permanent housing. Three new beach hotels having 400 rooms between them have recently opened, as well as a 30 room fishing

lodge on Mafia Island. There are 537 rooms in 10 wildlife lodges, some of which have been built to a high standard. The 216 rooms in Arusha and Moshi cater partly to tourists and partly to business visitors to the East African Community headquarters. Accommodation on Zanzibar is very limited, construction of a new hotel having stopped.

5. Tanzania has so far only limited facilities for tourists other than for seeing wildlife or enjoying the beaches. Evening entertainment barely exists, other than that arranged by the hotels for their guests. Apart from wood carvings, and Zanzibar chests (both relatively heavy items for the air traveller), there are few attractive handicrafts.

6. Despite much discussion among Tanzanians on the desirability of international tourism, the attitude towards individual tourists is generally welcoming. Security restrictions are limited to some remote border areas. The country has no unusual health hazards likely to deter tourists.

#### Tourist traffic

7. There are some statistical difficulties obscuring the growth of Tanzania's tourist industry, due to double counting of tourists making short trips across frontiers, and the flexible definitions used of "transit" visitors. Foreign visitor arrivals were estimated at 63,000 <sup>1/</sup> for 1970, an increase of 23 percent over 1969. A further substantial increase may be expected for 1971, due to the start of full operation of the new beach hotels.

8. It is estimated that about a quarter of the foreign visitor arrivals are for business reasons. Of the holiday visitors, most are combining their visit to Tanzania with one to Kenya or elsewhere in Africa. American nationals accounted for some 29 percent of holiday arrivals in 1969, British nationals for 20 percent: of the latter, half are estimated to be resident in East Africa. West Germany, France, Switzerland and Italy were next in importance as sources of tourists.

9. It is estimated that the average length of stay of all foreign visitors to Tanzania is 4.9 nights. Of the total hotel/lodge bednights attributable to foreigners, some 30 percent are estimated to be spent in the Northern Game Parks, 27 percent in Dar-es-Salaam, and 28 percent in the beach hotels.

#### Foreign exchange earnings from tourism

10. Gross direct foreign exchange receipts are estimated at US\$8.6 million in 1969/70, and net receipts at US\$6.3 million. Total exports of commodities amounted to US\$241 million in 1970. Tourism receipts are therefore still small compared to commodity exports; but the latter have been

<sup>1/</sup> Total arrivals as estimated in the Economic Survey for 1970/71. Due to differences of definition, these figures are not strictly comparable with those in Table 1.

growing very little in recent years, whereas tourist receipts are estimated to have grown by an average annual rate of 23 percent p.a. between 1968 and 1970. It is estimated that tourists visiting game parks make some 62 percent their total daily expenditure on accommodation: the tourist at the beach is estimated to make 64 percent of his expenditure on accommodation, and the businessman 81 percent.

Social implications

11. It is characteristic of the political philosophy of Tanzania that serious thought should have been directed to the social problems which a badly planned or ineffectively controlled tourist industry could create. It is feared by some that too rapid an expansion of international tourism could lead to tactless exhibition of a relatively luxurious standard of living, accompanied by over-commercialization and the degradation of traditional values. Such problems, whilst real enough in some countries, can be eliminated or minimized by sound planning and control. Moreover, tourism can have positive social implications to the extent that it provides for better contact and understanding between peoples: an experiment at one beach hotel whereby tourists could attend lectures on local history and customs and learn some of the language is believed to have been very popular.

Manpower and training

12. Total employment in services is estimated for 1970 at some 93,000, of which the tourist industry might have accounted for some 6,500 excluding National Parks employees. The provision of properly trained manpower for an expanding tourist industry is a major problem in most developing countries, to which Tanzania is no exception. A Hotel and Catering School was established in Dar-es-Salaam in early 1969, operated by a parastatal company, Hallmark. Results seem to have been satisfactory, and further extensions are planned. The filling of all management posts by qualified Tanzanians is a policy objective, in tourist as in other sectors. The training needs of the tourist industry throughout East Africa have been reviewed by the East African Community as a first step towards developing regional training facilities.

The organization of tourism

13. The Ministry of National Resources and Tourism is responsible for the National Parks, the Tanzania Wood Industries Corporation, and the Tanzania Tourist Corporation (TTC). The Ministry is responsible for overall policies for tourist development, hotel classification, statistics, and publicity abroad, in which it has taken over the functions of the now defunct Tanzania National Tourist Board.

The Tanzania Tourist Corporation (TTC)

14. TTC was formed in April 1969 to provide for parastatal investment in, and operation of, tourism enterprises. It took over a mixed bag of companies and projects from the National Development Corporation, and has tackled

the formidable task of administering this inheritance with competence and determination.

15. TTC's subsidiary companies include 4 hotel/lodge companies accounting for 1,628 beds between them, a safari operator, and a film company. Associated companies include a hotel management company, and hotels accounting for another 332 beds between them. In addition TTC is setting up a touring company designed to handle many of the Tanzania tours arranged at present from Nairobi, a boat operator, and a travel agency for government and para-statal organizations.

16. It is intended that the TTC will eventually be in a position to finance new development projects from internally generated funds. However, even on optimistic assumptions about the performance of some of its projects, TTC is likely to face continuing financial difficulties for the next six or seven years. This situation has arisen due to the nature of the projects and the burden of debt assumed by TTC on its formation.

Potential for future growth

17. TTC commissioned a Master Plan for tourism to cover the period from 1969/70-1978/79 from Arthur D. Little, Inc. (ADL). The draft report envisages tourism growing to be a major source of foreign exchange by the end of the period, annual arrivals reaching 250,000 in 1978/9. The annual growth rates postulated are generally reasonable, and are based among other things on consideration of the views of operators in the main markets. The draft ADL report has important implications for government policy, in that it recommends the construction of around 3,000 additional hotel beds on the beach near to Dar-es-Salaam. The government has expressed concern over the possible social effects of such development. The construction of the new Kilimanjaro airport is also likely to encourage further emphasis on the northern game areas.

18. Whilst Tanzania can continue to attract tourists whose primary interest is wild animals, this market does not have potential for growth in any way comparable to that for holidays which combine game parks and the beach. The distance from the main markets is such that even with greatly reduced airfares through the use of charter flights, very short holidays in East Africa would have a negligible market. The cost and fatigue of spending more than a week touring the game parks are such as to appeal only to specialized markets. On the basis of discussions with tour operators, ADL has estimated that of European tourists coming to E. Africa on inclusive tours, 23 percent would take no safari at all, and a further 24 percent would take a safari of no longer than 2 nights. Only 18 percent would take a safari of 2 weeks or longer. If, therefore, Tanzania's policy is to develop game lodges without corresponding accommodation at the coast, satisfactory rates of occupancy would be unlikely without continuing to rely on tourists coming in from Kenya.

19. Growth of tourism will also be restricted unless the commercial air policy of Tanzania and its partners in the East African Community in the interests of the regional carrier, East African Airways Corporation (EAAC), is such as to encourage the expansion of charter inclusive tours. EAAC itself may be expected to carry an increasing volume of charter traffic, when it has the equipment to do so. Air fares from London to Dar-es-Salaam range from \$771 for the normal economy class round trip, down to between \$165-\$195 per seat on a charter flight, which further underlines the key importance of policy towards charter licenses. Although Tanzania is further from the main markets than Kenya, it has the advantage of an international airport on the coast. Visitors to Kenya's coast have at present to make a relatively expensive and inconvenient transfer from Nairobi, except for those using smaller charter aircraft which can operate to Mombasa. This advantage for Tanzania will cease when the planned improvements to Mombasa airport are completed.

20. In the medium and long-term, the investments needed to support the expansion of tourism depend upon policy issues yet to be determined by the Government. Specifically, the emphasis of any development program depends on whether the government wishes to exploit the potential offered by the beaches, or whether tourism development is to be largely restricted to the game parks. There are, however, two hotel projects and one lodge project (discussed in paragraphs 21-23 below) whose justification would be largely independent of the decision on whether or not to develop coastal tourism. At the time of the mission's visit, financing had not been secured for any of them.

New Africa Hotel extension

21. The new Africa Hotel is owned and operated by Coastal Hotels Ltd., a subsidiary of TTC. It is located in central Dar-es-Salaam, on the site of an old hotel dating back to early colonial times. The existing hotel has enjoyed a very high rate of occupancy, guests being mostly businessmen or expatriate families looking for rental accommodation. The hotel's patio bar and restaurant provides one of the few meeting places for tourists sightseeing in Dar-es-Salaam. Reconstruction has proceeded in stages, the hotel now having 148 beds. An adjoining site has been cleared for the addition of 140 single bedded rooms and 8 twin suites, together with enlarged public areas, shops, a swimming pool and car parking. The project cost of the proposed extension is estimated at Sh. 19.0 million (US\$2.7 million).

Mount Meru Hotel, Arusha

22. Hotel accommodation in Arusha is limited. The completion of the new Kilimanjaro airport is expected to increase the number of holiday visitors to the area, and the headquarters of the East African Community attracts business visitors. TTC is promoting a project to build a 400 bed hotel, at an estimated project cost of Sh. 35 million (US\$5 million). The financing

plan envisages long term debt of Sh. 21 million (US\$2.9 million), the remaining Sh. 14 million being provided as equity by TTC. Preliminary designs have been prepared by Danish architects. Preliminary discussions have been held with the Sheraton International Corporation on possible management arrangements.

Mount Kilimanjaro Lodge

23. A new Mount Kilimanjaro National Park is being established with assistance from the Government of Norway. The possibility of securing further assistance for the construction of a lodge was under review during the mission's visit. The proposed lodge would have 150 beds, with adequate central services for an extension of 200 beds later. The estimated total cost for 150 beds would be Sh. 9.6 million (US\$1.34 million), and the financing plan envisages equity of Sh. 3.6 million, (US\$0.50 million) and a loan of Sh. 6.0 million (US\$0.84 million).

The Arthur D. Little investment program

24. The program of tourism investments proposed by Arthur D. Little (ADL) for the period 1969/70 - 1978/79 is based on the development of both the established Northern Circuit, and largely new Southern Circuits, including the beaches. The total capital cost of the program is estimated at Sh. 700 million (US\$98 million) over the ten year period, of which 30 percent would be foreign exchange. Over half of the proposed investment would be in 7,000 new hotel and lodge beds. The rest is allocated to roads and administrative buildings in the National Parks, beach development, marine parks, tourist boats, airstrips, a hotel school, game development, historical restorations, and some miscellaneous tourist services. ADL propose that the Government finance some 30 percent of the cost of the program, parastatal corporations another 8 percent, private equity 21 percent, local loans 20 percent, the balance of 22 percent (US\$21.6 million) being expected to be provided by international loans and grants. It is likely that the ADL program will prove too ambitious, unless the government assigns a much higher priority to tourism than seems to be the case at the present time. A key issue, which the ADL report stresses, is policy towards incentives for both Tanzanian and foreign investors.

Conclusion

25. Tanzania can undoubtedly develop tourism into a major source of foreign exchange. It has powerful attractions for a large and growing market, and in TTC has the institutional basis for effectively promoting the sector. The most urgent requirement is for clarification of government policies towards the sector, and the subsequent approval of a revised investment program. Key issues are likely to be: the priority of the sector vis-a-vis other claims on resources; the geographical direction of tourist investments; regional promotion in cooperation with Community partners; incentives for private investment; and civil aviation policy.

TOURISM

STATISTICAL APPENDIX

Index

Table No.

1. Visitor arrivals, 1960-69
2. Tourist arrivals by nationality and purpose of trip, 1968-69
3. Visitors to National Parks
4. International hotel capacity and ownership - mid-1971
5. Hotel capacity and occupancies, 1969-70

TABLE 1

TANZANIA

Visitor Arrivals 1960-69

<u>Year</u>	<u>First Arrivals</u>	<u>Arrivals through Kenya/Uganda</u>	<u>Totals</u> <sup>1/</sup>
1960	7,534	2,313	9,847
1961	7,351	4,867	12,218
1962	9,257	6,409	15,666
1963	9,878	10,472	20,350
1964	7,140	13,117	20,257
1965	8,278	13,222	21,500
1966	10,800	17,559	28,359
1967	16,000	18,619	34,619
1968	N.A.	N.A.	49,105
1969	N.A.	N.A.	55,884

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<sup>1/</sup> Including transit passengers but excluding dependents and holders of Kenyan or Ugandan passports.

Source: East African Statistical Department for years 1960-1967 and Tanzanian Bureau of Statistics for years 1968 and 1969.

TABLE 2

TANZANIA

Tourist Arrivals<sup>1/</sup>  
by nationality and purpose of trip, 1968,1969

<u>Nationality</u>	1968			1969		
	<u>Holiday</u>	<u>Business</u>	<u>Total</u>	<u>Holiday</u>	<u>Business</u>	<u>Total</u>
Americas	8,530	1,411	9,941	11,809	1,276	13,085
UK <sup>2/</sup>	3,516	1,903	5,419	3,887	1,552	5,439
UK, East Africa residents <sup>1/</sup>	3,516	1,903	5,419	3,887	1,552	5,439
W. Germany	2,691	555	3,246	2,763	574	3,337
Other Europe	8,187	3,016	11,203	9,259	2,705	11,964
Asia	2,208	1,973	4,181	2,484	1,715	4,199
Africa (excl. E.African nationals)	2,098	1,948	4,046	2,970	2,983	5,953
Other (incl. not stated)	<u>639</u>	<u>293</u>	<u>932</u>	<u>1,092</u>	<u>415</u>	<u>1,507</u>
TOTAL	31,385	13,002	44,387	38,151	12,772	50,923

1/ excluding transit passengers

2/ 50% if visitors having British passports are assumed to be residents of East Africa.

TABLE 3

TANZANIA  
1/  
Visitors to National Parks, '000

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
Sergengeti	11.6	16.3	21.9	29.0	35.4
Lake Manyara	21.7	29.3	33.9	41.9	54.8
Ngorongoro	23.6	25.8	33.5	44.7	56.6
Arusha	6.3	8.6	10.6	11.6	14.1
Mikumi	5.1	6.2	5.8	8.1	14.0
Ruaha	.6	.5	.3	.6	.7
Tarangire	-	-	-	-	3.4
TOTAL	69.0	86.6	106.0	135.8	178.9

1/ Includes non-fee paying visits (schools, officials etc.) which in 1969 and 1970 accounted for 5.7% and 7.6% of the total respectively.

Source: Bureau of Statistics

TABLE 4

International<sup>1/</sup> hotel capacity and ownership - mid 1971

<u>Location</u>	<u>Number of</u>		<u>Ownership</u>	
	<u>Room</u>	<u>Beds</u>	<u>% Private</u>	<u>% State</u>
<u>Dar es Salaam</u>				
Hotel Afrique	33	60	100	
Hotel Kilimanjaro	200	400	-	100 T.T.C.
Hotel Skyway	80	130	100	
Motel Agip	57	102	50	50 Gov't.
New Africa Hotel	95	144	-	100 T.T.C.
Oysterbay Hotel	21	42	100	
Palm Beach Hotel	25	40	100	
Twiga Hotel	30	56	100	
	<u>541</u>	<u>974</u>		
<u>Beach Hotels</u>				
Africana Hotel	200	400	100	
Pahari Beach Hotel	100	200	70	30 T.T.C.
Kunduchi Beach Hotel	100	200		100 T.T.C.
Mafia Fishing Club	6	12		100 T.T.C.
Mafia Fishing Lodge	40	80		100 T.T.C.
Silversands	45	90	100	
	<u>491</u>	<u>982</u>		
<u>Wildlife Lodges</u>				
Fort Ikoma	60	120	100	
Hotel Tanzanite	30	60	100	
Lake Manyara Hotel	100	200		100 T.T.C.
Lobo Wildlife Lodge	75	150		100 T.T.C.
Mikumi Wildlife Lodge	50	100		100 T.T.C.
Momella Game Lodge	48	105	100	
Ngorongoro Wildlife Lodge	75	150		100 T.T.C.
Seronera Lodge (tent camp)	60	120	100	
Tarangire Tent Camp	34	68	100	
Mt. Meru Game Sanctuary	5	10	100	
	<u>537</u>	<u>1,083</u>		
<u>Arusha/Moshi Hotels</u>				
New Arusha Hotel (Arusha)	71	146	100	
New Safari Hotel (Arusha)	35	60	30	70 T.T.C.
Kibo Hotel (Marangu)	43	79	100	
Livingston Hotel (Moshi)	67	108	100	
	<u>216</u>	<u>393</u>		
Total, mainland Tanzania	<u>1,785</u>	<u>3,432</u>		
<u>Zanzibar (Furaha ya Visiwani Hotels Ltd.)</u>				
Africa House	12	28		Zanzibar Gov't.
Zanzibar Hotel	25	52		Zanzibar Gov't.
	<u>37</u>	<u>80</u>		
Total	<u>1,822</u>	<u>3,512</u>		

<sup>1/</sup> Hotels charging 50 Shs. or more per night for bed and breakfast.

TABLE 5

Hotel Capacity and Occupancies, 1969-1970

Unit	Dar es Salaam		Arusha/Moshi		Northern Wildlife Area <sup>1/</sup>		Zanzibar		Other Areas		Total		
	1969	1970	1969	1970	1969	1970	1969	1970	1969	1970	1969	1970	
Number of hotels	No.	21	30	13	16	7	10	2	2	39	42	92	100
Daily rooms available	No.	731	1,295	409	468	270	492	37	37	545	587	1,992	2,879
Room occupancy rate (annual average)	%	65.1	64.4	33.4	32.3	56.3	36.4	23.2	14.3	40.1	36.5	49.4	39.1
Daily beds available	No.	1,381	2,148	689	809	545	993	80	80	1,008	1,115	3,703	5,445
Bed occupancy rate (annual average)	%	40.3	31.2	26.1	27.1	44.8	31.3	15.3	9.2	27.0	24.8	34.3	29.1
Total annual beds occupied	'000	213	279	73	82	94	113	4	3	115	101	500	578
	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Of which residents of:													
Tanzania	%	36.0	34.9	34.1	36.9	7.1	3.5	23.2	32.0	83.4	79.3	40.5	36.8
Kenya, Uganda, Zambia	%	13.1	10.8	13.2	10.0	7.8	3.5	4.8	7.0	6.1	7.4	10.9	8.6
Other African Countries	%	4.9	4.2	2.0	2.4	1.9	4.2	3.9	1.4	2.5	1.6	3.4	3.5
Europe	%	24.2	29.6	32.7	26.6	38.6	39.7	27.0	30.6	4.6	8.7	24.4	27.5
America	%	9.8	7.7	16.1	20.9	41.4	45.6	30.9	23.8	0.7	1.2	15.1	15.9
Asia/Australia	%	12.0	12.8	1.9	3.2	3.2	3.5	10.2	5.2	2.7	1.8	5.7	7.9

1/ Means accommodations situated in and around National Parks in the north.

Note: Due to incomplete coverage 1970 figures are subject to slight revision.

Source: Bureau of Statistics.

ANNEX III

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URBAN/REGIONAL DEVELOPMENT AND HOUSING

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URBAN/REGIONAL DEVELOPMENT AND HOUSING

I. Urban/Regional Development

1. The purpose of this review is three-fold: to examine recent urbanization and regional development trends in Tanzania, to describe the Government's policy in urban and regional development, and to evaluate the policy's conceptual framework and performance.

Urbanization Trends

2. The population of Tanzania was 12.9 million in 1970, widely scattered over an area of 364,900 square miles. The urban population, including cities and towns with 1,800 or more persons was approximately 774,000 or about 6.5 percent of the total. The national total was growing at approximately 2.7 percent and that of the urban areas at about 7 percent. Assuming that the growth rates observed in 1970 will be maintained, 2.7 million and 19.5 million of the country's population will be found in the urban and rural areas respectively by 1987. In spite of the high rate of urban growth, Tanzania will therefore remain a predominantly rural country.

3. The rapid growth of Tanzania's urban areas is the result of the country's high natural growth rate and rural to urban migration. Like other African countries, Tanzania's death rates have been falling due to improved public health while the birth rates have remained high. Crude death rates are estimated at 21 per 1,000 while crude birth rates are put at 46/48 per 1,000. Better employment opportunities, improved housing and accessibility to health and educational facilities are among the factors that underlie migration to cities.

4. While the urban areas as a whole grew at 6.3 percent per annum during the period 1957-67, Dar-es-Salaam had a growth rate of 7.8 percent reaching as high as 11 percent between 1965 and 1967. If these growth rates continue, Tanzania's urban population will double in size very eleven years; the capital will double in size every nine years, having one million people by 1985 and over 3 million by the year 2,000. The more rapid rate of growth in Dar-es-Salaam is due in part to the emphasis it has received under past investment programs, resulting in the creation of new employment possibilities. In addition, Dar-es-Salaam is the socio-political center of the country.

5. The following table provides 1967 population and estimates for 1971 and 1987 for nine major urban centers slated for accelerated development under the Second Five-Year Plan:

Table 1: POPULATION OF THE NINE DESIGNATED URBAN GROWTH CENTERS

	1967 <u>Population</u>	Estimated Growth Rate	Population Estimate 1971	Population Estimate 1987
1. Tanga	60,900	4.0%	73,000	150,000
2. Mwanza	34,900	6.3%	44,000	110,000
3. Arusha	32,300	14.9%	45,000	250,000
4. Moshi	27,000	5.2%	34,700	125,000
5. Morogoro	25,300	6.5%	30,000	80,000
6. Dodoma	23,600	6.0%	29,000	75,000
7. Tabora	21,000	2.7%	22,600	38,000
8. Mtwara	20,400	4.5%	23,000	37,000
9. Mbeya	12,500	10.0%	16,400	50,000

Source: Ministry of Economic Affairs and Development Planning.

These rapidly expanding urban centers will require increased expenditures, necessitating a diversion of the already limited capital resources of the country away from the rural sector. The Government, recognizing this, states that urban growth must be planned and controlled within the framework of national development objectives which emphasize rural development.

#### Ujamaa Villages

6. In keeping with the emphasis on rural development, the Government has embarked on the mobilization of the people into Ujamaa villages to better utilize rural manpower resources and increase rural productivity. Ujamaa villages consist of groups of families who farm the land collectively and share in the proceeds according to the amount of work contributed. The Ujamaa village concept is intended to promote and improve the economic and social conditions of the village members through self-help and self reliance.

7. Significant progress has been achieved in setting up Ujamaa villages in the past three years, as seen in the following table:

Table 2: NUMBER OF UJAMAA VILLAGES ESTABLISHED DURING 1968-71

	<u>Number of Villages</u>	<u>Approx. Population</u>
At the end of 1968	180	50,000
At the end of 1969	650	300,000
Beginning of 1971	2,668	840,000
At the end of 1971	4,484	1,599,307

Source: Ministry of Economic Affairs and Development Planning.

At the end of 1971, the Ujamaa Village population was about 12 percent of the total population, which is nearly twice the urban population. It is

estimated that about a quarter of the national population will be organized in the Ujamaa village system by 1981, giving a possible population distribution in the country as follows:

Table 3: ESTIMATED POPULATION DISTRIBUTION 1981

Total Population of the Country	18.5 million
- living in cities and towns	1.9 million
- living in Ujamaa villages	4.6 million
- living scattered in the rural	12.0 million

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Source: Annual Plan 1970-71 Economic Survey 1970-71.

8. According to the 1970-71 Economic Survey, the average population per Ujamaa village is now 300, or about 60 families, but regional averages range from over 900 in the Coast Region to 100 in Ruvuma and Shinyanga Regions. The number of Ujamaa villages by region at the beginning of the year was:

Table 4: UJAMAA VILLAGES BY REGION 1971 (DECEMBER)

MtWARA	748	Kigoma	132
Iringa	651	Tabora	81
Mara	376	Coast	121
Mbeya	493	Singida	201
Lindi	592	Arusha	59
Dodoma	246	West Lake	46
Tanga	132	Mwanza	127
Shinyanga	150	Morogoro	113
Ruvuma	205	Kilimanjaro	11

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Source: Ministry of Economic Affairs and Development Planning.

The large range of villages by region, 748 in MtWARA to 11 in Kilimanjaro, is the result of existing growth and settlement patterns. The Kilimanjaro region had been extensively cultivated prior to the policy of village development, so there was little land on which to settle large numbers of people in new villages. The MtWARA Region, located in the southern part of the country, had little population growth or expansion of agricultural and industrial activities prior to implementation of Ujamaa policy. Collective clearing of the land and governmental impetus to develop the village system in this region accounts for the large number of villages. In addition, many of these villages have been formed for defense purposes along the border with Mozambique

Regional Trends

9. There are 18 administrative regions in Tanzania as shown in the Map at the end of this report. The pattern of settlement and growth is quite uneven throughout the country. Tanzania inherited a regional development pattern from colonial times in which economic activity and population movements tended to follow transport routes, areas with agricultural potential especially for export crops, and established industrial centers of which Dar-es-Salaam was the only significant one. In this pattern, growth was concentrated in the area around Dar-es-Salaam, and the northern belt from Tanga northwest through Arusha-Moshi to Mwanza on Lake Victoria. There was some development in the central railway depot towns but this was not significant.

10. The regional development pattern has changed little since independence. Arusha/Moshi has become an industrial center of some importance and the recent flourish of activity on the Tan-Zam road and railway has stimulated development in Mbeya near the Zambia border. The recent Ujamaa village program has also stimulated development in the area around the port of Mwtara near the Mozambique border. In sum, the pattern of regional development in Tanzania has tended to bypass the central part of the country and has concentrated most notably in the coastal area and the north-northeast band from Tanga to Mwanza on Lake Victoria.

Urban/Regional Development Policy

11. Government policy in the field of urban/regional planning deals with three aspects: the growth of towns and cities, the development of Ujamaa villages in the rural areas, and the promotion of regional growth. With regards to urban areas, the Government recognises that the population of the urban areas will continue to grow faster than that of the nation as a whole, and, that while this growth cannot be completely stopped, it can and should be reduced to manageable proportions. Therefore, the government's policy objectives are:

- (a) to formulate an urban program which will stimulate and complement rural development, i.e. promotion of other urban growth centers so as to reduce migration to Dar es Salaam.
- (b) to invest enough in urban areas in order to avoid the emergence of unacceptable urban social conditions without, at the same time, allowing cities to become an increasing drain on the country's financial and physical resources.

12. The two important tools that the Government intends to employ in the implementation of its urban policy are the provision of infrastructure in the designated growth center towns, and the encouragement of industries to locate there rather than in Dar-es-Salaam.

13. In order to stimulate rural development and provide counter attraction points for population who might otherwise drift to the cities, the Second Plan places particular emphasis on Ujamaa villagisation. The Ujamaa villages

are a new element in the topology of population distribution centers in the country, and are intended to play a significant role in the spatial distribution of the demand for those services which have been associated hitherto with urban areas only. The government is promoting Ujamaa Villages through:

- (a) the education and training of Party and Government leaders in the ideology of Ujamaa Villagisation;
- (b) the education of the people, and
- (c) technical assistance in setting up the villages, providing infrastructure, and services.

Both the urban centers and Ujamaa villages are subsystems of a region. According to the Second Plan, the regional strategy is:

- (a) to make maximum use of the growth potential of each region;
- (b) to emphasize participation of the people and their institutions (i.e. the Party) in the regional planning process and;
- (c) to narrow the gap between regions in terms of the supply of essential services.

While the region would provide the administrative unit within which the planning process is to take place, the actual planning would give priority to areas of special significance, i.e. the nine specified growth towns, hinterlands of big infrastructure projects (Tan-Zam Road and railway for example). Planning based on areas of special significance would help articulate the link between urban areas, Ujamaa Villages, and regional planning and development.

14. Besides initiating surveys around promising growth points and selecting regional exercises, the Government has created a number of institutions which are supposed to play an instrumental role in the regional development of the country. These include: regional economic secretaries to advise and coordinate planning activities at the level of the region, and District Corporations to undertake industrial and wholesale trade and other economic activities at the district level. For funding purposes, the Government has created the Regional Development Fund, the Self-Help Fund and the Tanzania Rural Development Bank. The amount of funds flowing through these institutions is still fairly small.

#### The Policy and Performance Gap in Urban/Regional Planning

15. The section on urbanization and regional development trends (see para. 5) shows that the population of urban areas is growing twice as fast as that of the nation as a whole, and that Dar-es-Salaam remains the dominant city in the urban system. Dar-es-Salaam is five times as large as Tanga, the second largest city in the country. Ujamaa villages are growing very rapidly, and four years after their inception they have twice as many people as are

found in urban areas. Even with this remarkable growth of Ujamaa Villages, however, trends in regional development still show that those regions surrounding the cities of Dar-es-Salaam, Mwanza, Arusha-Moshi are growing faster than the rest of the country. In other words, the introduction of Ujamaa Villages has not had an effect on the historical coincidence of city and regional growth in the country. Great numbers of people and economic activity still move to the traditional centers of growth.

16. It is, of course, true that most of the Ujamaa Villages are only three years old and it will be some time before they can have an impact on the established patterns of migration and regional development in the country. Nevertheless, the continued heavy migration to Dar-es-Salaam in the face of all the stated emphasis on growth towns, Ujamaa Villages and rural development appears to indicate that an important link is missing in the hierarchy of major spatial population centers. The hierarchy now consists of Ujamaa Villages, urban areas, and regions; people can either move into the villages or into the urban areas. The Ujamaa Villages are often too small to stimulate economic activity and support services that are found in urban areas. Nor are Ujamaa Villages located in such a pattern that a group of them could support a minimum range of services such as schools, health centers or markets. A potential rural migrant in search of a job and/or better social facilities is therefore unlikely to find the Ujamaa Village a substitute for going to the designated urban growth points. The potential migrant has to move a great distance whatever city he chooses to go to. This gives Dar-es-Salaam the edge over many other cities because opportunities there are perceived to be much better.

17. It appears that what is needed in order to enable the Ujamaa Village to contribute to a more balanced urban/regional distribution of population and economic activity in Tanzania is an intermediate supportive network of regional centers, located in such a way as to reduce the transportation factor among villages. A more cohesive settlement pattern of Ujamaa Villages grouped around a regional center would allow them to collectively maintain a primary school, health center, and a market. In addition, these centers would provide a larger range of goods and services such as storage and marketing facilities, and a secondary school, available to the villagers on a daily or periodic basis as needed. The accessibility to an expanded range of communal facilities and services would aid in reducing the drift to the larger urban cities. Furthermore, these regional centers would provide the support needed to make the Ujamaa villages economically viable.

18. There is, of course no assurance that the elaboration of the conceptual framework for regional planning along the lines suggested above will in itself, change the traditional pattern of economic activity and population movements. It is instructive to note that Government efforts in regional development up to now have net with little success. Those regions with good agricultural, industrial or tourist potential have continued to attract more people and activities. The remaining areas are relatively stagnant in spite of all the elaborate machinery for regional plans. The poor performance so far appears due to the fact that some of the Government's objectives in regional development call for reversing strongly established

trends in a situation in which: (a) the relationships between various regions, their resources and capabilities are not known, and (b) there is a shortage of planning staff at the center, let alone in the regions.

19. With regard to urban growth policy, the stated desire for rural-urban balance is not being successfully implemented. The present pattern of public expenditures and industrial expansion continues to favor the urban areas. During the first two years of the current Plan, the government made higher urban investments than actually programmed, utilizing funds initially allocated to rural development.

Table 5: PERCENTAGE BREAKDOWN OF TOTAL CENTRAL GOVERNMENT DEVELOPMENT EXPENDITURES

	1969/74 Whole Plan Period	1969/70		1970/71	
		Budgeted	Actual	Budgeted	Estimated Actual
Rural impact	63.8	48.8	46.8	48.3	48.0
Urban impact	15.6	39.6	41.1	40.3	34.2
National infrastructure	<u>20.6</u>	<u>11.6</u>	<u>12.1</u>	<u>11.4</u>	<u>17.8</u>
	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Economic Affairs and Development Planning.

Direct expenditures in urban areas were Sh 241 per capita and about Sh 62 per capita in the rural areas, where the majority of the population is located.

20. The industrial decentralisation policy, designed to promote the growth of other towns besides Dar-es-Salaam, has not so far been very effective. Of the approximately thirty major industries allocated in the two years, only ten have gone to the growth towns, and seven of these ten have gone to Arusha-Moshi. Therefore, only three of the thirty industries were shares by the seven least industrialized growth towns. Dar-es-Salaam has retained the other twenty. 1/ In addition, government policy called for the provision of a master plan for each of the nine urban centers, preliminary to upgrading their infrastructure and locating new industry. However, to date, only Arusha has its master plan; the other master plans will be prepared with foreign technical assistance. The preparation of master plans and the provision of infrastructure alone, however, will not necessarily ensure the success of the urban growth points policy. Industries are not likely to locate in towns far away from markets and sources of their material

1/ The Economic Survey 1970-1971.

inputs. The fact that recent industrial location has tended to favor Dar-es-Salaam and Arusha-Moshi raises some question as to the realism of Tanzania's attempt to develop as many as 9 growth towns.

Recommendations

21. In order to more successfully implement regional and urban development objectives, the present strategy must be reevaluated. Specifically, the Government should:

- (a) articulate the regional planning framework, paying particular attention to the interrelatedness of Ujamaa Villages, urban centers, especially the designated growth points, and regions. In this regard, consideration should be given to the development of regional centers in conjunction with Ujamaa Villages.
- (b) assess development potential of each of the urban centers and regions. The information collected should form the basis for continuous monitoring of both urban and regional development strategy. It appears to us that unless the urban and regional strategy is formulated in a way that makes maximum effective use of the economic potential of towns and regions, its chances for success will be minimal.

II. HOUSING

22. The high rate of urbanisation that Tanzania has experienced in recent years has imposed heavy demands for infrastructure and social services in the country's towns and cities. Among the services for which needs are most pressing is housing. While housing demand in Tanzania has two components - rural and urban, the government expects people in the rural areas to provide their own housing. The following discussion concerns housing in urban areas only.

Policy Objectives

23. Tanzania's stated housing policy is based on self-reliance. The Government is aware that its people are poor and public financial resources available for housing are severely limited. It believes that just as Tanzania's rural population has traditionally built its own shelter with minimal assistance from the state, so should the residents of the country's urban areas where the housing problem is most acute. Therefore, the Government would like to see its public housing corporation (a) build houses which meet urban conditions and yet remain within the financial means of the majority of urban people, (b) provide serviced sites on which individuals would then erect their own housing.

24. The Government's objectives are reasonable. It remains to be determined, however, the extent to which its policies and programs are serving the above objectives and suggest ways for improving performance.

The Housing Demand

25. It is not possible to obtain time series data on housing needs in Tanzania covering even as recent a period as the First Five-Year Plan (1964-1969). According to data provided by the Ministry of Land, Housing and Urban Development the estimates for housing needs in urban areas during the Second Five-Year Plan (1970-1974) period are as follows:

Table 6: ESTIMATED HOUSING DEMAND IN URBAN AREAS, 1970-1974

<u>Source</u>	<u>Number of Dwelling Units</u>	<u>Average Annual Needs</u>
Urban Population Growth	63,500	8,200
Overcrowding	19,500	3,800
Replacement	<u>25,000</u>	<u>5,000</u>
Total	108,000	17,000

Source: Ministry of Economic Affairs and Development Planning.

26. Based on information derived from past data and surveys carried out by the National Housing Corporation (NHC), the following breakdown of annual needs by income group have been calculated.

Table 7: ESTIMATED AVERAGE ANNUAL HOUSING DEMAND IN URBAN AREAS BY INCOME GROUP

<u>Family Income Shillings per month</u>	<u>Dwelling Units Needed</u>	<u>% of Total</u>	<u>Cumulative %</u>
0 - 300	8,500	50	50
300 - 500	5,250	31	81
300 - 1000	1,875	11	92
1000 +	1,375	8	100

Source: Ministry of Economic Affairs and Development Planning.

While the reliability of these data is not beyond question, they, nevertheless, indicate the magnitude and dimension of the housing problem in Tanzania. About half of the families in need of shelter earn less than Sh 4200 (US\$600) a year and fully two-thirds earn less than Sh 6000 (US\$850) a year. Assuming the rule of thumb that people cannot afford a house costing much more than 2-1/2

times their annual income, it follows that the bulk of Tanzania's urban dwellers cannot afford houses costing much more than \$1500 to \$2000 to construct. And assuming that people cannot afford renting at more than 25 percent of their income 1/, they can pay monthly rents between 90 and 125 shillings only and on the average 50 Shs per month for the lowest 49 percent of wage earners. In other words while the demand for shelter in the urban areas is for units whose standards are above those in the rural areas, it is nevertheless still well below that which ordinary mortgage finance can deal with. According to data in Table 7, the demand in the lower income brackets is primarily for rental units. Only the public sector and the individuals concerned can be expected to help solve the problem. Public sector resources are themselves stretched, making self-help and self-reliance the only viable alternative.

Housing Administration

27. The administrative organization for housing includes the following institutions:

- (1) The Ministry of Land, Housing and Urban Development is responsible for:
  - (i) the physical planning of the urban areas and assisting in the Planning of Ujamaa villages in rural areas;
  - (ii) the formulation and execution of housing policy;
  - (iii) coordination of housing efforts of other government agencies, community development organization and building cooperatives, (particularly on self-help basis);
  - (iv) ensuring the provision and development of the proper land, rural and urban in coordination with the Ministry of Water Development and Power which is in charge of water, sewerage and drainage supplies;
- (2) NHC and Maendaleo (now part of the Prime Minister's Office) charged with low cost housing and research in urban and rural areas respectively. The NHC program provides the backbone of public housing in Tanzania.

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1/ Tanzanian literature on housing assumes that people cannot spend much more than 10 percent of their monthly income on housing. This assumption seems unrealistic; it probably results from the fact that the government charges civil servants only 10 percent of their salaries for rent on government supplied housing.

(3) The Permanent Housing Finance Company of Tanzania (PHFCT) which is partly owned by the Commonwealth Development Corporation finances high income housing needs.

(4) Mwanchi Engineering and Construction Co. (MECCO) is a parastatal builder of buildings, bridges, roads, etc.

(5) The Ministries of Communications, Transport and Labour and National Education and Parastatals, also finance and/or build houses.

28. A lack of coordination among the housing institutions is a serious problem. Plans and projects of the different institutions are frequently unknown by the others; empty newly-built houses are found without the necessary infrastructure.

#### Housing Supply

29. Little data is available on the number of housing units constructed by the Government for its employees and by the PHFCT during the first Tanzania Five-Year Plan (1964-1969). It is, however, generally agreed that the numbers were not very large. At the beginning of the Plan period, the Government accepted the recommendation of the ADU Report (1964) <sup>1/</sup> and divested itself of the responsibility for providing housing to all its employees. PHFCT was not established until 1967 and its operations began a year later.

30. NHC carried out the bulk of housing construction during the first plan period. The amounts of funds spent by the Government and the Corporation were as follows:

Table 8: CENTRAL GOVERNMENT EXPENDITURES ON HOUSING DURING THE FIRST PLAN (1964-1969)  
(Shs thousands)

<u>Year</u>	<u>Government Expenditure on Staff Quarters</u>	<u>Central Government Contributions to NHC</u>	<u>Total</u>
1964-1965		10,000	10,000
1965-1966	802	9,200	10,000
1966-1967	354	15,620	15,974
1967-1968	9,344	17,700	27,044
1968-1969	<u>2,129</u>	<u>16,850</u>	<u>18,979</u>
Total	12,629	69,370	81,999

Source: Second Five-Year Plan.

1/ ADU Commission was appointed to study the role of Government in supplying housing for its employees including the rents charged.

31. The number of housing units built by NHC during the first plan period and its distribution by area is shown below:

Table 9: HOUSING UNITS CONSTRUCTED BY NHC DURING FIRST FIVE-YEAR PLAN (1964-1969) BY LOCATION

<u>Location</u>	<u>Low Cost /1</u>	<u>Medium Cost /2</u>	<u>Total</u>
Dar es Salaam	4,292	386	4,678
Other Townships	878	204	1,082
Ex-Townships	296	27	323
Rural Areas	<u>239</u>	<u>5</u>	<u>234</u>
Total	5,705	622	6,327

/1 Cost: Shs 7,700 - 15,400

/2 Cost: Shs 15,460 - 35,000

Source: Second Five-Year Plan

32. Based on Table 9 the Corporation built an average of about 1200 units a year compared to an estimated 17,000 units required a year during the 1970-1974 period. In Dar es Salaam NHC built about 1,000 units a year compared to a reported annual requirement of about 6,000 new units. 1/

33. Such data as are available on recent housing output (exclusive of squatter housing) shows clearly that the supply is well below the 17,000 units that are required annually. On the average, in 1970 for example, it was estimated that the total number of housing units built from all public sources amounted to about 5,150 units of which 3,000 were high and medium cost units and 1,712 low rental units. 2/ Ignoring, for the moment, the needs attributable to overcrowding and replacement, it still means that only about 40 percent of the estimated needs arising from population growth were actually being met. 3/ Moreover, a substantial part of newly built units were going to replace units torn down by the slum clearance schemes. It is estimated that at least 70 percent of the 5700 low cost units built during the First Five-Year Plan were for this purpose. In short, not only has the supply of housing units been low compared to the needs, the additions to housing stock were even less.

1/ Dar Master Plan.

2/ S. Benjamin, "Squatter Communities in Tanzania". Economic Research Bureau, University College, Dar es Salaam.

3/ The extent of private sector contribution is not known.

34. It should also be noted that of the 5,150 units built in 1970, 60 percent were medium and high standard units costing between Sh 15,460 (US\$2,210) and Sh 35,000 (US\$5,000) as opposed to the minimum standard costing between Sh 7,700 and Sh 15,400 (US\$1,100-2,200). About half of the low cost units are the so-called multi-family type houses. Accepting for the moment, as Tanzanians assume, that families can spend only 10 percent of their income on housing, then 50 percent of the people in need of housing can pay up to 35 shillings (US\$5) a month for rent, and 67 percent of them can pay only up to 50 shillings (US\$7). Based on information in Table 10 below, it appears that probably about 60 percent of Tanzanians in need of housing could not or were not expected to afford the so-called low cost units built by NHC. In short, not only has the housing output been very low, it has tended to address itself not to the needs of the actual low income people. From data available really low income people can only afford rents for the one room units.

Table 10: NHC HOUSES AND FLATS /1

		Area M2	Unit Cost Shs	Cost M2 Shs	Rent per month Shs
Individual Family House	3 room	65	15,400	240	140
Multifamily	1 room	21	4,600	230	45
Multifamily	2 room	30	6,900	230	65
Multifamily	3 room	42	9,200	230	90
Multifamily	6 room	122	25,000	205	220
Multifamily tenanted	1 room	20	4,600	230	45
Single family tenanted	2 room	30	6,900	230	65
Flat	1 room	41	13,200	330	127
Flat	1 room	27	8,910	330	81
Flat	2 room	41	13,200	330	127
Flat multifamily	1 room	21	6,930	330	64

/1 Unit cost includes materials (46 percent), labor (9 percent), electricity, water consumption (7 percent), NHC overhead (23 percent), land (7 percent), septic tank (8 percent); approximate figures.

35. The low income groups (i.e. at least half those in need of housing (see Table 7) have had to provide shelter for themselves by doubling up or squatter settlements. Dar es Salaam, with about 40 percent of Tanzania urban population, bears the brunt of squatter problem with an estimated 1/3 of its total population living in them. And the situation has worsened with time as can be seen from the following table:

Table 11: ESTIMATES OF SQUATTER HOUSING AND DWELLING UNITS IN DAR ES SALAAM 1963-1971

<u>Year</u>	<u>No. of Squatter Housing Units</u>	<u>No. of Dwelling Units</u>
1963	7,000	28,000
1967	14,720	48,000
1971	20,000	64,000

Source: Ministry of Economic Affairs and Development Planning.

The Second Five-Year Plan (1970-1974)

36. The government's housing program under the Second Five-Year Plan is designed to meet some of the problems identified above by increasing the output of housing units and gearing the public housing program more towards the lower quartile of the urban population where the need is greatest.

37. The Plan target is the production of 40,000 units in towns between 1970 and 1974 or about 8,000 units a year by the public sector. It was assumed that the private sector would build the balance of housing demand, or about 12,000 units a year. The distribution of the target units by type, institution and expenditures are shown in the following table:

Text Table 12:  
Government Housing Program for Second Five-Year Plan

Programs

No. of Units	Specifications	Institutions	Expenditure- Thousands Shs. Total
25,000	<u>Site and Services Plots:</u> Land grade infrastructure, basic services and foundation future house in humid zones, 5,000 a year	Landsurvey National Housing Corporation (NHC)	7,075 68,000
10,000	<u>Minimum Standard Houses:</u> Shs 6,000 to 11,000 each; 2,000 a year	N.H.C.	70,000
5,000	<u>Medium Standard Houses:</u> for P.H.F.C. who will finance them - Shs 11,000 to 35,000 each	N.H.C. (PHFC)	125,000
	<u>Middle-High Income Loans:</u> Shs 75,000 or less each; (2,000 loans)	Permanent Housing Financing Corporation	no contribution by the Government
	<u>Staff Flats in Dar, Iringa, Arusha</u>	National Cooperative Bank	480
	<u>Teachers' Houses:</u> Staff Houses (expansion)	Ministry of Education (University) - DAR -	46,510 2,250
100	<u>Government Program types</u>	Min., Communication	20,000
250	A (100 units) and B (250 units)	Trans. and Labour	-
30	CIDA Housing DAR U.N. Housing DAR	ditto ditto	360 3,000
	Housing Prison Staff Housing Immigration Staff	Min., Home Affairs ditto	3,520 866
	<u>Institutional Housing for Staff</u>	Min. of Health	4,000
	<u>Rural Housing Improvement</u> through aided self-help for improving traditional house, building systems and materials	Min., Regional Administration and Rural Development (Maendeleo)	17,000
40,380	Total Public Sector (without PHFC)		370,080
	Middle-High and High Standards Private Sector		600,000
	Total Expenditures		970,080

38. Even if the Second Plan housing program were fully carried out, it would still provide only about 40% of the 17,000 units required annually. Doubling-up, squatter housing, and privately constructed housing will be the only solutions in those circumstances. Two elements in the NHC program are, however, encouraging: first NHC is now providing housing in the cost range of Sh 6,000 to 11,000 per unit instead of the Sh 7,700 to 35,000 range which applied during the first plan and secondly, the Government has now introduced a "site and services" program with a target of 25,000 plots to be provided in urban areas for the very low income groups.

Performance Under Second Plan

39. Data available on the performance of the PHFCT and NHC at this time (i.e. two years into the plan) show that the planned targets are not being met. The PHFCT built 670 units in 1970 and 229 units in the first three-quarters of 1971. Although there would be a problem of adequate funds for PHFTC if the volume of its business increased, the main problem appears to be that of the limits of the effective market to which its programs are directed. It appears that this problem could be tackled through the reduction of subsidies to those elements of Tanzanian society who are able to build their own houses - namely the civil servants and employees of parastatal organizations. Although the number of persons involved is not large, the accommodations are provided at rents set at 10 percent of gross salary, which amounts to a hidden subsidy for that group of people in the country most able to pay. The following table indicates the magnitude of the subsidies involved for certain groups of civil servants and parastatal employees

Table 13: EXTENT OF HOUSING SUBSIDY FOR GOVERNMENT EMPLOYEES

<u>Salary of Entitled Officer per Month</u> PM	<u>Type of House</u>	<u>10% of Salary PM</u>	<u>Economic Rent PM</u>	<u>Subsidy PM</u>
4200 Sh	Grade A-I	420 Sh	1125 Sh	705 Sh
3150 Sh	Grade A-V	315 Sh	300 Sh	485 Sh
2350 Sh	Grade A-VIII	235 Sh	630 Sh	345 Sh

The withdrawal of these subsidies should be examined. Were they to be withdrawn that would open up a market for the Permanent Housing Finance Company of Tanzania Limited (PHFCT) and free Government resources to be applied to those groups where need is more acute.

Low Cost Housing

40. In low income housing, NHC's goal was to build 4,000 units during the first two years of the plan period. NHC completed 2,254 low cost units and had a further 1,258 under construction by the end of 1971. The actual

costs encountered were higher than originally planned, so of the 2,254 units built, 528 were Swahili house units, housing more people per unit, resulting in fewer housing units than initially planned. In medium cost units, NHC's goal was 1,000 units for the two year period, only 604 houses were built and 242 are now under construction. PHFCT financed 672 units; 142 units were built as a part of special projects.

41. Again NHC, like PHFCT is operating well below the targets. Here it appears that the problems revolve around:

- (a) shortage in building personnel, especially since projects formerly done by contractors and private builders have now to be executed by NHC itself;
- (b) limited budget allocations;
- (c) inadequate means of transportation of building materials;
- (d) a lack of coordination between NHC and other agencies resulting in delays in the installation of infrastructure;
- (e) rising costs due to increased labor costs and other factors.

42. The steps that might be taken to eliminate some of these constraints need careful examination, such a study should include a review of the building capacity and capabilities of NHC. If NHC cannot meet the targets, perhaps the use of private contractors to build houses on behalf of NHC should be considered in order to avoid delays due to NHC's limited building capacity.

#### Site and Services Program

43. NHC has made least progress in its site and services program. Although about 10,000 plots were called for, in the first two years of the plan, only 624 were developed over a 2-year period and 216 were under construction in 1971. This program could clearly be the most important system for housing urban low-income groups. At the same time, it could be the most economical program for the government, facilitating the national policy of self-help.

44. The apparent lack of progress in the site and services program is not surprising in view of the very large size of the proposed program in a country which has had little experience with this kind of solution to the problems of shelter. A thorough examination of the situation is required before one can pin-point the factors underlying present inadequate performance. Nevertheless, based on experience with this type of program elsewhere, one can tentatively point out the factors that are critical to the success of "site and services" programs. These include:

- (a) choosing realistic standards and phasing in the servicing of sites so that the sites do not become too expensive to those people for whom they are intended;
- (b) ensuring that the candidates for sites have the means (jobs, credit, construction material, technical assistance) to build shelter once serviced lots are provided;
- (c) security of tenure so people have an incentive to improve their housing;
- (d) effective management of the program so that the delivery and maintenance of services to the plots is guaranteed and service charges collected. Community organization and development among residents of sites and services is usually critical for the realization of rent collection;
- (e) providing for other community services, health facilities, etc.

45. It is not clear to what extent some of these questions were examined before the program was launched. For example, why does the government provide foundations on the plots which tends to raise the costs substantially? Was the possibility of some kind of credit scheme considered for the program? Can NHC with its present overstretched staff manage and implement the site and service program?

#### Squatter Housing and Slum Clearance

46. However well NHC's low cost housing and site and services programs may work in the future, they are unlikely to add substantially to housing stock if they are accompanied by a policy of slum (squatter settlement) clearance. Government policy regarding this very important question remains ambiguous. Does the government intend to continue slum clearance schemes? Will this be a general or selective policy? These are important questions because squatter housing provides shelter for a substantial number of urban dwellers in Tanzania and will continue to do so for some time to come.

47. The Swahili type house constitutes about 90 percent of squatter accommodation in Dar es Salaam which reportedly house one-third of the city's inhabitants or 100,000 people. Each house typically contains 4 to 6 rooms on either side of a 5' wide central corridor. Across the enclosed yard at the rear will be a kitchen and toilet; cooking is done in the yard itself. Usually, the owner lives in one or two rooms and rents the others. Up to 25 people in up to six separate family units may be accommodated in each house; generally, rooms are the minimum 9 m<sup>2</sup>. Each room in Dar es Salaam suburbs may rent for Sh 25 with a mud floor and Sh 30 for a cement floor. An owner can construct a 4-room house of mud-brick or Swahili house for Sh 3,500. If he rents all the rooms and has no other expense, gross rental would recover expenses in three years.

48. The point in describing the Swahili house is to show that it provides reasonable shelter and, even more, at rents within reach of the bulk of the low income people as is shown in the table below:

Table 14: COMPARATIVE COSTS: A SWAHILI VS MODERN HOUSE

	Area M2	Traditional House			
		Unit Cost Shs	Cost M2 Shs	Rent per Month-Shs	
		Economic	Market		
Mud and stick Swahili house	(4 room 95 (1 room 23	3,500 880	36 36	40 10	100 25
Mud and stick brought up to NHC construction standards	(4 room 95 ( ( (1 room 23	7,600 80 1,650	80 80	60 20	140 35

Source: J. Leaning "Low Cost Housing in Tanzania - A Factual Analysis".

49. The case against indiscriminate demolishing of squatter settlements was aptly summed by a Dar squatter landlord in a recent interview with a staff writer of the Tanzanian Standard (January 19, 1972). He said: "What surprises me is that these City Council people do not realize that to a large extent, these very houses they classify as shanties somehow eased the housing problem in this town ..... The house (his) is definitely poor compared to some in Dar es Salaam but it serves the purpose."

50. It would appear, therefore, that instead of clearing squatter housing the Government should examine the possibility of a policy of encouraging their improvement with special attention to the environment that surrounds them, including water and drainage. This would not only conserve available housing stock but would constitute a significant cost saving as illustrated in Table 14 above, to say nothing of social costs involved in destroying viable communities which often serve to integrate rural migrants into the urban community.

51. In order to eliminate the inconsistencies in policy and performance, it is recommended that the Government:

- (a) implement the recommendations of the ADU Report (1964) with respect to subsidies for civil servants. This could have a double effect: widen the market for PHFCT and release resources which could be applied to the low cost housing and "site and services" programs;
- (b) examine the building and management capabilities of the NHC with the view to improving them. In the meantime, stop-gap measures may have to be taken to ensure Plan

output targets. Such measures might include the use of contractors and private builders to construct houses for NHC;

- (c) undertake a complete review of the "site and services" program to see what and where the constraints to the implementation of the program lie. In such a review, close attention should be paid to the economic and socio-characteristics of the target population, the standards used in the program, the means and likelihood which the target population has of actually building their own houses, and the management of the program. The "site and services" program is so critical to the realization of housing urban dwellers through self-reliance that were these initial attempts at instituting this type of solution left to fail, the consequences would be far reaching; and
- (d) should define clearly its policy towards squatter housing. A policy of improving instead of clearing them, except in select cases, would in the long run help to ease housing shortage.

