TANZANIA

Food for Development (PL-480, Title III)

Some Policy Considerations and Areas for Further Examination

February 1981

Prepared By:

Brian Kline
Susan Schayes
Edward Hogan
Kenneth Swanberg

TABLE OF CONTENTS

INTRODUCTION

USAID/Tanzania submitted a "Food for Development Identification Document" for Washington (AID and USDA) review on December 5, 1980. This Document proposed a PL-480 Title III program to begin in FY 1981 valued at $85 million plus ocean freight over a five year period to:

"....assist Tanzania to increase the rate of growth in the stagnating agriculture sector of the economy. The program will: 1) improve performance in increasing food production; 2) strengthen the system which enables the country to store food surpluses in years of good harvests and distribute them in years of bad harvests, and 3) improve export crop production as a means of increasing vitally needed foreign exchange."

On January 14, 1981, Washington authorized USAID/Tanzania to proceed with development of a detailed Title III Program Paper which is to be more sharply focused, smaller ($30-35 million) and shorter (3 years) than proposed by the Mission. The analysis was to be conducted in two phases, with an interim review by Washington staff. Guidelines for the analysis provided that the objectives of Phase I would be "development of coherent analyses of agricultural production policy concerns and an evaluation of the Tanzanian Government's ability to effect changes through Title III assistance."[1/] Phase II would "focus more specifically on project level activities, institutional/management constraints and the consolidation of all material into a comprehensive Program Paper."[2/]

two phase PP

1/ State 9490, January 14, 1981.

2/ Ibid.

In the initial meeting between the Minister of Finance and the AID Mission Director and a representative of the Design Team, the Minister indicated the high priority for importing food by June 1981. To ensure that development and negotiation of a Title III program would proceed without the pressure of such timing, the Minister decided and the USAID Director agreed that a Title I program would be developed for FY 1981 and the Title III initiation delayed until early FY 1982.

This document constitutes the report of the four-person AID and USDA team which, in conjunction with USAID/Tanzania, carried out the analyses called for during Phase I. The team, in Tanzania from January 25 to February 11,1981, reviewed a wealth of statistical and analytical literature available on Tanzania and met with a number of Tanzanian officials, including the Ministers of Finance and Agriculture, other Ministry staffs and the heads of several crop parastatals. In addition, representatives of the World Bank and other donors as well as University of Dar es Salaam staff were consulted.

This report is presented in a format which is designed to facilitate further Washington consideration of the problems and opportunities for increased agricultural production in Tanzania, and the role a Title III program might play. Several recent studies on the agricultural sector in Tanzania have been critical of the performance of the agricultural sector, particularly as regards price policy and production trends. The conclusion to be drawn from this study differ at times in degree and emphasis from these earlier studies. This difference is due not so much to data interpretation as to difference in the perceived goals and objectives of what Tanzanian policymakers were trying to achieve

and of the major events influencing Tanzanian development over the last decade. It starts with the belief that Tanzania is a drought-prone country which has managed its agricultural sector reasonably well (in terms of its own explicit objectives - food security and equity) in spite of a series of droughts and shocks during the decade of the 1970's. The Government has set forth a plan for the economy and has endeavored to follow that plan, adjusting its actions to the reality of the situation as necessary. The team concludes that there are a number of opportunities requiring further investigation and selection for effective application of Title III tools.

The specific areas for analysis called for in the guidance for Phase I have been grouped into four general areas of inquiry:

-- constraints to production and marketing, focusing both on short-term and long-term issues.

-- Tanzanian agricultural planning and investment.

-- the role and effect of donor assistance in the agricultural sector.

-- the need for and use of U.S. food aid.

The following analysis of these questions leads to some additional guidance and narrowing of project selection for the Phase II team. In addition, the review of the analysis which follows should be undertaken in the context of the FY 1983 CDSS which was submitted to AID/W January 31, 1981. That document provides an overview of the economic and social framework and places this proposed Title III program into the context of the overall USAID assistance program.

SITUATION AND BACKGROUND

Drought

Any analysis of the Tanzania economy and particularly the agricultural sector must begin with full recognition of the role of drought. Tanzania has over most of the country a drought-prone ecology and it is the ever present specture of drought that is the major factor affecting the decisions of farm families. During the past decade Tanzania has had three periods of drought. Although reliable production data for food crops in Tanzania are not available, official procurement by the National Milling Corporation (NMC) of the three major food crops (maize, rice and wheat) gives a good indication of what has happened to production. In using official procurement as an indicator one must keep in mind that only as little as 50 percent of maize and rice and somewhat more wheat is marketed through NMC and that during periods of drought a farmer tries to hold larger stores and markets less of food crops.

Figure number 1 shows the importance of drought in explaining the variations in official marketings of maize, rice and wheat through NMC from 1971 through 1981 and by implication the effect of drought on maize, rice and wheat production. While it would be possible to derive a trend line for the years 1971 to 1981 such a trend line would be essentially meaningless since the major factor is the drought associated variation. The critical factor with respect to food production and the functioning of the general economy is the periodic shocks to which food production was subjected as a result of the droughts of 1972, 1974-75 and 1980. In these circumstances the first concern of the farm family must be to attempt to assure that during

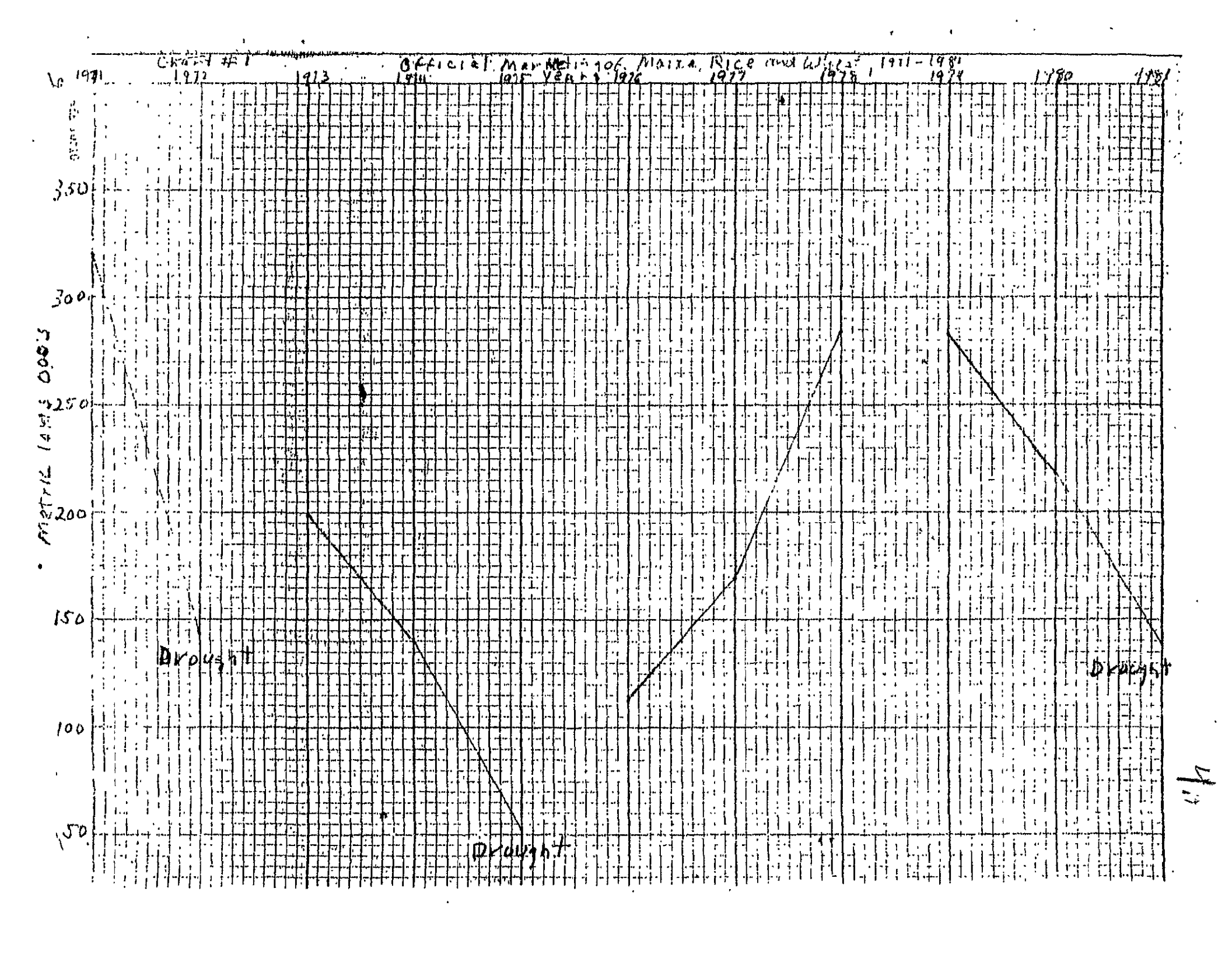


Chart #1
Official Marketing of Maize, Rice and Wheat 1971 - 1981
Years
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
350
300
250
200
150
100
50
Metric Tons '000
Drought
Drought
Drought

drought there will be sufficient food supplies to carry it through the period of insecurity and that the risks associated with obtaining food are minimized. This means that in a drought prone ecology traditional agriculture systems are biased in favor of low-input subsistance food crops and against high-input cash crops.

As with the farm family so with the nation, in a country where 90 percent of the people are engaged in farming. Avoidance of the consequences of drought--the need to purchase with scarce foreign exchange large amounts of basic foods, the increase in morbidity and mortality as caloric intake decreases, the spread of political instability in the face of persistent hunger - means that the production of sufficient supplies of food to assure food security inevitably becomes an overriding priority. The risks associated with relying on comparative advantage become too great, particularly in a world of increasing oil prices and general inflation. Current predictions of an increasing shortage of food to meet African and worldwide demand and caloric requirements imply that this situation will worsen over the next decade. It is highly likely that relying on purely market solutions to provide sufficient food grains will place a country like Tanzania in an increasingly vulnerable position.

Other Strains

In addition to the exogenous shocks from drought, the Tanzanian economy has been subjected to a number of stresses and strains from both external and internal policy decisions and structural changes. These include decisions to build the TAZARA railroad, the TanZam highway and an oil pipeline largely for the benefit of Zambia and other countries in support of liberation struggles in Zimbabwe and

elsewhere; sharp increase in oil prices in 1973 and following years; large increases in world food prices during 1974 at the same time as the drought in Tanzania; the major push for villagization in 1974 and 1975; the breakup of the East African Community; and the Uganda War. Each of the external or internal shocks adversely affected the development pace in Tanzania.

The major investments in infrastructure largely for the benefit of Zambia diverted resources from such development investments as improvement and maintenance of existing infrastructure or capital investment in agriculture. The clustering of increased oil prices, drought, villagization and general inflation in the industrialized nations in a brief time period caused decreases in agriculture production and government revenues and significant worsening of the balance of payments situation. The Uganda War diverted resources from development investment and impacted negatively on the balance of payments; and the breakup of the East Africa Community meant that Tanzania had to invest capital and divert manpower resources to take over and operate national services such as railways, air service, postal service, etc. Irrespective of the level of effectiveness of Tanzania policy and performance, it is clear that the series of events enumerated above would have had a strong negative effect on the balance of payments, the level of productive capital investment, government revenues and expenditures and the utilization of manpower resources.

Policy Objectives: Equity and Social Development

In evaluating progress to date we shall do so from the perspective of Tanzania policies and goals. "In addition to the usual growth and efficiency objectives of policy, the Tanzanian Government has been

explicitly committed to a high degree of economic equality, mass access to public services, popular participation in economic decision-making and national control over the economy".[3] Tanzania has also, as a matter of policy been committed to the villagization of the rural population as a means of expediting the provision of social services and increasing popular participation in decision-making and, with increased emphasis since the 1974 drought, food self-sufficiency. Tanzania has achieved considerable success in moving towards most policy objectives.

Control over the economy has progressed significantly by nationalization of such things as banks, insurance companies, wholesale trade, and selected manufacturing firms largely through the establishment of parastatals. Villagization has been substantially completed with the establishment of registered villages in virtually all areas except where villagization was deferred for production reasons.[4] Real progress has been made in providing public services to meet mass needs.

To measure this progress, the following compare Tanzania's progress in certain social objectives to the performance of other African countries. The death rate and child mortality are substantially below the average for low income countries and equal to that of the average for middle income countries, the percent of population with access to safe water is more than 50% higher than the average for other low income countries and for middle income countries; population per physician and nurse ratios are better than for the average low income countries and compare favorably with middle income country averages; 70 percent or more of the relevant age group are enrolled in Tanzania primary schools as compared to 54 to 62 percent averages for low and middle

3/R.H.Green, et al "External Shocks and National Policy Making: Tanzania in the 1970's", p. ix.

4/J. Mudge, et al, "Tanzanian Development Performance and Implications for Development Assistance," November 26, 1980 (mimeo) p. 5.

income countries; adult literacy is nearly 70 percent compared to less than a 30 percent average for both low and middle income countries; life expectancy is 6 years longer than in the average low income country and 1 year longer than the average for middle income countries.

Tanzania has also made some progress in narrowing the income differences among the population: "according to the Ministry of Finance, government policies in this regard have reduced the gap in effective purchasing power between upper and lower public sector employees from a ratio of 10 to 1 down to a ratio of 5 to 1".5/ With respect to income distribution for the total population Mudge, et al, conclude: "Finally, the data on absolute poverty indicate that Tanzania has a lower percentage of the rural population in absolute poverty than for the low income group, despite the fact that the rural poverty line is higher in Tanzania than in the low income group as a whole. This would tend to support a hypothesis that income and asset distribution in the rural sector is relatively egalitarian compared with other low-income African countries." 6/

Tanzania has not done as well in moving towards growth and efficiency goals as it has done in other areas. Significant technical, institutional, organizational and managerial constraints to expanding the nation's wealth continue to exist. The evidence is clear that a number of institutions and organizations simply do not

which ones?

5/ DAP FY 1976, p. 13.

6/ J. Mudge, et al. ob cit. p.

operate as well as they should. However, it should be noted that Tanzania does appear to be making some progress in providing food security for itself during periods of drought through its own production and marketing efforts.

Response and Results

In order to more clearly understand the performance of the agricultural sector over the past decade, the major crop activities have been analyzed at length. At each step of disaggregation, the pciture becomes clearer. The frequency and severity of droughts has increased significantly since the mid-60's and Tanzania has been forced into giving priority to food crop production. However, government policies did not turn against export crops, as the evidence can demonstrate. Despite the emphasis Tanzania has placed on food production over the past few years, this has not meant that export crops have been ignored. Tanzania initiated a number of actions to increase farm output and improve marketing performance, though not all initiatives have worked out well. While donor agencies have contributed to some of these efforts, a great deal more needs to be done at the farm and parastatal levels to increase the quantity of export crops marketed.

As has been emphasized in a number of recent studies of the Tanzania economic situation,[7/] the volume of export crops marketed was twenty-five percent less in 1979 than in 1970 with the decline in marketed output of export crops following on price increases for domestic food crops in 1975 and 1976. Because there has been a correlation between price increases for food and decreases in export production marketed, there has been a tendency for analysts to attribute

7/ See for example Mudge et al and Ellis.

declines in the marketed output of export crops to the change in relative prices between domestic food and export crops. A crop by crop analysis casts some doubts on how important relative price changes were as a factor causing decrease in export crop production. Of seven export crops marketed, output declined for four crops (sisal, cotton, cashews and pyrethrum), and increased for three crops (tea, coffee and tobacco). Sisal production has been falling since the mid-1960's due to declining world prices which led to diminishing returns to the industry and discouraged capital investment. While market prospects for sisal have brightened with the impact of oil price increases on synthetic fibres prices, sufficient time has not elapsed for declines in output to be reversed. With respect to cotton, the real price has not deteriorated in relation to competitive dry land food crops. While cashew prices have declined relative to other crops and the cross price elasticities may have had some impact on cashew marketing because of the allocation of labor to other crops, the evidence indicates that such things as inadequate capital investment and villagization have had significant adverse effects on cashew marketings. More studies are obviously needed to ascertain the real causes of decline in cashew output. As for pyrethrum, which produces less than 1% of the value of Tanzania exports, there is some indication that falling prices have had an adverse effect on pyrethrum production and that there has been a shift in production to potatoes, maize and tea because of shifts of land and labor. The evidence indicates that for the most part, export crops whose output declined have had important technical and operational problems and/or insufficient capital investment. These problems could be only partially ameliorated by higher relative prices.

CONSTRAINTS TO PRODUCTION

Rather than discuss individual crops, we have grouped them into four categories: swing-food[8/] crops; drought-resistant, inferior-demand crops; the edible oil crops; and the non-food, cash, export crops.

Major Crop Categories

Swing-Food Crops	Maize, Rice, Wheat
Drought-Resistant Crops ("Inferior Demand")	Cassava, Sorghum, Pigeon Peas, Cowpeas
Edible Oil Crops	Groundnuts, Sesame, Sunflower, Cottonseed
Export Crops	Cotton, Sisal, Cashew, Tobacco, Coffee, Tea, Pyrethrum

Crop production areas in Tanzania can be broadly classified into: 1) the highland areas of Arusha, Kilimanjaro, Iringa, Mbeya, Ruvuma and Rukwa which tend to have highly productive soils, good rainfall and high production potential; and 2) the lowland areas of the rest of the country which in general are of lower soil fertility potential and have highly variable rainfall conditions which make crop production in these areas much more uncertain except for certain dryland crops. The highland areas contain 33.5% of total land area and 28% of the population while the lowland areas in which production is much more variable and uncertain contains 66.5% of the land area and, more importantly 72% of the population. Given the distribution of land and population, the major source for variability in crop production

8/ Swing-food crops are those which have a fair demand on international markets so that when domestic consumption is satisfied, they can be readily exported.

and the major area of concern for drought resistance are these lowland areas. It is here, therefore, that food security is an overriding issue in both government policy and individual farmers decision making. The following section will discuss briefly the implications of drought and attendent risks on production patterns and resource allocation.

Production Patterns and Food Security in Lowland Agriculture

When drought persists, farmers seed increased mixtures of drought-resistant crops. Since traditional input levels are nil and land is readily available, a farmer who seeds 2 acres instead of one during a dry year when yields are 1/4 of normal will harvest 1/2 the expected volume rather than 1/4. This would not necessarily be the case for the preferred food crops. The diagram below illustrates this phenomena.

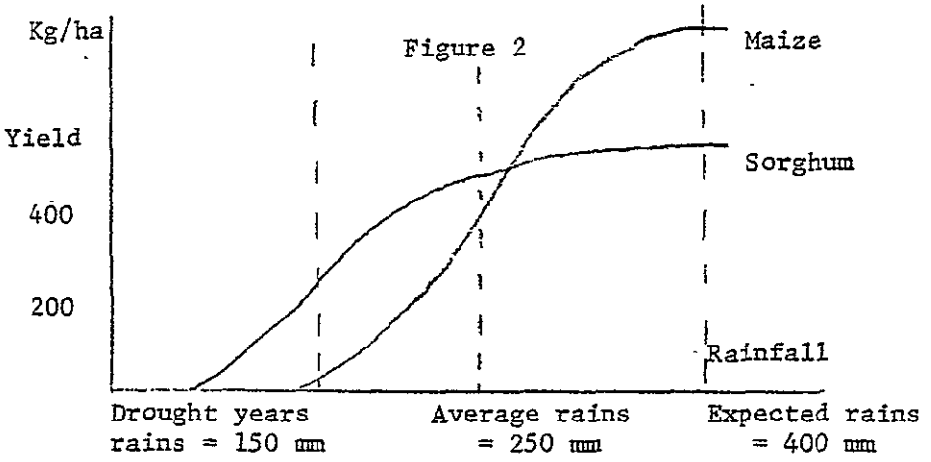


Figure 2

The expectation is always for "good" rains, meaning adequate for maize production at 400 mm (bimodal rainfall pattern). However, as can be seen from the graph in the preceding section, (p.5) there have been three droughts in the last decade, one of which lasted two years. Hence, "on the average", rains are only 250 mm. At this level of rainfall, unimproved maize yields only 400 kg/ha., roughly the same yield as sorghum. However, for those particularly dry years, with rainfall at 150 mm, sorghum still produces 200 kg/ha. whereas maize only produces skinny stalks without cobs. The farmer, concerned most with family welfare, hedges against the ever more frequent drought and seeds a few "extra" plants of sorghum (or cassava, pidgeon peas, cowpeas, or sesame). When rains are heavy, all crops do well, but maize is preferred for home consumption. If someone is willing to buy the excess less tasty crops, they will sell readily. Once it is known that there is a floor price in bumper years, even more drought-resistant crops will be sown. Care must be taken at this point not to discourage such safety-first plantings. It costs more to cover a shortfall in dry years than to dispose of a surplus in wet years.

What is required for food security is not carry-over stocks for feeding the hungry, with all of its problems of inventory financing, storage losses, and redistribution costs, but adequate drought-resistant crop production in dry years to provide for auto-consumption. More elaboration on stocks for food security will be discussed in a succeeding section.

In aiming for food security at all costs, which is the prevading attitude Tanzanian farmers inherit along with their land, the peasant farmers in the less-favored ecological regions adopt a risk-averting, safety-first crop mix. To be sure, there is always a heavy proportion of drought-resistant crops; second comes the preferred grain crop, maize; and third, if excess resources are left over, and prices and marketing support is present, a cash crop will be thrown in. Two major combinations exist. In the semi-arid regions, a pulse such as cowpeas, pigeon peas or cassava, is mixed with a coarse grain - sorghum or one of the millets - and a cashcrop, such as cotton, sesame, or sunflower. In the higher altitude wetter regions - the upper zone IV's or zone IIIs - the pulse is beans, the grain is maize, and the cash crop can be groundnuts, tobacco, vegetables or livestock products. Moreover, this mixture always includes a proportion of the "inferior" crop from the dryer region in the average allocation for that crop type. If the farmer has 5 acres (2 hectares) with one set aside for pulses, that acre may have 60% beans and 40% pigeon peas. Depending upon where one straddles the line between those two zones determines the degree to which the percentage concentration favors the dry-land mix or the

wet-land mix. And to complicate the situation even further, if one of the crops spans two wet seasons, different forms of intercropping emerge, such as cotton and maize planted in interrow combinations for the short-rains followed by cotton alone in the long rains during its maturation period. Intercropping can also appear with the pulses and grains at any time.

As one's land becomes more productive, in the sense that ecologically some cash crops seem to have historically earned high returns, this complex mixture gives way to modernized sole stand production. In several pockets scattered around the country, one finds sisal, cashews, tobacco, tea, coffee, and pyrethrum. These crops are sometimes exploited in larger plots or plantations, often under government estate control, and overseen by parastatal crop authorities. These authorities plan the production, provide the inputs and extension services, collect the raw material, transform it to a semi-processed product, and arrange for sale or export.

Looking at the price movements for each of these products shows the following. Sisal prices have declined until recently, but the expected price increase due to the renewed demand for twine to replace systhetics may be short-lived because of new technologies in baling techniques. Cashew prices will continue to rise. Tobacco prices will likely decline as Zimbabwe reenters the world market and regains the role it played prior to the insurgency in 1971. Tea prices continue to drop off in London and the lack of access to the Mombasa auction increases commercialization costs. Coffee, thanks to

MISSING PAGE NO. 16

The data shows that the cheapest crops to produce are the drought crops, followed by the food crops and oil crops. Cash export crops require 15 times (1500%) more input cost than food crops. This generally implies a significant increase in risk because risk is measured as a function of total input cost. Labor inputs follow the same pattern, and are closely related to requirements for input applications, for fertilizers and crop protection. In terms of purchased inputs per value of output, the same hierarchy holds true. It takes about 4¢ of local purchased inputs to produce a shilling for export crops and only 2¢ to 3¢ local costs to produce a shilling's worth of the other crops. In terms of imported inputs, 8¢ of foreign exchange is required to produce a shilling from exports whereas only 1¢ is needed for the other crops, except oil crops, which is about 3¢.

Food Security at the National Level: The Special Role of the NMC

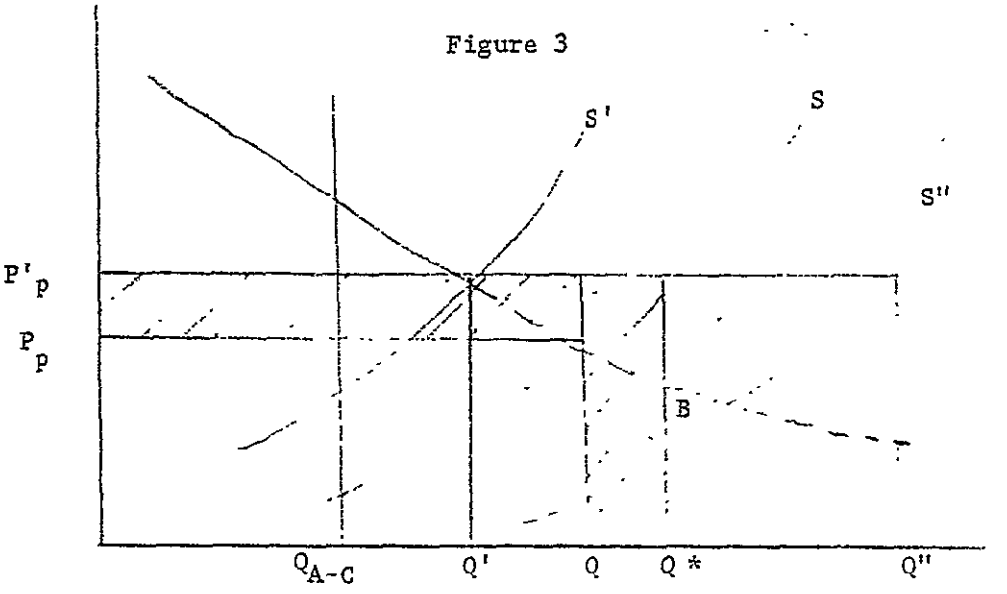
Not only does food security play a major role in resource allocation decisions at the farm level but, as mentioned earlier in the paper, this concern significantly affects national resource allocation and policy decisions. The National Milling Corporation (NMC) has been assigned the major role in meeting food security needs in Tanzania.

In 1973-74, when the National Agricultural Products Board was phased out of grain and pulse purchases, the National Milling Corporation took over the role of purchasing not only maize, rice and wheat, but also cassava, sorghum, millets and pulses. The policy adopted was one to spur production of food crops, especially drought-resistant crops, through floor pricing. This policy was

designed to insure production of drought resistant crops and to provide a strategic reserve accumulation during bumper crop years for carryover and redistribution in dry years. Given the vacillating nature of the volume of food crop production, purchase of surpluses should only occur during relatively good years. The diagram below (Figure 3) shows how autoconsumption takes the first 600,000 tons of maize, that the informal, parallel free-price market takes the next chunk of production, and that the NMC only gets the surplus. So as to entice increased production in dry years, (supply curve S') the support price has to be maintained at a relatively high, producer subsidized level, P'_p.

However, the average supply curve is represented by S, and in such incidences, the producer subsidy is the whole shaded area, and the quantity purchased by NMC is Q*-Q'. In 1978 with a bumper crop, NMC purchases were Q''-Q'.

Figure 3



NMC's Support Price for Maize

In 1980, the producer price for maize was set at TSH.1/=, the cost of marketing averaged 95¢, and the retail price was set at TSh. 1/70, a subsidy of 25¢ per kilo to the consumer. Sembe (maize flour), on the other hand, was subsidized even further. With a cost of around TSh. 2/35 for production, milling and distribution and a retail price of TSh. 1/25 it can be clearly determined that the TanGov intends to subsidize consumption for the poor. Since the relatively well-off prefer rice and wheat, neither of which are significantly subsidized at the retail levels; the sembe subsidy is targeted to the lower-level income groups. The absolute poor are left with sorghum and cassava. However, this subsidy allocates maize to a substantial portion of the population that would otherwise be forced to consume sorghum and cassava, which do not receive consumer subsidies. As discussed in a later section, consumer subsidies for the "inferior demand" crops might have a useful effect on the disposition of some of the surplus of these crops which is now being produced. In a country such as Tanzania, perhaps this type of targeting of consumption subsidies can have a significant nutritional effect.

POLICY OPTIONS AND IMPACTS

Utilizing the above framework the following discussion analyzes the potential of alternative policy options to increase output. These policy options can be divided into those that impact in the short-term and those that impact only in the long-term. The major short-run options include price support; input subsidy (including import duty concessions); export tax relief; and devaluation. The long-run options are increased investments in agriculture targeted towards various specific activities, including input supply; research and extension, marketing and processing; irrigation; and export crop rehabilitation.

SHORT-RUN OPTIONS

Price Support

At present, maize is already heavily subsidized for both the producer and the consumer. Drought crops are subsidized for the producer. These producer subsidies only affect that amount of surplus production which is marketed through government (NMC) channels, which never reaches more than 20% of production (except for rice and wheat). The export and oil crops presently enjoy positive earnings after subtracting some of the producer price and unit marketing and processing

costs (1979/80). Hence, there is some margin for flexibility in price supports for a few of these crops. Those which enjoy this margin are cashews, coffee, pyrethrum,[10/] and sesame. Until the recent removal of the export tax on sisal it had no surplus earnings, and tobacco, tea, and cotton are being subsidized. Although much of the costs in the parastatal crop authorities for these crops stem from excessive personnel costs, predominantly for extension services and employee benefits, which possibly could be reduced or transferred to other accounts, the government's capacity for continuing price supports is limited. Table 2 demonstrates what the resultant producer returns would look like with a 50% producer price increase, and also presents an estimate of government

TABLE 2. Costs and Returns with 50% Price Support
(Shs.ha.)

	Food Crops	Drought Crops	Edible Oil Crops	Export Crops
Gross Margins	1039	1202	1256	3216
Percent Increase	62%	61%	57%	64%
Labor Returns	10.44	12.00	9.89	20.26
Percent Increase	61%	100%	56%	64%
Government Cost	1.53	1.04	.75	.56
Percent Increase	91%	160%	--	--

10/ Recent government reports indicate unit marketing/processing costs have increased significantly for this crop, attributable primarily to excessive administrative costs. (Tanzania Daily News, Feb. 7, 1981)

costs in terms of producer/consumer subsidies, maintaining unit marketing and processing costs constant. Presumably these costs would decline over time with increased crop volume, taking advantage of decreasing costs from economies of scale, but these benefits would be in the long-run rather than the short-run. Hence, government cost is calculated by consumer or export price less producer price plus marketing / processing cost.

With the high cost to government of increasing price supports in food or drought crops, such an option is not feasible. However, for oil and export crops, considerable latitude exists for some marginal increases in price support for specific crops. Coffee and cashews both show positive margins between costs and world price which could be exploited. Production, or more correctly stated, marketable surplus, is limited in the short-run, so that the potential increase in output may not be fully elastic. Once the production potential of existing fruit bearing trees is exhausted, increased output can only come from tree or plantation rehabilitation and new plantings. Production from such investments for all but pyrethrum will be lagged several years until the new trees reach fruit bearing age. Hence, the generalized supply curve tails upwards, almost wholly inelastic after only modest marketed output increases in the short-run. The exception in this case is pyrethrum, which can be harvested as an annual. However, recent reports suggest that the leeway in the price margins is not excessive, and in fact may already be greater than the farmer-export price spread. If this is the case, the capacity for price supports

is once again extremely limited. The case of sisal will be treated under export tax relief.

Input Subsidy

Material inputs such as fertilizers and dust and sprays are already subsidized up to 40% for food crops and cotton. The other cash crops subsidize their inputs at different rates, usually by deducting their costs from the value of the crop marketed by each farmer. Nevertheless, increasing the input subsidy for those crops which use substantial amounts of purchased inputs will lead to increased producer returns but at a relatively high cost to government compared with price support, if world prices exceed export prices (producer price plus marketing and processing costs). Input subsidy on the other hand will take the risk out of higher input use. Those crops which show high input costs under present technology levels are cotton (142/=), tobacco (1739/=) and tea (1288/=). Coffee is only using 100/= but should use 177/= for robusta or 1359/= for arabica. And both cotton and tobacco could increase yields by applying more inputs, cotton up to 669/= and tobacco up to 2329/=. It is also recorded that because of the decline in curing and processing activities in tobacco coupled with excessive tax rate, producers who obtain fertilizer credit for their tobacco use up to 40% of it on their maize and other food crops. They do this because they find it is easier to qualify for fertilizer credit and receive timely delivery from the Tanzanian Tobacco Authority (TTA) than they can from the TRDB for maize.

This demonstrates that subsidized inputs could stimulate increased use and should be seriously considered under the Title III program for those specific cases where additional price support is limited, and where the risks of higher input use are substantial. This would mean considering such a policy for cotton, tobacco, and improved maize. In order to prevent transference of inputs designated for one crop to another, credit forgiveness could be offered at harvest if the crop was grown with fertilization rather than distributing free inputs. This would also serve to increase the pressure to follow the application recommendations.

Export Tax Relief

One means of reducing costs, the benefit of which could be passed on to producers, is to reduce or eliminate the export tax. If the reductions are passed on to producers as price increases, depending upon the supply elasticities, output should spurt. Just recently, the Tanzanian Government eliminated the export taxes on sisal and coffee, and the producer tax on tobacco. It is understood that producer coffee prices will be increased over 80%. Given the world price of coffee, the system should be able to absorb this price increase easily. However, the resulting production increase may be disappointing. In the initial stages of this policy, berry collections can improve and sprayings can double. But once the easy gains are made, production increases can only come from new plantings. Although such a campaign has been initiated, the time lag before full production will extend over several years. The supply curve may then swoop upwards very quickly.

The same may be true for sisal. Until recently half of production came from hedgerows. With depressed prices and low margins, farmers fail to collect and deliver their cuttings with any degree of regularity. An increase in price may make these labor intensive efforts more profitable, and the volume marketed may rise rapidly over the short-run. In the long-run, however, new plantings are required. The estates have already programmed substantial acreage expansion and rehabilitation schemes for present stands, but the real impact of these programs will be delayed for several years. Only if the world market improvements for sisal continue over an extended period will sisal play a major role in Tanzania's export portfolio. As was mentioned earlier, new techniques may once again replace the need for twine.

With respect to tobacco, the TanGov has eliminated the producer tax but increased the cigarette tax. This may help stimulate increased production, but as Zimbabwe reenters the world market, Tanzania's market share may decline substantially.

Devaluation

As international terms of trade turn against traditional agricultural export products, and production of export crops declines and recurrent drought increases food imports, Tanzania's balance of payments position deteriorates. Trade deficits have increased rapidly since 1973, fueled by oil price surges and worldwide inflation. As a result, several analysts and donor agencies have called for devaluation. The arguments presented for devaluation are sound but

the effects of devaluation on the agriculture sector need to be closely examined. It appears certain that Tanzania will be forced to devalue within the not too distant future. The benefits to the agricultural sector from devaluation will fall unevenly on producers and consumers.

The effect of devaluation on Tanzania's primary concern, which is how to feed the nation when wracked by ever more frequent weather catastrophes would be adverse. There would be no direct positive price effect for food or drought crops, but marketing, milling and distribution costs would increase in accordance with their foreign exchange components. Since significant exports of food products are unlikely over the next two to three years, benefits from devaluation for food crop producers are likely to be nil or close to it. With respect to export crops, a substantial price effect could be achieved. The increased output that could be expected from these price increases would be quite limited in the short run (3-5 years) due to the fact that four of the six major export crops are perennials (sisal, coffee, tea and cashews) which require 3-7 years lead time between time of planting and when harvesting begins. Hence except for tobacco and cotton immediate output increases from a devaluation would be quite limited. Also, while devaluation should lead to improved prices for export crops increased costs would also result as the prices of imported inputs increased. The income effect of devaluation would be substantially less than would be possible with direct price support because the foreign exchange cost components of the inputs would

concurrently rise, as would marketing, transport and processing costs to their degree of reliance on imported fuels and parts.

A major effect of devaluation would be felt in terms of inflation. Costs for consumer goods would go up and government would have to maintain strict import controls to allocate imports to areas of critical need. Since the really poor do not produce export crops they would not benefit from devaluation and they would, at a minimum, become relatively poorer. The present costs of food subsidies to consumers would increase without increased revenues to pay for them. The expected expansion of export volumes will be limited in the short-run; only after serious rehabilitation will sustained export crop volumes be generated. Tanzania's real balance of payments problem can possibly be ameliorated only in the longer run. The fundamental supply problems need to be addressed. There are no quick solutions, farm output of export crops must be increased, the output and efficiency of parastatals must be stepped up; all of this requires major investments and the allocation of scarce foreign exchange for imports for the maintenance of capital investments in agriculture and supporting industries.

Long-Run Policy Options

In addition to the aforementioned short-term policy options that the Government can use to increase agricultural production several long-term policy options are available. Tanzania has responded to a series of internal and external crisis and setbacks over the last decade by delineating a policy of safety-first: provide enough incentives to

assure maximum food production to protect against recurrent dry periods. When domestic production has failed to meet demand, the country has to use its scarce foreign exchange for food imports to meet its food needs, often to the detriment of other import-dependent sectors of the economy. Although complete self-sufficiency may be impossible year after year under these conditions, the effects of the most recent drought have been less damaging (in terms of the population's nutritional welfare) than had been the case in the past due to the present food security policies outlined earlier. Hence, these policies, designed to insure at least minimum production from drought resistant crops should be maintained. Regardless of the fact that such policies tend to result in

reserve stocks in high output years, these stocks can be managed as an insurance scheme, and hence, as outlined in the section on parastatals, be made to work effectively as a part of the food security system. In addition, there is a great deal which can be done to complement this policy and provide a surge in production of not only the preferred food crops, but also the edible oils and some export crops. It has been clearly demonstrated throughout Tanzania's short history since independence that significant production gains can be achieved and maintained with integrated development programs targeted on specific regions or specific crops. Witness the success of tea development, the national maize program, and most recently, wheat development in the Hanang Plains. The essence of these programs is the development of a package approach.

Crop Development Programs

The individual crops and crop combinations (interrow, relay, and double cropping associations) require agronomic research to push out the production frontier. The bio-physical research needs to concentrate on seed-type, fertilization, crop protection and husbandry techniques, all under conditions of varying moisture regimes. Once a new technology is proven on an experimental basis, it must then be adapted to field and farm conditions in the targeted locale. Moisture variation on farmer's fields may be greater and follow a different pattern than on experimental plots. Field fertility may also show greater variation due to less residual effects from previous fertilization or crop rotations. Leaching may have higher incidence on the farm than at

the research station. Hence, the bio-physical recommendations must be adjusted to local conditions. Secondly, the farmers have socio-economic limitations. New technologies usually require increases in input costs, more labor, and higher absolute risk in terms of the quantity of each which could be lost in case of drought. Table 3 presents estimates of improved smallholder inputs and returns figures for the four crop groupings under analysis.

TABLE 3. Cost and Returns with Improved Smallholders Technologies (TShs/ha)

	Food Crops	Drought Crops	Edible Oil Crops	Export Crops
Purchased Inputs	362 (300) [a/]	133	168	1035
Labor (w.d.)	200 (120)	154	159	300
Gross Margin	3023 (2000)	1995	1765	3534 (4839) [b/]
Labor Returns	15.10 (15.00)	12.96	10.91	12.50 (16.67)

a/ ( ) w/o irrigated rice
b/ ( ) includes coffee
Source: Calculated from MDB reports

Based on technology levels referenced by MDB, the analysis shows that gross margins for improved technology in food crops (without rice) increase 212% over traditional technology levels, whereas new technology applied to export crops generates a rise of only 80% in gross margins.[11/] In fact labor returns for export crops improve 33% compared to 150% for food crops. When it is realized that labor workday increases for cashcrops are more often hired rather than family labor, income

11/ See Table 1 for calculation of these comparisons.

returns to export crops fall to a 16% increase.

Table 4

	Estimated Supply Elasticity	Income Change (Gross Margin)	Supply Impact Proxy for Adoption Rate
Food Crops	.4	212%	85
Drought Crops	.2	167%	33
Edible Oil Crops	.6	121%	73
Export Crops	1.0	80% (61%)	80 (61)

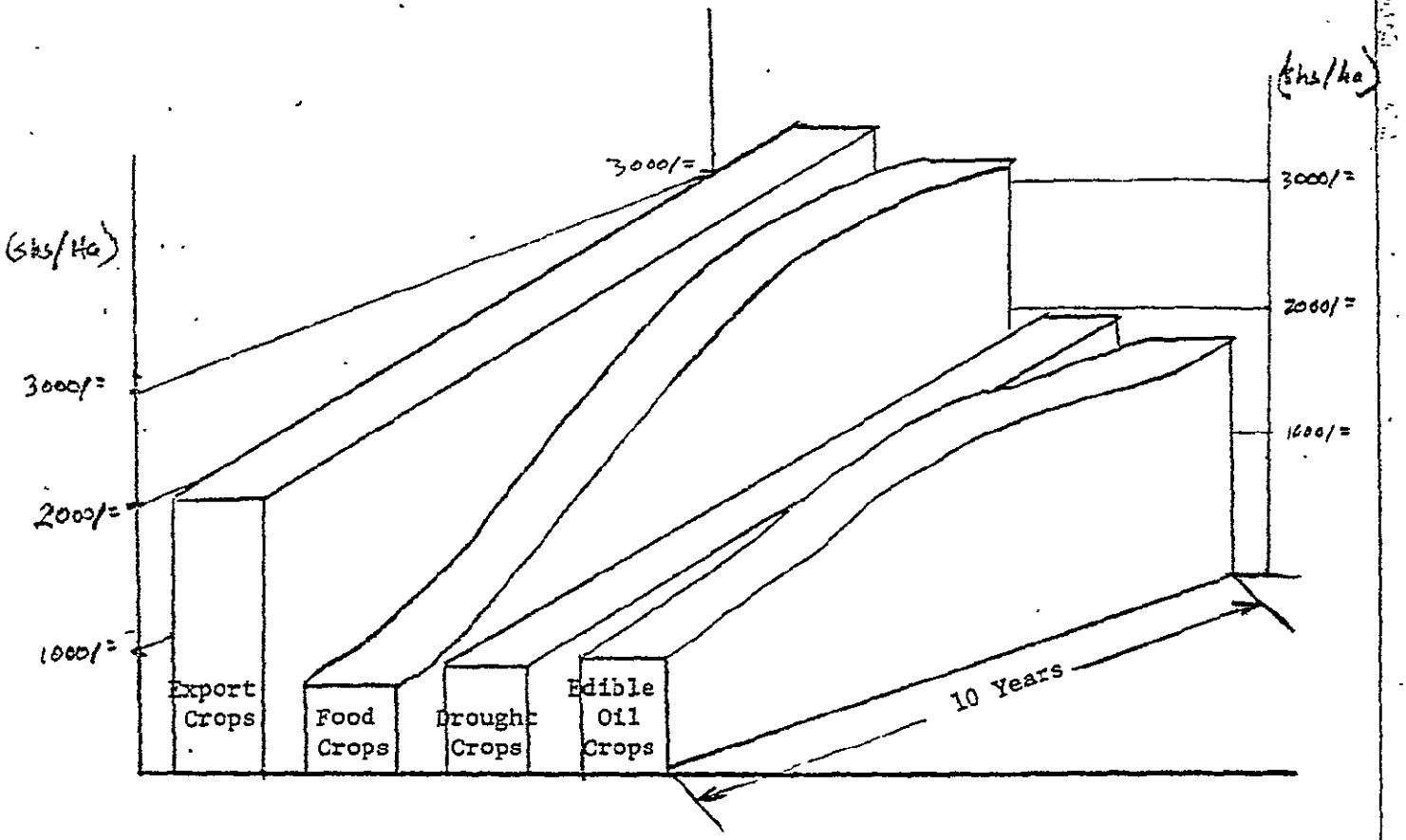
( ) Subtracting 60% labor costs at 7/= per day from improved technology and 40% hired labor for traditional technology.

Column 2 of Table 4 shows that if improved technology adoption is influenced only by income increases, presumably the response rate for food, drought and oil crops would be relatively higher than for cash crops. However, the relative supply response to those income gains would differ by type of crop. Utilizing the supply elasticities presented in column one and applying them to the income changes, one can develop a supply impact proxy for adoption. (Column 3 of Table 4) Given the elasticities presented in Table 4, the supply impact proxy shows a different ranking of response; food crops first, export crops second, oil crops third and drought crops fourth. When labor costs are subtracted from income earnings for export crops, the supply response

measure falls to an index of 61 down from 80. Using this calculation the adoption would be fastest for food crops, followed by oil crops, with export crops ranked third and drought crops still lowest.

Figure 3 suggests how this might tránslate into a flow from the present technology situation to the new technology levels over a ten year period. The lag in shifting from one level to the other can be attributed to a set of constraints. The first constraint has already been described, that is, the lack of a suitable bio-physical recommendation. The remaining constraints include a host of socio-economic limitations. As more inputs are needed, they must be delivered and financed. Risks must be overcome by input subsidies or crop insurance. When expanded production is harvested, markets must be available to pay for the crops and provide for storage, processing and distribution. And the information about the new technologies must reach the farmer. This requires farmer training and extension services. To handle some of these constraints, new institutions must be formed, buffer institutions if you will; in other cases existing institutions will need strengthening. It may be important to recognize that whenever possible existing institutions should be made to work rather than creating new institutions with all their additional overhead and fixed costs.

Figure 3. New Technology Adoption with Research/Extension Support
(Gross Margin/Ha.)



Policy Options as Compliments to New Technology Development

While the above presentation presented short-run and long-run policy options separately, in fact, they can and in general should be combined in order to obtain the greatest output response. This section therefore discusses how the adoption flows discussed under the long-run policy option might vary combined with the short-term policy options presented earlier.

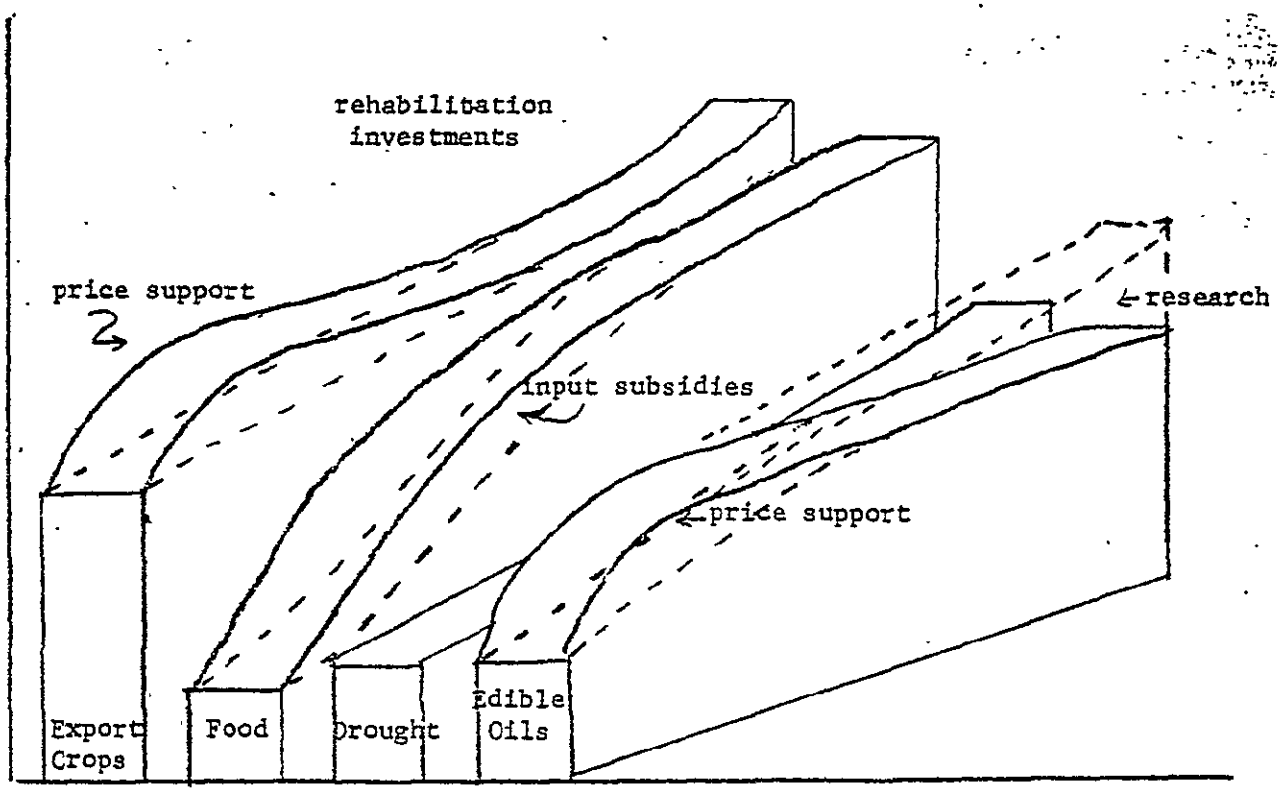
Price Policy Support

In the first instance increases in price will increase farmer returns which should result in increases in area planted. This measure has already been taken for sisal and coffee by elimination of the export tax. The result of this action should be that the overall slope for export crops should jump initially, level off in the middle years as short-run policy gains are exhausted and new plantings are taking root, then rise steeply in the last few years as new investments begin to pay off. The initial gains from this policy would be greater for annual as compared to perennial export crops.

For food crops, the margin for price increases is limited because maize is already subsidized on both the consumer and producer sides. Similarly, there is no need to stimulate drought crops any further, just maintain their present level through continuing to purchase at an announced fixed price. However, significant scope for the use of price appears to be feasible for the oil crops. This would lead to a faster technology adoption rate at an earlier stage in the period, with concurrent production increases resulting. This is shown in Figure 4.

Figure 4

Changes in Technology Adoption Rates Due to Various Incentive Schemes



Input Subsidy

Input subsidies would have the greatest effect in gaining faster technology adoption from food crop producers. By subsidizing inputs and providing for their timely delivery, the risks of trying the new techniques would be borne by the government (society at large) rather than the individual farmer. Since this has already been the policy of the present government, its continuation could be beneficial.

Export Tax Relief

This policy option has already been partially adopted and the effects should be felt in both the short-run and long-run as mentioned in the preceeding section.

Devaluation

Devaluation would slow down new technology adoption in food crops because it would not effect producer prices, but it would increase input and marketing costs. For export crops, devaluation would raise producer prices but at the same time raise the costs of the inputs necessary to expand output. Hence, the relative degree to which producer prices would rise above input costs would determine the rate of income increase. But since most immediate gains should be obtained from the present price increases at less cost, the gains from devaluation would not be felt until the last few years of the 10-year period, at substantial cost and inflationary pressure at the beginning.

Infrastructure Development

Infrastructure development schemes such as large scale irrigation programs have, over the years, failed to meet expectations in terms of projected production levels. However, there are small scale irrigation systems for rice which require considerably less capital investment and construction. The areas suited for these schemes are located in the flood plains of valley bottoms, where management of the seasonal water table can provide significant acreage for paddy rice production. Tanzania has already initiated several of these schemes, and has planned

for a steady increase in acreage over the next decade. Since rice is presently imported, and can be easily exported if surpluses occur, this crop becomes a desirable one for further development efforts.

THE PARASTATALS

Export Crops

In 1976 the institutional arrangements in the Tanzanian marketing system were significantly altered by replacing marketing boards for export crops with parastatal authorities and abolishing cooperative societies and unions. Under this arrangement villages were given responsibility for carrying out primary marketing functions. This change was made to stop rising marketing costs by establishing larger units that would bring the benefits of economies of scale and to increase central control over the marketing function.[12/]

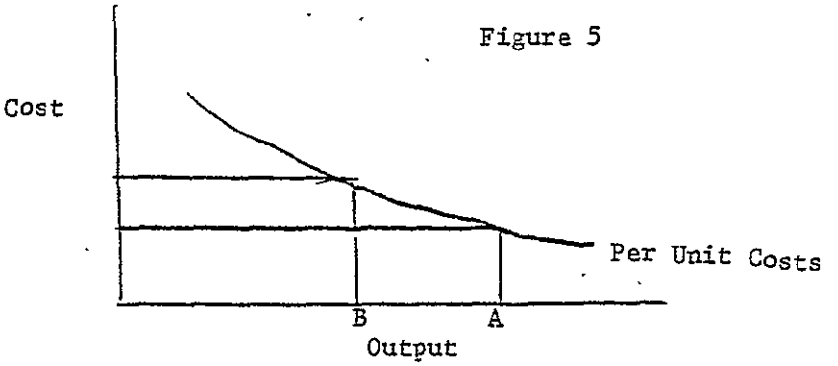
However, the parastatals have not been successful in reducing marketing costs; rather marketing costs have been increasing at an increasing rate. The export crop parastatals have a complete monopoly (other than leakages) of all activities associated with the supply of inputs and procurement of outputs for the crops they control and they have a great deal of latitude in exercising this authority. "These functions include procurement, transport, storage, processing (where applicable), and export sale within the sphere of production development."[13/] As a general rule prices received by producers are export prices net of marketing margins including export and production taxes. Upward pressures on parastatal costs appear to come from two sources. The parastatals are monopolies (and monopsonies) and they exhibit the declining unit cost curves normally expected in monopolies. Because four of the crops marketed by the parastatals have been declining in output at least over the past half dozen years, the parastatals have

12/ Ellis Ag Pricing Policy.
13/ Ellis Ag Pricing Policy.

been moving up the cost curve from point A to point B in the illustration (Figure 5) with consequent rising per unit marketing costs. In addition, the costs curves for the parastatals have been shifting upwards as costs of various items have risen over time. Costs have been increasing because of inflation, increasing administrative costs, particularly for personnel, and because of less than desirable efficiency of operations. It appears that the more important of the first two factors is increased per unit costs due to production shortfalls.[14/] For example, data published by the Ministry of Agriculture show a slight decline in per unit costs as production of cotton increases from 280,000 to 350,000 bales despite a 22% increase in total costs. An analysis of the Cashewnut Authority of Tanzania operations by Ellis[15/] shows a similar trend. Marketing margins were 36% for production of 143,000 tons, 49% for production of 82,000 tons and 60% for production of 60,000 tons of cashewnuts.

At present, the sum of marketing/processing costs plus the producer price is higher than the export price for several export crops. One major reason for the high marketing/processing costs is that

Figure 5



14/ Price Policy Recommendations for the 1981-82 Agricultural Price Review, Annex 8 Cotton, Ministry of Agriculture, Sept. 1980.

15/ Ellis, Frank, Marketing Costs and the Processing of Cashewnuts in Tanzania: An Analysis of the Marketing Margin and the Potential Level of Producer Prices Mimeo, Feb. 1980.

extension services, including staff housing and other benefits, as well as research costs in some cases, are charged to operating expenses. The mission feels that the incidence of taxation for the support of the extension service should be shifted from the producer, in the sense that these costs keep producer prices depressed, to the general tax paying public, by transferring these costs to the national development budget. Secondly, export taxes, villages taxes and other levies appear to be excessive; their reduction could increase returns to the marketing process by reducing the marketing margin, and allow for increasing producer prices. In fact, the Tanzanian government recognizing this problem, has just announced such taxes would be abolished for three export crops (coffee, tobacco and sisal). Continuing reductions in per unit costs can be achieved by increasing the flow of export crops to the parastatals. Undertaking production campaigns and other activities which increase output of export crops will result in marketing and processing operations nearer to capacity levels with consequent increases in the efficiency of use of fixed capital. This will move the parastatal out along the declining cost curve and thus reduce unit marketing costs. However, it is essential these methods for reducing costs be accompanied by specific measures designed to provide management and technical assistance to the parastatals in order to increase their efficiency of operations in all aspects of product procurement, storage processing, transportation, inventory control, pricing, input supply, credit management and financing.

This package of improvements are necessary to give the managers of the parastatals the expectations of solvency. Under present conditions, managers see no possibility of breaking even, and hence, respond to different incentives which further exacerbates the problem. By demonstrating that efficient management can lead to increased volume flow and capacity utilization with positive marketing margins, this will create its own internal incentive structure, and the desired results will be achieved.

Food Crops

The procurement, processing, storage and sale of domestically consumed food crops differs substantially from the operations of export crop authorities. All staple food crops - maize, wheat, rice, cassava, millet, sorghum, and pidgeon peas - moving through the official marketing system are the responsibility of one parastatal, the National Milling Corporation (NMC). Unlike the export crop parastatals, NMC is not a monoply, neither does it have responsibility

for furnishing inputs to producers. Staple foods are traded privately as well as through NMC. NMC carries out four major functions; the buyer of last resort for domestically produced food crops and sole importer of food staples; processor and seller of food staples in domestic markets and abroad; provider of a food subsidy to consumers of maize, mostly in urban areas; and maintaining a store of food for use during time of drought. The major problem usually cited in critiques of NMC is that is operates at a loss and maintains a large ever-increasing indebtedness. Yet is is abundently clear that NMC could not possibly operate at the breakeven point unless it made excessive profits on the sale of all food except maize. It is clearly a matter of policy of the Tanzania government to subsidize maize consumption and to provide a hedge against drought by buying and storing staple foods. It has also been a political decision that both the costs of buying andstoring food as an anti-drought measure and of subsidizing maize would be financed by NMC borrowings rather than being financed from the public treasury.

It probably would be preferable to operate NMC somewhat more strictly as a business operation and shift responsibility for financing social equity undertakings, such as the maize subsidy, so they are financed directly by public revenue funds instead of NMC. This would permit identification of operational areas which could be improved to make NMC more efficient and less prone to cost overruns. The role of NMC in providing for establishment of a strategic reserve which would provide some measure of food security during drought is extremely important in a drought prone ecology. NMC policy on establishing forward floor

prices for a wide variety of staple food crops including cassava, bullrush millet, sorghum and pulses does have some positive effect on the production of drought resistent crops so that the output of those crops is higher in dry years than would otherwise be the case. It is evident that the Tanzanian government has recognized this duel role for the NMC and has recently appointed a national commission to look into the possible alternatives for financing NMC's social costs directly rather than through increased borrowings.

Currently, it appears to be the policy of NMC to hold stocks of these staple crops over a period of two to three years so they would be a security reserve when drought occurred. However, it might be preferable to see the major objective of buying a wide range of drought resistent crops as basically an insurance scheme which assures that more land and labor will be devoted to production of these crops in drought years than would otherwise be the case. Thus, NMC would hold these crops in the strategic reserve for not more than one year and then sell them to whatever market is available either at home or abroad. NMC will need to virorously explore potential markets including development and exploration of domestic processing and consumption of these foods. Losses from such sales would be considered as "insurance premium" and would be a charged on public revenues. At the outset of such a program, Title III resources could provide the necessary cushion while it is being tested and refined.

Instead of allowing the NMC to increase its over-draft from the TBC, it might be more realistic to cover these costs via government food security bonuses or commissions. The level of these bonuses could vary according to the amount of crops purchased. Secondly, giving

consumer subsidies to the "inferior demand" crops may allow for a certain degree of substitution with maize, thereby moving the stocks absorbed on the local market rather than paying for storage financing charges, and international transport and marketing costs. This whole concept of the costs of food security through the NMC should be explored in greater depth in phase II.

futures

Other possibilities for insuring against the consequences of drought need to be examined. One innovative idea that has surfaced and probably deserves additional examination is buying futures at major commodity markets as a hedge against drought and then selling the futures if the rains come. Any losses from the transaction would be considered an insurance premium. Again, Title III resources might be used while this program is being tested.

Finally, and importantly, major efforts must be made to increase the operating effectiveness of the parastatals, including processing plants, whether for export or food crops. Fixed costs of parastatals have been rising at a too rapid rate and must be held down if marketing margins are not going to reduce from prices to unacceptable levels. Processing plans often operate at less than 50% of capacity either because crop production has decreased sharply or because of poor maintenance of plant often due to the lack of spare parts and technicians. This situation must be rectified - crop production must be increased in line with plant capacities and maintenance must be improved with necessary allocation of foreign exchange for spares being made in a timely manner. The parastatals must be structured in a way that provides the necessary checks and balance and incentives for the parastatals to operate a optimum output levels.

PLANNING AND INVESTMENT

The key to effective utilization of investment is the allocation and management of the resources which make up that investment. Those resources must be targeted on the principal constraints and planned in a manner which logically approaches those constraints. Problem identification, priority selection, task definition, and implementation monitoring are essential if investment funds are to be most effectively used. The absolute level of funding is not as important as the manner in which those funds are allocated to address critical constaints.

Additionally, any assessment of Tanzanian investment in agriculture must be placed in the context of that country's social and economic policies and productive capacity. As shown elsewhere in this paper, Tanzania's agricultural productive capacity is directly and importantly affected by the frequency of drought. Within the framework of Tanzania's agralitarian social and economic objectives -- especially the objective of self-sufficiency --the planning for and allocation of investment resources (funds and policy emphasis) during the past decade has led to an increase in investments for basic food crop production without a concurrent expansion in investment for export crop production. Within the context of a drought prone production environment and an explicit national and humanistic drive to meet the basic needs of the people, this relative allocation of resources is reasonable.

but with declining production!

On the other hand, the social and economic objectives of Tanzania can lead analysts to a mistaken view of the roles of government in the allocation of investment, particularly in the agricultural sector. In the absence of significant economy-wide private sector investment, it has been the tendency of economic analysts to view Tanzanian Government expenditures by sector as the most reasonable approximation of the relative investment priority for various sectors. This leads to an inaccurate assessment of the level of actual investment in the largest sector in the Tanzania economy, agriculture, because that sector is to a large extent carried out in the private sector, from production through several levels of processing and marketing of a number of crops (particularly food). The Third Five Year Plan (1976/77 - 1980/81 notes this

condition explicty: "Agriculture has been given top priority although industry will receive the lion's share of financial resources but this is because a big part of agricultural production does not require government investment and hence will be implemented through the farmer's own efforts."[1/] Data on investment by non-governmental organizations and individuals is not available. Indeed, within the Tanzanian government existence of "significant" non-governmental investment is debated. However, the Ministry of Planning and Economic Affairs has begun to examine this matter and is developing statistics to confirm the level of non-governmental investment[2/].

Table 5 reflects the trend of government expenditures during the 1970s and the projected level of expenditure under the Fourth Five Year Plan which begins July 1, 1981. It should be noted that the two sources from which these data were drawn do not categorize the information in the same manner. Thus, although exact comparisons of the level of past expenditures with planned expenditures is not possible rough orders of magnitude of changes can be determined. And, as noted above, the level of government expenditures ignores the substantial non-government investment in the agriculture sector. Levels of donor assistance in agriculture are also substantial and should be reviewed in part, as contributing to investment in the sector.

Nonetheless, the pattern of government expenditures over the past decade and into the next five years demonstrates planned increase in the categories of Agriculture, Livestock and National Resources. (These three categories have been identified in the Guidelines for the Fourth Five Year Plan for relative deemphasis in defining its main targets even though funds actually would increase. There is likely some overlap between Natural Resources from which Table 1 was derived.) Actual expenditures over the past decade demonstrate initially a gradual increase as a percentage of total expenditures in the "agricultural" sector followed by a rapid decline during the period covered by the Third Five Year Plan (1976/77-1980/81). Absolute expenditures have increased by

1/ Third Five Year Plan, para 36 (p. 11)

2/ Conversation with R. Mabele, Director ERB, January 30, 1981.

376% slightly ahead of inflation but below the percentage increase in total government expenditures. The Minister of Agriculture indicated to the Design Team his intention to increase the share of government expenditures for agriculture when the Fourth Five Year Plan is published in final. He noted that the lack of planning capacity within the Ministry had placed agriculture at a disadvantage to the industrial ministries in preparing the specific project activities which resulted in the determination of government planning. This was confirmed by the Principal Secretary for Planning.

Expenditures on Social Services (e.g., education, health, sanitation, housing) as a percentage of total expenditures have remained relatively constant fluctuating between a fifth and a quarter of total expenditures. Other Economic Services (in general, the industrial and infrastructure sectors) have shown a large and steady increase in expenditures, both in absolute levels and as a percentage of total expenditures.

The "Guidelines for the Fourth Five-Year Development Plan: 1981/82 - 1985/86" clearly state the Party and Government intention to continue this pattern of government investment in the agriculture sector and expand industrial capacity and operations of the economy. The Guidelines formulate the objective thus:

"To alter the source of national income so as to make the economy the country independent from agriculture and national resources ..... 3/"

The projected sectoral allocation over the life of the Third and Fourth Five Year Plans indicate the following estimates of levels of expenditure:

Table 2

(TSH. Billions)

	Third Five Year Plan[4]		Fourth Five Year Plan[5]	
	TSH	%	TSH	%
Agriculture	2.4	11.5	5.0	12.4
Livestock	.4	2.2	1.1	2.7
Natural Resources	.4	1.5	1.1	2.7
Mining	.7	3.6	1.2	3.1
Industry	5.1	24.3	10.1	252

3/ "Guidelines for the Fourth Five Year Plan" (Translation) p.1
4/ Third Five Year Plan, p. 11
5/ Tanzania Daily News, December 1, 1980

Commerce and Tourism	.3	1.2	.8	1.9
Water	1.4	6.8	2.4	6.0
Building and Construction	2.1	9.9	4.4	10.
Power	1.0	4.8	2.0	5.0
Communication and Transport	1.5	7.3	4.1	10.2
Education	1.7	7.9	3.0	7.5
Health	.7	3.5	1.0	2.5
Administrative and Other	3.3	15.5	4.0	9.9
	21.3	100.0	40.2	100.0

The Guidelines for the Fourth Five Year Plan project that by the year 2000 the percentage of national income derived from agriculture and natural resources will decline:6/

Table 3

	Percentage of National Income	
	1981	2000
Agriculture and National Resources	50.2	41.5
Minerals	0.5	2.4
Industries and Water	9.3	16.0
Electricity and Water	0.8	1.7
Transportation and Communication	6.3	8.4
Works	3.1	6.0
Trade	12.0	9.0
Finance	6.0	9.0
Administration and Personnel	10.9	10.0
	100.0	100.0

Thus, actual investment in agriculture, even excluding non-governmental expenditures, is increasing at a time when agriculture is expected to decline as a proportion of the national economy. The Fourth Five Year Plan Guidelines call for a 6% per annum increase in national income from 1980/81 to 1985/86 in constant prices. To accomplish this will require utilization of investment to increase agricultural productivity in the subsistence sector since that remains the backbone of Tanzania's economy. (Of the approximately 2 billion TSH earned from the agricultural sector, roughly 47% comes

6/Long Term Plan 1981-2000; Government Press, Dar es Salaam, 1980

from food and subsistence crops, 21% from export crops, and 32% from livestock.) Strengthening the planning capacity of the Ministry of Agriculture so that it can develop the plans required to get a larger share of government investment devoted to agriculture and to ensure that these investment are wisely used in one area in which Title III resources might be profitably used. Over the short period covered by the Fourth Plan, such an increase can be accomplished principally through the application of improved technology, such as being developed under USAID and other donor funding in a variety of crops. A direct link exists between increased application of improved technology and the capability for increased production. As noted elsewhere in this paper, specific agricultural development projects can be demonstrated to have resulted in increases in production. Title III resources could be used to augment the planning capacity of the Ministry of Agriculture to spur such development projects, funded through other mechanisms.

DONOR ASSISTANCE

The FY 1983 CDSS for Tanzania provides a general overview of the level, nature and problems of donor assistance in the agriculture sector. It notes that while the level of commitments has remained at a high level the actual disbursements have fallen short of expectations. A principal constraint is the lack of Tanzania financing to cover the local and current cost elements of the donor programs. At the same time, completed projects are failing following donor termination of assistance as a result of inadequate Tanzanian recurrent financing availabilities. The financial management capability of the parastatals (particularly NMC) plays a significant role in the maintenance of inadequate recurrent resources. These problems are acknowledged by the government and encountered by all the donors of food assistance.

To further complicate the operation of the agriculture sector, Tanzania has encountered serious foreign exchange shortages and government expenditure deficits. The foreign exchange shortage has constrained the availability of materials and spare parts required, particularly for the processing of domestic production. Because of a sharp increase in bank credits to a number of parastatals (especially NMC), there was a significant increase in the money supply in 1979 and 1980, thus exacerbating existing pressure on domestic price levels and the balance of payments. As noted by the IMF:

"Credit to official entities and the private sector increased by only 4 percent; but this increase was distributed very unevenly, as the NMC experienced growing financial difficulties, while import constraints artificially reduced the working capital requirements of some other parastatals... the rate of monetary expansion accelerated to 28 percent, again substantially exceeding the rise in GDP".[1/]

The IMF-Tanzania Agreement, which was approved in September 1980. set out three basic objectives:

-- to establish a sound basis for more balanced growth of domestic production over the medium term, especially by reversing the declining trend in output for export.

1/ IMF Memorandum, Tanzania - Request for Stand-By Arrangement. August 29, 1980 p. 10.

-- to curb the external payments deficit and gradually liquidate import payment arrears.[2/]

#3?

To complement this program the World Bank began development of a "Loan for Structural Adjustment". As the analysis progressed the scope of the World Bank narrowed on the first objective of the IMF Agreement. Formal negotiations on an "Export Rehabilitation Credit" in the amount of $50 million are now scheduled for February 1981.

Tanzania's difficulty in adhering to the conditions established for the second and third objectives led to an IMF decision to withhold the second quarterly tranche of funds, which had been scheduled for release during December 1980. However, it now appears that Tanzania and the IMF will reach agreement on adjustments to the conditions which will allow these funds, as well as future tranches, to be released. The World Bank is pursuing its negotiations on this basis. However; the Bank is reviewing its portfolio of pending projects to determine which, if any, should be deferred so that the Tanzanian Government can consolidate its efforts on overcoming the current crisis.[3/]

A Title III program as envisioned by this team would support and complement the IMF and World Bank programs. While Title III financed projects would focus largely on food crop production, the food imported under the program would reduce foreign exchange expenditures on food imports over the next three years. Further, increased productivity

2/Ibid, p. 14
3/CDSS, p. 35-36

in the food crop subsector should over time unencumbered resources (principally labor and land) as the farm family produces more food with fewer resources, thus releasing these resources for export crop production. Finally, as has been demonstrated in the recent past, surpluses of the "swing" food crops such as maize can be exported, thus generating foreign exchange for the country.

Appendix A to the FY 1983 CDSS identifies 15 donors in the agriculture sector, providing assistance in production and processing of a whole range of food and export crops. In addition, a number of donors are providing assistance to Regions in the development of integrated rural development plans. The largest of Tanzania's donors, the World Bank, is heavily involved in all areas of agriculture sector. It is currently emphasizing increased production of export crops to help overcome the severe foreign exchange shortages which Tanzania has recently been experiencing. The USAID program, small in relation to those of other donors, is focused on food crop production and is the largest program in that subsector.

The CDSS sets forth the following objectives for the AID assistance strategy:

-- increased agricultural production

-- improved resource management

-- effective decentralization 4/

Title III assistance is to be viewed in this strategy as a tool for helping achieve significant returns in the short run, while the development assistance grant program continues to address the long-term production, management and decentralization development constraints. This program "will reinforce the proposed IDA agricultural sector undertaking and crop specific programs of the EEC, the Netherlands and FAO. In addition, it will assist Tanzanian Government in continuing to meet its commitments under the IMF standby agreement..." 5/

The principal nation-wide efforts of the USAID agricultural development assistance program focus on providing improved technology (Agriculture Research, Farming Systems Research, Seed Multiplication and Distribution, Rift Valley Rice) institutional capacity (Farmer Training/Agriculture Manpower Development, Agricultural Education and Extension, Training for Rural Development) and resources (Resources for Village Production and Income, Seed Multiplication) for the food production input system. The Title III program could compliment this effort by enhancing parastatal operations in the short run in supplying the required inputs to the producer. It could assist through the provision of additional funds to supplement government expenditures in the planning and allocation of resources as well as to the actual distribution of inputs. At the same time, importation of food commodities will help reduce the burden on Tanzania's foreign exchange reserves.

current AID program

4/ CDSS, p. 34.

5/ CDSS, p. 35-36.

COMMODITY REQUIREMENTS

A. Food Grains

During the past ten years Tanzania has been a net importer of its basic food grains - maize, wheat and rice. Relatively self-sufficient in maize production through the late 60's, adverse weather patterns and recurring drought have resulted in large deficits of the staple food base (maize) during six of the last ten years. The vagaries of weather have also hampered the growth of wheat and rice production and coupled with a growing demand has resulted in increasingly large import requirements.

is this the only reason?

The lack of a reliable data base makes it difficult to determine actual levels of crop production. In the cases of rice and maize, large quantities of food are consumed on the farms or sold through the unofficial distribution network. During years of drought and production shortfalls, proportionally smaller amounts of food reach the official NMC channels. Thus, the percentage of total production marketed through informal private channels, or retained and consumed by the producer varies considerably from year to year. The Marketing Development Board 1/ estimates that roughly 50-70 percent of the maize and 50% of the paddy rice and wheat do not enter the official market. However, this is a conservative view, and other reports estimate the actual percentage for maize and rice to be closer to 80-90%. Because of the nature of wheat production (mainly large scale and state-owned farms) a smaller percentage of wheat, less than 20% is estimated to be retained or sold informally. Total consumption figures on national demand for the three crops remain equally variable.

Therefore, for the purposes of providing a preliminary analysis of food import needs and commodities which could be provided under a Title

1/Profile of the Agriculture Sector, MDB, December 1980

III program, the supply and demand data presented in this section will deal with the officially marketed production of wheat and rice. Tables I, II, III and IV update, to the extent possible, the supply and demand data provided in the Title III PID. Changes in data for the years 1976/77 through 1979/80 reflect new information provided by sources within KILIMO and NMC. Changes in the 1980/81 levels reflect estimated purchases, imports and issues for the first half of the crop year (June through December, 1980) and include Marketing Development Board projections of supply/demand data through May 1981. The data will be further refined and updated as part of the Title I program proposal and in Phase II of the Title III proposal.

Table IV develops a demand projection for NMC rice and wheat through the three years of the Title III program. It begins with the year of 1976/77 and extends through 1983/84. It is important to recognize that to a large extent rice and wheat demands are interchangeable. If there is a shortage of rice, the demand for bread flour would rise and vice versa. Therefore, the table also presents a combined demand projection for rice and wheat. To a lesser extent a shortage of sembe (maize meal) would lead to an increase in the demand for rice and flour and shortages of rice and flour result in increased demand for sembe.

The data presented in Tables V and VI reflect S/D estimates for officially marketed rice and wheat through 1983/84. They represent our best estimates of food import needs.

Total production of rice and wheat are not expected to increase substantially over the next three years. The sharp decline in wheat

production after 1972/73 was due to drought conditions and to the fact that many wheat farmers switched to alternative crops or left the farming sectors as farms were placed under government management or distributed to small holders. There has been little investment in the purchase or repair of farming equipment. Therefore, outside of increased production through certain donor projects, particularly the Canadian farms, little increased wheat production can be projected for the next three years.

Rice production has also decreased marginally as a result of drought but more specifically because of marketing constraints, lack of inputs and increases in the proportion of surplus currently being sold through the unofficial channels. Although a number of projects are in the planning stages which will eventually increase both small and large scale production, they will have little, if any, impact in the immediate future.

In order to avoid the consequences of two consecutive years of adverse weather conditions (1978/79 and 1979/80), Tanzania diverted much of its available foreign exchange budget to commerical purchases of its number one priority, maize. Tanzania's difficult financial situation and limited foreign exchange budget resulted in decreased commercial purchases of rice and wheat in recent years. Donor food aid, in the form of grant and concessional imports were able to fill part of the growing food import gap.

Therefore, Tables V and VI project commercial imports equal to the current International Wheat Council (IWC) data based Usual Marketing Requirement for approximately 36,000 metric tons of wheat and approximately 20,000 metric tons of rice, assuming that there

will not be a need to use foreign exchange for extensive commercial purchases of maize. However, it is important to note that according to information available in Dar es Salaam, there have been little commercial imports of rice and wheat/wheat flour during the past few years. The amount of actual commercial imports through 1983/84 is likely to be far lower than those projected in Tables II and III and the amounts of concessional imports required to fill the unmet food gap will probably be substantially higher than the minimal levels projected in the tables.

Carry-over stocks of 20,000 metric tons rice and wheat and 30,000 metric tons maize are also incorporated into the tables.

In the case of maize, weather factors will be the most important determinant of the total production and availability of marketed surplus. Some forecasts have already warned of dry conditions in Northern Tanzania which are spreading southward. If the bad weather persists, Tanzania would once again find itself with a huge shortfall and may again need to import large quantities of maize. Official purchases could remain as low or lower than 1980/81 levels and the import requirement would increase to a correspondingly high level. On the other hand, favorable conditions could put Tanzania into an export position again within the next few years.

For the purposes of this initial study, we are assuming that the weather will improve somewhat from last year, but judging from recent reports, Tanzania will still find itself in an import position during 1981/82. Therefore, it is highly likely that a Title III commodity package would include some U.S. maize. The following table summarizes

the estimated shortfall for wheat and rice for the crop years 1981/82 - 1983/84 which could be supplied through Title III imports:

	1981/82	1982/83	1983/84
		(000 MT)	
Wheat/Wheat Flour (grain equivalency basis)	57	52	58
Rice	65	55	55
Total	122	107	113

Depending on maize production and import requirements, the appropriate commodity package would be developed at the beginning of each year.

B. Vegetable Oils

Vegetable oilseed products, such as cooking oils and margarine, are frequently in short supply in Tanzania. The local market readily absorbs all oil produced in-country and demand exceeds available supply. The oilseed crops grown in Tanzania include groundnuts, coconuts (copra), sesame, sunflower, and small amounts of soya and castor beans. The proportion of production marketed through official channels fluctuates according to weather conditions, availability of alternative foods, cash committments and relative pricing. The estimated share of production consumed on-farm or through the unofficial market varies by crop and appears to be highest in the case of groundnuts where only 5% is sold through official channels. As in grain crops, there is no accurate data base available and production statistics reflect estimates. There is no central government coordinator of oilseed production, marketing and distribution of the finished oils. The General Agricultural Products Export Corporation (GAPEX) handles the purchasing of most oilseeds. Cottonseeds fall under the authority

of the Tanzanian Cotton Authority (TCA). The Tanzanian General Foods Company (GEFCO) has been charged by the government to handle the import and distribution of refined oils. GAPEX also handles oilseed exports.

There are about ten major mills operating in Tanzania. However, during the last few years, despite the availability of raw material, oil production has remained stagnant and appears to be decreasing. Most mills are operating between 10 and 20% of their total capacity. Constraints to production include, transportation and marketing problems, fuel shortages, electricity and water shortages, frequent equipment breakdowns, lack of spare parts, lack of technical personnel and poor management of available resources. The following table lists the potential capacity of the major mills and their current estimated production:

Vegetable Oil Production

Mill	Monthly Capacity (MTS)	Production (MTS)
VOIL Ltd.	1500	500
Moproco	900	140
Rajani Ind.	200	175
TCA	2779	230
Mwansa Farmers	2044	170
Bilharamuru	617	50
Mbeya	118	50
Pare	54	5

(Data supplied by GEFCO)

Although GEFCO estimates a demand for 80,000 metric ton vegetable oil per year and was hoping to market about 45,000 metric tons in 1980/81, actual officially marketed vegetable oil production is expected to fall somewhere between 20-25,000 metric tons.

Tanzania has traditionally exported small amounts of vegetable oilseeds. Because of Tanzania's pressing need for foreign exchange, the Treasury has decided to export approximately 50% of the available high priced sesame seeds during 1980/81. The following table lists exports during the past five years: (000MT)

Seed	75/76	76/77	77/78	78/79	79/80	80/81
Sunflower	3.2	.2	--	.8	--	--
Soya Beans	--	.6	--	--	--	.8
Sesame Seeds	1.9	--	.7	4.8	.9	3.0
Total	5.1	.8	.7	5.6	.9	3.8

Minimal amounts of coconut oil and copra have also been exported. (Data Provided by MDB and GAPEX)

Concurrent with the above export period, edible refined oils have been imported into Tanzania. However, currently available statistics appear to conflict. Import data from the FAO indicates vegetable oil imports ranging from 5,000 to 9,000 tons (including palm oil which has industrial uses) during the period 1976/77 through 1978/79. However, GEFCO's purchasing manager and other government officials have indicated that there have been minimal imports of edible oils (less than 3 tons annually) during the past three years. Further refinement of this data is obviously needed.

The team and Mission officials have discussed the possibility of importing vegetable oil as part of a Title III commodity mix with a number of Tanzanian officials. While they have been interested in pursuing the possibility, government priorities still appear to be for grain imports (maize, as needed, followed by rice and wheat/wheat flour). The production disincentive aspect and possible export limitation problems must be reviewed before vegetable oil could be considered as part of a Title III commodity mix. Table VII updates the Vegetable Oil S/D table provided in the Title III PID.

TABLE I - Supply and Demand Information

MAIZE (000 MT)

	1976/77	1977/78	1978/79	1979/80	1980/81 (EST)
Opening Stocks	45	60	157	143	16
Purchases	127	213	222	160	95
Imports	48	34	--	29	249
Sales 1/	128	125	157	235	306
Exports	--	--	49	28	--
Feed	14	14	19	23	24
Other 2/	18	11	11	30 3/	15
Closing	60	157	143	16	15 4/

IMPORTS

	1976/77	1977/78	1978/79	1979/80	1980/81
Commercial (US)	--	--	--	28.7	189.5
Concessional Loan	34.5 Title I	31.2 Title I			19.4 Title I
Grant	6.0 FGR 5.0 U.K. 2.0 EEC	3.2 GDR			3.9 JAPAN 10.0 Yugoslavia 8.1 DUTCH 4.0 EEC 25.0 Title II
				Total	259.9

1/ Most sales in the form of sembe (milled corn).
2/ Statistical error, unrecorded sales, shrinkage.
3/ Includes est. 14 MT spoilage, plus est. 7 MT to Tanzanian troops in Uganda.
4/ Includes 54.000 tons belonging to SGR stocks

TABLE II - Rice (000 MT)

	1976/77	1977/78	1978/79	1979/80	1980/81 (EST)
Opening Stocks	32	1	6	4	17
Purchases	15	35	34	31	13
Imports	5	61	41	43	78
Sales	52	75	75	54	93
Exports					
Feed					
Other		13	2	7	5
Closing		11	4	17	10

Rice Imports

	1976/77	1977/78	1978/79	1979/80	1980/81
Commercial	5.3 Pakistan	14.9 Thailand 11.5	10.7 Panama 10.2 US	4.6 WFP-Commodity Exchange Tanzanian Maize to Mozambique	14.2 Commodity Exchange Zambia
Concessional Loan		30.8 Title I	20.0 Title I	30.0 Japan	11.8 Title I 16.0 Japan 9.0 Japan
Grant		1.9 EEC 1.9 Japan		2.7 Thailand 4.0 Japan 1.4 EEC	1.5 Italy
Projected Imports (Concessional) Feb.-May 1980					25.0 Japan
	5.3	61.0	41.0	42.7	77.5

TABLE III - WHEAT (000 MT)

	1976/77	1977/78	1978/79	1979/80	1980/81 (est.)
Opening Stocks	41	29	21	14	15
Purchase	23	35	28	26	25
Imports 1/	34	45	60	33	43
Sales 2/	69	88	95	58	65
Exports	-	-	-	-	-
Feed	-	-	-	-	-
Other	-	-	-	-	-
Closing	29	21	14	15	12

WHEAT IMPORTS

	1976/77	1977/78	1978/79	1979/80	1980/81
Commercial			15.8 U.S.		
Concessional Loan					
Grant	4.0 WFP	16.8Canada	24.4Can.	13.5Can.	3.3EEC
	23.6 Can.	4.6FRG	10.0U.K.	7.0WFP	9.7Canada
	6.0 Aust.	17.5Can.	3.4EEC	17.0Aust.	1.7France
		6.0Aust.	6.0FRG		1.3FRG
Projected Imports					2.0Spain
February - May 1980					25.0Aust.
Total	33.6	44.9	59.6	32.5	43.0

1/ Wheat/Wheat Flour expressed in whole grain equivalancy.

2/ Sales in the form of wheat flour converted to grain equivalency.

TABLE IV - NMC Sales and Projected Demand 1976/77 through 1983/84 (000 MT)

	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84
RICE								
2) Projected						95	100	105
1) Actual	52	75	75	54	93			
WHEAT								
Projected						111	122	135
Actual	69	88	95	58[3)]	65[3)]			
WHEAT and RICE								
Projected						206	222	240
Actual	121	163	170	112	158			

1) Actual sales figures from Tables II, III

2) Rice demand currently costrained by availability. NMC estimates its current demand for rice to be a minimum of 9,000 metric tons/month. The Marketing Development Board projects an increase in demand for officially marketed rice to 130,000 MT by 1985.

3) Constrained by availability. Projections from 81/82 to 83/84 based on a continuating trend increase in demand for wheat from 1976.

TABLE V - Actual and Projected Food Needs - RICE (000 MT)

	79/80	80/81	81/82	82/83	83/84
Opening Stocks	4	17	10	20	20
Purchases	31	13	25	35	40
Imports					
Commercial	-	-	20	20	20
Concessional	43	78			
TOTAL AVAILABILITY	78	108	55	75	80
Sales/Demand	54	93	95	100	105
Loss (5%)	7	5	5	5	5
Exports	-	-	-	-	-
TOTAL ISSUES	61	98	100	105	110
Carry-Over	17	10	20	20	20
Shortfall	0	0	65	50	50

* If MDB's rice demand estimates are incorporated, the shortfall would rise to 60,00-65,000 MT in 1982/83 and 1983/84.

TABLE VI - Actual and Projected Food Needs - WHEAT/WHEAT FLOUR
(000 MT)

	79/80	80/81	81/82	82/83	83/84
Opening Stocks	14	15	12	21	21
Purchases	26	25	32	40	48
Imports					
Commercial	-	-	36	36	36
Concessional Grant	33	43	-	-	-
TOTAL AVAILABILITY	73	83	80	96	105
Sales/Demand	58	65	111	122	135
Loss 5%	-	6	6	6	7
Exports	-	-	-	-	-
TOTAL ISSUES	58	71	117	128	142
Carry-Over	15	12	20	20	20
Shortfall	-	-	57	52	58

1) NMC has two flour mills, one in Dar es Salaam and another in Arusha. Current maximum milling capacity is estimated at 100,000 metric tons. However, equipment breakdowns are relatively frequent and the mills do not often operate at capacity.

TABLE VII - Vegetable Oil (000MT)

	1976/77	1977/78	1978/79	1979/80	1980/81(est.)
Opening Stocks	0	0	0	0	0
Production	27.2	26.6	30.5	25.0	20.0
Imports	5.5	7.9	5.7	--	--
Exports	.8	.7	5.6	.9	3.8 (through Dec.)
Consumption	32.7	34.5	36.2	25.0	20.0
Other	--	--	--	--	--
Closing	0	0	0	0	0

CONCLUSION

Title III resources could be used in Tanzania to 1) fulfill the demand for food which domestic production does not meet and 2) provide additional resources for the government to use in planning and administering programs to increase crop production. Title III, however, can not substitute for the long-range development programs being carried out by Tanzania with partial support from donor agencies, it can only supplement. Further refinement of a Title III program, which will be accomplished during Phase II should focus on confirming the appropriate mix and volume of food to be imported over the three year period, focus on a limited number of the support activities from the priority assistance areas indicated below and establish an evaluation plan with specific measurable benchmarks.

The PID for the Title III program suggested three areas as potential recipients of support under the Title III program, these were in brief; storage, export crops and food crops. The above analysis suggests that Title III resources not be used to finance additional storage but it might be used to support insurance type schemes which provide a measure of food security without the need to invest in storage structures or the holding of stocks over long periods of time. As for the traditional export crop area, the use of Title III generated funds should be limited to the possible provision of assistance which would increase the operating efficiency of parastatals or in other ways reduce marketing margins because our and other analyses show that increasing prices to export producers is only possible with increased parastatals efficiency and lower operating margins. Major and perhaps exclusive use of Title III generated

export crop support

funds should be directed to technologically and socio-economically sound production activities which increase the capability of the farm family to provide ample food supplies even in periods of drought and to include within annual rotation, crops such as oilseeds and pulses which can be marketed either as import substitutes or exports. A major reason for this focus is ~~that~~ the belief by the Title III team that is based upon developments in recent months, major assistance will be provided the export crop sector by the Tanzanian Government and other bilateral and multilateral donors. The result of the increased focus on export crops might result in a period of relative neglect of the food crop sector which could prove to have disasterous longer term consequences. Title III resources can provide continuing support to this sector and combined with present and proposed Mission activities provide a focus for the expansion of new technology to small farmers, which is essential for the long run growth of the agricultural sector. In particular, attention ought to be given to supporting mixed farming activities within farming systems which have the potential of increasing returns to both land and labor. Production activities in either the high yield potential farming areas or in the drier lowland areas where yields are more uncertain would be equally eligible for support with Title III generated local currencies.

Major changes or modification of policies affecting the agricultural sector are not recommended as conditions to PL 480 Title III assistance to Tanzania, although such changes may be facilitated if deemed appropriate by the Tanzanian government through the use of Title III resources. Government is currently giving appropriate attention to agriculture and has been giving food production and food security their primary priority. The allocation of funds for investment in agriculture in the new 5 year plan has been increased marginally to 12.4% and government has stated this amount will

be increased further when and if the Agriculture Ministry develops fundable projects which exceed the current planned allocation of funds for agricultural development. Government has recently undertaken a number of actions intended to strengthen performance in agricultural production and marketing. These include removal of the export tax on coffee and sisal, removal of the production tax on tobacco; removal of the Board of the Pyrethrum parastatal for mismanagement and interim replacement of the Board by 4 senior professionals from the Ministry of Agriculture; establishment of Commissions to study and make recommendation for necessary changes in National Milling Corporation and export crop parastatals to increase efficiency of operations and reduce marketing margins. All of these actions by Government indicate that Tanzania recognizes the kinds of problems in the agricultural sector which need to be resolved and is taking initiatives to deal with these problems in a manner which merits U.S. assistance, including a Ttitle III program.

Specific areas of assistance which ought to be further explored for funding under the Title III program by the Government of Tanzania, the Mission and the Phase 2 design team are as follows:

1. Assistance to increase food production with an emphasis on mixed cropping that includes a combination of crops which are a hedge against drought and are "swing crops", such as oil seeds and pulses that are both drought resistant and can be marketed domestically or as exports. Production support institutions and activities such as applied research and extension service would be eligible for assistance under this category.

2. Support for ongoing and planned AID projects particularly: a) Farming Systems Research, b) increasing the capability of Tanzania to prepare and monitor projects and c) increasing the effectiveness of farm inputs delivery systems.

3. Support of local currency requirements to assure the continuation of activities where donor support is being phased out. Two examples are the World Bank-funded National Maize Project and the USAID-funded Seed Multiplication Project.

4. Support to export crop parastatals which will increase their effectiveness and thereby increase returns to producers.

5. Support for developing food security programs with NMC focusing on assisting with insurance type activities which avoid large capital and carrying costs.

6. In addition it is recommended that the USAID explore opportunities for providing planning and project design assistance to the Ministry of Agriculture. The use of Title III generated local currency to support such assistance either by the US or other donors in highly recommended.

grd

- Reliable data re crop production needed (both for grains & vegetable oil sources)
- ☆ { = purchase & repair of farm equip needed
  - inputs across the board needed, esp. re rice
- too high % seed through unoff channels
- encouragement of parastatals (unit. monopoly on prices, inputs (for export crops)
- need for NMC reform (re food crops) esp. to make it more financ. efficient

☆ Here are reasons, other than adverse weather, for declining of prod. in Tanzania. See pp. 56-, 39-40