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**TANZANIAN DEVELOPMENT PERFORMANCE
AND
IMPLICATIONS FOR DEVELOPMENT ASSISTANCE**

**James Mudge
Michael Crosswell
Kwan Kim
Agency for International Development
Washington, D.C.
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SUMMARY AND IMPLICATIONS FOR AID ASSISTANCE

Tanzania has the long-term economic potential and the resource endowment to permit significant economic development and alleviation of poverty for its people. Tanzania also has a system of production and a distribution of productive assets such that future growth in income will tend to be equitably distributed.

Tanzania also receives significant amounts of external economic assistance - perhaps up to \$600 million per annum - which provides it with the opportunity to realize its economic potential. In spite of these favorable economic factors, the economic outlook for the next two to three years is dim, given the current functioning of the system and the present set of economic policies. It is reasonable to expect some relief from the severe degree of the 1979-80 crisis; however, it is too soon to say whether sufficient internal measures will be taken to accomplish a substantive long-term strengthening of the Tanzanian economy.

The crux of Tanzanian economic weakness is related to declining or stagnant physical production levels and falling factor productivity. Physical output and productivity have been declining for several years. The latest crisis is the third one of the decade, with the first one in 1970-71 and a second in 1973-75. Public interventions in economic activity, e.g., price setting, the patterns of public investment, substitution of public for private enterprise in transportation and distribution, have had the effect of substantially reducing economic efficiency without significantly improving well-being through greater equity.

The present crisis situation in which Tanzania finds itself is a result of the combination of several adverse exogenous factors (the war with Uganda, a drop in 1978 coffee prices and large increases in oil import costs) and a weak, crisis-prone economy. If Tanzania is not able to strengthen its economy by increasing production levels and improving factor productivity, it will continue to be especially vulnerable to adverse external developments. Indeed, Tanzania can realistically anticipate occasional adverse weather conditions and annual increases in energy prices--along with price increases in many other imported goods and services--plus population growth. If the producing sectors continue to stagnate and decline, however, these three factors alone will be sufficient to generate a state of chronic and increasingly severe economic crisis.

In general, there are two kinds of policy responses needed: first--policy responses aimed at addressing the short-term balance of payments problem --these essentially involve stimulating the supply of exports through a variety of price and related incentive measures, and curtailing domestic expenditures and credit expansion; second, there is the need for policies that aim at stimulating longer-term efficiency of production, management and distribution.

In many cases the two sets of policies are identical - e.g., reduction in credit to finance deficits of the parastatals might stimulate the latter's long-term efficiency. Modification of the agricultural pricing structure could cause commodity exports to increase while simultaneously improving the allocation of resources within the sector.

The Tanzanian Government has concluded a standby agreement with the IMF that calls for restrictions of government expenditures and credit expansion; measures to increase output, particularly in the export sector; a phased reduction of debt arrears; and further examination of the exchange rate question, leading to agreement on exchange rate policy by June, 1981. On the demand side, the program is a lenient one in the sense that the limits on expenditures and credit expansion are essentially those made possible by the assumed reduction in war expenditures, and the liquidation of debt arrears is to proceed very gradually. Accordingly, there is a heavy burden on supply side policies if the goals of the program, including the establishment of a sound basis for more balanced growth of domestic production over the medium-term, are to be achieved. Tanzania's public statements about the role of prices (including the exchange rate) and other issues surrounding the agreement, however, are not wholly encouraging regarding the success of the program, because these statements frequently reveal an unwillingness to come to grips with the severe resources constraints facing the country. On the other hand, the Tanzanian Government has in the past shown considerable pragmatism and capacity to adjust and change course when faced with difficult economic circumstances.

The agriculture sector is a key element in both the short-term and long-term outlook of the Tanzanian economy. It employs about 90 percent of the economically active population; it generates 40 percent of GDP and 80 percent of export earnings. The Tanzanian agricultural resource endowment is adequate relative to the population for the agriculture sector to become a significant source of long-term growth. The distribution of agricultural assets is of such a nature that redistribution is not a prerequisite to promotion of an accelerated growth policy.

Agricultural performance has been lacking on several counts. After expansion in production of food and export crops in the 1960s, export volumes declined by 18 percent during the 1970s. Food imports have tended to increase from near zero at the beginning of the decade to high levels--rice and wheat imports have become routine.

Agricultural prices shifted in favor of food crops during the 1970s; however, the official prices have tended to stimulate a demand pattern which does not exist. The result is surpluses of foods such as sorghum, cassava and millet, for which there is virtually no domestic commercial demand, while wheat and rice remain in perennially short supply. Export crop producer

prices have declined in real terms and relative to food crops, while marketing costs and export taxes have increased disproportionately. As a result, farmers' shares have decreased in spite of rising trends in most international commodity prices. Overall, pricing policy has caused serious resource misallocation and major deficits in the National Milling Corporation (NMC). The NMC deficits have in turn contributed to inflation which, in combination with declining export volumes, has weakened the Tanzanian international trade position and made the economy more susceptible to adverse international changes such as oil price increases. Lastly, there has been a tendency for an excessively heavy reliance on agricultural pricing policies and neglect of policies to increase agricultural production. Price policies and resources have been used extensively to influence the composition of agricultural output. The core problem of stagnant aggregate agricultural production has continued largely unaddressed. A shift in policy instrument emphasis as well as major price policy changes will be necessary to place the agriculture sector on a sustainable growth path.

The industrial sector has focused on relatively capital intensive import substitution. Despite public statements in support of small-scale rural enterprises, the bulk of investment has gone to major industrial units which have not stimulated significant increases in employment while operating at low levels of capacity utilization. The transport sector has been characterized by significant inefficiencies partly as a result of external disruptions - such as the breakup of the East African community and the Uganda war and scarcity of foreign exchange, and partly as a result of a shift to public transport in the trucking industry which has shown to be less efficient by comparison to private operators.

There are pervasive shortages in skilled manpower and breakdowns in management. This problem is magnified by the fact that Tanzania is primarily a system of managed, planned economy which places large demands on managerial skills and administrative efficiency.

Finally, the oil price increases and related scarcity of foreign exchange have adversely affected production throughout the commercial sectors of the economy. At the same time deforestation is a problem afflicting the supply of fuel to the subsistence sector. Tanzania, however, has significant amounts of untapped energy potential which can be used to address its long-term energy problem.

In light of these findings, the implications for AID assistance can be summarized as follows. (More detailed discussion of these implications can be found in Chapter X. of the study.)

- The present AID level of development assistance (about \$20 million) appears to be appropriate and should be maintained in real terms over the next few years. Significant changes in this level should be related to progress made by the Tanzanian Government in improving the overall economic policy environment, reducing inefficiencies in resource utilization and stimulating increased productivity and growth.
- The present emphasis of AID economic development assistance to rural areas and to agriculture is appropriate and should be continued.
- AID's focus should continue to be in interventions that would increase productivity in food cultivation.
- In order to enhance long-term productivity growth, AID should become more involved in applied agricultural research.
- Agricultural research initiatives should be guided by preliminary economic analysis of agricultural systems and policies.
- The strong overall commitment of the Tanzanian Government to equitable growth and the relative equitable distribution of assets and income are juxtaposed against a performance of poor productivity and income growth by the poor. Against this background, the greatest weight in choosing future AID activity or geographic areas of consideration should be placed on the likelihood that the activity will stimulate production and output growth; less concern should be given to explicit targeting since, there is strong likelihood that gains in output and production, if they occur, will indeed benefit the poor.
- The policy response of the Tanzanian Government to its current financial crisis has so far not been sufficiently convincing that non-project assistance in conjunction with the IBRD or in support of the IMF appears as the most effective means of channeling AID resources. This factor combined with the weak institutional base and administrative bottlenecks suggest that AID continue its focus on project assistance.
- Recurrent costs and recurrent cost financing should be given prominent and explicit consideration in new project proposals, and ways to address project recurrent cost financing should be explored.
- There are significant and pervasive administrative and implementation bottlenecks afflicting most donors' projects. Many existing activities are not functioning adequately as a result of ineffective management, lack of skilled personnel and confused policy signals. These problems suggest that

future efforts be directed to activities that: (a) shore up and improve the functioning of existing institutions and projects rather than starting new ones; (b) new projects are designed in ways that minimize demands on additional Tanzanian management and administration, and do not depend for their success on a significant number of intermediaries and linkages.

- In order to assure success in projects which require on-going professional management and technical expertise, such as seed multiplication, AID should make commitments for long-term involvement.
- There are significant distortions in the valuation of capital which contribute to low capacity utilization, rapid deterioration of capital stock and unwarranted capital intensity of operation in certain sectors especially industry. In light of such distortions, great care should be followed in the evaluation of capital costs, depreciation and rates of capital utilization in evaluating all projects with substantial capital content.
- Assistance activities which attempt to increase utilization rates in industry or other sectors solely through the provision of inputs will tend to provide only a modest and short lived stimulus to increasing output.
- Given the scarcity of adequately trained manpower and its critical role in Tanzanian development, existing manpower forecasts and assessments need to be upgraded.
- The development of small-scale enterprises located in rural areas also may make significant contributions to rural development and to the alleviation of scarcity of essential manufactured goods consumed by the rural population.
- Development of energy policy planning capabilities, development of renewable energy sources and provision of investment resources and technical expertise for energy development are important to creation of a capability for self-sustaining growth in Tanzania. AID should actively explore the possibilities of assistance in this area.
- There is need to increase the degree of donor coordination.
- Efforts should be made to explore ways to provide Tanzanian decisionmakers with more and better empirical information.

I. INTRODUCTION

One of the conclusions of the Tanzania FY 82 CDSS was that AID needed a better understanding of the Tanzania economy, its problems and prospects prior to developing a more effective long-term AID assistance strategy. In late April 1980, the Africa Bureau commissioned a study by a team of three AID economists--Jim Mulge, Mike Crosswell and Kwan Kim who went to Tanzania for five weeks to gather materials and to conduct interviews with Tanzanian officials, members of the foreign donor community and AID/Tanzania officials. Subsequent analysis was undertaken in Washington. This study represents the results of this effort.

The study attempt to present a relatively comprehensive picture of Tanzania's economic policies, problems and prospects over the next three - five years. The study does not itself present a development strategy for Tanzania or an assistance strategy for AID. It is hoped, however, that the insights of the analysis can be helpful in the development of an AID assistance strategy. Also, it is hoped that through interaction with Tanzanian officials the study can be useful in more effective development cooperation which promotes Tanzania's development objectives.

The paper draws information from Tanzanian sources from documents of international institutions such as the IMF and the IBRD and from a review of some aspects of Tanzanian socialism.

The paper concentrates on economic problems, and therefore its perspective is somewhat critical. The criticism, however, is not the intent per se, but it is inherent in the nature of the task: concern about economic performance and problems were the elements which instigated the examination; therefore, frank and critical examination is central to the exercise. Evaluations in the paper will frequently find policies or performance to be lacking. However, there is no intent, implied or explicit, to argue that poor economic performance is the axiomatic result of the Tanzania economic system.

The study starts with an overview of the aggregate performance of the Tanzanian economy and then moves into a discussion of the current financial crisis, its causes and prospects. Progress made by Tanzania in alleviating poverty and in meeting basic needs is then addressed.

The study then focuses on sectoral issues; a major analysis is presented of the agriculture sector and more brief treatment of industry and transportation. Issues relating to energy and general manpower development which affect all sectors are then examined. The final chapter draws the implications of the analysis for AID assistance programs.

II. OVERVIEW OF THE DEVELOPMENT ENVIRONMENT

A. Developmental Goals and Strategies

Tanzania, considered one of the world's poorest countries, has adopted an agrarian society-based socialist model of development. The broad goals which Tanzania hopes to achieve are both growth and equity based on the principles of self-reliance and democratic participation.¹ The ultimate goal of development envisions a society that provides an adequate level of material welfare to everyone.

Historically, the main objectives of development for Tanzania from the time of independence to the 1967 Arusha Declaration were growth and self-sufficiency in skilled manpower. This growth-oriented strategy relying mainly on private sector initiative in a mixed economy framework, however, fostered the emergence of trends considered by the Tanzanian government as socially undesirable: increasing inequity in income distribution and widening of the urban-rural gap.

In reaction to these unwelcome trends, the new Tanzanian policy-makers undertook to formulate alternative objectives and strategies. Although policy instruments and strategies have been undergoing a continuous process of modification and change, the basic long-term objectives which they are intended to serve have remained steadfast. The main objectives of development for Tanzania were enunciated in the Arusha Declaration and subsequent documents. In essence, they contain four elements of policy priority.

1. Commitment to African Socialism. This envisions creation of the "ujamaa" village. Ujamaa is based on the concept of the African tradition of an extended family system in which productive activities and returns from them are to be shared communally and equitably. The concept envisions the creation

1. For an earlier discussion on the Tanzanian model, see R. Blue and J. Weaver, An Initial Assessment of the Tanzanian Model of Development. A.I.D. Occasional Paper 1, 1977.

of a society in which the individual would function without exploiting others and without being exploited by others. Subsidiary goals emanating from this broad objective include: (a) egalitarian distribution of income; (b) worker participation in decision-making and (c) full employment. The basic strategy for attaining the goal has been to expedite state ownership and control of the major means of production and distribution; organization of the rural population in villages for communal productive activities and social services; and administrative decentralization to the regional and village levels. The decentralization strategy is intended to conform to the idea of self-reliance by entrusting the development task to the people. It is also meant to facilitate the politicization of the rural population along socialist lines.

2. Rural Development. Self-sufficiency in food is the explicit target. The strategy calls for organization of the rural population in villages and increased agricultural productivity.

3. Self-reliance. The concept has many different connotations. Among the most important is the pursuit of the long-term objective of creating an internally-based industrial structure. The Basic Industry Strategy (BIS) has had as a long-term objective the transformation of Tanzania's production and consumption structure, which reflected the inherited colonial trade pattern and dependence on imported supplies of basic consumer and producer goods, into a self-sustainable, socialist system based on the use of domestic resources for domestic needs.¹

In content, the BIS emphasizes the production of basic needs goods as well as producer goods. Producer goods must use domestic resources as far as possible.² But producer goods with high potential linkages in a modern

1. For details of the socialist industrial development model for Tanzania, see J. Aweyemamu, Underdevelopment and Industrialization in Tanzania, Oxford Press, 1974.

2. Tanzania is considered to possess adequate iron ore, coal and lime deposits.

industrialized economy (steel, cement, metals, chemicals, glass, rubber, etc.) should also be produced using imported raw materials if necessary. The argument is that they are important because of their high linkage effects and externalities on the economy. They are expected to permit adaptation of production techniques to local conditions, and accelerate the economy's growth rate in the long run.

4. Output Growth. This is considered a precondition for the attainment of the other objectives.

Tanzania's developmental objectives are thus quite compatible with A.I.D.'s concern about the promotion of growth with equity. In particular, Tanzania's emphasis on the popular participation in rural development meshes well with A.I.D.'s support of the basic human needs development strategy

B. Institutional Setting and Evolution

In the attempt to accomplish these objectives, numerous institutional changes have been undertaken. First, there was nationalization of the key sectors of the economy such as banks, insurance companies, external and wholesale trade and important manufacturing firms. As the system of state control has become more extensive, numerous public sector firms (parastatals) have been created. The parastatal sector has quickly assumed considerable importance in the economy.¹ By the mid-1970s the public sector accounted for about 60 percent of the total fixed capital formation.

The institutional shift toward socialism in rural areas was initiated by launching a program to build ujamaa villages for communal productive and distributive activities, followed by a movement to organize the scattered rural population in villages. The system of central control to enforce

1. For details of the institutional structure of the parastatal sector, see M. S. S. El-Namaki, Problems of Management in a Developing Environment: The Case of Tanzania, North-Holland Publishing Company, Amsterdam, 1979.

government goals includes direct control over all foreign exchange transactions including import-licensing by the Bank of Tanzania, and direct control over most domestic prices including agricultural prices by the National Pricing Commission and the Marketing Board.

In pursuing the objectives stated in the Arusha Declaration, the government has pursued a pragmatic approach: While public sector ownership of process of production has been stressed, in many sectors private enterprises coexist with state-run enterprises; while the government controls prices, parallel market pricing has been tolerated; and while self-reliance has been the long-term objective, in the short-term there has been increased dependence on international aid. Thus, Tanzania's economic system contains elements of socialism, African tradition, market socialism, and capitalism. And its institutions created to attain the objectives of development continue to evolve.

III. ECONOMY-WIDE PERFORMANCE

A. Aggregate Growth

During the 1970s Tanzania's real GDP expanded at an average annual rate of 5 percent. This compares favorably with the recorded growth performance of other low-income developing countries. Of the 38 low-income countries listed in the latest World Development Report, only five experienced more rapid growth over the 1970s and the weighted average growth rate for the group is 3.6 percent.¹ Tanzania's recorded growth performance in the 1970s has also been close to the 6 percent average rate that was maintained over the 1960s, a decade in which international economic conditions were more conducive to economic expansion.

While aggregate output has increased at a fairly high rate, population growth has accelerated, so that trends in per capita output have been less favorable. Average annual population growth, estimated at 2.7 percent during the 1960s, has increased to 3.0 percent over the 1970s. According to data in the recent census, the current growth rate is 3.3 percent. Tanzania is one of only three low-income countries in which the birth rate rose (although slightly) between 1960 and 1978.

1. World Development Report 1980, IMF (1980). The five low-income countries with more rapid GDP growth are Malawi (6.5), Guinea (5.4), Lesotho (6.5), Kenya (6.7) and Indonesia (7.8). Throughout this section, "low-income" refers to the IBRD World Development Report definition, which uses a per capita cutoff of \$300 in 1977 and \$360 in 1978.

The result of these trends in output and population growth has been a notable decline in rate of growth of per capita output, from 3.2 percent during the 1960s to 1.9 percent during the 1970s. The latter figure is nonetheless relatively high compared with other low-income countries.

B. The Underlying Pattern of Growth

1. Components of Final Demand.

While aggregate growth rates of output indicate relatively good performance, the underlying patterns of growth present a more ambiguous picture. In terms of the structure of final demand, Table 1 documents the salient trends.

Table 1

Shares of Main Components of Final Demand in GDP, at Current Prices ^{a/}

	<u>1966-69</u>	<u>1970-73</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979^{b/}</u>	<u>1980^{c/}</u>	<u>1981^{c/}</u>
Consumption (C)	83.4	83.0	91.9	91.4	83.4	85.2	94.2	92.4	91.6	90.6
Investment (I)	16.7	23.0	22.0	21.1	19.7	19.3	19.7	20.7	20.7	20.7
Exports (X)	26.0	24.2	21.7	19.7	21.7	18.2	14.1	13.6	13.2	12.2
Imports (M)	26.1	30.2	35.6	32.2	24.8	22.7	28.0	26.6	25.6	23.5
Foreign Savings	0.1	6.0	13.9	12.5	3.1	4.5	13.9	13.0	12.4	11.3
Domestic Savings	16.7	17.0	8.1	8.6	16.6	14.8	5.8	7.7	8.3	9.4

SOURCE: IMF (1980), IMF (1979), Economic Survey, 1980 (1977)

^{a/} Note that GDP = C+I+X-M, Foreign Savings = M-X, Domestic Savings = I-(M-X)

^{b/} Provisional

^{c/} Projected

The share of investment to GDP has been maintained at a reasonably high level over the 1970s, although the share is somewhat lower in the second half of the decade than the first.¹ The most noteworthy trend is the steady and substantial decline in the share of exports to the point where the share of exports in 1981 will be about half as great as in the 1970-73 period. Only part of this decline is reflected in a reduced share for imports. Accordingly foreign saving has played an increasingly important role in financing investment, while the share of domestic saving has fallen sharply, except for the "recovery" years of 1976-77.

2. Sectoral Growth in Output and Employment

The pattern of growth among sectors indicates some of the factors behind the observed decline in the share of exports and the diminished role for domestic savings in financing investment. Table 2 gives figures for annual levels and rates of growth of real sectoral output, and Table 3 presents average growth rates for the 1966-72 period and the 1972-79 period. While total GDP grew at roughly the same rate in each period, there are substantial differences in the underlying pattern of growth. First, growth in monetized production slowed significantly, while growth in subsistence production

1. Construction of the Tazara railroad helps account for the high investment share during 1970-73.

Table 2
Sectoral Output

(1966 Factor Prices, Growth Rates in Parentheses)

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Agriculture	2,953 (14.7)	2,955 (.0)	3,077 (4.1)	3,089 (0.4)	3,205 (3.8)	3,166 (-1.2)	3,425 (8.2)	3,458 (1.0)	3,315 (-4.1)	3,596 (8.5)	3,947 (9.8)	4,244 (7.5)	4,560 (7.4)	4,923 (8.0)
Mining	186 (14.1)	192 (3.2)	136 (-29.2)	135 (-0.7)	97 (-28.1)	152 (56.7)	119 (-21.7)	91 (-23.5)	88 (-3.3)	73 (-17.0)	70 (-4.1)	64 (-8.6)	45 (-29.7)	59 (31.1)
Manufacturing	525 (17.7)	572 (8.9)	611 (6.8)	672 (10.0)	716 (6.5)	784 (9.5)	850 (8.4)	888 (4.5)	900 (1.4)	903 (0.3)	957 (6.0)	1,092 (14.7)	1,036 (-5.2)	982 (-5.2)
Electricity and Water	62 (17.0)	66 (6.5)	72 (9.1)	82 (13.9)	91 (12.2)	96 (4.3)	106 (10.4)	114 (7.5)	127 (11.4)	139 (9.4)	141 (1.4)	149 (5.7)	158 (6.0)	166 (5.1)
Construction	224 (13.1)	290 (29.5)	309 (6.6)	291 (-5.8)	327 (12.4)	380 (16.2)	402 (5.8)	418 (4.0)	413 (-1.2)	392 (-5.1)	352 (-10.2)	352 (0.0)	293 (-16.8)	367 (25.2)
Internal Trade	825 (16.2)	816 (-1.1)	912 (11.8)	914 (0.2)	984 (7.7)	972 (-1.2)	990 (1.9)	1,039 (4.9)	1,068 (2.8)	1,074 (0.6)	1,077 (0.3)	1,162 (7.9)	1,284 (10.5)	1,361 (6.0)
Transport, Communica- tion	482 (20.5)	536 (11.2)	618 (15.3)	644 (4.2)	729 (13.2)	814 (11.7)	869 (6.8)	905 (4.1)	958 (5.9)	997 (4.1)	1,027 (3.0)	1,066 (3.8)	1,126 (5.6)	1,136 (0.9)
Finance, Insurance	618 (9.0)	787 (14.4)	789 (0.3)	745 (-5.1)	763 (2.4)	800 (4.8)	831 (3.9)	867 (4.3)	929 (7.2)	941 (1.3)	957 (1.7)	981 (2.5)	1,002 (2.1)	1,030 (2.8)
Public Admin- istration	688 (4.6)	741 (7.7)	764 (3.1)	772 (1.0)	866 (12.2)	952 (9.9)	1,071 (12.5)	1,157 (8.0)	1,362 (17.7)	1,581 (16.1)	1,672 (5.8)	1,781 (6.5)	1,903 (6.9)	1,964 (3.2)
GDP	6,514 (12.8)	6,777 (4.0)	7,128 (5.2)	7,259 (1.8)	7,680 (5.8)	8,001 (4.2)	8,539 (6.7)	8,800 (3.1)	9,020 (2.5)	9,553 (5.9)	10,069 (5.4)	10,663 (5.9)	11,260 (5.6)	11,834 (5.1)
Subsistence Agriculture	1,547 (12.8)	1,605 (3.7)	1,660 (3.4)	1,590 (-4.2)	1,616 (1.6)	1,644 (1.7)	1,805 (9.8)	1,833 (1.5)	1,799 (-1.9)	2,029 (12.8)	2,266 (11.7)	2,485 (9.7)	2,741 (10.3)	[3,015]*
Subsistence Total	2,051 (9.6)	2,123 (3.5)	2,192 (3.3)	2,137 (-2.5)	2,179 (2.0)	2,223 (2.0)	2,401 (8.0)	2,445 (1.8)	2,430 (-0.6)	2,677 (10.2)	2,920 (9.1)	3,124 (7.0)	3,434 (9.9)	3,716 (8.2)
Nonetised Total	4,463 (14.4)	4,654 (4.3)	4,936 (6.1)	5,122 (3.8)	5,501 (7.4)	5,778 (5.0)	6,138 (6.2)	6,355 (3.5)	6,590 (3.7)	6,876 (4.3)	7,149 (4.0)	7,539 (5.6)	7,826 (3.8)	8,118 (3.7)
Nonetised Material	2,332 (21.8)	2,390 (2.5)	2,511 (6.7)	2,691 (5.5)	2,888 (7.3)	3,054 (5.7)	3,246 (6.3)	3,292 (1.4)	3,231 (-1.9)	3,280 (1.5)	3,443 (5.0)	3,615 (5.0)	3,637 (0.6)	3,763 (3.5)

SOURCE: Economic Survey, IMF (1980)

* Staff Estimate.

accelerated sharply, particularly subsistence agriculture. Within the monetized sector, the growth rate of material production (i.e., monetized production in agriculture, mining, manufacturing, electricity and water, construction and transport and communications) declined by more than half. Indeed, on a per capita basis, monetized material production fell. At the same time, growth in public administration and other services (not counting parastatals in other sectors) increased beyond the high rates recorded in the earlier period.

Table 3

AVERAGE ANNUAL GROWTH RATES (%)

	<u>1966-72</u>	<u>1972-79</u>	<u>1966-79</u>
GDP	4.6	4.8	4.7
Monetized (total)	5.5	4.1	4.7
Material Production	5.7	2.1	3.7
Public Administration	7.7	9.0	8.4
Subsistence (total)	2.7	6.4	4.7
Sub. Agriculture	2.6	7.4	5.2

SOURCE: Economic Survey, IMF (1980)

The data for subsistence production are of doubtful reliability.¹ Even if accurate, they highlight several ominous

1. See Discussion, p.

factors. First, the capacity to export depends on monetized rather than subsistence production, so that the observed decline in monetized material production relative to GDP can be directly associated with the declining share of exports. Secondly, the capacity to finance an expanding public sector, including health and education services, depends on monetized rather than subsistence production, since the latter typically does not yield taxes.¹ Finally, recorded investment rates in the subsistence sector, while positive, are quite low so that a pattern of growth dominated by growth in subsistence output will not generate high rates of domestic savings.

On the other hand, rapid growth in subsistence agriculture -- if accurate -- would point to increased production and consumption of food within the group that constitutes most of the poor in Tanzania. Unfortunately, there appears to be no way to verify the validity of the figures on growth of subsistence agriculture.

Performance regarding employment has to be evaluated with respect to the particular labor market conditions prevailing in Tanzania. About 90 percent of the population live outside urban areas, and of this group about 90 percent are self-employed smallholders, some of whom also receive income from wage labor. The land/person ratio is relatively favorable overall, and there is no significant landless proletariat. Thus, while the relatively abundant resource in Tanzania is unskilled labor, Tanzania does not

1. IHP (1979), page 25.

represent a labor surplus economy to the same degree as many other, more populous developing countries. Hence "the employment problem" in Tanzania is to a large degree one of raising productivity and incomes of self-employed smallholders, most of whom rely on extremely primitive production methods.¹ At the same time, though there is not a heavy burden on the industrial and services sectors to absorb surplus labor, the problem of employing labor productivity, using technologies that reflect the scarcity of foreign exchange, capital, and skilled labor, is a significant one.

Data on employment growth and output growth are presented in Table 3a. On the whole, employment growth has outstripped growth of output, so that productivity of labor has declined.² The most significant exceptions--services--is not a particularly salutary one since the value of output reflects mainly labor costs. Thus, differences between output growth and employment growth mainly reflect growth in remuneration, that has little demonstrable relation to productivity. Nor do the data necessarily reflect a trend toward declining capital intensity. Investment levels have been high and most investment has taken place outside the agricultural sector (where over 85 percent of the labor force works). Rather, the picture is one of declining productivity of all factors. This is consistent with the general view of weak performance particularly in the parastatal sector.

More generally, the pattern of growth through the seventies has been one of recurring crisis and recovery, the crisis years including particularly 1973-75 and 1978 to the present.³

These crises show up most clearly in the data on growth of

1. Performance with respect to raising incomes of smallholders is discussed in the next section.
2. The data on growth in output and employment for estate agriculture are not too comparable. Nonetheless volume trends for export crops have surely fallen well short of employment growth.
3. There was also a 1970-71 "mini-crisis."

Table 3a

Employment Growth and Output Growth

<u>Sector</u>	<u>Share of Wage Employment 1978</u>	<u>Growth in Employment 1973-78</u>	<u>Growth in Output 1973-78</u>
Estate Agriculture	27.7	5.4	2.3 *
Mining and Quarrying	1.1	2.3	-13.1
Manufacturing	15.7	6.3	3.1
Public Utilities	3.2	- 2.8	6.7
Construction	9.0	-15.2	- 6.9
Commerce	7.9	8.6	4.3
Transport & Communica- tions	10.9	7.9	4.5
Finance	1.9	8.3	2.9
Services	22.6	2.1	10.5 **

SOURCE: IMF (1979) for columns 1 and 2; Table 2 for column 3

* Growth rate for monetized agriculture.

** Growth rate for public administration

monetized material GDP (Table 2). The relative roles of exogenous events versus policy performance in these crises is the subject of considerable debate. Some have tended to emphasize the role of policies in precipitating or aggravating crises, and the role of exogenous factors in inducing recoveries while others have stressed the opposite set of relationships.

A review of the 1970-78 period by Weaver and Anderson provides a fairly balanced presentation of the conflicting views on this debate.¹ The period is of particular importance since the policy response to the 1973-75 crisis (and to the 1970-71 mini-crisis) in many respects resembles the response to the latest crisis. Therefore it is worth examining these policy responses in some detail.

Even sympathetic observers concede that the 1970-71 mini-crisis, characterized by shortfalls in food production and a consequent sharp rise in imports, was in part induced by misguided policies. The response to this crisis is noteworthy because it "involved steps which laid the foundation for the

1. James H. Weaver and Arne Anderson "Stabilization and Development of the Tanzania Economy in the 1970s," paper presented at the Brookings Institution Conference on Economic Stabilization Policies in Less Developed Countries, October 1979.

policies taken to deal with the much more severe crisis of 1974-75." ¹ These measures, which also have their counterparts in the response to the current crisis, included steps that increased public control over various spheres of the economy; strict controls on imports and foreign exchange; a credit budgeting system to control domestic lending by banks; regulation of the use of surpluses earned by public enterprises; an expanded role in setting prices for the Price Commission; and a new trading structure to handle domestic and international trade.

The exogenous factors which contributed to the crisis which began in late 1973 included a severe drought and sharp increases in import prices for fuel, fertilizer and food. The drought contributed to shortfalls in production of both food crops (especially maize) and export crops. Thus, import requirements for food rose at the same time as import prices for food (and other items), while the capacity to export agricultural products diminished. While these exogenous factors played a significant role, some analysts discount their importance, and emphasize the disruptive effects of villagization on production,

1. Op. cit., page 12, citing in turn "The Balance of Payments Adjustment Process in Developing Countries - The Case of the United Republic of Tanzania," December 1978 by R. Green, D. Iwegaeira and B. van Arkadie, which explains and defends Tanzanian policy performance over the 1970s.

and the undue neglect of the export crop sector in favor of import substitution and industrialization as key factors in the crisis. It is noteworthy that export prices increased almost as much as import prices in 1974 (50 percent versus 60 percent), however, declines in export volumes tended to negate the benefits of those increases.¹

The policy response to the crisis included measures to expand production, restrict demand, and mobilize foreign resources. Producer prices for food crops increased absolutely and relative to export crops, and the shilling was devalued by 11 percent. Public sector investment was redirected away from infrastructure and towards more directly productive sectors, primarily manufactures and processing, but not export crops. Communal farming was de-emphasized and public pronouncements provided some encouragement to small-scale enterprises. Smallholders were exhorted to grow food or face starvation.

To dampen demand, imports were strictly controlled through allocation procedures for foreign exchange; retail prices of gasoline, food and electricity were raised; taxes on consumer items such as beer, cigarettes and textiles were increased; and Sunday driving was banned.

1. IBRD (1977), pp 72-73.

Efforts to mobilize foreign resources were successful. Net transfers, which averaged about \$5 million annually in the 1970-73 period, rose to nearly \$40 million in 1974 and over \$80 million in 1975. Net capital inflows also increased by substantial amounts, despite the decline in disbursements associated with completion of the Tazara railroad.

At the same time there was very little restraint on public recurrent expenditures and growth of the public sector. A 40 percent increase in the minimum wage was implemented in May 1974, the pace of villagization was accelerated, and target dates for universal primary education and universal rural water supply were moved up.

Efforts to generate more revenues were not adequate to counter-balance sharp increases in both recurrent and development expenditures occasioned by the increases in producer prices for food, the wage increase, a determination to sustain the momentum of development efforts, and an inability to achieve intended reductions in expenditures. Accordingly, the overall deficit rose from 600 million shillings in 1972-73 to about 1.1 billion (\$155 million) in 1973-74 and 2.4 billion (\$315 million) in each of the next two fiscal years. Consequently, the money supply expanded at annual rates of about 25 percent between 1973 and 1976.

During the 1975-77 period conditions improved markedly. The weather was favorable and international prices for coffee

and tea increased sharply. Agricultural output, particularly food crops, rebounded strongly so that import requirements eased and the balance of payments deficit was reduced substantially.

To summarize, Tanzania endured the crisis through a combination of belt-tightening (as reflected in higher taxes, reduced imports, and wage restraint in the period after May 1974) and mobilization of foreign resources. At the same time there were efforts to maintain and even expand development efforts, which were financed through inflationary deficits. Less quantifiable though significant costs of Tanzania's policy response during this period included deterioration of capital and infrastructure through inadequate maintenance (especially in transportation and rural water) and a perceptible rise in smuggling, corruption and black market activities, the effect of shortages, excess liquidity, and non-market rationing procedures.

C. The Current Crisis

The current crisis can be attributed both to economic trends and policies over the 1970s and other factors. Chief among the latter group is the October 1978 war with Uganda. Needless to say, data on the volume and composition of expenditures associated with this war are scant, so that it is difficult to appraise its impact. Official estimates put the

budgetary costs of the war at \$500 million, but it is not clear over what time period these costs accrued.¹ An economic memorandum of the Government of Tanzania issued in April 1980 puts the recurrent budgetary costs of the war at \$300 million over the 1978-79 budgetary year (June to June).² The figure of \$500 million amounts to about 22 percent of monetized GDP in 1978, or about two-thirds of fixed capital formation in that year.

Apart from the level of expenditures, the composition of these expenditures is an important factor in judging the impact of the war. Anderson and Weaver argue that these expenditures were particularly import-intensive reflecting costs for weapons, ammunition and fuel. The Tanzanian standby request estimates import costs of the war at about \$100 million for calendar year 1979.³ This would amount to about 9 percent of merchandise imports in 1979, and about 19 percent of merchandise exports.

These sorts of calculations understate the total costs of the war to the extent that the economy suffered substantial

1. 1980 CDSS, page 16.

2. Tangov Economic Memorandum, April 1980, page 5

3. Tanzania Standby Request, August 1980, para. 4. The same para. mentions an increase in the oil bill amounting to \$85 million as a result of oil-price increases. To the extent that some of the oil demand is related to the war, this should also be included in the import costs of the war.

dislocations in mobilizing resources for the war and conducting the war, which particularly disrupted transportation and distribution. Other costs that would not show up in the budget include the excessive wear and tear on capital assets, infrastructure, etc. On the other hand, the costs would be overstated to the extent that resources mobilized for the war were otherwise unemployed or underemployed.

By almost any calculation the Uganda war imposed costs of macroeconomic orders of magnitude on the Tanzanian economy. The capacity of the economy to absorb and adjust to such a shock was aggravated by both external and internal factors. Chief among the external factors were adverse movements in international prices which helped contribute to a decline in value of merchandise exports from about \$550 million in 1977 to \$475 million in 1978. For coffee, which accounted for 41 percent of exports in 1977, unit value declined by 40 percent, and volume increased by about 16 percent, so that coffee exports fell in value by about \$55 million. For the second most important export, cotton (12 percent of 1977 exports), a decline in unit value of 18 percent reinforced a 6 percent fall in volume, leading to a drop of \$11 million in export earnings.¹

1. International Financial Statistics, September 1980.

Overall, Tanzania's export price index as computed by the IBRD fell from 100 to 91, while the index of import prices rose from 100 to 114. Thus, the terms of trade fell by 20 percent. In other words, the volume of Tanzania's exports would have had to rise by 20 percent in 1978 to account for the same volume of imports as in 1977.¹

The effects of war expenditures and adverse movements in international prices on the balance of trade were aggravated by the liberalization of import restrictions in 1978 as part of a World Bank agreement. The total effect on the balance of trade was dramatic.

Table 4

	Trade Data (\$ millions)					
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
Merchandise Exports	363.6	399.2	372.9	490.0	546.7	473.6
Merchandise Imports	<u>437.8</u>	<u>660.4</u>	<u>670.0</u>	<u>555.4</u>	<u>648.4</u>	<u>1006.1</u>
Balance of Trade	-74	-261.2	-297.1	- 65.2	-101.7	-532.5

Source: IFS, September 1980.

At the same time trends and policies over the period of the 1970s put the Tanzanian economy in a weakened position for coping with the crisis. The declining share of exports

1. IBRD Project Paper, September 1980.

in economic activity noted earlier was the result mainly of production declines in the export crop sector, owing to unfavorable price policies (reflecting in part the emphasis on food crops), inadequate investment and institutional instability. While export prices (international) declined from 1977 to 1978, they were still on the whole quite favorable relative to earlier years. However, trends in volume have limited Tanzania's capacity to take advantage of these prices.

The role of adverse trends in oil prices over the 1970s is difficult to gauge. Table 5 presents a comparison of developments in unit values, volumes and total values for petroleum imports and coffee exports over most of the decade. In response to the 1974 oil price increase, Tanzania curtailed import volumes substantially, though it is difficult to say at what cost. In the 1974-75 period, the value of coffee exports fell well below that of petroleum imports, but rose sharply in 1976 and 1977 in response to higher coffee prices. In 1978 and 1979 import volumes for petroleum rose substantially while coffee prices fell from the extraordinarily high levels of 1977.

On average the volume of coffee exports was lower in the 1974-79 period than during 1971-73. Had Tanzania been able to expand exports of coffee, the difficult adjustment to higher oil prices could have been substantially moderated, given the favorable movements in coffee prices after 1975. The most

recent substantial increase in oil prices will impose significant further strains on the economy.

Table 5

TRENDS IN VALUE, VOLUMES AND UNIT VALUES OF PETROLEUM

IMPORTS AND COFFEE EXPORTS ^{a/}

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Coffee Exports										
Value (TSh)	227	383	495	375	485	1283	1857	1303	1216	n.a.
Volume	71	109	120	82	109	116	87	101	90	n.a.
Unit Value	89	97	114	127	123	309	594	357	373	n.a.
Petroleum										
Value (TSh)	215	242	338	1004	590	789	843	1040	1418	n.a.
Volume	102	98	100	81	42	46	46	60	57	n.a.
Price	79	92	128	467	514	550	596	606	811	1233

SOURCE: International Financial Statistics, October 1980.

a/ Volumes and Unit Values are expressed in index form, with 1971-73 = 100. Values are in millions of Tanzanian Shillings.

While prices of Tanzania's other export crops did not increase as much as coffee prices, movements in prices were nonetheless quite favorable. Using 1971-73 as a base (100), the unit value indexes for cotton and sisal each rose to about 1977-79 period. Overall Tanzania's terms of trade were more favorable in 1977 (127) and in 1978 (104) than in 1970 (100). However, poor export volume performance tended to negate the beneficial effects of higher export prices. ¹

1. World Development Reports, 1979, 1980. International Financial Statistics, May 1978 and October 1980.

Thirdly, it became apparent that the relatively high levels of investment maintained over the 1970s have yielded very little in the way of increased output, at the same time that public administration and services have expanded rapidly. The March 1980 Economic Report of the Tanzanian Government places major emphasis on "Problems arising out of our past planning and execution of those plans," as a key factor underlying the current crisis. They note that available resources have been overcommitted, so that many projects have not been completed, and completed projects have not been maintained.¹

Finally, the breakup of the East African Community and the closure of the border with Kenya in 1976/77 had substantial disruptive effects, especially on transportation, communication, and distribution. The Minister of Planning reported that between 1976/77 and 1979/80, "over 2000 million shillings (\$245 million) had to be spent on projects arising from the breakup of the East African Community."²

D. Evolution of the Current Crisis

Under an IMF program for calendar year 1979, the Tanzanian shilling was devalued by 10 percent, and producer prices for export crops were raised significantly. However, the

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1. Tangov Economic Memorandum, March 1980, pp 1,2. It is noteworthy that this discussion is deleted in the April revised Memorandum
 2. Tanzania and the IMF", by Kighoma Malima. Tanzania Daily News, March 26, 1980.

Ugandan war made it difficult for the government to control public expenditures and growth in the money supply.¹ Recurrent expenditures for the 1978-79 fiscal year were 1.5 billion shillings (about \$190 million) above the budgeted level of TSh 6.5 billion, and about TSh 2.7 billion (\$340 million) above the level of the previous fiscal year. (See Table 6). Combined with a shortfall in domestic revenues, this increase in expenditures necessitated domestic borrowing of 3.4 billion shillings, leading to a substantial increase in the money supply, on the order of 40 percent.²

During 1979 there was a moderate improvement in the value of exports, and a small decline in the value of imports resulting primarily from increased restrictiveness in issuing import licenses. The decrease in import values masked a much sharper decline in volumes. Moreover, given that import requirements for the Ugandan war were probably extremely inelastic, and a sizeable portion of remaining imports consisted of capital goods associated with foreign assistance, it's reasonable to suppose that most of the reduction came from consumption and intermediate input requirements for economic activity.

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1. The April 1980 Economic Memorandum also mentions the need to strengthen services (water, health, road maintenance, education) that had been neglected as another source of excessive expenditures.
 2. The figure reported by the Tangov Economic Memorandum, April 1980, page 8. Table 7 presents data accumulated by the IMF.

TABLE 6

Central Government Finances ^{a/}

(TShillings, Millions)

	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>		<u>1978/79</u>		<u>1979/80</u>		<u>1980/81</u>
	<u>Outcome</u>	<u>Outcome</u>	<u>Outcome</u>	<u>Budget</u>	<u>Outcome</u>	<u>Budget</u>	<u>Outcome</u>	<u>Budget</u>	<u>Outcome</u>	<u>Budget</u>
A. Total Revenues and Grants	4,317	4,466	5,780	6,897	6,839	9,139	8,169	10,584	9,551	11,871
a. Tax Revenues	3,272	3,399	4,770	4,839	5,461	5,787	5,932	6,807	6,850	8,126
b. Non-Tax Revenues	467	488	445	585	471	1,335	699	681	718	622
1. Revenues (Total)	3,739	3,887	5,211	5,424	5,932	7,122	6,691	7,488	7,568	8,748
2. Grants	578	579	765	1,473	907	2,009	1,478	3,096	1,983	3,123
B. Total Expenditure	5,915	6,445	6,863	9,102	8,839	12,081	12,828	14,477	14,401	16,303
3. Recurrent	3,931	3,526	4,480	5,180	5,345	6,505	8,083	7,272	9,282	9,063
4. Development	2,043	2,102	2,580	3,496	3,351	5,175	4,544	6,853	4,945	6,765
5. Other and Adjust.	-59	817	-197	426	143	401	201	352	174	475
C. Deficit (B - A)	1,598	1,979	883	2,205	2,000	2,950	4,659	3,893	4,850	4,432
6. Foreign Borrowing (net)	620	528	745	1,097	752	1,911	1,276	1,850	1,337	1,929
D. Domestic Borrowing (C - 6)	978	1,451	138	1,108	1,248	939	3,383	2,043	3,513	2,503
Recurrent Deficit* (3 - 1)	192	-361	-735	-244	-587	-617	1,392	-216	1,714	-315
Development Deficit* (4 - 2 - 6)	845	995	1,070	926	1,692	1,255	1,790	1,907	1,625	1,713

^{a/} SOURCE: IMF (1978, 1979, 1980)^{b/} Minus denotes a surplus

TABLE 7

Money Supply^{1/}
(Millions of Shillings and Percent)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u> ^{2/}	<u>1981</u> ^{2/}
Money Supply									
Mid-Year Level				4673	5347	5977	7121	9230	11170
Absolute Change					674	630	1144	2109	1940
Percentage Change					14.4	11.8	19.1	29.6	21.0
End-Year Level	2634	3304	4181	5205	6201	6180	9020	10540	n.a.
Absolute Change	-	670	877	1024	996	-21	2840	1520	
Percentage Change		25.4	26.5	24.5	19.1	0	46.0	16.9	
Money and Quasi-Money									
Mid-Year Level				6028	7160	8152	10051	12900	15555
Absolute Change					1132	992	1899	2849	2655
Percentage Change					18.8	13.9	23.3	28.3	20.6
End-Year Level	3495	4291	5430	6803	8143	8724	12363	14680	n.a.
Absolute Change	-	796	1139	1373	1340	581	3639	2317	
Percentage Change		22.8	26.5	25.2	19.7	7.1	41.7	18.7	

^{1/} Source: IMF; 1978, 1979, 1980. Mid-year refers to June 30 of the year in question.

^{2/} Changes are from the same point of the preceding year projections.

There was little improvement in central government finances during the 1979-80 budget year. Recurrent expenditure was budgeted to decline by 10 percent in nominal terms, as higher outlays on debt servicing, the universal primary education program, transfers to regional councils and the fertilizer subsidy were to be more than offset by a substantial cutback in defense expenditure. In fact, defense outlays for the 1979-80 period were nearly as high as in 1978-79 (Tsh 2.4 versus Tsh 2.5 billion, or around \$290-300 million) leading to a TSh 2 billion excess in recurrent expenditures over the amount budgeted. As both development expenditures and foreign grants and loans fell substantially short of budgeted amounts, and domestic revenues were as expected, the result was a second large deficit that called for high levels of domestic borrowing and significant expansion of the money supply. ¹

The effects of excess aggregate demand and rapid monetary growth on prices have not been reflected in official price indexes, which comprise controlled prices that currently understate the degree of inflation. The National Consumer Price Index increased by 12.2 percent in 1978, and by 12.9 percent

1. IMF (1980).

in 1979. However the Tanzanian authorities acknowledge that "Given the distortions of retail trade and the actual availability of commodities in short supply at prices higher than controlled prices, the official price index definitely understates the degree of inflation and erosion of the real purchasing power in the hands of the community".¹

E. Policy Response - The Tanzanian Agreement with the IMF

Tanzania recently concluded a standby arrangement with the IMF for the period up to July 1982. This agreement would provide Tanzania with SDR 179.6 million (about \$235 million) including tranches of SDR 25 (\$32.5) million per quarter over the fifteen month period beginning August 31 of this year. The arrangement is based on the Government's two-year program of adjustment covering the fiscal years 1980-81 and 1981-82. (See Annex for the TanGov Program contained in its request for a standby arrangement.)

The basic objectives of the program are:

- (a) 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 exports;

1. TanGov Economic Memorandum April, 1980 p. 20.

(b) to reduce excess liquidity in the economy and ease pressure on prices; and

(c) to curb the external payments deficit while gradually liquidating import payment arrears.¹

The program is predicated on several critical assumptions including: sharp declines in imports and other expenditures associated with the war; balance of payments support ("exceptional financing") from sources other than the IMF amounting to \$240 million over the calendar 1980-81 period; and an assumed expansion of exports of 16.5 percent in 1980, depending in part on higher world prices for coffee and sisal.

Of the balance of payments support, nearly \$100 million is required for 1980. According to the IMF, most of this has been secured from bilateral sources, particularly Algeria and Iraq.² The assumed support for 1981, about \$140 million, is expected to derive in part from an IBRD structural adjustment loan. This assistance would be in addition to the normal flows of development assistance, planned at almost \$200 million per year in grants for 1980 and 1981, and similar amounts in medium- and long-term loans for each year.

Apart from efforts to mobilize loans and grants from abroad, the key elements of the program include improved budgetary and

1. TanGov Program, Para 5.

2. IMF (1980), p. 15. The effects of the Iran/Iraq conflict are not clear.

monetary performance in controlling aggregate demand; measures to stimulate output and generate foreign exchange in directly productive sectors; a phased liquidation of import arrears over a three to four year period; and a commitment to "consult and reach understandings with the Fund on exchange rate policy prior to June 30, 1981".¹

The 1980-81 budget (Table 6) calls for a level of recurrent expenditure slightly below the realized 1979-80 level of TSh 9.3 billion (\$1.1 billion), based on an expected decline in war-related expenditures from TSh 2.4 to 1.3 billion, partially offset by an extraordinary expenditure of TSh 500 million to finance past and current NMC (National Milling Corporation) operations and increases in other recurrent expenditures. Tax revenues are expected to increase from TSh 6.9 billion in 1979-80 to 8.1 billion (\$1 billion) the result of higher taxes on beer, tobacco products, gasoline and soft drinks.² Combined with a small decline in non-tax revenue, total domestic revenues are expected to rise from TSh 7.6 to 8.7 billion, or within about TSh 300 million of recurrent expenditures. In contrast, recurrent expenditures exceeded domestic revenues by TSh 1.7 billion and TSh 1.4 billion during the past two fiscal years. (About \$205 and \$170 million respectively.)

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1. TanGov Program, para 16.
 2. It is noteworthy that the price of regular and premium gasoline is equivalent to US \$3.20 and \$3.90 per gallon respectively.

The remainder of the budget mainly comprises development expenditures, foreign grants and loans, and domestic borrowing. In recent years both development expenditures and foreign revenues have tended to fall well short of estimates, as development activities could not be implemented as quickly as planned. The 1980-81 budget calls for significant increases both in development expenditures (from TSh 4.9 to 6.8 billion) and foreign grants and loans (from TSh 3.3 to 5.1 billion) compared with realized levels in 1979-80. The difference between these expenditures and receipts is expected to be TSh 1.7 billion, or about the level actually experienced in each of the past three fiscal years.

When other, relatively minor items are taken into account, the result is a domestic borrowing requirement of about TSh 2.5 billion (\$305 million), about TSh 1 billion less than for each of the past two years. The anticipated effect on the money supply amounts to a 21 percent increase (June 1981 over June 1980), compared with a 30 percent increase for the analogous 1979-80 period, and a 20 percent increase for 1978-79. Half of this increase is projected to have occurred between June and September of 1980, reflecting seasonal factors. For overall domestic credit, the program anticipates growth of 20 percent from July 1980 through June 1981, compared with expansion by 26.7 percent in 1979-80, and 61.4 percent over the

previous fiscal year. The rates of increase in both the money supply and overall domestic credit for 1980-81 -- 21 and 20 percent respectively -- are about the same as the projected rate of increase in nominal GDP of 19.3 percent for 1980.

The second major element of the program comprises measures to increase output and supply, with particular attention to exports.¹ These measures include the export price increases mentioned earlier, as well as more recent price increases for cotton, cashew nuts, and tobacco, and a lowered export tax for coffee. While maize prices were increased by 20 percent for the 1981-82 season, the relative prices of export crops to food crops are nonetheless significantly higher than in earlier years. Apart from price policies, the government's investment strategy:

"will focus on achieving a better utilization of existing capacity and completing ongoing projects, particularly those geared to the expansion of the export sector."

Within agriculture, there will be increased investment in sisal rehabilitation, sugar production, wheat and oilseed development, and production of farm implements and inputs. The foreign exchange allocation system is to place greater priority on imports of raw materials, spares and intermediate goods for crop authorities, processing units and estates as well as for the principal manufacturing enterprises.

1. TanGov Program, para 7.

The government has identified improved functioning of parastatals as a key element both in restraining excessive expansion of credit arising from recurrent unplanned deficits and increasing output and supply. According to the government, action is now underway to deal comprehensively with the especially critical problems of the National Milling Corporation, so as to improve its efficiency and effectiveness.

The third major element of the program calls for a phased liquidation of import arrears, which amounted to about \$150 million at the end of 1979, and rose to nearly \$240 million by the end of July 1980.¹ These obligations are to be liquidated over a three to four year period. The schedule for reduction over the next nine months is as follows:

Phased Reduction of Import Arrears²

<u>End of Month</u>	<u>Volume of Arrears (millions)</u>
October 1980	SDR 183 - \$238
December 1980	SDR 173 - \$225
March 1981	SDR 163 - \$212
June 1981	SDR 153 - \$199

Finally, the fourth element of the program is a statement of intent to consult and reach agreement with the Fund on exchange rate policy, by June 30, 1981.

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1. TanGov Program, para 4.
 2. TanGov Program, para 15; SDRs converted to US dollars at \$1.3 per SDR.

F. Evaluation

Two distinct but related problems account for the current crisis in Tanzania, and must be considered in judging the efficacy of the TanGov stabilization program and the outlook over the medium term. First, aggregate demand has far exceeded the available supply of goods and services, leading to large public deficits, sharp expansion in money and credit, a significant buildup of inflationary pressures, disequilibrium in the balance of payments at current exchange rates, and accumulation of import arrears. The Ugandan war, combined with the failure of the government to achieve adequate reductions in demand (expenditures) in non-war activities, largely accounts for this problem.

The second, related problem is that productive resources have not been efficiently allocated in Tanzania, in the sense that aggregate supply has fallen well below potential levels, and increases in output have been meager compared with increases in capital (investment) and other productive resources. It is difficult to measure the extent of this problem. Furthermore it is important to keep in mind that one of the hallmarks of under-development is sub-optimal allocation of resources. In Tanzania this problem is exacerbated by the emphasis on social control of resource allocation in the presence of

severe constraints in terms of data availability, administrative and institutional capacity, and skilled manpower. That is, in principle, a central planning system can arrive at an efficient allocation of resources; however, in practice it is extremely difficult, all the more so in a least-developed country.¹ This problem is only partially mitigated by the relatively high degree of rationality, coherence and adaptability in Tanzania policies. That is, policies are explicitly (if incorrectly) linked to stated objectives (villagization, the focus on food production following the drought, the Basic Industrial Strategy), and there is a demonstrated capacity to adapt when the outcomes of policies are not what was anticipated.

These two problems -- excessive aggregate demand and inefficient resource allocation -- are linked in several important ways. First, it is obvious that a given level of aggregate demand will be more or less excessive depending on the level of supply. If resources were allocated more efficiently, the level of supply would be higher. Secondly, the Tanzanian response to excessive levels of demand -- and to the associated effects including repressed inflation, unavailability

1. Efficiency in this context can be construed to include consideration of the distribution of income.

of goods at official prices, black markets, etc. -- has been an increase in social control of resource allocation, through increased public control of wholesale and retail trade, expansion of goods subject to allocation of import licenses, etc. The current crisis has generated threats of elimination of private enterprise in key economic activities such as grain milling and transportation. This response undoubtedly exacerbates the problem of inefficient resource allocation, by placing increased demands on institutions with a weak planning and administrative capacity, operating under conditions of limited information and scarce trained manpower. For instance, the task of allocating import licenses on the basis of the capacity of the importing activity to save or generate foreign exchange is extremely demanding in terms of data and analysis.

The budgetary and monetary elements of the program go directly to the problem of reducing aggregate demand. However, the projected decline in the domestic borrowing requirement of the central government from about TSh 3.5 to 2.5 billion reflects essentially the expected decline of TSh 1.1 billion in war-related expenditures, and provides for growth in the money supply of 21 percent, compared with 30 percent in 1979-1980 and 20 percent in 1978-79. Such an adjustment would appear to be minimal, both in terms of what's needed to dampen

inflationary pressures, and in terms of the burden borne by Tanzania. Moreover, the recent military activity in Northern Uganda may indicate that the working assumption concerning war-related expenditures is valid. At the same time the government has pronounced itself ready to take further measures to achieve its fiscal objectives if the need should arise.¹

Accordingly, there is a heavy burden on supply-side policies if the program is to succeed. It is difficult to appraise the effectiveness of the increases in producer prices of export crops. Recent price increases have been substantial in absolute terms and relative to increases for food crops. However, compared to recorded inflation rates (not to mention actual inflation rates as reflected in black market prices), the increases are not so great. The results of the emphasis on food production in the wake of the 1974 drought were generally very positive, indicating that the current thrust towards increased output of export crops may well succeed.

The success of efforts to direct investment towards better utilization of existing capacity is highly uncertain, depending particularly on which sectors and activities are singled out. Some activities may be of doubtful economic viability even if carried out at full capacity. In a system with controlled prices and publicly-administered firms, these activities are more difficult to identify than in a market

1. TanGov Program, para 10.

economy, where unviable activities eventually fail. A key indicator of eventual success or failure of the program should be provided by the specific economic activities supported (or not supported) by the government's investment policies.

Finally, the success of efforts to improve parastatal efficiency depends on the scope for identifying readily implementable reforms. There are probably a number of obvious measures that would bring about some improvements, particularly in the more flagrantly mismanaged parastatals. However, the scope for achieving good levels of performance (as opposed to improved levels) will continue to be severely constrained for some time to come by available supplies of skilled manpower and by inadequate or misdirected incentives.

The third noteworthy component of the program calls for only very gradual reduction in the volume of import arrears over the next nine months, from about \$240 to about \$200 million. This rather lenient schedule is justified by the pressing need to use foreign exchange to raise the level of output and capacity utilization rather than immediately taking care of arrears. In the absence of adverse external developments, this schedule of reduction appears very reasonable, and does not impose undue burdens.

The fourth element of the program calls for agreement on exchange rate policy by the end of June 1981. The debate on

this issue sheds a great deal of light on the problem of efficient resource allocation in Tanzania and the imbalance between Tanzania's aspirations and the resources at its disposal.

The case for devaluation is that foreign exchange is exceedingly scarce in Tanzania, so that the true value of exports and the true costs of imports are much higher (relative to the value of non-traded goods and services) than reflected in prices measured at official exchange rates. Devaluation would increase the return to activities that produce for export, particularly those which are heavily based on domestic rather than foreign (imported) inputs (say export crops and processing industries); it would also increase the return to activities that substitute for imports, especially those activities that use a relatively large portion of domestic inputs (wheat production). It would reduce the profitability of activities that are import-intensive but which do not generate or save foreign exchange (for example, some types of transportation and energy services). Overall, the effects of devaluation would be to shift the pattern of production and demand in such a way as to increase the supply of exports (measured at international prices) and reduce demand for imports.

The Tanzanian case against devaluation is that:¹

1. Tanzania Daily News, March 26, 1980, "Tanzania and the IMF" by Kighome Malima, Minister of Planning.

- 1) Exports would not respond strongly to price increases at least in the short and medium term; thus devaluation would not help when it matters.
- 2) Imports have already been limited (by licensing) to capital and intermediate goods (80 percent) and highly essential consumer goods such as medicine and educational materials, so that there is no further scope for cutting back. According to the Planning Minister, "The major part, if not all, of Tanzania's import bill consists of only essential commodities, which cannot be reduced further without serious socio-economic consequences."
- 3) More expensive imports would reduce the competitiveness of Tanzania's few non-agricultural exports, because such exports depend on imported raw materials.
- 4) Relinquishing the exchange control system would result in importation of commodities which benefit only a tiny minority, contrary to the socialist principle of effective control by the state of scarce foreign exchange resources so that they can be used for the benefit of the majority.

These arguments are not compelling; indeed, they indicate an orientation towards the current crisis that bodes ill for prospects of successfully overcoming the crisis.

The argument about the short-term unresponsiveness of exports is beside the point to the extent that devaluation is not meant to be a short-term, but rather a long-term solution. Thus to argue that devaluation will not quickly solve the crisis is to miss the point. The argument for devaluation is that as recovery is achieved (through some combination of belt-tightening and resource transfers) higher prices for exports will encourage a more efficient allocation of productive resources, and a more sustainable pattern of growth. The argument about the medium-term unresponsiveness of exports is hard to accept. While it is true that for export crops new plants take a considerable time to mature, there is considerable scope for expanding production through greater care and effort in maximizing the output from existing plants and in increasing the portion of output that actually gets exported.¹ Indeed, the recent increase in prices for export crops presumes some responsiveness of production.

Finally, it is important to note that if Tanzania cannot increase exports over the medium term, then it must either cut back demand for imports, or else rely increasingly on foreign assistance to cover the trade gap.

1. A sizeable portion of cashewnut growth actually goes unpicked, because at low prices it's not worth the effort.

Thus, the second argument, concerning the "essential" characteristics of Tanzania's current imports, and the limited scope for reducing imports, reflects an incapacity or unwillingness to acknowledge budget constraints and scarcity. At best this is an argument for increased foreign assistance; it is not an argument against devaluation. The basic fact is that Tanzania cannot pay for all of the imports it currently considers essential, whatever the exchange rate, unless it receives increased resource transfers from abroad (or else achieves sudden sharp increases in the value of domestic production for exports). For a given level of resource transfers (in foreign currency) and domestic production for export, devaluation will not diminish the volume of imports Tanzania can pay for; instead it will point out the true costs of "essential" imports.¹

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1. It should be kept in mind that Tanzania's claim that it has cut back non-essential consumer goods appears to be a valid one. At worst, there is an argument that Tanzania's overvalued exchange rate subsidizes consumption of foods preferred by urban groups. There is not a strong argument that Tanzania is hanging on to an overvalued exchange rate to finance unsustainable levels of consumption. Rather the problem is one of trying to sustain a costly and inefficient system of production. This is arguably a lesser evil.

The third argument against devaluation raises questions about what's "essential." The argument that more expensive imports would reduce the competitiveness of the few non-agricultural exports raises serious questions about the efficiency and viability of these activities, particularly since devaluation would raise the price (in domestic terms) of the output that's exported. Maintaining an overvalued exchange rate will not make an inherently inefficient export activity efficient. If the case is one of an "infant industry," then the better policy is a direct subsidy to cover the maturation phase rather than overvalued exchange rate.¹

The final argument appears to identify a fundamental conflict between Tanzania's socio/political principles and conventional economic principles. However, in reality there is no such conflict. Devaluation is in no way incompatible with an exchange control system; the effect of devaluation would be to reduce the number of petitions for import licenses, particularly from producers who found that at realistic exchange rates, the value of their output on the domestic market was not sufficient to cover costs.² Among those who

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1. An overvalued exchange rate will benefit an exporting industry only if the costs of imported inputs are greater than the value of exported output, in which case the activity is a drain on foreign exchange at any exchange rate.
 2. This would directly reduce the administrative burden of processing applications.

continued to apply for licenses, there could still be scope for denying these petitions; further, imports of specific luxury consumer goods could continue to be banned. Finally, for activities that are economically unviable (costs exceeding the value of output) but socially desirable, direct subsidies could be provided, to the extent that Tanzania could actually afford such subsidies.¹

To summarize, devaluation would have two important positive effects. First, it would contribute to a more efficient allocation of productive resources and increased output, by encouraging production in more viable activities and discouraging production in less viable activities. Thus, it would increase the value of domestic resources that can be used to facilitate achievement of Tanzania's development goals and objectives. Secondly, where activities of dubious economic efficiency were considered to be worthy on social/political grounds, a more realistic price of foreign exchange would demonstrate the true costs of the underlying social/political priorities. The economic case against devaluation does not stand up. The argument that devaluation is contrary to Tanzania's basic approach to development is also of doubtful validity. The conflict here is not between Tanzania's social/political

1. These arguments are also applicable to the question of interest rates and credit allocations.

principles and conventional economic thinking, but rather between Tanzania's development goals and the resources currently available to achieve those goals.

Are there measures other than devaluation which would achieve the same effects? Since devaluation essentially raises the prices of tradeable goods relative to non-tradeables, the effects of a devaluation could to some extent be achieved by raising the price of each tradeable good. However, the Tanzanian arguments against devaluation suggest an unwillingness to raise prices of imported goods.¹ Can the system of import licensing be implemented in such a way as to allocate imports to activities that would be most efficient at realistic exchange rates? In principle, yes, however those activities that received licenses would tend not to produce at the optimal level under existing prices and exchange rates. In practice it would be extremely difficult to correctly identify the most efficient activities. Further, the costs of such a system -- in terms of preparing and processing applications, and deciding on foreign exchange allocations -- are quite significant. Finally, the incentives for bribery and corruption may be such that the licensing system subverts rather than promotes socialist principles.

1. Petroleum being a notable exception, in that the domestic price at current exchange rates reflects costs at world prices due to a significant tax.

G. Conclusion

The program supported by IMF resources is an extremely lenient one in the sense that the immediate adjustment burden imposed on Tanzania is relatively light. Over the short term, the main costs of the program will be covered by foreign transfers rather than further belt-tightening.

There are a number of measures -- such as devaluation and adjustments of other prices to reflect real costs -- that would increase efficiency (and disposable resources) without necessarily compromising Tanzania's fundamental development objectives. Tanzania's public stance towards these measures is somewhat discouraging because it obscures the real issues, and because it reflects some combination of incapacity and unwillingness to acknowledge the wide gap between its aspirations and its resources, and to adjust accordingly. (This public stance makes sense to the extent that it is relatively effective in attracting foreign resources at highly concessional rates.) Tanzania's non-public stance may be more pragmatic. There is evidence of Tanzania's capacity to recognize misdirection and change course. Additional donor support such as contemplated by the IBRD in the form of a structural adjustment loan allows a little more time for Tanzania to make some corrective measures, beginning with devaluation. However, at the moment the program in its present form is not likely to be adequate to achieve its objectives, even under the assumptions of a decline in war expenditures and substantial amounts of extraordinary foreign assistance.

Mr. J. de Larosière
Managing Director
International Monetary Fund
Washington, D.C. 20431

August 18, 1980

Dear Mr. de Larosière:

1. During the past decade Tanzania has made substantial progress toward the long-term economic and social goals set forth in the Arusha Declaration of 1967. As a result of a sustained development effort and extensive institutional changes, notably the creation of ujamaa and development villages and the expansion of public sector control over most other sectors of the economy, we were able to achieve a satisfactory rate of economic growth, a more equitable distribution of income, as well as increased self-reliance and social justice. However, since 1974 Tanzania has faced an increasingly difficult economic and financial situation. In that year the economy suffered from both a large shortfall in food production due to drought and the initial shock of the sharp increase in world oil prices. Subsequently, a series of other events beyond our control placed further strains on the economy, especially on the balance of payments. The sudden collapse of the East African Community created major dislocations, necessitating considerable unplanned reallocation of personnel as well as domestic and foreign exchange resources to shore up and rebuild the vital transportation and communications sector. More recently, the invasion of our territory and our consequent conflict with the former Ugandan regime has had a high cost in domestic resources, foreign exchange, and disruption of production. At the same time, like all non-oil developing countries, Tanzania has been affected very adversely by the further steep rise in oil prices as well as by the economic slowdown and rapid inflation in the major industrial countries.

2. The adverse effects of these developments have been exacerbated by structural and other weaknesses in the economy. Following the 1974 drought, significant progress was made in raising food production throughout the country. However, no headway was made in reversing the downward trend in output of most export crops. In fact, Tanzania's export performance continued to deteriorate, and the ratio of exports to nominal gross domestic product (GDP) fell from 24 per cent in 1975 to 14 per cent in 1978. With the increasing shortage of foreign exchange, restrictions on payments for imports as well as for certain services and transfers were tightened. Only in 1978, after the coffee boom, did we find it possible to relax our foreign exchange allocation system. In general, therefore, imports declined in relation to GDP, and the resulting shortages of raw materials and intermediate goods led to substantial underutilization of industrial capacity and considerable disrepair of infrastructure facilities. Thus, while the external payments situation became increasingly difficult, the growth of most economic sectors slowed and pressures on prices intensified. Concentration of our national effort on defeating the

forces of aggression necessarily meant depriving certain sectors of needed services and attention. This situation compounded existing weaknesses, both physical and financial, within some parastatal enterprises; and these in turn imposed further strains on domestic credit and prices, already under pressure due to war-related expenditure.

3. In an effort to alleviate the internal and external imbalances, the Government adopted a financial programme for calendar 1979 that was supported by a first credit tranche purchase from the International Monetary Fund as well as a loan from the Trust Fund in respect of the second period. Under the programme, which aimed principally at limiting the overall balance of payments deficit to about SDR 20 million, the Tanzania shilling was depreciated by 10 per cent in terms of the SDR in January 1979, and producer prices for certain export crops were raised significantly. However, despite the Government's intentions expressed in the letter to you of March 10, 1979, it proved difficult to implement all the necessary supporting policies and measures that were designed to contain the growth of aggregate demand. In particular, owing largely to a continued high level of defence outlays, we were unable to curb government recurrent expenditure. According to provisional figures, in fiscal 1979/80 (July-June) recurrent expenditure reached T. shs. 9.3 billion, exceeding the budgetary estimate by 28 per cent, but representing only a 15 per cent rise over the 1978/79 level. Development outlays were of the order of T. shs. 4.9 billion, or below the target. Total expenditure and net lending (including transactions of special funds and adjustments to a cash basis) was thus T. shs. 14.4 billion in 1979/80, compared with an initial estimate of T. shs. 14.5 billion and T. shs. 12.8 billion in 1978/79. As regards revenue, overall performance was on target. Although a number of tax measures were introduced in July 1979 and additional measures were taken in January 1980, particularly increases in the rates of the sales tax on beer, spirits, sugar, and textiles as well as higher import duties, revenue from these sources fell short of the amount budgeted because of the slowdown in tax-yielding industrial production and the decline in dutiable imports; but the shortfall was compensated by a substantial increase in revenue from income and personal taxes. However, as grants were below the budgeted amount, revenue and grants together are estimated to have amounted to T. shs. 9.6 billion in 1979/80, as against a target of T. shs. 10.6 billion and collections of T. shs. 8.2 billion in 1978/79. Consequently, the budgetary deficit was in the neighborhood of T. shs. 4.8 billion in 1979/80, whereas we had planned to reduce it to T. shs. 3.9 billion. In relation to GDP, the budgetary deficit declined from 13 per cent in 1978/79 to 11.5 per cent in 1979/80. Nevertheless, given the relatively limited extent of foreign financing of the deficit, net government borrowing from the banking system amounted to about T. shs. 3.9 billion in 1979/80, representing an increase of 48 per cent over the outstanding amount of such borrowing at the end of June 1979. Over the year as a whole, nongovernment credit is estimated to have shown a rise of 4 per cent; but this was distributed very unevenly, as the National Milling Corporation (NMC) experienced financial difficulties, while import constraints artificially reduced the working

capital requirements of some other parastatals. In 1979/80 the increase in total domestic credit amounted to some 27 per cent and the rate of growth of money supply, broadly defined, is estimated to have reached 28 per cent, substantially exceeding the rise in GDP.

4. In 1979 export earnings were slightly higher than envisaged in March; but imports were even more so, despite the tightening of controls. Hence, the current account deficit is estimated to have amounted to SDR 270 million, in contrast to the programme target of SDR 133 million. If oil prices had remained unchanged and if war had not been imposed on us, some SDR 140-145 million (SDR 65 million on account of oil-price increases and SDR 75-80 million on war-related imports) would have been saved. That would have allowed us to meet the programme target, consistent with the levels of other imports envisaged in March. Other imports were held to levels both below those projected in the programme and below the minimum needed for satisfactory operation of the economy. However, although net capital inflows were considerably larger than had been foreseen, in 1979 the balance of payments registered an overall deficit of SDR 46 million, or SDR 26 million more than programmed, entailing an accumulation of import payments arrears of SDR 75 million. At the end of December 1979 such arrears amounted to SDR 118 million, and by the end of July 1980 they had increased to SDR 183 million.

5. In view of this situation, and a shortfall in domestic food production, vigorous and comprehensive efforts are required to improve Tanzania's economic and financial situation. Accordingly, the Government has decided to adopt a two-year programme of adjustment, covering the fiscal years 1980/81 and 1981/82. The basic objectives of the programme are: (a) 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 exports; (b) to reduce excess liquidity in the economy and ease pressures on prices; and (c) to curb the external payments deficit, while gradually liquidating import payments arrears. Specifically, the overall balance of payments deficit is programmed to be contained to SDR 59 million in 1980 and reduced to SDR 33 million in 1981; this assumes that Tanzania is able to secure balance of payments support of SDR 186 million over these two years from sources other than the Fund and that bilateral and multilateral development assistance will continue to be received at the same level in real terms as in 1979/80. To raise imports to a satisfactory level, Tanzania will make every effort to obtain additional external assistance.

6. In support of this programme, Tanzania hereby requests from the Fund a stand-by arrangement for the period up to June 30, 1982 in an amount equivalent to SDR 179.6 million, including resources of SDR 137.5 million under the supplementary financing facility. Tanzania is hopeful that the Fund will look favorably on an increase of the amount available under this arrangement when its new quota takes effect. The Government intends to

review semiannually with the Fund the economic and financial situation and the progress made in implementing the programme; the first such review will be prior to December 31, 1980.

7. During the programme period the Government's production and investment strategy will focus on achieving a better utilization of existing capacity and completing ongoing projects, particularly those geared to the expansion of the export sector. To these ends, increased emphasis is being placed on quick-yielding agricultural and industrial investment. With regard to agriculture, investment allocations are being raised to promote sisal rehabilitation, sugar output, wheat and oilseed development, and production of farm implements and inputs. Extension services are also being improved. Moreover, the foreign exchange allocation system is placing greater priority on imports of raw materials, spare parts, and intermediate goods for crop authorities, processing units, and estates as well as the principal manufacturing enterprises. At the same time, steps are being taken to alleviate bottlenecks in basic infrastructure, with a view to securing intersectoral consistency in investment and output. To reinforce these policies, producer price incentives have been strengthened and, in this context, relative prices of export crops have been increased as part of a programme to reverse the downward trend in output. For the current 1980/81 season, the Government has raised producer prices of the principal export crops by 7-19 per cent, while maintaining the producer price of maize unchanged. In the case of cashewnuts, the increase has been as much as 67 per cent. Further selective increases in producer prices were announced in July 1980 for the 1981/82 season. In view of the shortfall in food production, notably of maize, because of poor weather conditions, the growth of real GDP is projected to slow to some 2 per cent in 1980; but as the policies and measures described above begin to take effect, economic growth is expected to rebound to 4 per cent in 1981. The increase in nominal GDP is projected to be of the order of 19 per cent in 1980 and 15 per cent in 1981, reflecting a gradual easing of price increases; however, this reduction will depend considerably on the degree of imported inflation.

8. While taking steps to expand domestic production for export, we are giving urgent attention to export promotion. To this effect, the system of exemptions from customs duties and sales taxes on raw materials for manufacturing exports is being simplified; and an overseas market information and sales capability for small exporters is being developed. The creation of an export promotion fund is also under active consideration.

9. These supply-oriented measures will be combined with appropriate demand management and incomes policies. To gradually restore internal and external financial equilibrium, it is essential to improve government finances as well as the financial position of parastatals. Thus, for fiscal 1980/81 the Government has resolved to maintain a cautious budgetary stance, involving both expenditure restraint and measures to mobilise

additional revenue. The 1980/81 budget provides for total expenditure and net lending of T. shs. 16.3 billion, representing a nominal increase of only 13 per cent over the expected outturn in 1979/80. To limit government spending to this level, we intend to substantially reduce war-related expenditure, contain the growth of other recurrent outlays, and postpone the implementation of major new development projects requiring full financing from domestic resources. The only major increase in budgetary appropriations is due to a provision of T. shs. 500 million to liquidate some of the past losses of the NMC and provide for adequate funding of its operations while longer term solutions to the corporation's difficult problems are being worked out. Regarding wages and salaries, a provision of T. shs. 81 million has been made to cover the cost of the minimum wage increases described below. Nonetheless, with the substantial reduction of war-related expenditure, total recurrent outlays will be kept below the 1979/80 level.

10. Assuming that the steps now being taken enable mobilization of adequate foreign exchange resources, thus leading to the necessary improvement in the utilization of industrial capacity, and considering the full effects of the January 1980 tax increases, government revenue would have been boosted to T. shs. 8.2 billion in 1980/81. However, we believe that this revenue level would have been inadequate to bring about the desired reduction of the budgetary imbalance. For this reason, in the context of the 1980/81 budget, we have also provided for additional revenue measures, consisting mainly of increases in the rates of the sales tax on beer, soft drinks, locally blended spirits, tobacco products, and gasoline, which together are estimated to yield T. shs. 490 million. Furthermore, steps have been taken to reform and simplify the tax structure, particularly the import tariff and the sales tax, with a view to improving tax administration. These actions will help raise total revenue and grants in 1980/81 to T. shs. 11.9 billion, or 24 per cent more than the outturn in 1979/80. As a result, the budgetary deficit will be reduced to T. shs. 4.4 billion in 1980/81, equivalent to 9 per cent of the projected GDP, compared with 11.5 per cent of GDP in the previous year. Taking account of net foreign borrowing and domestic nonbank financing, which are projected to amount to T. shs. 2.3 billion, government recourse to domestic bank credit will be limited to T. shs. 2.1 billion in the year ending June 1981, or some 31 per cent less than in 1979/80. If the need should arise, additional measures will be taken to ensure the attainment of these fiscal objectives. In 1981/82 we intend to continue this adjustment effort so as to further reduce both the budgetary imbalance and government borrowing from the banking system in relation to GDP.

11. As regards the parastatal sector, intensive work is being carried out to identify and overcome weaknesses in the financial structure, organization, and operations of key enterprises. In this context, parastatals have been directed to take measures to improve their production targeting, financial planning, and accounting practices. This is a first step toward

a more rigorous enforcement of the Regulation of Dividends and Surpluses Act, which requires the prompt annual submission of comprehensive budgets and accounts. A special task force will be created shortly to assist parastatals in preparing up-to-date accounts and to carry out special audits. Their pricing policies and cost structures will also be reviewed to avoid recurrence of unplanned deficits. More generally, in the period ahead the Government intends to distinguish between the commercial and social policy functions of parastatals so as to clearly identify the cost of social measures and their budgetary implications. In this connection, the NMC has a crucial role to play in the national economy, responsible as it is for basic food purchases, storage, processing, reserve management, and distribution. Weaknesses in its accounting and pricing systems as well as problems of storage and transport have led to overall unsatisfactory performance, which has been reflected in increased reliance on bank credit to finance its operations. Therefore, action is now under way to deal comprehensively with the NMC's problems so as to improve its efficiency and effectiveness.

12. In view of the difficult financial situation, since 1974 public sector wage and salary scales have been kept unchanged. This policy will be maintained in 1980/81. However, bonuses will continue to be paid for hard work and outstanding performance; and payment-by-results schemes are to be introduced. Moreover, to ease the burden of inflation on the lowest income groups, effective May 1, 1980 the Government raised minimum monthly wages for rural and urban workers from T. shs. 240 and T. shs. 300, respectively, to T. shs. 340 and T. shs. 480. This entailed some consequential adjustments in other wage rates. Conscious of the need to reduce inefficiencies in the domestic price structure, the National Price Commission has been periodically reviewing and adjusting controlled prices. In this context, retail prices of petroleum products were raised substantially in February 1980; and prices of other commodities will be adjusted in light of cost developments. Scope exists for improving price management procedures. It is thus our intention to streamline such procedures by eliminating unnecessary items to allow more vigorous analysis and control of basic products.

13. The Government's finance and credit plan for 1980/81 has been designed to support the adjustment effort. It reflects the planned reduction in government bank borrowing, and limits the use of credit by certain parastatal enterprises. This will permit increased bank lending to other parastatals and the private sector to meet their prospective requirements. Hence, total domestic credit, which amounted to T. shs. 14,476 million at the end of March 1980 and is estimated to have reached T. shs. 15,330 million at the end of June 1980, will not exceed T. shs. 16,750 million during the quarter ending September 30, 1980, T. shs. 17,350 million during the quarter ending December 31, 1980, T. shs. 17,600 million during the quarter ending March 31, 1981, and T. shs. 18,400 million during the quarter ending June 30, 1981. Within these overall ceilings, net credit of the banking system to the Government, which amounted to T. shs. 8,296 million

at the end of March 1980 and is estimated to have reached T. shs. 9,230 million at the end of June 1980, will not exceed T. shs. 10,250 million during the quarter ending September 30, 1980, T. shs. 10,570 million during the quarter ending December 31, 1980, T. shs. 10,800 million during the quarter ending March 31, 1981, and T. shs. 11,330 million during the quarter ending June 30, 1981. These ceilings imply a reduction in domestic credit expansion in 1980/81 to 20 per cent, which would help slow the growth of broad money to 21 per cent, an increase only slightly faster than the projected rise in GDP. As in 1974 and 1978, we are conducting an in-depth study of the interest rate structure. By December 31, 1980 new lending and deposit rates will come into force, with a view to effectively improving efficiency of resource allocation and equity to small savers.

14. At the end of 1979 Tanzania's outstanding external public and publicly guaranteed debt amounted to about SDR 900 million, or 25 per cent of GDP. Most of this debt has been contracted on highly favourable terms, and in recent years Tanzania has also benefited from the conversion of some external loans into grants. Thus, during the programme period external debt service payments are projected to remain below 10 per cent of exports of goods and services. While the Government intends to continue to rely primarily on concessional external borrowing, it may become necessary to raise some medium-term commercial loans. During the year ending June 30, 1981 new external commercial loans contracted or guaranteed by the Government with maturities of over one year and up to 12 years will be limited to SDR 100 million; within this ceiling, a subceiling of SDR 50 million will apply to loans with maturities of less than 5 years.

15. The Government considers it essential to eliminate import payments arrears as soon as possible. To sterilize the domestic liquidity accruing from these arrears, full local currency deposits for foreign exchange requests will continue to be required. The Government will ensure that the total amount of import payments arrears outstanding will not exceed SDR 185 million on October 31, 1980, SDR 175 million on December 31, 1980, SDR 165 million on March 31, 1981, and SDR 155 million on June 30, 1981. Also, the Government will continue to ensure that external debt service obligations are met on time.

16. As the domestic supply and demand management policies described above will take some time to restore external equilibrium, in the interim Tanzania will need to rely on restrictive import licensing and foreign exchange allocations. However, as the balance of payments situation improves, the trade and payments system will be eased. Tanzania will carry out a joint in-depth exchange rate study with the Fund, and it will consult and reach understandings with the Fund on exchange rate policy prior to June 30, 1981.

17. The Government of Tanzania will reach understandings with the Fund before June 30, 1981 on the limits specified in paragraphs 13, 14, and 15 for the period of the stand-by arrangement from July 1, 1981.

18. Tanzania will not request any purchase under the stand-by arrangement that would increase the Fund's holdings of its currency beyond the first credit tranche plus 12.5 per cent of its quota during any period in which (a) the limits specified in paragraphs 13, 14, and 15 are exceeded; or (b) understandings pursuant to the last sentence of paragraph 16 and to paragraph 17 have not been reached or the understandings thus reached are not being observed; or, if Tanzania imposes or intensifies restrictions on payments and transfers for current international transactions, or introduces multiple currency practices, or concludes bilateral payments agreements which are inconsistent with Article VIII, or imposes or intensifies import restrictions for balance of payments reasons.

19. The Government of Tanzania believes that the policies set forth in this letter are adequate to achieve the objectives of its programme but will take any further measure that in its opinion may become appropriate for this purpose. During the period of the stand-by arrangement Tanzania will consult with the Fund in accordance with the Fund's policies.

Yours sincerely,

A.H. Janai
Minister for Finance

IV. POVERTY ALLEVIATION AND SATISFACTION OF BASIC NEEDS

A. Extent of Poverty

Tanzania is a low-income country and poverty by any reasonable standard is widespread. About 90 percent of the population lives in rural areas and a large, but uncertain proportion of this population is poor. IBRD estimates dated August 1979 indicated that 85 percent of the rural population was below an absolute poverty line that would enable families to satisfy nutritional and other essential private needs.¹ The corresponding proportion for the urban population was 25 percent. These estimates were based on poverty lines of \$87 (rural) and \$117 (urban) for the 1974-77 period.

Updated IBRD estimates issued earlier this year put the percentages of poor at 60 percent (rural) and 10 percent (urban), despite higher real poverty lines -- (\$109 and \$147 respectively) and no new income distribution data. Insofar as these poverty lines reflected official prices for food and other necessities, the incidence of poverty would be understated, since the true costs of acquiring these goods are understated by official prices.

Indicators of the health status of the population also point to widespread deficiencies in basic needs satisfaction.

1. These and other data cited in this section are drawn from the table of social indicators found in each IBRD/IDA project paper. See Table 1.

Life expectancy at birth is 51 years, and the infant mortality rate was estimated at 155 per thousand in the late 1960s. Only 36 percent of the rural population had access to safe water during the mid-1970s.

According to official data, the educational status of the population is somewhat more positive. The primary school enrollment ratio has risen to 79 percent of the primary school age group for boys, and 60 percent for girls. Adult literacy stands at 66 percent.

B. Background and Setting

Poverty in Tanzania is essentially a rural phenomenon in the sense that using either set of IBRD estimates mentioned above, almost 98 percent of Tanzania's poor are in rural areas. Further, there is broad agreement that the poverty problem is essentially a smallholder phenomenon, in that over 90 percent of the rural labor force falls in this category. In particular, there is no significant rural landless proletariat, nor is there a significant land-holding elite¹ Analyses by the IBRD, the ILO, and the Mission CDSS

1. Guerreiro reports that, on the basis of the 1972 Agricultural Census only 18 percent of cultivated land was accounted for by holdings of over 5 hectares, and that much of this land was state owned. The IBRD estimates that smallholders account for 90 percent of cultivated land.

all indicate that the major source of inequality in Tanzania's rural sector is not inequality in the size of land-holdings, but rather inequality in the economic value of a unit of land reflecting regional differences in rainfall, topography, and other natural attributes. Furthermore, within the regions where the value of a unit of land is high, average holdings are significantly smaller than in other regions, thereby mitigating some of the effects of variations in land quality on interregional income inequality.¹

While most analysts agree that variation in income levels is primarily a function of location (region), it is not clear to what extent poverty is essentially a regional phenomenon. This depends importantly on the level of income that defines the poverty threshold. Using an annual cash income criterion of TSh 1000 per household, the IBRD argues that "interregional inequalities are therefore the major single component of rural inequality, and offer a particularly close proxy for the rural poor." Thus, according to the IBRD 80 percent of rural households in Ruvuma are poor, but the corresponding figure for Kilimanjaro -- a "high income" region -- is only 6 percent.²

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1. However, both the IBRD and ILO argue that in the high income regions, land is less equitably distributed than in other regions.
 2. Unfortunately, the IBRD analysis neglected to include the breakdown of regions into income groups. Judging from population figures, the high income group probably comprises Kilimanjaro, Tanga, and Arusha, about 17 percent of the rural population. As the CDEE points out, Arusha includes several diverse areas in terms of land and income.

A poverty line of TSh 1000 in annual cash income per household is an extremely low threshold.¹ Combined with the IBRD estimate of the value of subsistence output per household (TSh 1600-1800 per year, depending on the region), and the average household size implicit in the IBRD data (about 5.3) this poverty line works out to about \$62 per person, well below the nutrition based lines mentioned above. In fact, an annual cash income of over TSh 2000 would be necessary to put a household in the high income region at the lower of the two poverty lines (\$87 per person per year) cited above, using official exchange rates.

The question underlying this discussion -- a potentially crucial one for purposes of formulating a AID strategy -- is the extent to which poverty is pervasive throughout the rural sector in Tanzania. The IBRD analysis suggests that in middle and low-income regions, nearly all people are poor whereas in high-income regions most people are not. However, a more reasonable criterion for poverty might significantly alter the conclusion about the high-income regions -- presumably Kilimanjaro, Tanga, and Arusha -- which in any case account for only about 1/6 of rural populations.

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1. It is noteworthy that according to the CDSB analysis, which takes into account income and other determinants and indicators of well-being, Ruvuma ranks third out of 20, behind only Lar ea Salaam and Kilimanjaro. Yet the IBRD estimates that 80 percent of the population in Ruvuma is poor.

None of this disputes the conclusion that people are relatively better off in high-income regions, nor is the problem of relative inequality assumed to be unimportant. Nonetheless, taking absolute poverty to be the focal point for an AID strategy, it would appear that almost all rural households can be considered poor, and that the question of targeting arises, if at all, only in parts of the high-income regions.

A further important feature of the Tanzanian setting for purposes of analyzing basic needs performance is the village organization. According to the ILO, "the creation of villages represents a major effort to redistribute land from the more wealthy to poorer farmers particularly in the relatively wealthy and densely populated areas where differentiation has been more pronounced."¹

Tanzania's particular form of village organization is designed to achieve both a more egalitarian distribution of earned income and also more widespread access to both economic and social services. The ILO cites estimates that 85 percent of Tanzania's population (and therefore most of the rural population) lives in villages. The IBRD puts the portion of the rural population in villages at 65 percent.² In any

1. ILO, p. 30.

2. ILO, p. 11; IBRD (1977) Annex VI, p. 20, para 42.

case, most observers agree that villagization is less advanced in the high income regions (where land distribution is less equal) than elsewhere.¹ The IBRD notes that "the rural land reforms of Ujamaa and villagization have probably prevented disparities of access being increased but have not as yet removed them."²

A third important feature of the Tanzania setting is the role of the public sector in the economy. This includes public determination of most prices, and also direct public control of most economic activity in the industrial and services sectors. This control is intended to prevent undue accumulation of wealth in private hands, and instead to generate surpluses for use by the public sector in achieving development goals.

A final important aspect is the well-articulated, coherent approach to development that ostensibly guides public policy. This approach places primary emphasis on equity, self-reliance, and rural development as goals, and on socialism (adapted to the Tanzanian context) as the form of political and economic organization best suited for achieving these goals.

1. Yeager, pp 14-16, notes that "For whatever reasons, regions least able to provide for their residents are the most heavily villagized." See "Demography and Development Policy in Tanzania; A Preliminary Assessment," October 1980.

2. IBRD (1977), Annex III, p. 7, para 31.

C. Performance - Earned Income

The most detailed analysis of Tanzania's performance in alleviating poverty is provided by the 1977 IBRD review of the 1969-75 period. The IBRD study looks at trends in both income distribution and poverty within the urban and rural sectors, as well as the gap in urban versus rural incomes. Within the rural sector, the analysis focuses on three regional groups: high-income (16 percent of households); middle-income (47 percent); and low-income (37 percent). During the period in question real household income from subsistence production (which is roughly the same across groups) rose by about 10 percent in each regional group between 1969 and 1975. Thus on the basis of subsistence output all regions enjoyed a modest increase in income per household, and subsistence output per household remained fairly equal across regions.¹ However, trends in real cash income were negative both absolutely and relatively. Real cash income fell slightly in the high-income region, moderately in the middle-income region, and sharply (by 50 percent) in the low-income region. The aggregate effect on absolute real incomes (cash plus subsistence) was very little change in the high and middle-income regions, but a drop of some 15 percent in the low-income

1. It perhaps bears repeating that the data for subsistence output are of doubtful reliability.

region. This in turn widened the disparity between the high- and low-income regions; by 1975, average household incomes were twice as high in the former as in the latter, whereas in 1969 incomes in the high-income regions had been two-thirds higher.

Of the various sources of cash income, most of the decline came in sales of crops destined for urban areas. The IBRD attributes this mainly to declines in the relative values of those crops, and "residually" to declines in volume attributable to drought, disruption of villagization, and longer-run disincentives of declining real producer prices. The declines in prices of cotton, cashew nuts, and groundnuts were sharper than for coffee, wheat, and tobacco, and so affected low-income regions in particular.

Averaging across all regions, the real incomes of smallholders are estimated to have fallen by 4.6 percent from 1969 to 1975, compared with an increase of about the same magnitude in real incomes of urban wage earning households. Thus the relative gap between urban wage earners and smallholders widened by approximately 10 percent, to a ratio of about 2 to 1. This sort of calculation overstates the gap between average rural and average urban standards of living (as well as the tendency for the gap to widen) since it omits consideration of the urban informal group. This group has been expanding

rapidly, and has an average standard of living lower than the average for small-holders in any of the three rural groups.¹

Other, less rigorous studies also indicate poor performance in raising earned incomes of the poor.² The most prevalent criticism relates to the pricing of agricultural output, and the deterioration in the urban/rural terms of trade. This is related to a second aspect of deficient performance, namely the inefficiency of marketing parastatals, which has resulted in unduly wide margins between producer and consumer prices. Thirdly, the real value of incomes earned by small-holders has probably declined by more than the amount reflected in calculations based on official price indexes, because of pressed inflation and unavailability of consumer goods at official prices. Finally, the pattern of investment has not favored agricultural producers, nor has it contributed to increases in standards of living through

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1. Thus, the ILO, looking at about the same period, finds that the urban/rural gap has been narrowed, but that the gap in incomes between wage-earners and peasants has not.
 2. As distinct from remarkably positive performance in creating an institutional setting potentially conducive to equitable patterns of development. This latter accomplishment, however, has entailed significant costs in terms of production declines because of the disruptive effects of villagization.

greater availability of essential private goods.¹

Of these problems, pricing policies would appear to have improved over the period since the IBRD study was carried out. There have been substantial increases in nominal producer prices of most agricultural products in recent years, while wage rates have risen only very slowly in nominal terms, and have surely fallen in real terms.² On the other hand the problems of parastatal inefficiency and shortages of consumer goods have apparently become more acute over the past several years. Finally, investment in agriculture was to rise substantially in the Third Five-Year Plan. Over the 1976/81 period, the agricultural sector was to claim about 12 percent of total capital formation, as opposed to an average share of about 64 percent in the 1969/73 period. However, it is not clear whether this increase has been realized.

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1. IMF (1979), p. 6; IBRD (1977), Annex VI, 1. The ILO is less judgemental, but notes the "danger" of parastatals and other capital and skill-intensive activities preempting resources needed for rural development. (ILO p. 38.)
 2. Recent IBRD project papers judge that "It is likely that the (urban/rural) gap has been slightly reduced since 1976 due to continued recovery of agricultural production and higher producer prices The policies of wage restraint and higher producer prices pursued since 1975 should have a beneficial impact on almost all dimensions of income distribution." See IDA/R80-115, July 1980, p. 2.

D. Performance - Taxation and Public Services

The capacity to meet basic needs not only depends on the real value of earned income, but also is influenced by the redistributive effects of public revenue and expenditure policies, particularly the effects of taxation and public provision of social services.¹ Appraisals of Tanzania's accomplishments in this respect are more uniformly positive. There is common agreement that the structure of direct taxation (on incomes) is highly progressive. The ILO does not find the structure of indirect taxes (e.g., sales taxes) to be progressive, on the basis of the standard reasoning that the poor spend a larger share of their incomes on consumer goods than the non-poor. However, the ILO apparently neglects to take into account the fact that much of the income of the poor comes from subsistence production and consumption, which by its very nature is not taxed. Thus, indirect taxes as a share of total income (subsistence plus cash) would probably be lower for poor households than for others. The IBRD finds indirect taxes to be "proportional or moderately progressive."²

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1. In a context in which prices are administered, the definition of a tax is somewhat ambiguous. If prices to producers of food are unduly low or high (compared to the real value of food) then implicitly there is a tax or subsidy. This section deals with the formal tax structure.
 2. ILO (1978) pp 163-165. IDA/R80-115, July 1980, p. 2.

There is also fairly widespread agreement on Tanzania's positive performance in the delivery of services that meet basic needs such as education, health, and water. Even severe critics of Tanzania's performance on urban/rural equity issues attest to the equitable thrust of Tanzanian efforts in these areas. It is not to say that these efforts have been characterized by a high degree of efficiency, nor that the pattern of delivery is perfectly equitable. However, in terms of the emphasis within health and education on basic services, as well as efforts to make such services widely accessible, Tanzanian performance has been impressive.¹

E. Performance - Indicators of Well-Being

A comparison of social indicators for Tanzania over time and relative to comparable groups of countries presents a favorable picture of Tanzania's performance in meeting basic needs, despite lagging growth in earned incomes in the rural sector. These indicators are presented in Table 1. While the data are of uncertain reliability, they are consistent with and support the appraisal presented so far; that Tanzania's institutional setting provides for a relatively high degree of equity; that performance in raising earned incomes of the

1. For a detailed account of the health sector, see the "Health Sector Strategy" by Albert Henn, AID/Tanzania, February 1980. For education see IDA Report No. R80-115, July 1980.

poor has been negative; and that performance in terms of the taxation and provision of social services has been positive.

In terms of resource availability, per capita income in Tanzania is about at the level as for the low-income reference group (\$230) and is well below the average for the middle-income group (\$726), which presumably includes countries above a per capita income of \$360 for 1978. Performance with respect to food and nutrition is at best mediocre, both over time and relative to the reference groups. On most indicators of health and physical well-being, there appears to have been significant progress over time and relative to the two reference groups. In terms of most of these indicators, Tanzania ranks well above the low income group, and at least as high as the middle-income group. For primary education and literacy, performance is significantly better than for either reference group, but the same is not true for secondary enrollments, which presumably reflects an egalitarian emphasis on basic education services. With respect to the status of women, the primary enrollment ratios suggest moderately good performance over time and relative to the reference groups. 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.

Table 1

Indicators of Basic Needs

Satisfaction and Well-being

	<u>Tanzania</u>			<u>Sub-Sahara Africa</u>	
	<u>1960</u>	<u>1970</u>	<u>Most Recent</u>	<u>Low-Income Most Recent</u>	<u>Middle-Income Most Recent</u>
1. Resource Availability Per Capita GNP (US \$)	70	120	230	229	726
2. Food and Nutrition Per Capita Food Production (1969-71 = 100)	95	104	91	92	94
Per Capita Calorie Supply (% of Requirements)	85	91	89	90	93
3. Population Crude Birth Rate	47	47	48	47	47
Crude Death Rate	22	19	16	20	16
4. Health Life Expectance	42	47	51	45	50
Infant Mortality	n.a.	155	n.a.	n.a.	n.a.
Child Mortality (1-4 years)	32	25	20	28	21
Access to Safe Water					
Total Population		13	39	23	21
Urban		61	88	58	67
Rural		9	36	17	n.a.
Population per Physician	21020	24770	15450	30910	14508
Population per Nurse	10440	3830	2760	5793	3280

	<u>Tanzania</u>			<u>Sub-Sahara Africa</u>	
	<u>1960</u>	<u>1970</u>	<u>Most Recent</u>	<u>Low-Income Most Recent</u>	<u>Middle-Income Most Recent</u>
5. Education					
Primary Enrollment Ratio					
Total	25	38	70	58	62
Male	33	46	79	74	69
Female	18	30	60	54	51
Secondary Enrollment Ratio					
Total	2	3	3	10	21
Male	2	4	5	14	29
Female	1	2	2	7	15
Adult Literacy Rate	10	28	66	25	24
6. Absolute Poverty (\$)					
Poverty Line					
Urban	n.a.	n.a.	147	138	n.a.
Rural	n.a.	n.a.	109	86	n.a.
Percentage Poor					
Urban	n.a.	n.a.	10	n.a.	
Rural	n.a.	n.a.	60	67	

Conclusion

Tanzania has made remarkable progress in terms of creating an institutional and economic environment such that, if increases in real output and productivity can be achieved, the direct and indirect benefits of such growth would be fairly equitably distributed. Poverty in Tanzania is essentially a rural smallholder phenomenon, and the size distribution of landholdings is relatively equitable, although there is significant regional variation in the quality of land. Further, the government has a relatively strong commitment to providing essential economic and social services on a widespread, accessible basis. However, public interventions in economic activity -- e.g., price setting, the pattern of public investment, substitution of public for private enterprise in transportation and distribution, etc. -- have had the effect of substantially reducing economic efficiency and productivity without significantly improving well-being through greater equity. The low level of efficiency and productivity constitutes the greatest single obstacle to progress in achieving increased satisfaction of basic needs. Given severe constraints in terms of skilled manpower and administrative and planning capacity in an economy subject to increasing public control of resource allocation, the obstacles posed by low levels of productivity and economic inefficiency are likely to loom larger rather than diminish over the foreseeable future. Economic liberalization that allowed prices to

more closely reflect costs, made greater use of markets as resource allocating mechanisms and directed a greater share of investment to agriculture, could--in the Tanzanian context-- make a substantial direct contribution to greater satisfaction of basic needs through growth in output, without compromising Tanzania's essential development goals of equity, self-reliance, and rural development. Nor would such reforms entail abandonment of Tanzanian socialism, indeed, ideologically sympathetic observers such as Rene Dumont have recommended as much. Without such measures, and in the absence of huge increases in foreign assistance, it is difficult to see how Tanzania's development goals can be effectively promoted.

V. AGRICULTURE

- A. THE Romanian Agricultural Resource Endowment
- B. The Distribution of Agricultural Resources
- C. Overall Performance
- D. Food Production, Food Imports and Official Purchases
- E. Agricultural Exports
- F. Regional Review of Agriculture
- G. Evaluation of Agricultural Performance
 1. Export Agriculture: External Influences
 2. Export Agriculture: Sector-wide Influences
 3. Export Agriculture: Parastatal Costs and Undervalued Foreign Exchange
 4. Export Agriculture: Crop-Specific Factors
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 6. Food Production: Description
 7. Food Production: Evaluation
 8. Relative Effectiveness of Pricing Policies
- H. The Agricultural Sector: Synthesis
- I. Closing Comments

Annex

V. AGRICULTURE

A. The Tanzanian Agricultural Resource Endowment

Agriculture occupies a dominant position in the Tanzanian economy and in Tanzanian development concerns. The sector employs about 90 percent of the economically active population, it generates about 40 percent of GDP and about 80 percent of foreign exchange earnings.

Although the average growth rate of agriculture approximately equals the rate of population growth and there are occasional, large annual fluctuations in agricultural output, the Tanzanian agriculture sector has the potential to become a major dynamic element in the Tanzanian economy.¹ Several factors support this contention. First there is evidence that, in the aggregate, Tanzania has a favorable population to arable land ratio. It has been estimated that about 10 percent of the total land area is suitable for growing crops. In 1977 about five percent of the total land was under cultivation. The 10 percent estimate may be conservative. A study for the World Bank indicates that nine percent of the total land area has high overall agricultural potential and an additional 23 percent of the land has low to medium potential.² The World Bank report notes the existence of

1. Professor Rene Dumont states that in spite of the fact that the agricultural situation is in a difficult position with food shortages, malnutrition and ecological threats, Tanzania "should not despair, because there are many reasons for hope. Tanzania is absolutely not the Sahel. The soils are much less fragile, especially in the highlands. The rainfall is much higher and even more reliable. Many possibilities have not been exploited until now, especially in the West and the South. If properly and carefully directed, Tanzanian agriculture (and livestock) has a very high potential." Rene Dumont and Marie France Motten, "Self-Reliant Rural Development in Tanzania: 12 Years After the Arusha Declaration on Socialist Lines," p. 16.
2. University of Missouri "An Analysis of the Tanzanian Food Crop Subsector" draft mimeo, 1974. Appendix . . . James Weaver and Anne Anderson take an opposite view: "The physical resource base for Tanzanian development is quite limited. Although there is a land area of 356,000 square miles, only sixty percent is available and much of that is not habitable because of the widespread tse tse fly. Shortage of rainfall for agriculture is a chronic problem and soil erosion is a problem in parts of the country." "Stabilization and Development of the Tanzanian Economy in the 1970s," September 15, p.] prepared for Brookings Institution Conference on Economic Stabilization Policies in Less Developed Countries," October 1970.

areas where cultivatable land is scarce but still concludes that the amount of cultivatable land is not a major constraint. "Though population pressures have begun to be felt in areas like Bukoba, Sukumaland and Kilimanjaro, potentially good quality land remains unutilized in many districts and considerable growth potential exists from further extensions of cultivated areas."¹

The qualitative characteristics of the agricultural resource endowment constitute the most significant aspect of Tanzanian agricultural development potential. For example, there are a number of diverse agroclimates in the country which in turn allow production of a wide variety of crops, and there is appreciable scope for further diversification. This point can be demonstrated by noting the variety of crops grown in significant quantities. Maize is the dominant food crop but substantial quantities rice, wheat, cassava, sorghum, millet, edible oils and oilseeds are produced plus a wide variety of tropical- and temperate- climate fruits and vegetables as well as soybeans, sugar and livestock. Similarly, the agriculture sector produces a number of export crops including fibers (sisal and cotton), spices, coffee, tea, cashewnuts, tobacco and pyrethrum. Livestock and livestock products are exported and occasionally rice, maize, sorghum, cassava and other food crops are exported. With respect to potential for further diversification it is plausible that given the widespread suitability of agroclimatic conditions for maize production, there is substantial latent potential for soybean

1. World Bank, Tanzania Basic Economic Report, Main Report, December 1977, p. 59. A similar view is held by Matthew Guerreiro in "Efficiency, Equity and Exploitation in Tanzanian Agriculture Since the Arusha Declaration" An essay, Harvard College, March 1980. A study by John Moore based on the 1957 census indicates that at a time when the population was 12.3 million, 14 districts (subregions) were experiencing population pressure, 18 districts were near a stress point and 30 districts had land for expansion. (Len Barry, "Tanzania--A favorable Land/Person Ratio" mimeo, June 1980.)

cultivation. Soybean production exists now but the output level is relatively low. This is a high-value crop with both domestic consumption and export potential. Pineapple cultivation was introduced in Kenya several years ago and has rapidly expanded. Part of the Tanzanian agroclimate is similar to that in Kenya where pineapples are produced.

Another kind of advantage is the linkage nature of many of Tanzania's agricultural products. Several commercial crops grown in Tanzania can be processed through various stages before being exported (as opposed to grains for example, which tend to be more suitable for shipment in an unprocessed condition). The fibers, cotton and sisal, are good examples of products with strong forward linkage potential; however, tobacco, coffee, oil seeds, livestock/leather and pyrethrum are also well suited to further processing prior to export. The characteristics of these agricultural commodities provide an opportunity to add more value in Tanzania and perhaps more significantly they constitute a strong economic advantage to support establishment of resource based industry. The diversity in the range of agricultural commodities and the fact that they can be processed to varying degrees implies that the risks related to exporting to overseas markets can be reduced.

It is further noted that Tanzania's export crops have been favored by rising international prices over the last decade. The average export price index (1966=100) for major commodities in 1972 was 148, in 1974 it was 174, in 1976 it was 220 and by 1978 the index was 244.¹ The medium to long-term

1. The commodities are raw cotton, unroasted coffee, sisal fiber, cashewnuts, tea, unmanufactured tobacco and cloves. The lowest price index in 1978 for the commodities was 104 for cloves. Between 1969 and 1977 the clove export price index ranged between 400 and 800. The price indexes for sisal cashewnuts and tea were frequently less than 100 during the 1970s but all of the commodity price indexes exceeded 100 by 1974. In 1977 the average price index for cotton, coffee and sisal (about 70 percent of Tanzanian exports by volume) was 433. Source: United Republic of Tanzania, Economic Survey 1978-79, p. 29.

prospects for Tanzania's export crops are good. For example, as oil prices increase, substitutes for synthetic materials will become increasingly competitive. Cotton and sisal are important Tanzanian exports (26.1 percent of total exports in 1973, 20.8 percent in 1978) and they are direct substitutes for synthetic materials.¹ The market for sisal has been depressed in recent years, but sisal prices have been increasing (from a price index of 80 in 1972 to 234 in 1979) and are likely to continue to improve as the price of polypropylene fibers continues to rise. In addition there are substantial untapped or underutilized resources in livestock and small ruminant production. Again these activities have good export potential because of rising international demand for livestock and meat products and because livestock is also well suited for value-added processing.²

As a final point on Tanzanian agricultural potential, the fact that much of the farming technology in Tanzania is rudimentary means that there is a broad scope and long-term prospect for the incremental introduction of more productive techniques with subsequent per capita gains in output. In the past, increases in agricultural production have tended to come from expanding the area under cultivation while holding technology relatively constant, but the potential from technological modifications has remained relatively untapped.³

The strategic economic implication is that the Tanzanian agriculture sector has an adequate national resource endowment to allow it to serve, not as a holding pool for labor waiting to be absorbed into other sectors as they are developed, but as a significant source of long-term growth in its own right. Similarly, the World Bank in its assessment of the agriculture

1. United Republic of Tanzania, Ministry of Agriculture (Mimo), Marketing Development Bureau (MDB), Price Policy Summary and Price Proposals, September 1979, p. 12.
2. With 669 nautical miles of coastline and 12,000 square nautical miles of coastal shelf area, Tanzania has the basic ingredient for building an additional food-producing export industry.
3. The World Bank assessment of Tanzania observes, "In the long-run even more can be expected from intensification of agricultural projects." World Bank, Main Report, p. 59.

sector states: "potentially, the agriculture sector offers the best opportunities for transforming Tanzania's abundant resources of land and labor into output while economizing on the scarce factors of capital, foreign exchange and skills."¹

It is recognized that Tanzania's agricultural potential exists side-by-side with the fact that the country is confronted by formidable obstacles to realization of that potential. The spectrum of handicaps includes one of the highest population growth rates in Africa, increasing environmental degradation and widespread diseases such as malaria, schistosomiasis and onchocerciasis. The tsetse fly, the vector for trypanosomiasis is found in 60 percent of the country and has rendered vast areas virtually uninhabitable by man or by domestic animals.²

It is also recognized that the tapping of Tanzania's agriculture potential involves large capital requirements relating to manpower, roads, communications, plant and equipment, hydrological structures, power and other complementary factors. Finally, Tanzania is still in the process of working out a means to manage its economic system in a way which will satisfy its political and social goals while simultaneously achieving satisfactory rates of economic growth and transformation.

1. World Bank, Main Report, 1977, p. 59.

2. For a comprehensive and concise review of health problems in Tanzania see Albert E. Menn, M.D., "Tanzania: Health Sector Strategy," February 1980, USAID/Tanzania, Dar es Salaam. Professor Rene Dumont provides a survey of adverse ecological threats and trends in Tanzania in "Self-Reliant Rural Development in Tanzania." See also Henry Fasbrooke, et al., technical papers prepared for the United Nations Conference on Desertification 1977. The Fasbrooke paper concentrates on the rapid spread of soil erosion in Tanzania.

B. The Distribution of Agricultural Resources

In discussing the aggregate growth potential of the agriculture sector it is necessary to consider the existing distribution of agricultural assets and how their distribution pattern relates to the distribution of gains from future growth. For expository purposes agricultural assets can be viewed in quantitative and qualitative terms. The existing quantitative distribution of land does not appear to present a major obstacle to widespread realization of gains from growth. The Agricultural Census of 1972 found that 83 percent of all farms in Tanzania (approximately 2.5 million) were less than two hectares in size and 97 percent were smaller than five hectares. Farms in excess of five hectares accounted for 3.6 percent of total farms and 18 percent of total agriculture land holdings. The large holdings are not relevant to the comparison since they were already publicly owned. The size differences among the smaller farms (less than five hectares) in part reflects their relative productivity. Small holders produced approximately 90 percent of total food and cash crops in 1972. The production distribution of certain crops is more concentrated. In 1974 large estates accounted for 25 percent of coffee production, 90 percent of tea production, 50 percent of sugar and sisal production. By 1979 state-owned farms were producing the bulk of total wheat output.

The aggregate data which indicates that land in Tanzania is predominately held in small parcels is supported by the fact that most farmers use traditional farming methods and that it is illegal for private farmers to hire labor on a regular basis. These two points imply that farm size must be relatively small because the amount of land tilled is closely related to the amount of labor available, i.e., household size is the binding constraint on the size of the holding.

There is nevertheless, a difference of opinion on the relative distribution of agricultural assets for example, Weaver and Anderson, in assessing the income distribution effects of higher producer prices for food in 1975 note that income distribution worsened "as richer peasants took advantage of higher producer prices" and that the authors had a "strong suspicion that the increased producer prices may have significantly worsened the intrarural distribution since much of the marketed output is produced by the better off farmers."¹ The authors do not offer any evidence to support their suspicion. Fleuret reflects a similar point of view regarding the distribution of land. He cites data which indicates that "in the late 1970s the wealthiest farmer's controlled from three to ten times the amount of land controlled by poor farmers." Fleuret further notes studies which find that these ratios have been maintained in some instances where villagization has occurred.²

It is difficult to resolve the different viewpoints without more detailed data, however, until the aggregate population of large and/or rich farmers is specified the material from the 1972 census must prevail. There may be one or two thousand farmers who farm 50 hectares each, but in the total distribution scheme and in a policy sense their existence is insignificant. The available evidence suggests that the distribution of gains from growth in the agricultural sector would not be significantly adversely affected by the present distribution of land.

The qualitative aspects of agricultural assets are more significant because there are major differences in soil and climate and the distribution of these assets is more varied. (Qualitative aspects refer to such factors

1. James Weaver and Arne Anderson, "Stabilization and Development of the Tanzanian Economy in the 1970s" p. 15 and p. 22.

2. Patrick fleuret, Mimeo, "Commentary on Tanzania Report," July 21, 1980, Washington, D. C.

as differences in rainfall, soil, slope and location/access.) There is little doubt or dispute that the distribution of qualitative assets is highly varied. Annex B, "Delineating Tanzania's Major Agro-Ecological Zones," in the Tanzanian FY 1982 CDSS, provides a concise profile of the agroclimatic spectrum in Tanzania.

Intra-rural distribution of income is a good measure to summarize the composite effect of the various factors. For example, it has been found that 80 percent of the rural households in Ruvuma had annual cash incomes under 1000 T/sh. In Kilimanjaro six percent of the households had annual cash incomes below 100 T/sh.¹ Annex B of the Tanzania FY 1982 CDSS directly relates agroclimate to crops grown for income and provides data which indicates that the highland areas, because of the crops which can be cultivated there, also have the highest per capita income in Tanzania.²

It is apparent that differences in the agroclimate and differences among other qualitative factors are the dominant influence over intra-rural income distribution, but two other points are relevant. Given the relatively even distribution of land holdings it is reasonable to infer that within a given agroclimate region the holdings are also similar in size. Second, household incomes within the entire agricultural sector tend to be near the subsistence level, i.e., it is still a question of the poor and the extremely

1. World Bank, 1977 Basic Economic Report, Annex III, p. 20.

2. Data from Table 2 of Annex B in the FY 1982 CDSS were used to illustrate intra-rural income differences. The data are indicative in a general sense but the estimation of "Average cash income per family" lacks vital pieces of information necessary to make such an estimate. For example, to calculate average family income it is necessary to know the total amount of land cultivated and the quantity of each crop grown not just the average amount of land devoted to a single crop. It is also necessary to make allowance for the different market characteristics of commodities, i.e., cotton can only be sold at the official price--the household has no alternative; maize can be sold at the highest attainable price, consumed, stored or bartered. The estimates of "average cash income per family" require appreciably more information and statistical rigor to warrant the title.

poor. This point can be demonstrated by referring again to Annex B. It is estimated that the highest average cash income per family (at 1979/80 official producer prices) was \$363 for growers of flue-cured tobacco; it was \$231 for rice farmers and \$154 for coffee growers. The highest family cash income is equal to only about \$73 per person which is still well within the ranks of absolute poverty.

The latter point means that within a context of widely distributed absolute poverty, improvement in the general level of economic welfare is the paramount concern and a strong growth policy is the most relevant approach. A policy which retards growth for the sake of preventing increases in relative income differences is inferior to a policy which presents economic opportunities for a broad expanse of rural households. So long as development of agricultural potential does not occur at the expense of the poorest, growth assures a gain to society.

The dominant role of qualitative aspects as determinants of income distribution provides some general guidance for policy in the agricultural sector: the redistribution of productive assets is not practical, e.g., some assets such as rainfall are not easily redistributed. The distribution of the assets themselves cannot be readily altered by direct means and a major effort to do so is likely to disrupt production and cause downturns in income and general welfare. Given the nature of the underlying reasons for income difference, the distribution of gains can most effectively be addressed by indirect methods such as taxation, and the allocation of development investments.

The concluding point is that the existing low level of average rural incomes and the dominance of qualitative determinants in influencing income distribution call for a stress on exploiting the inherent growth potential within the sector. Improvement in economic welfare can be most effectively

pursued by policies which cause growth. Income distribution concerns can be most constructively approached with policies which address the incremental gains not the assets which produced the gains. The final implication is that over the next few years Tanzania, can stress policies to develop its agricultural potential, and in doing so, address the most relevant economic equity concerns by maximizing improvements in the economic welfare of rural households.

C. Overall Performance

The share of the agriculture sector in total GDP has been gradually declining since the early sixties. Between 1965 and 1974 the share of agriculture in GDP (at 1966 prices) fell from 44.6 percent to a low of 36.7 percent. Over the next four years the share increased slightly to 39.5 percent in 1978.¹ Monetized agriculture (in constant 1966 prices) was also declining relative to total agricultural output. In 1965 monetized agriculture accounted for 36 percent of total production. By 1978 the proportion had fallen to 39 percent.²

Agriculture's declining share of GDP reflects that fact that other sectors were growing more rapidly while expansion rates in the agriculture sector itself were declining. Part of the reason for slower agriculture growth up to 1973 may be traced to the amount of investment going to agriculture. Table 1 shows that for the period 1967-1973 investment (in constant terms) in agriculture peaked in 1968 then fell off while investment in agriculture as a share of total investment and relative to GDP were also falling.

Investment data are more scarce for the post-1973 period, however, the Second Five-Year Plan called for 8.55 percent of budget resources to be

1. United Republic of Tanzania. Economic Surveys, 1977/78 and 1978-79, p. 10.

2. Ibid. p. 11.

Table 1

FIXED CAPITAL FORMATION IN AGRICULTURE, 1966-73
(in million T/Sh)

	1966	1967	1968	1979	1970	1971	1972	1973
Fixed Capital Formation in Agriculture (current prices)	111	122	114	109	117	119	142	160
Fixed Capital Formation in Agriculture (1966 prices) ^a	111	116	111	103	103	99	103	107
Agricultural Fixed Capital Formation as Percentage of Total Fixed Capital Formation (current prices)	11.3	9.9	8.8	9.0	6.2	5.0	6.0	5.9
Agricultural Fixed Capital Formation as Percentage of Gross Domestic Product at Factor Cost (current prices)	1.7	1.8	1.6	1.5	1.4	1.3	1.4	1.4

SOURCE: World Bank, "Key Issues in Agriculture and Rural Development," Annex VI to Tanzania: Basic Economic Report, December 1977.

^a Deflated by implicit deflator for all investment goods.

allocated to agriculture and 4.72 percent to livestock; the Third Five-Year Plan (1976-81) increased agriculture's share to 11.5 percent and decreased livestock to 2.04 percent.¹ In 1978, donor assistance to agriculture accounted for 20 percent of total assistance, exceeded only by aid to the industrial sector. Table 2 provides some detail.

Table 3 below shows annual agricultural real growth rates for a recent six-year period and summarizes growth rates for the last decade. Whereas growth in agricultural output increased at about the same rate as population expansion, the period since the 1973-74 drought has seen what must be considered as phenomenal growth. The growth figures for the period 1975 through 1978 state that subsistence agriculture increased by over one-half (55 percent) in four years. While lower, the growth of monetized output was impressive with a cumulative 21 percent increase in the same four-year period. Overall, real agricultural output expanded by 36 percent while population (at a 3.3 percent annual rate of increase) grew by 13.2 percent for a total, four-year net gain of 22.8 percent.

If the data in Table 3 were to be taken at face value they would constitute strong evidence that agriculture sector performance has been outstanding; however, a second look reveals a more mixed picture. First, the data are not based on empirical estimates. They are derived from a general formula which depends on several large assumptions. Second, the sustained high level of increase in subsistence output is suspect of and in itself; one must ask how the output increases by 1978 were being absorbed within the subsistence sector. Finally, monetized agricultural production shows substantial increases over 1975-1977 in spite of an 18.5 percent decline in the volume of export crops during the same period. The next section contains a more detailed review of trends in agriculture output as reflected by food imports, grain sales to the National Milling Corporation and agricultural exports.

¹ U.S./AID Tanzania, "Tanzania CDS, FY 1982," p. e-3.

Table 2

DONOR ASSISTANCE TO TANZANIA IN 1978
(^{'000} US dollars)

Sector	Technical Assistance	Capital Assistance		Total	Share of Total (%)
		Loan	Grant		
Agriculture	65,065	42,000	27,200	134,265	19.8
Forest and Fisheries	5,058	-	400	5,458	0.8
Tourism	1,985	14,000	-	15,985	2.4
Industry	35,036	90,300	34,300	159,636	23.6
Public Utilities and Water	37,098	-	3,900	40,998	6.1
Commerce and Trade	7,206	-	43,000	50,206	7.4
Transport and Communication	32,757	18,800	28,800	80,357	11.9
Construction	3,084	-	-	3,084	0.5
Education	56,429	12,000	-	68,429	10.1
Culture	3,858	-	-	3,858	0.6
Health	13,224	-	2,500	15,724	2.3
Labor and Social Welfare	6,085	-	-	6,085	0.9
Rural Development	30,239	12,000	9,500	51,739	7.6
Relief	11,926	-	-	11,926	1.8
Budget Support	-	12,700	15,700	28,400	4.2
Total	309,116	201,200	165,300	676,210	100.0

SOURCE: UNEP, United Republic of Tanzania, Report on Development Assistance for 1978, July 1978.

Table 3

ANNUAL GROWTH RATES OF AGRICULTURAL^a GROSS DOMESTIC
PRODUCT IN CONSTANT 1966 PRICES (%)

	1973	1974	1975	1976	1977	1978	Average Annual Growth Rates		
							1967-72	1973-78	1967-78
Total Agricultural Production	1.0	-4.1	8.5	10.9	8.2	4.6	2.6	4.9	3.7
Monetized Production	0.3	-6.7	3.4	9.9	9.9	-3.1	2.5	1.7	2.1
Subsistence	1.6	-1.9	12.8	11.7	9.7	10.3	2.7	7.4	5.0

SOURCE: United Republic of Tanzania, Economic Survey: 1977-78 and 1978-79.

^aAgriculture includes forestry and fishing.

D. Food Production, Food Imports and Official Purchases

The data in Table 4 shows the relative importance of kinds of foods produced in Tanzania.¹ In volume terms, cassava is the largest crop and maize is the largest cereal crop. With respect to growth, maize is an exception in that it is the only commodity for which production continued to increase beyond the mid 1970s. Wheat output peaked in 1972, rice/paddy reached a high point in 1974 and both millet and cassava production reached peaks in 1975. Over the nine-year period the combined output of maize, wheat and rice/paddy grew at an average rate of four percent per annum.

Some additional perspective on food crop production can be gained by reviewing Tanzanian trade in cereals and domestic purchases of foods by the National Milling Corporation (NMC). Table 5 summarizes transactions for three major cereals in Tanzania over the last fifteen years. The data in Table 5 are presented by type of grain and by data source. The collection exhibits one definite characteristic: the data vary with the source. A cautious examination is still feasible, however, because the various data series tend to be similar in their magnitudes and therefore in their variations over time.²

The time series data for maize suggest that maize imports have gone through three phases. Up to 1970/71 average annual maize imports were negligible. Then, for a five-year period starting in 1971/72, they moved onto a substantially higher plateau. Starting in 1976/77, the maize import level dropped significantly and continued to decline in 1978 and 1979.

1. It is understood that there is no systematic empirical process whereby crop production is sampled as a basis for aggregate output estimates. Thus output figures in Table 4 should be interpreted as best judgments. The Food and Agriculture Organization publishes estimates of agriculture production for Tanzania which are similar.
2. The data from a specific source also vary. For example, the Marketing Development Bureau (MDB) of the Ministry of Agriculture (Kilimo) provides figures of 40,500 tons and 78,000 tons of wheat purchased in 1978; 40,000 tons and 14,900 tons of rice purchased in 1977; and 55,000 tons and 48,100 tons purchased in 1979. Sources: Kilimo Bulletin of Crop and Livestock Statistics - 1978, p. 47; Price Policy Recommendations 1980-81, Annex 1 Cereals, p. 22; Price Policy Recommendations, Volume 1, Summary and Price Proposals, p. 7.

Table 4

PRODUCTION OF MAJOR FOODS
(^{'000} metric tons)

Crop	Average 1961-65	Annual Quantity										Average 1970-71	Average 1978-79	Average Annual Change 1970-79
		1970	1971	1972	1973	1974	1975	1976	1977	1978	1979			
Maize	543	637	715	881	888	550	825	897	968	1000	1000	676.0	1000.0	5.3%
Wheat	20	61	84	98	78	46	56	58	35	28	32	72.5	30.0	-6.5%
Rice/Paddy	117	182	193	171	204	310	150	172	194	260	200	187.0	230.0	2.6%
Millet	129	138	138	128	136	88	160	130	150	160	160	138.0	160.0	1.8%
Cassava	2868	3384	3250	3189	3350	5425	6000	3900	4000	4076	5000	3317.0	4538.0	4.1%
Oilseeds	35	37	40	38	32	28	22	15	15	16	21	38.5	18.5	-5.8%

SOURCE: USDA, Indices of Agricultural Production 1970-79, Statistical Bulletin no. 637, p. 33.

Table 5

ANNUAL IMPORTS, EXPORTS AND DOMESTIC PURCHASES OF MAJOR FOOD GRAINS
(In '000 metric tons; exports in brackets)

Commodity (by Source)	1965/66	66/67	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80
MAIZE															
Imports															
World Bank ^a	8.8	7.9	[0.2]	[51.8]	46.9	[53.4]	92.3	78.9	183.6	317.6	42.3				
IMF ^b										281.0	89.0	58.0	38.0		
Kilimo ^c							92.3	78.9	291.1	225.4	106.5	41.6	34.2	-	
Goerreiro ^d				[4.0]	4.0	5.0	137.0	27.0	269.0	240.0	72.0	34.0	0		
Lombard ^e				[4.8]	4.3	[4.7]	136.3	29.0	269.2	239.7	72.6	34.2	[36.0]	[13.0]	
NPC Purchases															
Kilimo							43.0	106.4	73.8	23.9	91.1	127.4	214.2	222.7	
WHEAT															
Imports															
World Bank	21.6	32.1	13.6	36.7	35.7	11.6	49.5	8.2	35.8	109.6	31.2				
IMF										71.6	58.0	6.0	46.5	73.8	
Kilimo							38.1	-	46.5	28.8	41.1	33.6	40.5	60.0	
Goerreiro				16.0	29.0	22.0	36.0	5.0	60.0	111.0	3.0	47.0	24.0 ^f		
Lombard					19.5	19.0	21.0	-	60.0	111.1	3.1	46.5	73.4	-	
NPC Purchases															
Kilimo							57.1	47.0	28.0	14.0	25.0	27.0	35.0	28.0	
RICE															
Imports															
World Bank	11.4	6.5	3.8	-	-	-	[4.2]	[10.2]	23.0	63.0	20.6				
IMF										68.5	20.0	9.0	39.0	54.5	
Kilimo							-	-	72.6	14.3	20.8	14.8	49.8	36.8	25.6 ^g
Goerreiro				8.0	6.0	5.0	0.0	0.0	71.0	64.0	9.0	40.0	24.0 ^f		
Lombard				8.0	7.3	10.8	5.7	8.1	71.2	64.0	8.8	40.0	54.6	6.6	
NPC Purchases															
Kilimo							45.0	48.0	39.0	15.0	12.0	15.0	35.0	34.0	
TOTAL IMPORTS (Kilimo data) AND OFFICIAL PURCHASES															
MAIZE							135.3	185.3	364.9	249.3	197.6	175.0	248.4	222.7	
WHEAT							95.2	47.0	74.5	42.0	56.2	60.6	75.5	88.0	
RICE							45.0	48.0	111.6	29.3	32.8	29.8	84.8	70.8	
							175.5	180.3	551.0	321.6	286.6	265.4	409.7	381.5	

^aWorld Bank, *Tanzania Basic Economic Report, Annex VI: Key Issues in Agriculture and Rural Development*, December 1977, p. 10.

^bInternational Monetary Fund, *Recent Economic Developments*, August 22, 1979, Appendix III, Table I, p. 64.

^cUnited Republic of Tanzania, Ministry of Agriculture, *Bulletin of Crop and Livestock Statistics 1978*, p. 47; United Republic of Tanzania, Ministry of Agriculture, Marketing Development Bureau, *Price Policy Recommendations for the 1980-81 Agricultural Price Review*, Annex I: *Cereals*, September 1979.

^dMatthew H. Goerreiro, "Efficiency, Equality and Exploitation in Tanzanian Agriculture since the Arusha Declaration," Harvard, March 1980.

^eC. S. Lombard, "The Situation of Grains and Cassava Marketed through Official Channels in Tanzania: A Review up to June 1979," Early Warning and Crop Monitoring Project (mimeo).

^fFirst six months only.

^gProjection.

Because of the shortness of the time series and the variability of the data, discussion of an overall trend warrants caution. Nevertheless, a comparison of the series prior to 1971/72 to the post-1972 period shows a marked increase in the average annual level of maize imports even after allowing for the 1974/75 peak import levels. It is not clear, however, if this higher level represents the future trend, since maize imports dropped dramatically in 1979. Total maize imports for 1980 are not yet known, but they are likely to be in the neighborhood of 400,000 metric tons.¹

Examination for a trend in domestic maize purchases yields mixed results. Using Tanzanian Ministry of Agriculture (Kilimo) data for the period 1966-79, there appears to be an upward trend. But the rise is wholly due to the large purchases made in 1978 and 1979. If these two years are deleted, a simple least-squares trend estimation shows a slightly negative trend between 1966 and 1977. It will require more time to determine if there is an actual long-term increase in maize sales to the National Milling Corporation (NMC) or if 1978 and 1979 are anomalies in a longer term decline. Kilimo has noted that maize purchases by the NMC increased in the 1960s with a high point in 1970/71 and a subsequent decrease until 1976, when purchases again started to rise.²

As would be expected, the data show an inverse correlation between maize imports and NMC maize purchases. The sum of maize imports and purchases (using Kilimo data) for the period 1972 through 1979 does not reveal a distinct pattern. The data do show the results of the vagaries of weather in the form of drought-induced high import levels in 1974 and 1975 and of high domestic purchase levels in 1978 and 1979 when weather conditions were more favorable and a greater policy emphasis had been placed on food production.

1. A.I.D., expert source, October 16, 1980.

2. Kilimo, MOA, Price Policy Recommendations 1980-81, Summary, p. 7.

The figures for wheat imports do not appear to exhibit a clear pattern, although the data suggest that import levels tended to be higher in the later 1970s relative to the late 1960s and early 1970s. NMC wheat purchases are different from maize and rice production because wheat is not a subsistence crop and the purchase data therefore represent actual production. The eight-year time span does not show a trend, although annual volumes have tended upwards since a low in 1975. Wheat purchases in the late 1970s were still below the levels recorded in the early part of the decade. The level of wheat imports and domestic purchases in combination was about the same in 1979 as it was in 1972 after experiencing a mid-period decline.

Kilimo reports that wheat consumption is increasing and that more wheat could be sold if supplies are available. It is estimated that there is a present annual demand, at current consumer prices, for 110,000 tons of wheat.¹

The figures for rice purchases in Table 5 represent a relatively small proportion of production. Kilimo suggests that 10 percent of total rice produced is marketed, and of that, the NMC purchases about one-half of the marketed volume, or 5 percent of total output.² The data on rice imports do not support close examination for trends; however, the two series which trace imports from 1969 indicate that the average level of rice imports increased between the early and late 1970s. Although the figures are not available, Kilimo notes that a main feature of NMC purchases was a "steady increase in the years preceding 1970/71."³ In the mid-1970s NMC purchases of rice dropped to about one-fourth their level of a few years earlier, but volumes were increasing again by the late 1970s. Kilimo notes a near doubling in rice consumption between 1977 and 1979. In 1976, 37,000 metric tons were sold; in 1979, consumers purchased 73,000 tons of rice. More rice could have been sold

1. Kilimo, MDB, Price Policy Recommendations 1980-81, Annex 1, Cereals, pp. 19-22 and Price Policy Recommendation, Summary, p. 7.

2. Kilimo, MDB, Cereals Annex 1, p. 28.

3. Kilimo, MDB, Cereals Annex 1, p. 28.

if it had been available.¹

Perhaps the most interesting time series in Table 5 is the sum of annual imports and NMC purchases of all three major grains. Given caveats about the accuracy of the figures and the shortness of the time span, the aggregate data show a marked upward trend starting from the 1972/73 level. The 1972/73 average was about 177,000 metric tons. After 1973 the annual total was never less than 266,000 metric tons. One Kilimo report was relatively sanguine about aggregate food security in mid-1979, noting that "Tanzania is currently in a most satisfactory position."²

There was more concern about the shifting composition of grain sales to the NMC relative to growth trends in consumer demand for rice and wheat. Between 1976 and 1979 rice consumption increased at an average annual rate in excess of 32 percent and wheat consumption grew at 7 percent annually.³ Table 6 shows the development of NMC grain purchases since 1971.

There has been a rapid increase in NMC purchases of sorghum/millet and cassava. No sorghum/millet was purchased before 1972, but by 1979 purchases had grown to one-fifth of total NMC purchases. Within eight years cassava had increased its share from 4.7 percent to 14 percent of total official purchases. Kilimo notes that consumption of these foods is limited to the subsistence sector (i.e., there is virtually no urban demand); therefore, the only significant sales outlet is to the European stock feed market and "prices realized do not even cover the price paid to farmers." The only local sales of sorghum, 5,600 metric tons, were to local feed mills. The

1. Kilimo, MDB, Price Policy Recommendations Summary, p. 7.

2. Kilimo, MDB, Summary, p. 7.

3. Ibid., p. 7.

Table 6
MARKETED PRODUCTION OF MAJOR DOMESTIC CROPS
('000 metric tons)

Crop	Annual Marketed Production									
	Average 1967-69	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
Maize	114.4	186.4	43.0	106.4	73.8	23.9	91.1	127.4	214.2	222.7
Wheat	29.6	43.0	56.7	46.8	27.9	14.4	24.5	23.0	35.1	27.5
Paddy	37.2	53.6	68.6	73.1	59.6	22.7	18.4	22.4	53.3	52.0
Sorghum/Millet	-	-	-	0.9	4.1	4.4	5.1	21.0	69.4	98.7
Cassava	35.0	-	9.2	14.3	19.0	17.3	16.5	20.2	35.4	63.2
Groundnuts	5.2	-	3.3	3.5	1.4	0.5	0.5	0.4	1.4	2.6
Sunflower	4.8	-	6.2	9.5	6.3	7.0	6.9	5.9	7.2	12.0
Seasame	6.8	-	8.2	7.3	6.6	5.8	5.9	5.9	6.6	6.6
Total	233.0	323.0	195.2	261.8	198.7	96.0	168.9	226.2	423.6	485.3

SOURCE: Kilimo, MDB, Price Policy Recommendations 1980-81, Summary, p. 11.

nominal losses from millet and sorghum exports between January and July 1979 were estimated to have been about \$12.9 million.¹ One hundred and fifty thousand metric tons of millet, sorghum and cassava were exported, while approximately 165,000 metric tons of wheat and rice were imported. The recent history of sorghum, millet and cassava is related in a Kilimo report.

The production of the 'minor' food crops--sorghum, millets and cassava--has increased beyond everyone's expectation. The introduction of new sorghum (Serena and Lulu) and millet varieties has given farmers higher yields and the good rains of recent seasons, even in the marginal rainfall areas, have meant that sorghum production has flourished. The impact of the Government and Party campaign to increase sorghum and millet production has been felt in virtually all Regions, especially Dodoma, Tabora and Shinyanga. These crops were primarily introduced and encouraged to provide an assured food crop for the marginal rainfall areas, the belief being that local production would be consumed locally and only small surpluses would reach the commercial market. However, this has not been the case and commercial purchases of sorghum and millets excluding finger millet have increased from 16,600 tons in 1976/77 to 44,400 tons in 1977/78 and to 76,000 tons in 1979/80. What has in fact happened is that a subsistence crop has been turned into a cash crop and has in some cases taken over from formerly established cash crops, e.g., cotton and tobacco.

The domestic commercial market for sorghum and bullrush millet is restricted primarily to the production of animal feeds with only a limited market requirement for sorghum flour. The red Serena sorghum is unsuited to flour milling and because of its bitter taste and high tannin content is not suitable for large-scale use in animal feeds.²

E. Agricultural Exports

The Marketing Development Bureau of Kilimo stated in its Price Policy Recommendations for the 1980-81 Agricultural Price Review (prepared in 1979):

"The performance of the major export crops continues to be disappointing with production remaining below expectation. Despite favorable market prospects, exports of cotton, coffee, cashewnuts and tobacco declined in 1978 over the previous year. The volume of exports of these four crops has fallen by some 35 percent between 1973 and 1978 declining from 242,000 tons to 157,000 tons in that period."³

1. Ibid, pp. 8-9.

2. Kilimo, MDB, Summary, pp. 14-15.

3. Kilimo, MDB, Summary, p. 20.

Table 7 presents a profile of the composition of agricultural exports. The data show the importance of coffee, cotton and sisal relative to other exported commodities and the share of agricultural export earnings relative to total exports. Over the six-year period the average annual earnings of coffee, cotton and sisal comprised 53 percent of total export earnings, while total agricultural commodity exports accounted for 78 percent of total export earnings. Table 7 also shows the rise in the share of coffee exports, which reached a high of 42 percent of total export earnings in 1977. In spite of the fact that coffee volume fell 15 percent between 1973 and 1978, the share of coffee had increased by 15 percentage points.

While the data in Table 7 are probably the most reliable to be found, agricultural export data also vary by source. This point is illustrated in Table 8 to provide a more complete perspective. The data for cotton and tobacco exhibit some particularly large differences for given years and occasional errant behavior with respect to one another over time. Nevertheless, the data exhibit sufficiently similar patterns to permit a tentative assessment of overall trends.

The fact that the data for the physical amount of export commodities vary by source is noteworthy. The physical amount of commodities exported would, a priori, seem to be relatively unambiguous and well documented, but this is not the case here.¹ The Kilimo data series will be used in the following discussion to permit comparisons with Kilimo data on purchases of food commodities.

1. The sources are not necessarily independent. For example, the World Bank appears to have drawn its data from the same source as that of the Economic Survey except for cotton, where the Survey data frequently exceed the World Bank data by a factor of two. Note that the Economic Survey data for cotton and the World Bank data series coverage to become a single figure by 1975. The Economic Survey cotton data also converge with the USDA series and actually cross over between 1974 and 1975. If one series were consistent with respect to another, it would be plausible to attribute the discrepancy to a definitional problem such as one series measuring cotton lint plus cotton seed cake exports and the other including only one of the commodities. When the series converge or even reverse, speculation on plausible causes becomes impractical.

Table 7

PROFILE OF TANZANIAN AGRICULTURAL EXPORTS
(volume in '000 metric tons; value
in '000,000 Tanzanian Shillings)

Commodity	1973			1974			1975			1976			1977			1978			6-year Average % Share
	Tons	Shs	% of Total Exports																
Coffee	60	495	20.6	41	375	13.5	55	489	18.0	58	1,288	31.8	47	1,857	42.2	51	1,303	35.9	27.0
Cotton	61	342	14.2	50	495	17.9	40	212	11.5	58	625	15.7	40	541	12.3	47	420	11.6	13.9
Steel	142	285	11.9	120	609	22.0	117	390	14.3	126	346	8.5	109	351	8.0	106	333	9.2	12.3
Cashewnuts	114	174	7.2	118	243	8.8	102	221	8.1	72	207	5.1	79	273	6.2	48	229	6.3	7.0
Citrus	11	233	9.7	4	88	3.2	7	321	11.8	7	261	6.4	6	244	5.5	12	60	1.6	6.4
Tobacco	7	68	2.8	12	733	4.8	9	124	4.6	16	266	6.6	12	216	4.9	11	233	6.4	5.0
Tea	9	54	2.2	10	69	2.5	10	81	3.0	12	135	3.3	12	178	4.0	15	168	4.6	3.3
Subtotal of 7 Commodities	404	1,651	68.7	355	2,012	72.6	340	1,938	71.2	349	3,139	77.4	305	3,660	83.1	279	2,746	75.6	74.8
<u>Other Selected Agricultural Exports</u>																			
Cotton Seedcake	41	42	1.7	40	28	1.0	43	32	1.2	29	34	0.8	34	53	1.2	24	27	0.7	1.1
Seedbeans	13	23	1.0	9	22	0.8	14	47	1.7	11	40	1.0	8	35	0.8	12	49	1.3	1.1
Pyrethrum	3	18	0.7	1	13	0.5	5	22	0.9	2	24	0.6	2	27	0.6	2	21	0.6	0.7
Oilseeds	21	43	1.8	9	25	0.9	10	24	0.9	2	6	0.1	3	7	0.2	15	32	0.9	0.8
Total of 11 Commodities	-	1,777	73.9	-	2,100	75.8	-	2,063	75.8	-	3,243	80.0	-	3,782	85.9	-	2,875	79.2	78.4
Total Exports	-	2,403	-	-	2,770	-	-	2,723	-	-	4,056	-	-	4,403	-	-	3,632	-	

SOURCE: Adapted from Kilimo, MBS, Price Policy Recommendations for the 1980-81 Agricultural Price Review, I: Summary and Price Proposals, Dar es Salaam, September 1979, Table 2.5, p. 12.

Total production of export commodities peaked in 1971, then steadily declined through the 1970s. By 1979 the volume of agricultural exports was 26 percent below their 1971 level. By comparison, the volume of NMC purchases was 50 percent above the 1971 level.

Only tobacco and tea export volumes recorded growth over the period. A comparison of the average level of the first two years to the average of the last two years of the period indicates declines of 49 percent for sisal, 47 percent for cashewnuts, 41 percent for pyrethrum, 25 percent for cotton; increases of 84 percent for tea, 54 percent for tobacco and 3 percent for coffee.

In Table 8 the Economic Survey series for each commodity provides projections of export commodity volumes from 1979 onward. Steady growth in output for all commodities is forecast except for sisal, which is projected to continue its decline through 1982. No explanation is given for the expected reversal in the production trends.¹

Although the physical amounts of some agricultural exports have been declining, rising commodity prices have tended to bolster the level of export revenues. Table 9, adapted from an IMF review of the Tanzanian economy, illustrates the effect of rising commodity prices. Total export revenue from the six commodities increased by 32 percent from 201.7 million SDRs (\$243 million) in 1974 to 267 million SDRs (\$334.6 million) in 1978. During the same time total physical volume fell by 21 percent from 315,800 metric tons to 227,000 metric tons. (The fact that revenues from Tanzanian commodity exports increased during the 1970s is strong evidence that the main body of explanatory causes for falling volumes is to be found in Tanzania rather than externally. This point will be discussed later.)

1. The United Republic of Tanzania, Economic Report, Dar es Salaam, April 1980, Table 8, p. 15. Report prepared as background material for technical discussions with multilateral financial institutions.

Table 8
ANNUAL VOLUME OF DOMESTIC EXPORTS
('000 metric tons)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^f	1980	1981	1982
CATTLE																					
ES	26.1					44.4	49.5	49.8	44.8	35.5	54.7	60.3	41.0	54.4	57.9	46.9	50.8	51.0	52.8	54.4	55.5
ES (1000)										46.7	52.4	47.5	42.4	52.1	55.4	48.7	50.0	52.0			
IMP				28.2	50.6	44.4	49.2	49.5	44.8	35.5	54.7	60.3	41.0	54.4							
IMP (1000)									57.0	51.0	48.0	55.0	45.0	58.0	48.0	50.0	51.0	54.0			
USDA																					
CUTTIN																					
ES	128.5					197.5	136.5	156.0	143.9	161.6	124.9	114.8	75.6	38.0	55.2	40.4	44.4	41.8	44.2	46.0	46.5
ES (1000)										76.0	65.7	76.7	65.0	71.2	42.4	67.1	50.4	56.1			
IMP				56.2	86.2	60.8	62.9	56.9	40.7	54.8	64.5	60.0	49.1	38.0	70.5	67.2	51.8				
IMP (1000)									63.0	65.0	65.0	65.0	64.0	45.0	69.0	50.0	56.0	64.0			
USDA																					
PISAL																					
ES	223.0					204.4	189.1	171.9	217.2	160.8	153.1	113.4	93.4	101.6	80.3	68.5	79.2	67.2	70.0	80.0	90.0
ES (1000)										202.0	181.0	155.0	143.0	128.0	119.0	113.0	105.0	92.0			
IMP				213.6	198.9	204.4	189.1	171.9	217.2	163.8	153.1	113.4	93.4	101.6	80.3	68.5	79.2	67.2	70.0	80.0	90.0
IMP (1000)									202.0	181.0	157.0	155.0	135.0	123.0	119.0	105.0	92.0	85.0			
USDA																					
CATTLE HIDE																					
ES	59.9					70.9	79.7	82.2	77.4	95.9	112.9	109.9	113.9	97.3	66.4	74.7	44.2	32.1	20.0	10.0	10.0
ES (1000)										112.8	126.4	125.6	143.3	117.5	82.4	96.7	68.4	58.0			
IMP				64.6	72.2	70.9	79.7	82.2	77.4	95.9	112.9	109.9	114.0	97.3	83.6	96.7	68.5				
IMP (1000)									100.0	126.0	126.0	146.0	143.0	117.0	97.0	68.0	58.0	68.0			
USDA																					
WHALE																					
ES	4.0					6.1	6.7	7.6	6.9	8.3	9.2	9.5	9.6	10.4	12.0	12.0	14.9	15.0	16.0	16.0	17.0
ES (1000)										9.2	11.6	13.3	12.3	13.9	13.0	15.2	18.5	19.5			
IMP				4.3	6.3	6.1	6.7	7.6	6.9	8.3	9.2	9.5	9.6	10.4							
IMP (1000)									8.0	11.0	13.0	13.0	13.0	14.0	14.0	17.0	17.0	18.0			
USDA																					
WHALE MEAT																					
ES	5.4					4.1	5.0	4.5	6.0	4.7	5.6	6.1	8.8	6.3	11.1	11.5	11.0	12.0	13.5	14.5	15.5
ES (1000)										12.0	13.1	12.7	16.3	14.2	19.1	18.2	21.6	17.1			
IMP				3.3	3.4	4.9	5.2	5.0	7.7	6.6	7.1	7.2	12.1	8.6	19.1	18.4	17.1				
IMP (1000)									11.0	12.0	14.0	13.0	18.0	14.0	19.0	18.0	17.0	16.0			
USDA																					
WHALE BONE																					
ES										2.7	4.3	4.0	3.3	4.7	3.9	3.3	2.5	1.6			
ES (1000)										4.7	6.7	4.0	3.3	4.6	3.7	3.2	2.7				
IMP									2.0	4.0	5.0	4.0	3.0	5.0	4.0	4.0	3.0	2.0			
IMP (1000)														2.8	3.1	1.4	2.8	1.1			
USDA																					

For Series a through g see "Notes to Table 8" on next page.

NOTES TO TABLE 8

^aUnited Republic of Tanzania, Economic Survey: 1977-78 and 1978-79, p. 20.

^bUnited Republic of Tanzania, Ministry of Agriculture, Marketing Development Bureau, Price Policy Recommendations for the 1980-81 Agricultural Price Review, Vol. I: Summary and Price Proposals, September 1979, Table 2.4, p. 11.

^cInternational Monetary Fund, Recent Economic Developments, August 22, 1979, Table 5, p. 9. Table 16, p. 41, gives a different set of export volumes.

^dWorld Bank, Tanzania Basic Economic Report, Annex VI: Key Issues in Agriculture and Rural Development, December 1977, Statistical Appendix, Table 5.

^eUnited States Department of Agriculture, Indices of Agricultural Production in Africa and the Near East, Statistical Bulletin no. 637, 1980, p. 33

^fAll figures starting with 1979 in the "ES" row are projections from "Economic Report," Document 1, March 1980, p. 20. The report was prepared by the Tanzanian Government in early 1980 as a discussion paper for meetings with multilateral financial institution representatives.

^gUnited Republic of Tanzania, Ministry of Agriculture, Marketing Development Bureau, Price Policy Recommendations for the 1980-81 Agricultural Price Review, Annex 5: Pyrethrum, Table 3.1, p. 13.

Table 9

VALUE, VOLUME AND UNIT VALUE OF PRINCIPAL EXPORTS, 1974-78
(values in '000 SDRs, volumes in '000 metric tons)

	1974	1975	1976	1977	1978
<u>COFFEE</u>					
Value	43.7	53.9	132.6	192.2	134.9
Volume	41.0	54.5	57.9	46.8	50.9
Unit Value	1,065.9	989.0	2,290.2	4,106.8	2,650.3
<u>COTTON</u>					
Value	57.3	33.1	63.4	56.0	44.3
Volume	49.1	38.3	55.3	40.5	35.5
Unit Value	1,167.0	864.2	1,146.5	1,382.7	1,247.9
<u>SISAL</u>					
Value	54.2	33.7	24.7	24.4	23.8
Volume	93.4	103.1	89.6	68.0	66.7
Unit Value	580.3	326.9	275.7	358.8	356.8
<u>CASHEWNUTS</u>					
Value	28.3	24.6	21.4	28.3	23.7
Volume	113.9	101.3	72.5	78.7	48.0
Unit Value	248.5	242.8	295.2	359.6	493.8
<u>TOBACCO</u>					
Value	10.2	9.7	19.4	21.9	22.9
Volume	8.8	6.6	11.1	11.7	11.0
Unit Value	1,159.1	1,469.7	1,747.7	1,871.8	2,081.8
<u>TEA</u>					
Value	8.0	9.0	13.9	18.4	17.4
Volume	9.6	10.4	12.0	12.0	14.9
Unit Value	833.3	856.4	1,158.3	1,533.3	1,167.8
<u>TOTAL</u>					
Value	201.7	164.0	275.4	341.2	267.0
Volume	315.8	314.2	298.4	257.7	227.0

SOURCE: International Monetary Fund, Recent Economic Developments, August 22, 1979, p. 41.

In its 1977 report on Tanzania the World Bank presented a comparison of "actual and hypothetical export volumes and values for 1975." The comparison was designed to illustrate "what would have happened if higher rates of output growth for (selected) export crops would have been maintained."¹ It was found that export of the five commodities earned \$181 million in 1975, whereas \$391 million could have been received had production growth trends been maintained. Tanzania did not receive an additional \$210 million in 1975 it plausibly could have made if expansion in export commodities had been maintained.

Table 10 summarizes a similar exercise for the last half of the 1970s. The table shows that, starting in 1975, the cost to Tanzania in foregone foreign exchange was \$50 million ("earnings difference" in Table 10) because of declining export volumes. Over the five-year period the opportunity losses increase as the aggregate gap between actual volumes and simulated growth volumes increase and world commodity price increase. The opportunity loss for the entire period amounts to almost \$600 million, or approximately 4½ years of oil imports at the 1978 level.²

F. Regional Review of Agriculture

This section presents a brief overview of the interregional flow of food commodities. It indicates the relative importance of regions as producers, sellers, and consumers of agricultural commodities. Tables 11, 12 and 13 provide a relatively comprehensive overview of the interregional commodity flow. The figures in Table 11 are gross figures indicating marketed production

1. The comparison estimated volumes for cotton, coffee, sisal, raw cashewnuts tea for 1975 based on what the volumes would have been if they had grown at rates of one-half the average rates achieved between 1960 and 1966 (sisal volume was held constant at its 1966 level). World Bank Report No. 1616-TA, Tanzania: Basic Economic Report, Annex VI, p. 11.
2. Based on the 1978 oil import level of T/Shs 1,040 million converted at the 1978 rate of T/Shs 7.7 to \$1. IMF, International Financial Statistics.

Table 10

COMPARISON OF ACTUAL TO SIMULATED COMMODITY EXPORT EARNINGS, 1975-79
(volumes in '000 metric tons, values in '000 US dollars)

Commodity	Export Volumes and Values										Base Volume	Sum of Earnings Differences
	1975		1976		1977		1978		1979			
	Actual	Simulated	Actual	Simulated	Actual	Simulated	Actual	Simulated	Actual	Simulated		
COFFEE												
Volume	54.5	49.7	57.9	51.7	66.8	53.8	50.9	55.2	51.0	58.2	47.8	
Value	65,435	59,684	153,023	136,637	274,296	257,700	168,895	185,553	150,179	216,879		
Earnings Difference	-5,751		-16,385		33,405		16,657		26,700			54,626
COTON												
Volume	38.3	56.9	55.3	59.2	40.5	61.5	35.5	64.0	41.8	66.6	54.7	
Value	62,377	59,678	73,162	78,269	65,367	99,309	55,451	99,952	57,099	90,907		
Earnings Difference	19,501		5,107		33,942		44,501		33,808			136,859
SISAL												
Volume	101.1	200.0	89.6	200.0	68.0	200.0	66.7	200.0	67.2	200.0	200.0	
Value	40,724	79,000	28,493	63,600	28,492	83,800	29,815	89,400	47,470	141,280		
Earnings Difference	38,275		35,107		55,308		59,585		93,810			282,085
CASHEW NUTS												
Volume	101.3	94.1	72.5	87.9	71.7	101.8	48.0	105.9	32.1	110.1	130.8	
Value	29,884	27,765	24,722	33,377	33,054	42,756	29,664	65,428	21,944	74,923		
Earnings Difference	-2,118		8,655		9,702		35,764		53,079			105,082
PYRETHINUM												
Volume	2.8	3.0	3.1	3.1	1.4	3.2	2.8	3.3	1.1	3.5	3.5	
Value	943.9	981.7	4,219.6	4,211.0	3,560.9	7,797.5	2,763.5	3,221.9	2,172.0	6,845.8		
Earnings Difference	37.85		-8.22		4,236.54		485.47		4,674.78			9,426
Sum of Earnings Differences	49,944		32,475		136,594		156,992		212,072			588,077

See notes on following page.

NOTES TO TABLE 10

1. The base volume is from Kilimo Marketing Development Bureau estimates of average commodity levels for 1967-69 except for sisal (which is 6,000 metric tons less than the 1967-69 average). The pyrethrum initial volume is the average 1973-74 level of production.

2. Actual values and unit values are from the IMF "Recent Economic Survey," August 22, 1979, p. 41, except pyrethrum, and excepting 1979 values, which are based on USDA commodity market average prices. The 1979 cashewnut unit value is based on a least-squares trend calculation. Actual volume figures for 1979 are from Tanzanian Government estimates contained in the April 1980 Economic Report, p. 15. Pyrethrum volumes and unit prices are from Kilimo, MDB, Price Policy Recommendations 1980-81, Annex 5: Pyrethrum, pp. 13-14.

3. The 4% growth rate is arbitrary, but it seems reasonable for illustrative purposes in that it is about 1.2 percentage points above the population growth rate and about one-third the average growth rates attained between 1960 and 1966. The World Bank comparison used a growth rate near 6%.

4. Because international demand for sisal was a major factor in the decline of sisal exports, a constant annual level of 200,000 metric tons is used. This amount falls in between the 1971 and 1972 levels. Sisal exports had previously been as high as 223,000 metric tons in 1962 according to the Economic Survey.

5. The assumption that Tanzanian export levels are not sufficiently large over a wide range to influence international commodity prices is probably valid for all of the commodities except sisal. The assumption may still be valid for sisal, but because Tanzania produces a sufficiently large share of world output, changes in Tanzanian output could influence world prices and, in this illustration, exert downward pressure on sisal prices. Given the large increases in petroleum-based substitutes, however, sisal prices could still be expected to increase well over their 1973 price level.

only. Table 12 shows the net figures for food commodities only. The two following paragraphs from an MDB report summarize the tables and briefly explain why some of the flows occur as they do.

There are five regions which experience a net inflow of agricultural commodities from other regions of Tanzania. Three of these regions include the major export ports and urban centers of Dar es Salaam, Tanga and Mtwara. A fourth is Mbeya Region which is expected to receive inflows of maize from other Regions for export to Zambia. Lastly Kigoma Region appears as a net recipient of agricultural commodities as its meagre production of marketed maize, paddy and beans is insufficient to offset inflows of sembe, wheat flour, rice, animal feeds, sugar, and fertilizer.

The other fourteen regions all enjoy a net outflow of agricultural commodities, with the greatest volumes occurring in Morogoro, Dodoma, Kilimanjaro and Arusha Regions. Morogoro and Dodoma have agricultural commodity outflows respectively five and eight times the size of inflows of agricultural produce. By comparison Kilimanjaro and Arusha Regions have between two and three times the volume of outflow compared with inflow. The difference can largely be attributed to the fact that the last two regions are not only locations of production but also have major processing installations for coffee, cereals and pyrethrum, and these crops are transferred from other regions for processing. 1

Two additional points are noteworthy. First, Table 11 indicates that four regions in 1977/78 had virtually zero marketed production of export commodities: Dodoma, Singida, Kigoma and Rukwa. Dodoma is the largest food seller of the four and ranks fifth (along with Mbeya) nationwide in marketed food commodities. The data in the three tables imply that the bulk of food imports effectively stayed in Dar es Salaam and Tanga in 1978/79 since these two regions are shown to be the predominant food deficit regions. Kigoma was the only non-port or trans-shipment region to receive a new inflow of commodities in 1978/79. Kilimo estimated that of the 579 million ton-kilometer demand for transportation services in 1978/79, 44 percent of this traffic was directed toward the Dar es Salaam/Coast Region and 13 percent was directed to Tanga Region. The smallest volumes were directed toward Singida, Dodoma, Shinyanga and Kigoma regions.²

1. Kilimo, MDB, Inter-regional Transport, p. 17.

2. Kilimo, MDB, The Inter-Regional Transport of Major Agricultural Commodities in Tanzania, Dar es Salaam, June 1979, p. 17.

Table 11

MARKETED PRODUCTION OF AGRICULTURAL COMMODITIES
BY REGION: 1977/78
('000 metric tons)

Region	Export Commodities	Food Commodities	Totals
DSM/Coast	19.1	4.3	23.4
Morogoro	18.4	78.1	96.5
Tanga	76.0	12.1	88.1
Arusha	9.8	91.5	101.3
Kilimanjaro	21.5	76.3	97.8
Mara	6.7	10.2	16.9
Mwanza	16.6	10.9	27.5
West Lake	17.7	9.7	26.4
Dodoma	-	43.0	43.0
Singida	0.7	3.7	4.6
Shinyanga	19.1	14.0	33.1
Tabora	10.8	28.9	39.7
Kigoma	0.7	3.7	4.6
Rukwa	0.3	26.2	26.5
Mbeya	11.0	32.0	43.0
Iringa	13.3	29.4	42.7
Ruvuma	15.4	21.5	36.9
Mtwara	39.8	26.4	66.2
Lindi	14.1	9.5	23.6
TOTALS	311.0	532.7	843.7

SOURCE: United Republic of Tanzania, Kilimo, MDS, The Inter-Regional Transport of Major Agricultural Commodities in Tanzania, Dar es Salaam, June 1979.

Table 12

MARKETED STAPLE FOOD STATUS OF TANZANIA REGIONS
ESTIMATED FOR 1978/79 SEASON
('000 metric tons)

Food Surplus Regions		Food Deficit Regions	
Region	Surplus Cereals ^a	Region	Deficit Cereals ^a
Arusha	42.7	DSM/Coast ^c	53.2
Dodoma	27.8	Tanga ^c	41.6
Ruvuma	22.4	-----	-----
Iringa	20.2	West Lake	7.6
Mtaya ^b	17.2	Mtwara	7.0
Kilimanjaro	12.0	Lindi	4.6
-----	-----	Mara	1.4
Tabora	6.3	Kigoma	0.8
Shinyanga	6.0	Singida	0.1
Rukwa	4.5		
Morogoro	0.3		
Mwanza	0.3		

SOURCE: United Republic of Tanzania, Kilimo, MDB, The Inter-Regional Transport of Major Agricultural Commodities in Tanzania, Dar es Salaam, June 1979, p. 15

^aCereals include paddy (converted to rice equivalents at 65%), rice, wheat (converted to wheat flour equivalent at 75%), wheat flour, maize (converted to sembe equivalent at 95%), and sembe.

^bExclusive of any exports to Zambia.

^cExclusive of cereals traded externally (i.e., the food deficit of Dar es Salaam/Coast is considerably understated).

Table 13

ESTIMATED AGGREGATE COMMODITY FLOWS BY REGION, 1978/79
('000 metric tons)

Region	Outwards	Inwards	Net Flow
Dar es Salaam/Coast	90.3	330.5	(240.2)
Morogoro	111.7	23.3	84.5
Tanga	53.2	128.4	(68.6)
Arusha	76.7	32.7	44.0
Kilimanjaro	97.1	38.5	58.6
Mara	14.2	7.8	6.4
Mwanza	33.7	27.1	12.1
West Lake	20.8	15.4	5.4
Dodoma	76.1	9.6	66.5
Singida	5.7	4.3	1.4
Shinyanga	41.8	11.0	30.2
Tabora	35.1	17.0	18.1
Kigoma	2.4	4.7	(2.3)
Rukwa	17.3	9.0	8.3
Mbeya	35.5	63.9	(28.4)
Iringa	40.0	27.6	12.4
Ruvuma	39.4	18.8	22.4
Mtwara	Negligible	34.9	(34.9)
Lindi	23.4	9.3	14.1
TOTALS	814.4	814.4	-

SOURCE: United Republic of Tanzania, Kilimo, RDB, The Inter-Regional Transport of Major Agricultural Commodities in Tanzania, Dar es Salaam, June 1979, p. 16.

Table 12 shows essentially that there are three groups of regions in Tanzania with respect to their food production-consumption balance. There are six predominant food-exporting regions, eleven regions which are moderate surplus or deficit regions and two regions which are major food-deficit areas. The two major deficit areas contain the cities of Dar es Salaam and Tanga.

Agricultural production and official market sales were at high levels in the two years covered by the three preceding tables. Therefore it is useful to look at some time series data to see to what degree the general distribution pattern for 1978 and 1979 is representative of the flow pattern over the last several years.

In combination, Tables 14 and 15 help identify the most important regions for NMC sorghum and millet purchases. Table 14 provides a time series by region for only four years; however, it is apparent from Table 14 that prior to 1976/77 NMC sorghum and millet purchases were smaller by several factors. Arusha and Dodoma regions have been the dominant sellers of sorghum and millet since 1976/77. Each of these regions provides the NMC with two times more grain than the third ranking region of Rukwa. Over the last four crop years the three regions have provided over 75 percent of all NMC domestic sorghum and millet supplies.

Table 16 presents a regional breakdown for maize purchases over the last ten years. The last column contains the average annual purchase share for the ten year period. Dodoma Region has been the leading supplier to the NMC, providing an average of one-fifth of all purchases. Arusha Region is also at about the same level. Iringa ranks third with an average sales share of about one-half the two leading regions. Note that Dodoma was the predominant supplier of maize in the first half of the decade with an average of about 41 percent of annual sales over the first four years, followed by Arusha with a 17 percent

Table 14

**SORGHUM AND MILLET PURCHASES BY NMC FOR 1972/73-
1978/79 AND AN ESTIMATE FOR 1979/80
('000 metric tons)**

Year	Sorghum	Millets ^a	Total
1972/73 ^b	0.6	0.3	0.9
1973/74	1.7	2.4	4.1
1974/75	1.9	2.5	4.4
1975/76	2.9	2.2	5.1
1976/77	10.6	10.9	21.5
1977/78	33.6	36.7	70.3
1978/79	59.8	41.0	100.8
1979/80 Estimates	60.1	38.6	98.7

SOURCE: C. S. Lombard, "The Situation of Grains and Cassava Marketed through Official Channels in Tanzania: A Review up to June 1979," pp. 34 and 35.

^aMainly bullrush millet up to the end of 1976/77.

^bThe first time Government made purchases.

Table 15

COMBINED SORGHUM, BULLRUSH AND FINGER MILLET PURCHASES BY NMC
BY BRANCH AND AN ESTIMATE FOR 1979/80
('000 metric tons)

Region	1976/77		1977/78		1978/79		1979/80 NMC Estimate	1977-80 Average (%)
	Volume	Share (%)	Volume	Share (%)	Volume	Share (%)		
Dar es Salaam	70	0	204	0	1	0	N11	-
Coast	126	1	373	1	102	0	80	0.7
Morogoro	1,449	7	3,278	5	3,157	3	4,520	4.9
Tanga	424	2	258	0	517	1	405	0.8
Mtwara	883	4	1,792	3	3,926	4	3,800	3.7
Lindi	530	3	1,929	3	3,048	3	2,120	2.8
Arusha	1,485	7	3,424	5	10,546	10	9,500	32.9
Kilimanjaro	14	0	140	0	539	1	710	--
Dodoma	8,725	42	20,887	30	44,024	44	36,800	30.3
Singida	378	2	3,480	5	4,271	4	4,300	3.9
Tabora	364	2	6,275	9	6,499	7	8,525	6.6
Kigoma	155	1	222	0	85	0	310	--
Rukwa	3,035	14	13,598	20	9,298	9	15,200	14.5
Mwanza	62	0	157	0	342	0	290	--
Musoma	2,653	13	3,612	5	3,806	4	2,701	6.2
Shinyanga	184	1	5,267	8	2,716	3	2,670	3.7
West Lake	87	0	159	0	95	0	120	--
Iringa	30	0	161	0	1,594	2	1,050	--
Mbeya	188	1	2,666	4	5,159	5	5,200	3.8
Songea	139	1	1,014	1	1,085	1	670	0.9
Totals	20,981		69,396		100,810		98,771	

SOURCE: C. S. Lombard, "The Situation of Grains and Cassava Marketed through Official Channels in Tanzania: A Review up to June 1979," mimeo, pp. 34, 35.

Table 16

MAIZE PURCHASES BY NMC BY BRANCH FROM 1970/71 TO 1978/79
('000 metric tons)

Branch	1970/71		1971/72		1972/73		1972/74		1974/75		1975/76		1976/77		1977/78		1978/79		1979/80 NMC Estimate	1971-80 Average (%)
	Vol.	Share (%)																		
Arusha	45.1	24	7.6	10	17.1	16	7.0	10	2.9	12	10.1	11	14.7	12	60.3	28	70.0	31	60.0	19.2
Dodoma	50.6	31	15.6	26	54.1	51	34.5	47	-	-	6.0	7	11.5	9	17.8	8	37.1	17	30.0	22.1
Geeta/1520	-	-	-	-	-	-	-	-	-	-	1.5	2	2.4	2	2.1	1	0.8	0	0.8	-
Iringa	36.5	20	7.7	10	0.2	0	11.2	15	4.1	17	10.5	12	14.7	12	20.9	10	27.0	12	25.0	13.7
Kigoma	0.2	0	-	-	-	-	-	-	-	-	0.2	0	0.7	1	0.9	0	1.0	0	1.0	-
Kilimanjaro	16.0	9	2.9	7	11.8	11	6.0	8	4.8	20	4.8	5	6.1	5	22.9	11	13.8	6	13.0	9.2
Lindi	-	-	-	-	-	-	-	-	-	-	1.2	1	2.7	2	3.0	1	2.0	1	1.6	-
Mwanza	10.0	5	1.6	4	3.6	3	6.2	8	1.7	7	1.1	1	5.9	5	5.4	3	4.0	2	3.0	4.0
Mtwa	2.5	1	0.2	1	0.1	0	1.4	2	0.7	3	2.2	2	5.5	4	11.7	5	7.2	3	7.0	2.5
Mtongoro	6.7	3	3.9	9	9.6	9	5.4	7	1.0	4	10.5	12	9.2	7	14.5	7	5.0	2	5.0	6.3
Mtwara	-	-	-	-	-	-	-	-	-	-	2.7	3	4.4	3	1.8	1	1.0	0	1.0	-
Mtambwe	1.3	1	0.1	0	0.2	0	0.4	1	-	-	2.9	3	1.3	1	2.7	1	4.0	2	4.0	-
Mtoto	-	-	-	-	-	-	-	-	0.7	3	3.0	3	11.8	9	9.4	4	5.1	2	8.0	-
Mwanza	1.7	1	-	-	0.5	1	0.1	0	4.2	18	12.7	14	10.0	8	17.7	8	25.7	12	24.0	7.4
Shinyanga	0.2	0	1.4	3	-	-	-	-	-	-	0.7	1	-	-	2.7	1	2.6	1	2.2	-
Singida	5.4	3	1.0	2	0.7	1	1.6	2	-	-	0.5	1	1.1	1	1.0	0	2.2	1	2.0	-
Tabora	1.3	1	0.9	2	0.5	1	-	-	-	-	0.1	0	3.5	3	10.9	5	5.7	3	5.0	-
Tanga	0.9	0	0.1	0	-	-	-	-	3.8	16	20.2	22	20.8	16	7.2	3	7.5	3	6.5	6.3
West Lake	-	-	-	-	-	-	-	-	-	-	0.2	0	1.1	1	1.3	1	0.9	0	0.7	-
Total	186.4		43.0		106.4		73.8		23.9		91.1		127.4		214.2		222.7		199.8	

SOURCE: United Republic of Tanzania, Kilimo, NMC, Price Policy Recommendations for the 1980-81 Agricultural Price Review, Annex 1: Cereals Summary and Price Proposals, Dar es Salaam, September 1979 p. 16.

average for the same period. The annual average share for Arusha increased to 25 percent for the period 1976/77-1979/80 whereas Dodoma's average share for the same period dropped to 12 percent. The decline in Dodoma's share reflects not only a decline in absolute volume but also increasing purchases throughout the country. A Kilimo report on cereals provides more detail about the specific origin of the maize purchases:

Arusha's second year as the most important single source of NMC is noteworthy. In fact Hanang District alone sold 30,000 tons of maize followed by Arumeru District with 23,000 tons. In Dodoma Region, Mpwapwa District dominated maize purchases in 1978/79 selling 30,900 tons to NMC thus making it the most important maize District in the country. In Iringa Region 16,800 tons of maize came from Songea District.

The pattern of NMC paddy purchases over time by region is presented in Table 17. The average annual share figures in the extreme right column identifying Mbeya as the most important source, followed by Shinyanga, and Tabora. Mwanza and Morogoro rank fourth in importance. The Kilimo summary of rice and paddy production contains some interesting observations:

There has been a distinct shift in the main sources of supply of rice and paddy. Whereas Tabora dominated in the years up to 1970/71, Mbeya is now the main source of supply to NMC. Purchases are chiefly in the form of rice rather than paddy. In 1978/79 Shinyanga became the biggest single source of paddy (35 percent). As a source of rice Tabora was second to Mbeya. Also Mwanza contributed 17 percent of NMC's paddy with 4,600 tons, the highest since 1970/71.

Although about 400,000 smallholders still dominate production, NAFCO state farms have started taking a leading role in providing surpluses for sale to NMC. Thus in 1976/77 Mbarali State Farm at Mbeya provided 4,600 tons of rice and 10,000 tons in 1977/78 and 1978/79 respectively.

The report goes on to add:

Despite significant increases in producer prices in recent years and the improved 1977/78 and 1978/79 procurement, NMC purchases from smallholders are still disappointing. This is partly because it is more profitable for farmers to mill their own paddy and sell rice directly outside NMC. Increased purchases in Mwanza and Shinyanga are, however, noteworthy.²

1. Kilimo, MDB, Price Policy Recommendations, Annex 1, p. 9.
2. Kilimo, MDB, Price Policy Recommendations, Annex 1, p. 30.

Table 17

PADRY PURCHASES BY MMC, 1970/71 TO 1978/79
(*000 metric tons)

Branch	1970/71		1971/72		1972/73		1973/74		1974/75		1975/76		1976/77		1977/78		1978/79		1979/80	1971-80
	Vol.	Share (%)	MMC Estimate	Average (%)																
Tobacco	26.8	79	15.3	72	9.4	13	22.8	38	3.5	16	0.4	3	-	-	2.7	11	1.9	7	4.0	15.6
Rumex	19.5	21	2.8	4	2.4	3	4.0	7	1.6	7	1.0	9	1.8	11	1.6	7	4.6	17	5.0	10.8
Wheat	19.2	21	22.1	32	18.2	25	11.5	29	10.2	45	4.7	40	4.2	34	8.1	31	6.3	23	2.0	28.0
Rumex	8.6	9	3.8	6	1.9	3	0.5	1	0.2	1	-	-	-	-	-	-	0.2	1	0.2	-
Sh. Leverage	6.7	7	3.0	4	14.4	20	15.3	26	3.7	15	0.9	8	0.1	1	5.5	21	9.5	35	9.0	17.6
Mung Beans	4.9	5	18.2	15	9.9	14	2.3	4	3.1	5	2.3	20	1.7	14	3.3	11	2.2	8	1.0	10.2
Silicon Jere	3.4	4	3.6	5	7.9	11	1.2	2	1.4	6	0.2	2	0.5	4	0.8	3	0.1	1	0.2	-
Trigo	2.0	2	1.2	2	0.7	1	0.2	0	0.7	3	0.4	3	0.2	2	-	-	-	-	-	-
Sigmas	1.4	1	0.7	1	-	-	0.8	1	0.4	2	0.6	3	1.0	8	1.0	4	0.7	3	0.8	-
All Others	1.5	1	5.9	9	8.3	11	1.1	2	-	-	1.4	12	3.2	26	1.6	4	1.3	5	1.0	7.6
Total Padry	91.6		68.6		71.1		59.6		22.7		11.7		12.2		24.6		26.8		23.2	
Size Equivalent of 811	62.8		44.6		47.5		28.7		14.8		7.6		7.9		16.1		17.4		15.1	

SOURCE: United Republic of Tanzania, Siles, NBS, Price Policy Recommendations for the 1980-81 Agricultural Price Review, Annex 1: Cereals, Summary and Price Proposals, Dar es Salaam, September 1979, p. 29.

The pattern of NMC wheat purchases over time by region is relatively straightforward. It can be seen in Table 18 that Arusha is the dominant provider, with a ten-year average annual share of 70 percent. Kilimanjaro Region is next with an average 16 percent share for the decade. The pattern has been relatively constant throughout the 1970s.

The Kilimo annual report is again the source for additional information:

Production of wheat is based in two zones. One is in the Southern Highlands (Iringa) where almost all production comes from one large scale farm--the Tanganyika Wattle Company--and accounts for around 88 percent of NMC purchases in that zone. The other is Arusha/Kilimanjaro where most national wheat commercial production takes place (90 percent in 1978/79) and where until recently production was dominated by large scale expatriate farmers.

The rapid expansion in the early 1970s was due to activities in the latter sector, and the decline which set in from 1972/73 can be mainly attributed to changes in the industry's make-up, the main aspect of which has been the take-over of expatriate farms by NAFCO. The decline is also due to competition from other crops like beans, barley, and maize. ¹

The time series data in Tables 14 through 18 are consistent with the flow data in Tables 11, 12 and 13, and thereby allow some general observations about the national pattern of agricultural production and flows in Tanzania. First, the time series data establish that the six largest food surplus regions indicated in Table 12 have tended to be surplus regions for several years and the deficit regions of Dar es Salaam and Tanga are consistently deficit regions. This is particularly interesting with respect to the food marketing pattern. The data confirm what would be expected regarding export commodities, i.e., that the predominant share of tonnage moves from the interior to the four ports, with Dar es Salaam being the largest net recipient (by a margin of over three to one relative to other ports).

The data on food is interesting in that Dar es Salaam is presumably the main port of entry for international food imports and the figures from Table 12 state that a total of six regions were deficit in food by 21,500 tons. During

1. Ibid., p. 19.

Table 18

WHEAT PURCHASES BY NPC BY BRANCH FROM 1970/71 to 1978/79
('000 metric tons)

	1970/71		1971/72		1972/73		1973/74		1974/75		1975/76		1976/77		1977/78		1978/79		1979/80 NPC Estimate	1971-80 Average (%)
	Vol.	Share (%)																		
Arusha	29.9	70	40.2	71	36.3	78	20.6	73	4.7	33	18.5	76	17.3	64	23.2	66	22.5	82	25.0	69.5
Iringa	1.5	4	2.7	5	2.4	5	2.4	9	3.0	21	3.4	14	1.7	6	5.1	15	2.3	8	7.0	9.7
Kilimanjaro	9.5	22	10.8	19	6.3	13	3.7	13	5.3	37	1.3	5	6.5	24	6.0	17	2.1	8	2.0	16.5
Mwanza	-	-	-	-	-	-	0.2	1	-	-	-	-	-	-	-	-	-	-	-	-
Mbeya	0.5	1	0.4	1	0.5	1	0.3	1	0.3	2	0.5	2	0.2	1	0.1	0	-	-	-	-
Morogoro	-	-	-	-	-	-	-	-	0.3	2	-	-	-	-	-	-	-	-	-	-
Songea	0.2	0	0.4	1	-	-	-	-	-	-	0.3	1	0.4	1	0.1	-	-	-	-	-
Tabara	1.4	3	2.2	4	1.3	3	0.7	3	-	-	-	-	-	-	-	-	-	-	-	-
Uasin	-	-	-	-	-	-	-	-	0.8	5	0.3	1	0.5	2	0.2	1	0.4	1	0.3	1.0
West Lake	-	-	-	-	-	-	-	-	-	-	0.2	1	0.5	2	0.4	1	0.2	1	0.1	-
Total	41.0		56.7		46.8		27.9		14.4		24.5		27.1		35.1		27.5		30.4	

SOURCE: United Republic of Tanzania, Kilimo, MOA, Price Policy Recommendations for the 1980-81 Agricultural Price Review, Annex 1: Cereals, Summary and Price Proposals, Dar es Salaam, September 1979, p. 20.

the same period almost 100,000 tons of rice and wheat were imported. Keeping in mind urban preference for rice and wheat, this implies that virtually all of the imported food went no further than the port city areas. In addition, there was a net inward flow of food from the countryside, where surpluses exceeded deficits by 43,400 tons. While there are not sufficient data to make deductions about cross flows and composition of foods moved, the data in combination with a rudimentary knowledge about consumption preferences reveal a pattern (in a non-drought year) whereby imported grains were used to supply the urban centers of Dar es Salaam and perhaps Tanga, supplemented by a substantial net inflow of food from the countryside.

Dar es Salaam functions essentially as a hub, receiving food and agricultural exports from the hinterland, transmitting the export commodities to overseas destinations, and receiving international food imports which are retained. The cities of Tanga, Mtwara and Mbeya serve as ancillary hubs, differing from Dar es Salaam in their much lower volume of operations and their tendency to deal more with export commodities while Dar es Salaam handles the bulk of food imports. To the extent there are food movements among rural regions which bypass Dar es Salaam, its hub function is lessened. Although not explicitly examined in this report, it appears that the bulk of nonfood imports--such as manufactures and industrial intermediate goods--tend to flow into the cities and into larger towns to supply manufacturing enterprises and agricultural parastatals.

G. Evaluation of Agricultural Performance

Two closely related issues are addressed in this section: the reasons why export crop volumes have been falling over the decade, and the impact of agricultural policies on economic efficiency in food production.

1. Export Agriculture: External Influences. There are whole categories of explanatory reasons why the physical amounts of some export crops have been

declining or were not expanding over the 1970s. It appears that there are sets of causes for any given crop and no two sets are identical: that is, there are some particular causal elements which are unique to a given crop.

The first question is, was the cause external? Did export volumes decline or remain stagnant in response to falling international demand for sisal, cashewnuts, cotton, coffee and pyrethrum? The preceding description of agricultural exports indicates that world prices were increasing rapidly during most of the 1970s.

A time series of unit value indices for the five commodities (Table 19) indicates that world prices for the commodities in question were tending to rise with the exception of sisal prices. Thus, except for sisal, the international commodity market can be eliminated as a major factor behind Tanzanian export performance. International sisal prices were depressed for seven consecutive years before they started to recover in the early 1970s. Disinvestment and economic dislocation as a result of falling world prices constitute a plausible major cause for declining sisal production--up to a point. In view of the substantial and sustained recovery in sisal prices over the last seven years a new question arises as to why sisal production has been so slow to respond.

Weather conditions are always a strong influence over agricultural production and certainly the 1970s witnessed some severely dry years. But annual rainfall varied throughout the decade. It did not correspond to the pattern of gradual decline in export crop volumes. Food production in the late 1970s was thought to be near record levels. Thus, neither of the two major exogenous factors affords a convincing explanation for the decade-long decline in Tanzanian agricultural exports.

Table 19

EXPORT PRICE INDICES OF PRINCIPAL COMMODITIES

Commodity	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Cotton, raw	101.9	110.8	101.7	100.3	110.0	128.4	136.6	237.1	192.0	273.7	330.6	221.4
Coffee, unroasted	88.9	91.1	87.7	117.6	108.3	118.2	138.8	154.0	150.0	374.1	673.8	430.7
Sisal Fiber	83.4	71.2	78.7	69.8	70.6	80.2	165.7	420.9	252.3	240.8	294.6	233.8
Cashewnuts	94.0	92.2	104.6	107.4	90.1	96.2	92.8	124.5	131.3	142.8	181.4	263.0
Tea	100.1	94.2	89.3	85.4	82.2	82.2	100.6	110.6	110.4	157.4	209.6	158.3
Tobacco, unmanufactured	120.7	116.3	115.4	110.4	134.3	129.7	134.4	147.3	193.7	250.5	263.9	296.9
Cloves	101.2	99.0	402.9	446.4	385.4	397.6	420.7	469.4	820.9	700.2	804.7	103.8

SOURCE: United Republic of Tanzania, Economic Survey, 1978-1979 and 1979-1980.

2. Export Agriculture: Sector-wide Influences

After exogeneous causes, sector-wide factors comprise the second category. The first main subcategory is price behavior. In his excellent analysis of the decline in cashewnut production between 1974 and 1979, Frank Ellis offers three ways of evaluating prices to assess price behavior: (a) producer price deflated by a peasant cost-of-living index; (b) the producer price of a crop relative to prices of alternative crops (which indicates producer incentive to produce the particular crop being examined); and (c) "the share of the producer price in the final export price of sale." The producer price share when expressed as a time series "indicates the extent of flexibility which may exist to raise the producer price and hence also indicates tendencies in the extraction of surplus from peasant farmers."¹

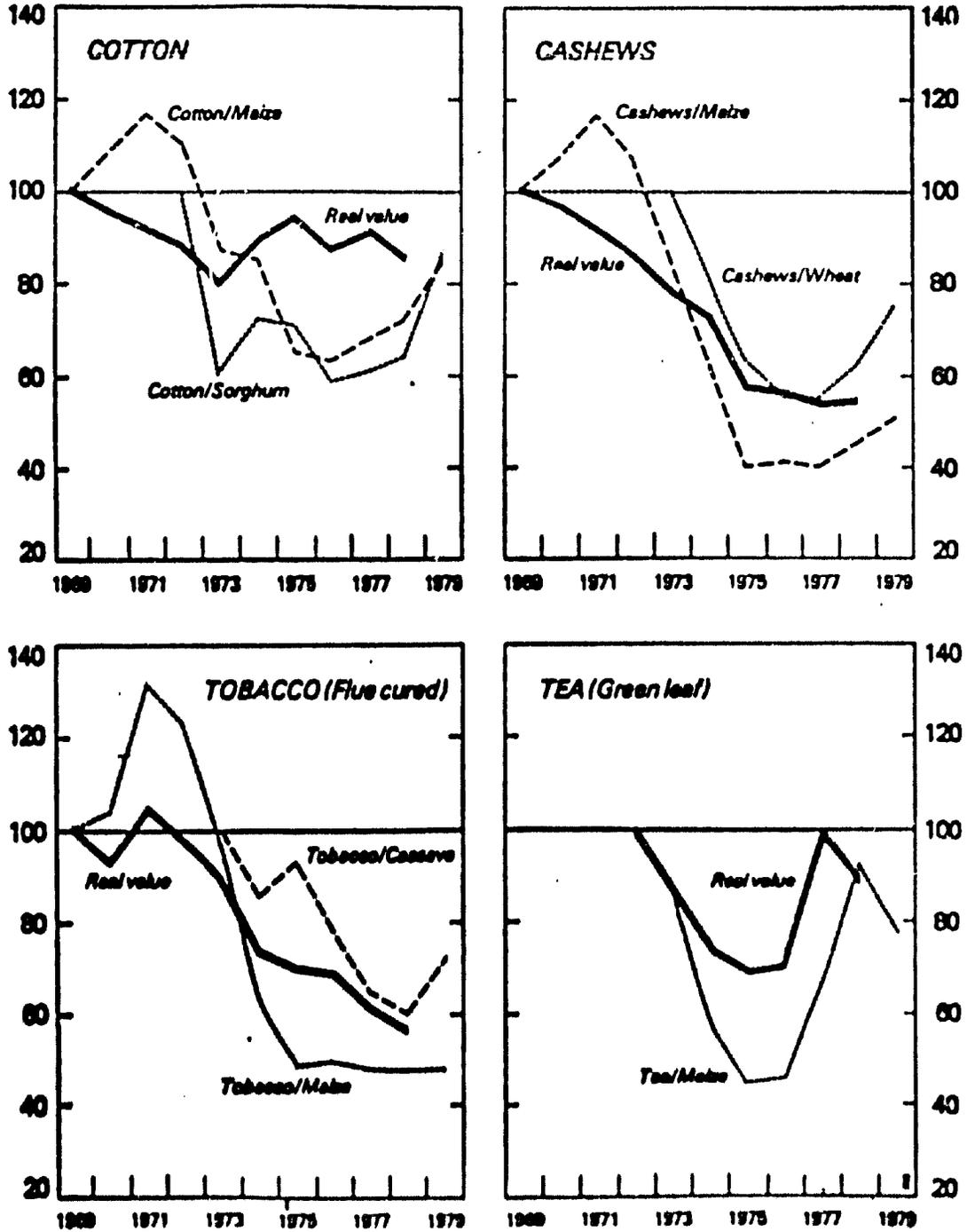
The following discussion will start with an examination of the first two measures: real and relative prices. The available evidence strongly suggests that the prices farmers receive for their export crops have been falling in real terms--declining in purchasing power--and that export crop prices have also declined relative to food crop prices. A graphical presentation of real and relative prices for four export crops is reproduced in Figure 1. In all four instances both real prices of the export crops and their prices relative to potentially competing food crops have tended to decline since the early to mid-1970s.

Table 20 summarizes the changes in constant prices (current price deflated by an inflation index to reflect actual purchasing power) for a series

1. Frank Ellis, "A Preliminary Analysis of the Decline in Tanzanian Cashewnut Production 1974-1979: Causes, Possible Remedies and Lessons for Rural Development Policy" mimeo, Dar es Salaam, 1980, p. 10.

Figure 1

PRODUCER PRICE OF EXPORT CROPS: REAL VALUE AND
RELATIONSHIP TO COMPETITOR DOMESTIC
FOODCROPS: 1969-79



SOURCE: International Monetary Fund, "Tanzania: Recent Economic Developments," August 1979, p. 10A.

Table 20

COMPARISON OF REAL PRODUCER PRICE MOVEMENTS
(T/Shs per kg at constant 1979/80 prices)

Commodity	Tanzania Producer Price		
	Average 1969/70-1971/72	1979/80	Change
Maize	.68	1.00	47%
Paddy	1.41	1.50	6%
Wheat	1.49	1.35	-9%
Groundnuts	2.45	4.00	63%
Castorseed	1.44	1.00	-31%
Sunflower ^a	1.19	1.50	26%
Sesame	2.96	3.50	18%
Cotton ^b	2.87	3.00	5%
Cashewnuts ^c	2.48	1.70	-32%
Tobacco - Flue	13.77	8.80	-36%
- Fire	4.80	6.25	30%
Pyrethrum ^d	8.57	6.50	-24%

SOURCE: Kilimo, MDB, Price Policy Recommendations for the 1980-81 Agricultural Price Review, I: Summary and Price Proposals, Dar es Salaam, September 1979, p. 35.

^aJupiter and sunflower.

^bAR grade.

^cStandard grade.

^dSimple average, all grades.

of food and export crops.¹ The list of commodities is partial but illustrative. The price of maize, the major food crop in Tanzania, increased by 47 percent in real terms over the decade (the real price had been gradually falling in the first half, then an upward adjustment reversed the decline) while the real prices of competing crops such as cashewnuts and tobacco experienced substantial declines. The fact that real paddy prices increased by 6 percent in ten years also helps explain the difficulty the NMC has experienced in obtaining adequate rice supplies from smallholders.

The Marketing Development Bureau of the Ministry of Agriculture (Kilimo) is straightforward in its view of the reasons behind declining exports.

The poor performance of the export sector can be attributed to a number of factors:

- i) Increasing efforts being devoted to increase food crop production.
- ii) Increased producer prices for food crops making them financially more attractive than competing export crops, e.g., tobacco, cashewnuts, pyrethrum, cotton.
- iii) The increasingly progressive nature of export taxes which preclude farmers from obtaining an increased share of the export realization price.
- iv) Higher marketing costs of Crop Authorities.
- v) The high official value of the Tanzanian shilling relative to major world currencies. The 10 percent devaluation in January 1979 brought the shilling value of the dollar back to the level it was in September 1977 but was insufficient to enable Crop Authorities to increase significantly the shilling return to export crop producers.
- vi) The absence of major production development programs for the production of export crops as compared to those for food crops.²

1. It is noted that the estimates of real prices may be substantially underestimated for two reasons. First, consumer prices are controlled in Tanzania; thus they may only remotely reflect actual market conditions. For example, retail prices for most foods have not been increased since 1975. Second, in many parts of the country even simple consumer goods are not available at all or are sold for limited periods of time. The Economic Report sums up the situation with the statement, "Given the distortions of retail trade and the actual availability of commodities in short supply at prices higher than controlled prices, the official price index definitely understates the degree of inflation and erosion of the real purchasing power in the hands of the community." United Republic of Tanzania, Economic Report, Dar es Salaam, April 1980, p. 19.

2. Kilimo, MDB, Summary, p. 10.

Five out of the six reasons concern prices directly or indirectly. Evidence of the second item relative prices, has already been provided in Figure 1 on page 123

We do not have systematic, empirical evidence of the displacement of export crops in favor of cash food crops in Tanzania over recent years; however, it is reasonable to assume that displacement has and is occurring. This supposition is based on the combination of two points. First, empirical analysis indicates that peasant farmers are sensitive to crop prices.¹ Second, each peasant farmer has a finite amount of time (labor) and resources to allocate to cultivation. If the return from one crop increases relative to the return from another crop grown by the peasant, at the margin, more labor and resources will be allocated to the higher return crop at the expense of the lower return crop.²

The downward trend for several export crops started before the major food producer price increases in 1975. The data from Table 8, however, indicate that while export crop production has declined or stagnated since the early 1970s, low-value commodities such as millet, sorghum and cassava (see Table 6) have become major commercial crops.

1. There is a substantial body of literature on the subject. In Tanzania, Guerreiro found evidence of appropriate price responsiveness for maize, cashewnuts, cotton and paddy. Matthew M. Guerreiro, "Efficiency, Equality and Exploitation in Tanzanian Agriculture Since the Arusha Declaration," pp. 2-50, 51, 52. Malima, in a study of cotton producers, found that cotton supply was closely linked to prices in a 1971 study. Kighoma A. Malima, "The Determinants of Cotton Supply in Tanzania," Economic Research Bureau Discussion Paper, No. 71.4, University of Dar es Salaam; 1971. Much of the empirical evidence indicates low price elasticities of supply in agriculture; however, the level of the elasticity does not change the result: a price increase will be followed by an increase in output (and a decrease in production of the lower return crop). Although each farmer may make a relatively small adjustment in his output mix, the aggregate effect over time can be substantial.
2. The reaction of government-owned farms and plantations to price shifts is probably more arbitrary in that direct instructions tend to guide production decisions of government enterprises. The instructions may not necessarily be based on a policy which adjusts the output mix of a manner which will maximize income. Aside from the revenue optimization question, state farming operations tend to be heavily specialized in a given crop, wheat or sisal for example, and are therefore much less able than the peasant farmer to make small adjustments in output mix. Nevertheless, if losses accumulate there is increasing pressure on the government to decide whether or not to continue subsidizing production (a choice which the peasant farmer does not have) or to make appropriate changes.

Several observers of Tanzanian agriculture argue that cultivation of export crops is being deemphasized by farmers in favor of cultivating food crops for sale. For example, a report by the Ministry of Agriculture lists "increasing efforts being devoted to increase food crop production" as the first reason for the poor performance of the export sector. The report further elaborates:

As mentioned in the section on food crop production, the marked rise in the prices for food crops, especially for sorghum, millets and cassava over the last two years has led to significant increases in production. It is thought that part of this increased production is at the expense of export crop production with farmers either taking land out of the production of export crops, e.g., cotton, or paying less attention to husbandry, e.g., cashewnuts....¹

In a special report which suggests a revision in the price of pigeon peas, Kilimo remarks on the "staggering increase in marketed production" (from 53 tons to 11,000 tons in three years) and concludes that:

The relatively favourable return for pigeon peas is likely to be a major cause of the rapid increase in its production as a cash crop. It is probable that this attractive return has a depressing effect on the production of much needed annual crops such as maize and sesame, and on perennial crops earning foreign exchange such as cashewnuts.²

Pigeon peas are considered to be an inferior commodity for large-scale, long-term national marketing operations because they have a short storage life.

Tanzanian officials at both the national and regional levels believe that the emphasis on food crops is impeding export crop production. In Arusha one official was reportedly upset because the prevailing price structure thwarted efforts to encourage cultivation of "national priority crops." Instead the farmers grow pigeon peas.³

1. Kilimo, MDB, Summary, p. 20.

2. Kilimo, MDB, Recommendation for a Revision in the Price Paid for Pigeon Peas (Mbaazi), Dar es Salaam, December 1979, p. 5.

3. Report from Embassy economic officer on recent conversations in Arusha and Tanga regions. May 19, 1980.

The director of one agricultural marketing enterprise indicated he was certain that relatively high food crop prices and the fact that the prices were being offered throughout the country were encouraging some farmers to plant more food crops instead of cash crops. He claimed first-hand knowledge of displacement of tobacco.¹ Regionald Green was convinced that higher maize prices in combination with the effectiveness of NMC buying teams in contacting farmers in even the most remote areas acted to convert a subsistence crop into a cash crop. Farmers who had never had a market for maize before could now rely on maize instead of cashewnuts as a cash source. Green felt the favorable price of maize and NMC purchasing effectiveness were the primary causes for the decline in cashewnut production.²

Ellis has conducted one of the most thorough examinations of the rise and fall of Tanzanian cashewnut production. His analysis clearly identifies relative prices as a major element affecting cashewnut production. For example, in a telling and detailed statement, Ellis reviews the impact of high-priced "minor crops" on cashewnut production.

The seriousness of the decline in the relative price incentive of cashewnut production has been exacerbated in recent years by the bringing under official marketing channels at high prices of a number of minor crops which are ideally suited for cultivation in similar agronomic conditions to the cashew, and which promise peasants a relatively high return over a much shorter production cycle. Of particular importance in the southern coastal regions are cowpeas (kunde) and pigeon peas (mbaazi), the producer prices of which were T/Sh. 3.25 per kilo and T/Sh. 3.00 per kilo respectively in the 1978/79 season. These are both annual crops with an interval between sowing and harvest of between 4 and 6 months, and for each of which there are both wet and dry season varieties permitting considerable flexibility in cropping patterns.

1. Interview with Mr. S. P. Muro, General Manager of GAPEX, Dar es Salaam, May 16, 1980.

2. Interview with R. Green, Professional Fellow at the Institute of Development Studies at Sussex University and economic advisor to the Tanzanian Treasury, Dar es Salaam, May 16, 1980.

A series of other minor crops, including kidney beans (maharage), bonavist beans (fiwi), and green gram (choroko) are all now purchased by NMC or GAPEX and, like the two cited above, offer peasants in the coastal regions a much more rapid return to labor than do cashewnuts.

Preliminary calculations undertaken in Lindi region under the Mtwara/Lindi Regional Integrated Development Plan suggest that cashewnuts rank 16th amongst alternative crops in terms of gross returns per hectare cultivated. This result, while only being regarded as indicative, is suggestive of the extent to which the cashewnut has declined in relative attractiveness in recent years.¹

While we do not have advantage of studies of the quality and relevance of Ellis' to throw more light on cotton, coffee, tobacco and pyrethrum, the general evidence suggests that relative prices have become an important bias against export crop cultivation.

The third and fourth reasons for declining export crop volumes in the MDB Summary are increasing export taxes as a share of the wholesale price and higher marketing costs of crop parastatals. The existence of large differences between the price received by farmers and the international commodity price is not a recent phenomenon in Tanzania. In 1974 the World Bank estimated that Tanzanian farmers received approximately two-thirds of the wholesale price for most crops compared to farmers in Malawi who received about three-fourths of the wholesale price for their marketed output.² The title of a 1973 study tells the story: "Stagnating Agriculture and the Distorted Structure of a Coffee Exporting Region in Tanzania." The study, undertaken in 1972 shows payments to farmers decreasing in the West Lake Region from an average of 80 percent in 1955-57 to 36 percent in 1967-69. Transport and marketing costs increased from 8 percent to 38 percent, taxes and export levies increased from 5 percent to 14 percent and cooperative society fees increased from 6 percent to 12 percent.³ Table 21 is reproduced

1. Frank Ellis, A Preliminary Analysis, p. 13.

2. M. Guerreiro, Efficiency, Equity, pp. 2-24.

3. Ibid., pp. 2-24, 2-25.

Table 21

SEED COTTON PRICE AND MARKETING COST STRUCTURE
(T/Shs per kg)

Item	1976/77		1977/78		1978/79		1979/80	
	Value	Share (%)						
Sales Price	4.17	100	4.76	100	5.15	100	6.41	100
Export Tax	0.76	18.2	0.48	10.1	0.33	6.4	0.46	7.2
Authority Margin	1.35	32.3	1.93	40.6	2.37	46.0	2.95	46.2
Village Levy	0.16	3.8	0.16	3.3	0.16	3.1	0.16	2.4
Producer Return	1.90	45.6	2.19	46.0	2.29	44.5	2.84	44.2

SOURCE: United Republic of Tanzania, Kilimo, MDS, Price Policy Recommendations for the 1980-81 Agricultural Price Review, Annex 4: Cotton, September 1979.

from a Ministry of Agriculture (Kilimo) report to illustrate details of the items combining to make the difference between the selling price of a commodity and the price the producer actually receives.

In the case of seed cotton the margin charged by the Tanzanian Cotton Authority has increased over four years from 32.3 percent to 46.2 percent of the sales price while the producer's share has decreased by about one percentage point. Table 22, adapted from Ellis' study of cashewnuts, shows that between 1968 and 1978 cashewnut export prices increased by 154 percent while the price to producers increased by 75 percent. During the same time the marketing margin increased by a factor of 2.5. The result was a fall in the producer's share by 17 percentage points. Ellis notes that "if the share of the producer price...were now returned to the level of 54-55 percent which prevailed through the 1960...it would bring the level of producer price up to roughly T/Shs. 2.20 per kilo."¹

The average payment to farmers as a percentage of coffee export revenues declined from 80 percent in 1955-57, to 65 percent in 1961-63, to 36 percent in 1967-69. The share of transport and marketing costs increased from 8 percent to 38 percent over the period, taxes and export levies increased from 5 percent to 14 percent.²

In a general review of marketing trends between 1968 and 1978, Guerreiro has found that marketing authority shares have moved upward for cotton, coffee, cashews and flue-cured tobacco, downward for maize, tea and fire-cured tobacco. Rice/paddy and sisal did not show a trend. Guerreiro observes that the "export crops with increasing marketing cost margins are, moreover, the key agricultural exports, accounting for 75 percent of the foreign exchange earned by agriculture and 63 percent of Tanzania's total exports in 1977."³

1. Frank Ellis, A Preliminary Analysis, p. 14.

2. Matthew M. Guerreiro, Efficiency, Equity, pp. 2-25.

3. Ibid, pp. 2-29.

Table 22

**CASHEWUTS: PRODUCER PRICES, EXPORT PRICES
AND GROSS MARKETING MARGINS
(T/Shs per kg)**

	(1)	(2)	(3)	(4)	(5)
Three-Year Average	Export Price	Producer Price	(2) as Percentage Share of (1)	Gross Marketing Margin	(4) as Percentage Share of (1)
1966/67-1968/69	1.34	.73	54	.61	46
1976/77-1978/79	3.40	1.27	37	2.13	63
Percentage Increase	154	74		249	

SOURCE: Frank Ellis, "A Preliminary Analysis of the Decline in Tanzanian Cashew-
nut Production 1974-1979: Causes, Possible Remedies and Lessons for Rural Development
Policy," mimeo, Dar es Salaam, 1980, p. 14.

The estimation of nominal rates of protection (NRP) provides an approximate idea of the relative degree of discrimination against export producers. The NRP compares the prices received by producers to prices offered on world commodity markets. If the price to producers is less than the world price equivalent (world price less domestic marketing costs) then the farmer is paying a tax on his output and the NRP has a negative sign. If the domestic price exceeds the world price equivalent, the farmer is being subsidized (the NRP is positive). For example, NRP estimates based on 1979/80 prices are -70 percent for cotton and -62 percent for cashewnuts.¹ These estimates represent a high level of discrimination. NRP estimates for Zambia over four years for ten crops averaged -16 percent. In 1978/79 the highest negative NRP for cotton was 26 percent. The NRP for confectionary groundnuts in 1978/79 was -15 percent.²

If the NRP is adjusted for input subsidies, it moves in a positive direction. Thus, to the extent cashewnut and cotton production are subsidized the negative value of their NRPs will decrease. It is understood that cashewnut production is not subsidized; thus the -62 percent figure stands. There are some subsidies to cotton farmers which would tend to make the NRP estimate of -70 percent somewhat higher than it should be.

The evidence suggests that over time there has been an increasing spread between the price the farmer receives for his product and the final selling price. The major component in the increasing difference between export

1. Based on producer price for cotton (AR) of 2000 shs. per ton and an international price of \$1,366 per ton converted at shs. 8:\$1 for a Shilling price of 10.928. Marketing costs (transportation, storage, etc.) are assumed to be shs. 1000/ton. The world price equivalent is Shs. 9,928 and the NRP is $3000 - 9,928 / 9,928$. The producer price for cashewnuts is Shs. 1,700 per ton and the international price is \$680.50 per ton or Shs. 5,444. Price sources: Killimo, MDB, Summary, Appendix Table 1 and USDA.
2. Doris Jansen Dooe, *Zambian Agricultural Pricing and Marketing Policy*, April 1979, p. 11.

price and the price the producer receives has been the marketing margin charged by parastatal crop marketing enterprises. The increasing spread has the same economic effect as an export tax. It discourages exports.

The reasons behind the increase in marketing margins are not difficult to find although quantification of the effects of particular elements is more difficult. One reason for increasing marketing margins is the rising cost of inputs, many of which are imported. The second reason is that--to varying degrees--the crop authorities have become, over time, increasingly inefficient and ineffective, even counterproductive in some cases.

3. Export Agriculture: Parastatal Costs and Undervalued Foreign Exchange

The reasons why parastatal margins have increased are primarily interesting for the implications they offer for future changes in parastatal marketing margins. Parastatal margins are important in that if the Tanzanian Shilling is not devalued then reduction of marketing margins is one of the few means left whereby agricultural producer prices can be increased by non-inflationary means. This leads to a discussion of the fifth point on the MDB Summary list: the high official value of the Tanzanian Shilling.

A basic discussion of the overvalued shilling can be summarized in three points. First, it is a fact the shilling is overvalued by a substantial amount (the official rate in mid-1980 was 8.2 shillings to the dollar; the black market rate is reported to vary between 16 and 25 shillings to the dollar). Overvaluation of the currency is officially acknowledged by the Government's employment of severe import restrictions to ration foreign exchange. The import restrictions are intended to regulate the demand for foreign exchange to match the supply. There is disagreement about what should be done regarding overvaluation but there is no dispute that there is an excessive demand for foreign exchange at the prevailing official rate.

The second point is, an overvalued currency discriminates heavily against exports and export growth. As prices rise domestically and the exchange rate remains fixed, exporters cannot receive proportional increases in local currency prices. It is standard practice in many economies either to allow their currencies to depreciate with respect to other currencies to offset domestic inflation or, if their exchange rate is fixed, to devalue periodically to allow exporters to continue to receive prices commensurate with the domestic price level. There is an extensive body of economic literature and empirical studies which documents the discriminatory effects against exports by exchange rate overvaluation.¹

The NRP calculations from page 133 can be used to illustrate the anti-export producer bias of an overvalued exchange rate. If, for example, the Tanzanian shilling were to be devalued by 100 percent from 8 to 16 shs:\$1 the 1979/80 NRP estimate for cotton would change from -70 percent to -40 percent and the cashewnut NRP would move from -62 percent to -23 percent.

The third and final point in summarizing the overvaluation issue is that it is unlikely that there will be any substantial devaluation in the near future. The Tanzanian Government has allowed small adjustments in its exchange rate in the past, e.g., 14 percent in 1975 and 10 percent in 1979. The Government has been strongly opposed to devaluation in the current situation, whereas the IMF has included devaluation as a key measure in the effort to address Tanzania's financial and international trade problems. It appears, however, that devaluation will not be allowed to play a major role in

1. Exchanges of relevant literature are Jagdish N. Bhagwati, Anatomy and Consequences of Exchange Control Regimes; Anne O. Krueger, Liberalization Attempts and Consequences, Ballinger Publishing Company for the National Bureau of Economic Research and Economic Development, Cambridge, Mass., 1978. See also Bela Balassa et.al., The Structure of Protection in Developing Countries, The Johns Hopkins Press, Baltimore, 1971.

Tanzanian export policy in view of the recent Tanzanian-IMF agreement whereby the Fund will only "review" the Tanzanian exchange rate.¹ This, of course, does not rule out devaluation in the future or, even more probable, the introduction of de facto devaluation, e.g., by means of export subsidies and additional import duties or the introduction of a system of split or multiple exchange rates.

Instead of devaluation the Tanzanian Government proposes to increase producer prices for export commodities. Unless it is assumed that world prices will increase to accommodate an increase in domestic currency prices, the increase in producer prices must either be accommodated by increasing deficit spending or by reducing marketing margins and/or export taxes and passing the reduction on to the farmer.

Marketing margins constitute the largest single component of commodity export prices (40 percent to 60 percent) and therefore their reduction offers the greatest potential for a noninflationary means to increase producer prices without devaluation. To the extent that export growth is dependent on major reductions in parastatal charges, however, it is difficult to be sanguine about the chances for a successful, sustained export growth performance in Tanzania. To reduce marketing margins without increasing parastatal deficits calls for an outright reversal of what appears to be a deep-seated trend of rising parastatal costs and inefficiency. Furthermore, if some level of export parity is to be maintained in order to sustain export growth in the future, marketing costs, export taxes and other charges against export producers will have to be tightly constrained.

A report on "Kilimo Crop Authorities" has found that there is a "lack of sufficient planning and control" in parastatals, that there is a "trend towards establishing a heavy administrative base," and that parastatals are

T. Washington Post, August 9, 1980, p. A15.

absorbing an excessive amount of social costs, e.g., transportation and housing. Some of the implications of its findings, according to the report, are:

1. The disparity between increases in distribution costs and producer price increases will continue to grow.
2. If the distribution costs of the parastatals continue to increase at current rates and the grower is squeezed between world parity prices and these costs, the Government will find that within three years it will have to come up with large subsidies or be faced with massive losses in the parastatals if it wishes to reasonably increase prices to growers. 1

Limited producer price increases can be obtained now for selected crops where export taxes can be lowered. Reduction of export taxes has been suggested by the Marketing Development Bureau as a mean to encourage cotton production.² It may also be possible to increase some export producer prices by passing on increases in international commodity prices.

The prospect of reducing export taxes is not single sided. An export tax reduction will increase producer prices but it will also reduce government revenue which, in a deficit situation, will increase the deficit. This may not be the case, however, if the commodity is being processed in Tanzania and excess processing capacity exists (which it does). Then the initial loss to the Tanzanian Treasury can be recovered by earnings from the incremental processing.

The main conclusion to be drawn is that, while the immediate prospects are not encouraging, there is potential. The solution, however, does not lie in a single step. It is necessary to apply a systemic approach, tracing the effects of a measure through the system. This is particularly critical in the Tanzanian case. Given the low utilization rates of agricultural

1. Kilimo, MDB, "Report on Investigation Into the Financial and Operating Position of Kilimo Crop Authorities: Overall Review," Dar es Salaam, May 1979, pp. 6-8.

2. Kilimo, MDB, Annex 4, Cotton, pp. 34-5.

resources and agricultural processing capacity, it is likely that steps which would nominally appear to reduce government revenues could, once the incentive effects have worked their way through the entire production system, result in net gains in Government revenues (e.g., tax revenue losses are offset by increases in Government revenues from higher levels of agro-processing) and substantial increases in foreign exchange earnings. Selective analysis of the economics of agricultural export production systems, from the farmer to the ship, is warranted and urgent, and could provide a badly needed improvement in empirical understanding for formulation of policy improvements.

4. Export Agriculture: Crop-Specific Factors

Declining export crop volumes are occasionally explained on a crop-by-crop basis. To the extent that the causes are unique to the crop and that several coincide, it is possible to deduce that the aggregate poor performance is the result of the coincidence of several unrelated misfortunes. For example, coffee exports were held down in 1979 because the boiler at a processing plant blew up coincidentally with the onset of coffee berry disease, insect infestations and leafrust. Tea exports were impeded by the failure of a generator. Cotton exports were reduced because cotton gins were operating at a suboptimal level and adequate transportation was not available. Pyrethrum exports were held in check by transportation problems relating to the fact that pyrethrum is grown in the south of Tanzania but the processing plant is located in the extreme north. Cashewnut production was below capacity because of inadequate husbandry.¹ Sisal output has been held down because of severe labor shortages.²

1. United Republic of Tanzania, "Economic Report," Dar es Salaam, April 1980, pp. 22-28.

2. Verbal report by Economic Officer, U. S. Embassy based on his conversations with sisal growers in Tanga region, Dar es Salaam, May 1980. The Tanzanian Daily News reported on June 26, 1980 that the Government had called for student volunteers to help harvest sisal.

It is not feasible to examine what lies behind the numerous problems inhibiting the cultivation, marketing and processing of export crops, but the reasons can be sorted into crude categories which help to indicate their general origin. The first category of crop-specific problems relates to foreign exchange scarcity, e.g., machinery remains inoperative because there is no foreign exchange to buy necessary replacements or parts. A second category relates to incentives. Husbandry practices and preventive measures to control insects and plant diseases can be slighted in favor of other activities perceived to be more fruitful. The last category is unavoidable, unexpected calamities such as the onset of some plant diseases or insect infestations, or catastrophic equipment failures. Most phenomena in this category tend to be correctable in a short period (say, one year or less), although certain diseases may persist in holding down output.

The first two categories are systemic in origin; they are not inherently unique to the crop. The third category consists of phenomena which are similar to such factors as poor rainfall or sudden declines in international commodity prices: their occurrence is beyond the control of the system. Equipment failures and some disease losses and other accidents can cause temporary shortfalls for specific crops but if the shortfall persists and turns into a state of chronic decline the cause is to be found somewhere in the production system. Thus crop-specific, accidental phenomena may explain occasional shortfalls in crop production and if enough of them coincide, they could conceivably explain poor performance in aggregate export production. Crop-specific, accidental phenomena cannot be expected, however, to explain a general pattern of export volume decline year after year.

5. Export Agriculture: Availability of Consumer Goods

There are two remaining sets of factors to be discussed which contribute to Tanzania's weak agricultural export performance and which will continue to influence future performance. The first set of factors concerns the supply of consumer goods to rural areas. The second contributing element is the generally weak state of agricultural research, development and logistical support.

Inadequate supplies of goods to rural consumers is only outlined here, but shortages have been a negative factor in Tanzania's past agriculture performance and should they continue, they will constitute a serious impediment to any agricultural recovery effort. There is virtually universal agreement that even simple consumer goods are not generally available to the majority of the rural population. While there is no empirical evidence available in Tanzania on the relationship between consumer goods availability, producer price increases and agricultural output, it is plausible to suppose that the consistent absence of goods will diminish the incentive effect of higher producer prices. Furthermore, it is reasonable to expect that producer price increases in a goods-scarce economy will have the least incentive effect on producers of crops which have no intrinsic value to the farmer (i.e., food crops can be bartered; however, there is virtually no local demand for quantities of traditional export crops).

Consumer goods scarcity is a chronic condition of the Tanzanian countryside. The Tanzanian Central Bureau of Statistics found that 14 percent of a basic set of consumer goods was not available in 1970/71. In 1971/72 the unavailable portion increased to 35 percent. In 1976/77 it was 42 percent and in 1977/78 it was 31 percent.¹ This was prior to the 1979/80 financial and balance of payments crisis. The World Bank in its 1977 Basic Economic
T. Matthew H. Guerrero, "Efficiency, Equity," pp. 2-64.

Report noted that basic goods such as sugar, cooking oil, batteries and kerosene were not available from authorized dealers for periods of several months. In May 1980, Tanzanian officials and foreign observers were reporting that even the most basic goods were virtually unavailable in the countryside. On a number of occasions it was emphatically stated that producer prices were not the issue. "The peasants have lots of cash. The problem is they cannot use it to buy the goods they require because the goods are not available."¹

There are several reasons for the absence of consumer goods, some of which are interrelated. Guerreiro observes that "Tanzania's system of rigid price controls, excessive demand and lagging production combine to create ever-present shortages of essential products."² That consumer commodities are not available in much of the countryside is not surprising when the causal elements are assembled. Movement of goods is costly in part because of the state of the transportation infrastructure. The transportation industry, besides being subject to high risks and costs, must deal with rapidly rising costs. Official transportation tariffs, however, tend to be unresponsive to differential transport costs. The result is private transporters do not service more costly destinations.³

The combination of comprehensive price controls, under the Tanzanian policy of pan-territorial pricing, and large production shortfalls in a principal causal element. Inadequate domestic production of consumer commodities has been a chronic problem which has become increasingly more critical over time as inflation has increased and production levels of consumer goods have been reduced by input constraints. Many of the input shortages are in turn attributed to foreign exchange restrictions. Pan-

1. Remarks to this effect were volunteered routinely in conversations with Tanzanians and foreign officials in the course of discussions on agricultural problems. Interviews in Tanzania, May 1980.

2. M. Guerreiro, "Efficiency, Equity", p. 2-61.

3. Kilimo, MDB, The Inter-regional Transport of Major Agricultural Commodities in Tanzania. Interview with Mr. Abebe, Acting Director, Board of Internal Trade, May 14, 1980. Numerous conversations with Tanzanians and official foreign community, May 1980.

territorial pricing is then applied in this context. Under pan-territorial pricing the price of a good is set at a given level which is to be the retail selling price in all 18 regions of the country. The price is calculated to represent the average cost of all inputs including the costs of manufacture, markup, distribution and sales. The retail price may vary within the region to reflect distribution costs. The result, however, is that manufacturers can sell all they can produce without extensive distribution.¹

There has been substantial commentary in the Tanzanian press, by Tanzanian officials and by observers about mismanagement and corruption at the retail level. Given the basic supply and distribution problems, however, practices such as selling by rural retailers at excessive prices or arrangements whereby only government officials can buy at official prices are more symptomatic than causal. While it may be correct that the few goods which do get through still do not get into the hands of agriculture producers, the fundamental problem remains: it appears that so little is being delivered to rural areas initially that the actual division of the final trickle is not very significant in terms of its aggregate effect. If basic supplies were adequate and if the price structure reflected distribution costs, there would be less opportunity and less incentive for misconduct at the retail level.

Attention, to this point, has been placed on prices and closely related aspects. There is little doubt or disagreement that adjustments in producer prices for export crops are a necessary element in any effort to improve Tanzanian agricultural performance. But adjustments are based on the premise that the resulting increase in farmer income can be traded for goods. If the consumer commodities are not available, the incentive effects of the price changes will be vitiated. Improvement in farmers' money incomes is necessary, but it is not sufficient to yield a sustained increase in export crop volumes.

¹. It is reported that when goods are put on sale in some urban areas, it is common practice for consumers quickly to buy up the entire supply, most of which will be resold at higher prices. Rural dwellers are left out of the initial retail transaction.

The last set of factors to be discussed relating to Tanzanian agricultural export performance involve provision of technical services and inputs. It may be recalled that the Kilimo report listed the "absence of major production development programmes for the production of cash crops as compared to those for food crops as its sixth reason for declining exports.¹ Export crop production is frequently supported by provision of selected seeds (cotton) or plants (pyrethrum), but there have not been any major national efforts to maintain or to increase export crop productivity. The World Bank and various European donors have been or anticipate assisting in tea and coffee production. Agricultural research in export crops has not been active except for coffee. In the case of coffee, research was virtually halted after the coffee research station in Arusha was instructed to broaden its efforts to all crops.²

Finally, logistical problems have been a negative element in Tanzanian export performance. The problem appears to exist throughout the system starting with an inadequate and deteriorating infrastructure, an inefficient system for allocating and managing transportation rolling stock, and poor management. As a result inputs arrive too late or not at all, output is not picked up or, reportedly, some farmers, discouraged by the risks inherent in the logistical system, choose to grow crops less dependent on outside logistics support.

1. The World Bank also cites "insufficient research on developing appropriate technical packages" but adds that this applies "especially for food crops." Basic Economic Report, Main Report, December 1977, p. 59. We do not have enough information to explain the apparent contradiction in World Bank and Kilimo assessments.

2. Interview with regional planner. Arusha, May 25, 1980.

6. Food Production: Description

The discussion of food crops and related policies takes a different approach from that employed in the discussion of export crops. The two sub-sectors are closely related, but the problem in food crop production is not one of secular decline and stagnation as it is with export crops. Food production levels are not declining; overall, the system is providing adequate aggregate food supplies for the population. The problem lies in the degree of economic distortion in the system and the high economic costs being incurred as a result of the current set of pricing and marketing policies. The functioning of the system is further distorted by overvaluation of the Tanzanian shilling and the high operating costs and poor performance of several crop authorities (parastatals).

To help create some perspective, it is useful to distinguish what are, in effect, two agricultural market systems operating in Tanzania: the primary system and the official system. The primary system incorporates food crop producers, rural consumers and marketing principals. Marketing tends to be local, with prices determined by local market conditions. The primary system in Tanzania encompasses in excess of 95 percent of domestic food production, approximately 95 percent of total food consumption, and a similar share of the population.¹ The official system incorporates the Government marketing apparatus, state farms and (primarily) urban consumers. The official system sales are based on Government-determined, fixed prices. A policy of uniform product pricing establishes the same price for a given product, which price prevails throughout the country. The National Milling Corporation, as the marketing agency of the official system, conducts all purchases of food from producers and all sales to retail outlets. The official system essentially purchases the residual supplies of food yielded by the primary system.

1. United Republic of Tanzania, Kilimo, Mili, Report on Investigation into the Financial and Operating Position of Kilimo Crop Authorities, Individual Report L2: National Milling Corporation, p. 4.

The size and composition of the residual is a function of relative official producer price levels for all crops (including export crops), crop growing conditions, the degree of effectiveness of the NMC and prices in the primary marketing system. The official system has two primary functions: it implements Government pricing policy decisions and it obtains food from the primary system and from overseas, if necessary, for distribution to and sale in deficit areas. Within the latter function the NMC also acquires and holds food stocks for reserves.

While there is no systematic, empirically based body of analysis to illuminate the interrelationships of the two systems, the historical behavior of official prices and the record of NMC purchases suggest the following general relationship exists. The two systems have been distinguished by their composition, but they are closely linked via the interaction between official prices and open market (primary system) conditions and prices. When prevailing conditions, e.g., weather, cause prices in the primary system to exceed the official price, there is little or no transfer of food from the primary to the official system. If the official system is unable to distribute and sell food in the primary system (for whatever reason(s), e.g., insufficient reserve stocks or an inadequate distribution system), the official system will exert a minimal influence on the primary system (open market prices prevail in allocating food). The official system may be profoundly influenced if it is not able to obtain the requisite aggregate amount of food from the primary system. There is evidence that this situation tended to prevail in the mid-1970s. If the official system is able to transfer food to the primary system in response to a production shortfall, the official price will tend to prevail and food producers' incomes will be held down. It is not known to what extent a reverse flow of food from the official system to the primary system has occurred in the past; however, the aggregate food flow data

suggest that reverse flows are relatively small and infrequent.

If primary system market conditions are such that open market prices are lower than the official price, the official price will prevail because farmers can sell at the higher official price in preference to the open market price. The official price becomes an effective floor price which buyers in the primary system must pay as well. The more the official price exceeds the open market price, the greater the impact the official system exerts on the primary system. In a bumper-crop year, for example, market prices would tend to fall to low levels. But, so long as the official system has adequate financial resources to buy all grain offered at official prices, the official system will exert a powerful influence on all food prices, on rural incomes and on resource and food supply allocation in the primary system.¹ The preceding scenario approximately describes the interaction of the two systems in the late 1970s.

There are probably large differences in local market conditions and, although no empirical evidence is cited for Tanzania, it is posited that, as in much of Africa, grain markets are not closely integrated (substantial price differences will occur simultaneously because of imperfections in intermarket links).² One result is that the impact of official prices may vary greatly depending on local market conditions, the timing of official purchases relative to harvests or relative to farmers' peak demand periods for cash, and a number of other possible reasons.

The basic interrelationship described above prevails, however, with the greatest influence tending to be exerted on local markets where conditions such as remoteness from alternative demand sources would tend to yield lower prices in the absence of (high) official prices.

1. For an example of a detailed examination of the effects of foodgrain price changes, see John W. Mellor, "Agricultural Price Policy and Income Distribution in Low Income Nations," Staff Paper No. 214, IBRD, September 1965. The author examines the effects of higher food prices on consumers in different income groups and on food producers.
2. See Center for Research on Economic Development, Marketing, Price Policy and Storage of Food Grains in the Sahel: A Survey, 2 vols., University of Michigan, August 1977, for a review of grain marketing in 7 Sahelian countries.

Many anomalies can be expected as a result of the interaction, the symptoms of which make it more difficult to evaluate the workings of the agriculture sector without relatively detailed study. For example, in Kenya it was found that regulations to support the official system, i.e., restrictions on grain movements, contributed to larger intraregional price differentials because grain was prevented from moving from surplus to deficit areas, thereby depressing prices in the former area and raising them in the latter.¹ A second anomaly is that there is an increased likelihood that poorer farmers will be forced to consume proportionately more inferior foods such as cassava or sorghum when official grain prices are sufficiently high. Poorer farmers either cannot afford to buy at the high floor price, or (depending on timing of sales from the primary to the official system and the ability of the official system to detect rural shortages and respond to them) there may not be any grain for sale in local primary markets because it has been sold to the official system. Essentially, the official system can cause a food shortage in local primary markets, which, if left alone could provide more food at lower prices to local consumers.

The exact interplay of elements determining the level of official producer prices is not readily apparent. The weight of each element probably varies from year to year, but official prices are a dominant element of the official perspective. If these prices happen to be appropriate with respect to prevailing conditions, they will elicit a sufficient residual from the primary system to supply deficit area (urban) food requirements without necessitating imports. There is also evidence that suggests that official prices are reviewed with respect to corresponding international prices.² In addition, in some years, producer price determinations may be influenced by

1. Gilbert T. Brown, "Agricultural Pricing Policies and Economic Growth," Finance and Development, XIV, 4, December 1977, IMF.

2. The reports on crop price recommendations prepared by the Marketing Development Bureau of Kilimo contain substantial reviews of international commodity prices.

a desire to increase reserve stocks. Concern to secure adequate food stocks under assumed adverse market (weather) conditions is what prompted the establishment of official prices at relatively high levels for such subsistence crops as pigeon peas, sorghum, millet and cassava.

A singular characteristic of official pricing is that the official producer price for a given commodity is the only price; it is not an average price which is adjusted to reflect variations in buying, handling and transportation costs. The popular belief is that the policy of uniform product pricing exists as part of a fundamental policy of equitable treatment of farmers. Uniform product pricing assures that farmers will not receive a lower price because of location. Whether or not it is acknowledged is not known, but an additional reason is that uniform product pricing is the simplest way to administer an official price system. A single price for a given commodity facilitates accounting control over widely dispersed buying teams. The correctness of a payment can be verified by receipt of a corresponding specific quantity of grain. Regardless of the significance attached to equity and to administrative convenience rationales in official circles, evaluation of uniform product pricing should consider both.

7. Food Production: Evaluation

The ensuing discussion is directed to examining how well the production and marketing system works. Because the official system is the source of Government pricing policies, the examination will concentrate on the official system and on the effectiveness of the official system in achieving its objectives.

Judged by ordinary financial criteria the Government food marketing agency has been insolvent for several years. On May 31, 1979, the overdraft of the National Milling Corporation with the Central Bank of Tanzania was

T/Sh. 1.7 billion or \$212 million. Between 1973 and 1979 the NMC overdraft grew at an annual compound rate of 43.1 percent. The overdraft is projected to reach T/Sh. 2.456 billion (\$307 million) by the end of 1980.¹ Between 1973 and 1978 NMC losses increased an average of 67 percent per year. The loss estimates "are believed to be considerably underestimated."²

The NMC is charged by the Government "to conduct its business in an efficient manner and in accordance with the best mercantile tradition."³ At the same time the NMC, as the implementing agent of Government food pricing policy, receives its buying and selling prices from the Government. It is commonly understood that within the Government a mercantile tradition does not guide food pricing decisions and that the NMC follows Government pricing instructions over its basic mandate. It is also understood that large NMC losses are related to Government-dictated prices. Based on the Government-set prices, the NMC is a loss-making institution. The situation is exacerbated, moreover, insofar as the NMC does not minimize losses (although loss minimization is in the short-term mercantile tradition). The negative contribution of NMC's operations will be discussed later.

The NMC's cumulative debt of T/Sh. 2.5 billion is symptomatic of the costs being incurred within the system. Although adequate data are not available to establish the total economic cost of the official system, it is plausible that the annual costs, including foregone foreign earnings, may be approaching NMC's total debt of about \$300 million. A partial examination of the economic effects of agricultural pricing policies explains part of the problem.

1. Kilimo, MDB, Report on Investigation into...National Milling Corporation, pp. 33-34.
2. Ibid, p. 2.
3. Kilimo, MDB, Report on Investigation into the Financial and Operating Position of Kilimo Crop Authorities: Overall Review, p. 10.

The data in Table 23 represent one year but they serve to illustrate several points. First, there is evidence that producers of several cereals are being heavily subsidized. The evidence takes the form of positive nominal rate of projection (NRP) estimates for seven grains and one legume.¹ Second a comparison of delivered costs to official retail prices indicates that consumers of maize flour (sembe) and rice are also being subsidized. Wheat flour consumers are being taxed. Thus there is preliminary evidence of subsidies for a wide range of producers and for some consumers. It is noteworthy that, except for wheat, the NMC was incurring a loss on every commodity listed in Table 23. Either the delivered cost (plus milling costs when applicable) exceeded the retail price for import substitutes or the delivered cost exceeded the international price for exported commodities.

Table 23 gives some impression of the extent and average degree of distortions existing in the agricultural system, but there are other aspects. For example, note that the international price of sorghum, millet and pigeon peas is the export (fob) price, because there is no appreciable domestic demand for these products at the official retail level. Thus, they are purchased from farmers, transported and stored, then either exported or left in storage. The minimum loss is the loss incurred if the entire quantity purchased can be exported. If, for example, all the millet and sorghum purchased in 1978/79 (101,000 metric tons) could have been exported, the approximate loss would have been T/Shs. 113.3 million.² The loss is larger, however, because not

1. The estimates are crude and therefore tentative. The NRP estimates are not adjusted for overvaluation of the shilling or for input subsidies. Adjustment for an overvalued exchange rate would tend to decrease the NRP and incorporation of input subsidies would tend to increase the NRP. To provide a more complete picture, estimates should be made for several years because NRP values can change substantially with changes in international commodity prices and variations in costs. It is suspected, however, that the 1979 NRP estimates in Table 23 are generally representative of the last three or four years.

2. Based on a loss of 1,022 shillings per ton for sorghum and 1,273 per ton for millet (Kilimo, MDB, Summary and Cereals Annex).

Table 23

NOMINAL RATE OF PROTECTION CALCULATIONS FOR FOOD CROPS
(prices and costs in Tanzanian shillings per metric ton)

	Maize	Rice	Wheat	Red Sorghum	White Sorghum	Bullrush Millet	Finger Miller	Pigeon Peas	Pigeon Peas ^h
Official Producer Price ^a	1,000	2,600	1,350	1,000	1,000	1,000	2,000	3,000	3,000
Marketing Costs ^b	987	1,068	987	987	987	987	1,068	1,143	1,143
Delivered Cost ^c	1,987	3,668	2,337	1,987	1,987	1,987	3,068	4,143	4,143
International Price ^d (cif - ' ; fob - ")	1,378'	3,602'	1,778'	847"	1,084"	894"	1,663"	2,905"	1,080"
NRP (%) ^e	44	2	31	135	83	122	84	98	284
Retail Price ^f	1,750	3,500	3,750	-	-	-	-	-	-
Consumer Subsidy (%) ^g	25	5	-32	-	-	-	-	-	-

^aOfficial producer prices source: Kilimo, MDB, Price Policy Recommendations, 1980-81, Summary.

^bUnit marketing costs for red and white sorghum, bullrush and finger millet from Kilimo, MDB, Price Policy Recommendations, 1980-81, Summary; sorghum unit marketing cost assigned to maize and wheat; pigeon pea unit marketing costs from Kilimo, MDB, Recommendation for a Revision in the Price Paid for Pigeon Peas (Mgaari).

^cDelivered cost is the sum of producer price and unit marketing cost.

^dInternational maize price (cif) is 1979-80 average of \$119.29 per metric ton plus \$53 per metric ton shipping (non U.S. bottom) New Orleans-Dar es Salaam converted to Tanzanian shillings at 8:1 (USDA source); average rice price for same period is \$397.19 per ton; wheat is \$169.21 per ton; sorghum, millet and pigeon pea prices are actual fob export prices (Kilimo, MDB sources). Cif (costs, insurance, freight) prices assigned to import substitutes maize, rice and wheat, fob prices (free on board) assigned to foods which are primarily exported.

^eNRP is the nominal rate of protection, which is estimated by dividing the difference between delivered cost and international price by the international price. It expresses in percentage terms the relationship between the total domestic price and the international price. The NRP calculations have not been adjusted for exchange rate overvaluation or for production subsidies.

^fRetail prices refer to maize flour (sembe), wheat flour and rice.

^gThe consumer subsidy is calculated by dividing the difference between delivered cost and retail price by the retail price. An arbitrary cost figure of 200 Shs per ton is added to delivered cost of maize and wheat to reflect conversion from grain to flour.

^hSome insect-damaged pigeon peas were exported, but at a substantially lower price (source: Kilimo, MDB).

all millet and sorghum purchased is exported; a portion of the grain remains in storage where it tends to be destroyed by insects. Similarly, official purchases of pigeon peas and other minor crops are also likely to involve negative gains.

There is even a possibility that official dealings in subsistence crops may result in a direct loss of foreign exchange. The average cost of transporting a ton of grain is about T/Sh. 500. Transportation inputs are virtually all imported; thus the direct foreign exchange cost of delivering a ton of grain to urban storage is about \$62.50. If, for example, one-half of the 100,000 tons of millet and sorghum officially purchased in 1978/79 were exported at \$110 a ton fob, foreign exchange earnings would be \$5.5 million.¹ However, the direct foreign exchange costs would have been \$6.25 million, for a loss of \$750,000. (Indirect losses would pertain to foregone export earnings.) It is not known if direct foreign exchange losses are occurring, but it is plausible. It is highly likely that in some years, if the foreign exchange opportunity cost of subsistence crop exports were to be calculated and added in, the net foreign exchange effect would be negative. Tanzania would gain foreign exchange by not making official purchases of subsistence crops.

The preceding comparison of various price levels helps to illustrate the overall biases in the system, but uniform product pricing is the core reason for massive resources misallocation and excessively costly official operations. Official prices are applied in a uniform manner such that a single price for a given commodity is offered throughout the country or a single price is charged for an agricultural input regardless of the location in which it is sold. (Limited transport costs can be added to input prices to reflect

¹ Approximately 100,000 tons were exported in 1979 but the grain came from stocks, not just current purchases.

delivery costs within regions.) Again, uniform product pricing is a familiar issue among informed observers. The effects of uniform product pricing are candidly stated in one Kilimo report:

The NMC is losing money on every ton of maize purchased and milled into sembe. This loss is conservatively estimated at shs. 48 million in 1978/79, of which inter-regional transport costs alone are responsible for an estimated shs. 24 million shorfall.

If a policy were adopted whereby NMC paid the farmer a price reflecting the marketing cost applying in his region then the price prevailing in regions close to mills and end-markets would be around shs. 600-650 per ton. This would apply to regions such as Coast, Morogoro, Arusha, Mwanza, Iringa and Mtwara. By contrast a severely reduced price would apply at Ruvuma (shs. 21 per ton), Singida (319 per ton) and Rukwa (shs. 201 per ton).

There is some evidence that the relatively high prices applying for maize in these regions has resulted in smallholder land and labor being devoted to that crop to the detriment of higher unit value crops such as tobacco, which are inherently better able to bear high transport costs.¹

Since June 1975, there has been a 100 percent transportation subsidy for fertilizer moved from Dar es Salaam and Tanga to the regions. In 1978, the Treasury subsidy for fertilizer transportation was T/Shs. 41.1 million (\$5 million) or about T/Shs. 500 per ton of fertilizer delivered. Based on a weighted average selling price of T/Shs. 1,282 per ton this amounts to a 39 percent subsidy.² As in uniform product pricing for output, the more distant the user from the supply source, the greater the subsidy and the greater the incentive to use the input. Since 1978 there has been a shift in fertilizer consumption toward the more remote regions (Ruvuma, 112 percent increase between 1975 and 1978; Mbaya, 58 percent; Rukwa, 114 percent). Fertilizer usage in all other regions, excluding Iringa which remain about constant, declined by 44 percent (from 63 percent of total consumption to 40 percent).³

1. Kilimo, MDB, "The Inter-regional Transport of Major Agricultural Commodities in Tanzania," page 4.

2. Ibid, p. 53.

3. Ibid, p. 53.

The Kilimo report then connects the double subsidy effects and expresses concern:

It is apparent therefore, based on the shift in the pattern of fertilizer usage that fertilizer, the cost of which is effectively being heavily subsidized in remote regions, is being used at least in part to stimulate the production of maize, which must then in turn be transported at considerable concealed expense to the distant food deficit areas of Tanzania. This is surely one of the most serious consequences of Tanzania's pan-territorial pricing policy and one which the nation can ill afford to continue.¹

Absurd results can emerge from the more heavily subsidized (distorted) situations. Delivery costs can readily amount to several times the initial costs of the fertilizer. The farmer then applies the fertilizer and sells the output at a price as high as 50 times its value at the point of sale.² In fact, if the product is a subsistence crop such as sorghum (which is not likely to use fertilizer), it may incur negative earnings because the cost of moving it may exceed its market value. The result is that the value of the country's economic output would be increased by not producing the sorghum!

In summary, under uniform product pricing policy, crops are being grown under high cost conditions (e.g., remote access, low-production efficiency) and sold at a profit by the producer but at a price far below actual production costs. With uniform product pricing the reality of widely different factor endowments is ignored. Local comparative production advantages are left untapped or underused at great cost to the economy. Particular attention is drawn to the fact that the official system is an intensive user of some of the scarest resources in the economy, e.g., transportation, other capital inputs (all of which are imported), and skilled manpower.

1. Ibid. pp. 53-54.

2. Ibid. p. 5.

8 Relative Effectiveness of Pricing Policies

There is little if any dispute among informed observers that the official system involves massive misallocation of resources. It is, however, fair to ask if there is a better alternative. Is it possible to use resources more efficiently, provide cereal to the food deficit areas and treat farmers in an equitable manner? It is possible. The last two questions--transfer of food from rural to urban areas and equitable treatment of farmers--are essentially core Government objectives.

It is possible for the Government to acquire the same amount of food under a flexible pricing system as under a single pricing system. Depending on the degree of additional transport and other production costs ignored by the single price system, it may be possible to acquire more food using flexible prices, thereby saving foreign exchange on food imports as well as on the procurement costs of the fixed price system. Given the fact that Tanzania is a large country with a poor transportation infrastructure and high capital and skilled manpower costs, the sum of costs in addition to actual cultivation costs are disproportionately large as is evidenced by the share of transportation costs in total expenditure and the massive financial losses incurred by the official system. Therefore, a pricing system which would pay producers a basic price, perhaps using import parity as a guide less all delivery costs, would require less Government expenditure for the same quantity of food obtainable under a uniform product pricing regime and encourage a much more efficient use of agricultural transport and manpower resources. If, for example, the import parity price of T/Sh. 1,378 per ton from Table 23 were used as a base price, some farmers could be offered a price higher than the official producer price of T/Sh. 1,000 per ton. The base price could be adjusted to influence the aggregate quantity of grain offered for sale to the official system.

Given the need to simplify administration of purchases and insure accountability of buying teams, is a flexible price regime workable? Again, it is. An administratively practical pricing system can be achieved by setting a single price to prevail in a local area for cereal delivered to specified centers. The local price would be discounted for the additional costs involved in moving the product to the consumption point. Collection, handling and transportation costs to deliver to the local collection points would be absorbed locally and the price paid would reflect the additional cost of delivering the product to the ultimate consumption center. Administrative simplicity and accounting responsibility could be maintained because individual buying teams would still make purchases at prearranged, set prices.¹

The alternative of differentiated pricing appears to conflict with the objective of equitable treatment of farmers. Several points relate to this issue. First, while income is a prime component of equity, equal prices do not cause equal income. Even with detailed knowledge about what rural households can produce, i.e., about each rural household's production substitution function, the use of a uniform commodity price tends to be an extremely crude instrument for influencing income distribution. In the Tanzanian case, for example, high subsistence crop prices tend to increase the incomes of certain farmers and thereby move them closer to the average income level of, say, higher income coffee growers. Over time, however, farmers all over the country can blend subsistence crops into their output mix. The result is the few "rich" farmers who cannot grow subsistence crops may not benefit, but the effect is still to cause a random change in the agriculture sector income

1. The preceding sketch of an alternative approach is intended to illustrate the principals of an alternative approach. It is not a proposal per se, and it obviously lacks a number of important details.

distribution with no assurance that income distribution will improve.¹

The ultimate income distribution effects of uniform product prices are not known and there is no practical way to determine them, but the total cost of the system exceeds the cost required to achieve the equity objective. The one certain effect is that farmers who can produce the subsidized commodity will realize a supplement to their income. (Local, net consumers will tend to experience a corresponding fall in their real income). But additional resources (costs) are required to collect, transport and store the product. This is an extremely inefficient way to subsidize farmer incomes. A direct payment to designated poor, rural households is more precise in its effect on income distribution and, because no additional expenses are involved, its total cost is lower than a large commodity subsidy.

Second-round effects are a second aspect of uniform product pricing. The policy insures the occurrence of large financial losses by the NMC. These deficits are financed by direct increases in the money supply which in turn makes a significant contribution to inflation and subsequent reduction in real incomes. With a fixed exchange rate, inflation causes further over-valuation of the domestic currency. More downward pressure is exerted on the exchange rate because the policy tends to increase aggregate demand for imports and decrease exports. These effects tend to restrict imports and reduce domestic production of manufactured consumer goods. Rural households are confronted with higher prices for consumer goods, i.e., their real income is forced down, or they are not able to obtain consumer goods at any price, causing their real incomes to approach zero. Thus, the second-round effects

1. See, Center for Research on Economic Development, Marketing, Price Policy and Storage of Food Grains in the Sahel: A Survey, Volume, 1, University of Michigan, 1977, pp. 114-116, for a critique of uniform producer prices.

of inflation, exchange restrictions and consumer goods shortages greatly diminish and possibly overwhelm any income gains realized by the application of uniform product pricing. The end result of uniform product pricing is a random redistribution of nominal income and a possible decline in average real income.

H. The Agricultural Sector: Synthesis

The available agricultural price data provides evidence of an increasing spread between producer prices for export crops and actual export prices. This in turn indicates that export producers are paying increasingly higher taxes over time and that the nominal rate of protection (NRP) for their output is negative and growing. If the NRP for agricultural export producers is adjusted for the overvalued exchange rate, the negative value of the NRP increases even more. On the other hand, the price data indicate that producers of food crops marketed to the official system are receiving a subsidy. The prima facie evidence then suggests that export crop producers are subsidizing producers of import-substitution crops. The actual distribution of the first-round effects, however, depends on how distinctly producers of domestic crops are separated from export producers. In Tanzania many farmers grow both crops for export and for domestic consumption (e.g., cotton and maize, cashew and maize) so the tax-subsidy effects tend to be offset. Thus, a farmer will pay a tax on his cashew production (he receives a less than true market price) but he will receive a subsidy on his maize production. Some highly specialized farmers such as coffee growers may pay a net tax, but over time they too can adjust their output mix away from the heavily taxed commodity. There is some evidence that this shift is currently taking place in Arusha, where bean cultivation is starting to replace coffee. Subsidies on inputs and the relative degree of their use

introduce even more uncertainty into determination of the ultimate income distribution effects.

It is plausible to argue that the present system causes a negligible effective transfer of income from export crop to domestic crop producers. A few high-cost producers of low-value crops may be better off in a nominal sense, while a few specialized export crop producers may have lower incomes. But the ultimate effect--after allowing for losses in efficiency, inflation and major shortages--is to depress average real incomes over the entire agriculture sector.

Consumers (mostly urban) of cereals would appear to be net beneficiaries because retail prices are less than costs. But consumer subsidies only tend to offset the additional costs of inefficiencies in the NMC. In addition, consumers incur other costs in the form of queuing to make food purchases. Thus it is not clear if consumers are receiving a net subsidy, although they are being protected somewhat from the inefficiencies of the NMC. Rural, net consumers tend to pay a higher price in some years because the official price is a floor price for local sellers.

The NMC, while tending to subsidize both food producers and consumers, is relatively neutral in that it passes on its losses to the Treasury, which in turn finances the loss by increasing the money supply and thereby taxes the entire population via inflation. The largest losers are export crop farmers who pay a tax on their output, higher food prices, and higher prices for all other purchases. Probably the largest gainers are the export crop parastatals, which have obtained an increasingly larger share of the farmers' contribution to value added to cover parastatal costs.

Over time, farmers have curtailed cultivation for export, leading to substantial cumulative foreign exchange opportunity losses for the economy. These losses are made larger because of foregone opportunities for value-added processing. Government revenue losses include foregoing export taxes from lower export volumes and from below-capacity operation of agricultural processing plants.

The effects on other sectors have been directly expressed via severe foreign exchange constraints and reduction of imported inputs. Producing sectors such as industry and transportation have in turn been forced to operate below capacity, a result which probably causes further reductions in agricultural exports. The employment effects are not known. It can be hypothesized that even though state enterprises have reduced their level of operations, as opposed to private enterprises nominal employment levels may not have fallen in proportion. (Indeed, some agricultural marketing parastatals have increased their employment levels.) Instead of widespread unemployment the result is greater inefficiency and larger deficits for state companies. One would expect expanding open unemployment in the private, formal sector; however, based on a superficial review, there is little evidence of this. Regardless, the end effect is to decrease productive employment in the formal sector and to produce below potential capacity in the agricultural sector while encouraging farmers to cultivate more, low economic value crops.

I. Closing Comment

Discussion of agricultural policy to this point has concentrated on aspects of pricing policy. The formulation and application of pricing policy are urgent concerns, but there is an overriding issue concerning the mix of policy instruments and its economic implications. Throughout most of the 1970s policy stress has been placed on application of price policy instruments to manipulate demand for certain agricultural products as a means to alter the composition of total agricultural output. Policy measures to promote growth in aggregate agricultural production have been minimal relative to the resources directed toward influencing demand (payment of incentive prices to simulate high demand).

The issue arises because there is no reason to expect aggregate agricultural output to increase measurably as a result of a change in relative prices. The price change, per se, adds nothing to the resource stock and it does nothing to change basic production technology. Pricing policy can only alter the composition of output by simulating a change in the pattern of demand. Because technology and the resource base have remained relatively constant in Tanzania relative to population, an increase in food crop prices, for example, means that export crop production must decline as existing resources are withdrawn from export crop cultivation and devoted to higher return food crops. Without a simultaneous increase in aggregate supply, a shift in demand composition (the exercise of price policy) can be accommodated only by decreasing production of certain products--in this case export crops. Thus, a relative fall in foreign exchange earnings is an inevitable result of stressing agricultural pricing policies. (See the following annex for a diagrammatic description.)

A shift in emphasis to supply-oriented policies affords greater flexibility. Some of the resources which are devoted to subsidies to alter the structure of demand can instead be invested in ways to increase agricultural productivity. More significantly, with an increase in general agricultural productivity, it then becomes possible to pursue multiple objectives simultaneously: e.g., increase food supplies while increasing the amount of foreign exchange (export crops) to obtain imports for the industrial sector or increase food supplies disproportionately by simultaneous application of demand-side policies while maintaining export earnings.

While it seems easy to criticize Tanzanian agricultural policy emphasis during the 1970s, it is premature to do so without more information on national objectives. In the mid 1970s, Tanzania was clearly committed to increasing food production in a relatively short time. This objective--abstracting the effects of poor rainfall--has essentially been achieved. The use of pricing policy has the advantage over a supply-stress policy of exerting an immediate influence, its outcome is relatively certain, and it requires much less planning. Thus, as a short-term response, Tanzanian agricultural policy does not seem to be unreasonable. The problem is that while pricing policies have been applied over the last several years, there has been little effort to address the supply side. It is as if policies to reorder the allocation of existing agricultural resources were being interpreted as measures which would increase aggregate agricultural production. Extensive use of pricing policies may have created the illusion that comprehensive measures were being taken when, in fact, they are partial instruments and, because of population growth, short-term.

No doubt there is ample room to debate the wisdom and efficacy of past agricultural strategies, but there is little room for maneuver on the course for the future. Agricultural strategy in Tanzania clearly needs to incorporate a greater stress on increasing growth in agricultural output.

ANNEX

Figure 2 illustrates the effects of price and production policies and, in a simplified form, the diagram depicts what appears to have been happening in Tanzanian agriculture over the last few years. In Figure 2, food crop volume is measured on the vertical axis and export crop volume is measured on the horizontal axis. The convex line A represents an agricultural production function which shows all of the pairs of food crop and export crop volumes which can be produced with a given amount of resources. Before the introduction of incentive pricing, the output mix is x on production function A. C of export crops are produced and F of food crops are produced. An increase in the producer price for food causes farmers to adjust their production in favor of food crops. In Figure 2 this shift appears as a movement along production function A from x toward y. At combination y, F' and C' of food and cash crops are produced: food crop production has increased, export crop production has decreased.

FIGURE 2

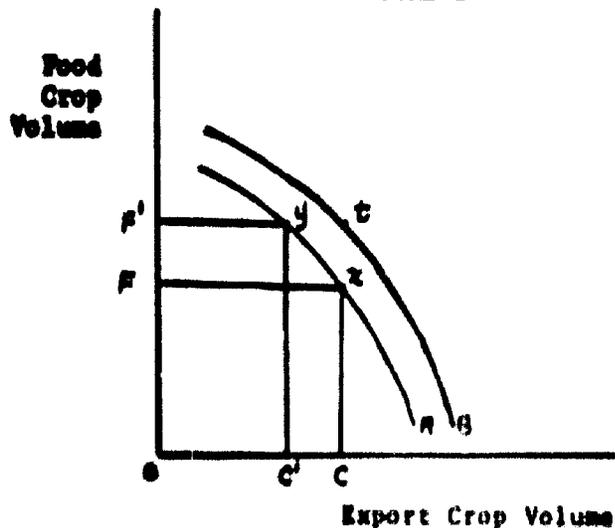


Figure 2 can also be used to illustrate what could be expected if the resources used to simulate high demand for selected commodities were instead used to increase productivity (i.e., investment instead of subsidy payments, which are largely devoted to consumption). Policy measures directed toward increasing aggregate supply would tend to cause the production function to move outward over time. The outward shift in the production function is represented by convex line B in Figure 2.

It can be seen that a successful investment program allows more production of both cash and food crops and, therefore, simultaneous movement toward more than one policy objective. For example, with growth in aggregate production it is possible to increase food production from F to F' without sacrificing export earnings (point t on production function B). Thus more food is made available while other policies can be implemented which require a certain level of imports.

Figure 2 also clearly illustrates two economic costs of stressing pricing policy to the neglect of production policies. The first cost is the foregone exports which are given up in the shift from output combination x to combination y on production function A. The second cost is the loss of the opportunity to shift production function A outward because resources which could have been used for investment were instead used to subsidize producer prices.

VI. INDUSTRY

A. The Setting

Tanzania's Basic Industry Strategy (BIS) accords priority to the development of industries supplying such basic producer goods as steel, cement and chemicals as well as consumer goods and services essential to meeting such basic needs as food, housing, transport, health, education, etc. Emphasis has also been placed at the policy level on production techniques and products which use local resources including labor. Since many types of basic needs goods can be produced economically to serve the local market using local resources under a small-scale production method, in principle the development of small-scale industries is an important feature of the BIS.¹ The BIS assumes that some "minimum economic scale" of production should be aimed for in the setup of basic industries.² But it would be misleading to associate the BIS exclusively with large-scale industrial development. According to the Ministry of Industries, the future industrial structure will consist of three categories--national, district and village industries. National industries include most large-scale activities³ catering to the national and, in some instances, to the export market. Most important national industries are managed under the control of government holding companies (parastatals). District industries would comprise mostly medium and small-scale activities concentrated in district centers producing for the regional market. Essentially, district level firms are

1. The Tanzanian small-scale industry strategy is similar to the Chinese formulation: small-scale techniques are to be reserved in those industries in which they are cost-effective.
2. In the study by M. Roemer et al., ("The Range of Strategic Choice in Tanzanian Industry," Harvard Discussion Paper No. 7, 1975), the authors conclude that "there is a large core of industries common to both the BIS and the strategy based strictly on economic efficiency." This implies that any trade-off between efficiency and "self-reliance" aimed for under the BIS may not be so much attributable to the choice of the strategy as the choice of the scales of production, i.e., large-scale vs. small-scale.
3. The examples are steel and cement industries.

conceived to be publicly-owned under the jurisdiction of District Development Corporation (DDC). The specific role of district industries has not been discussed in detail. The idea seems to be based on the recognition of importance to save on transport costs for a number of simple consumer goods through a decentralization of industrial activities. The village-level small-scale enterprises are seen to be important for producing simple basic goods for village consumption. Currently the Small-Scale Industry Development Organization (SIDO) is mainly responsible for assistance in establishment of viable village enterprises.

Despite the emphasis of Tanzania's program on village-level development, in the past priority had been given to the development of manufacturing projects on a fairly large scale. The development of small-scale industries, in comparison with the emphasis placed on national industries, has not been given as much attention as it deserves. Only recently, with the formulation of the Small Industry Five-Year Plan (1978/79-1982/83) in which targets for output, investment and training in small-scale activity were for the first time worked out, the small industry sector appears to have been given a more important role in government planning.

B. Medium and Large-Scale Industries

1. Performance. Between the time of independence in 1963 and the economic crisis of 1974/75 the manufacturing sector¹ had grown at an average annual rate of 7.8 percent.² The share of manufacturing in GDP increased

1. Government statistics include only the monetized sector activities for firms employing more than 10 persons and leave out small-scale, informal-sector establishments.

2. The quoted figures do not include the construction sector. The construction sector registered a negative annual average growth rate (-9.0 percent) during 1976-78.

from 6.6 percent in 1964 to 11.5 percent in 1973. During 1976/78, however, the average annual growth rate in manufacturing dropped to 5.5 percent, compared with the targeted growth rate in the Third Five Year Plan of 9.3 percent. The latest Government estimate shows an absolute manufacturing output decline of 15 percent for 1979.¹ The declining rate of industrial output growth also resulted in a declining share of industrial output in GDP. The share of industrial output fell from 9.9 percent in 1976, to 9.3 percent in 1978.

The latest estimates (see Table 1) show that between the first halves of 1978 and 1979 production in physical volume in ten out of nineteen industries actually declined. Among the important sectors that show a net decline are fertilizer, rolled steel, beer and cigarettes (the latter constitute a major source of government revenues), cement, pyrethrum extract, and consumer goods (shoes, radios, etc.). The performance would appear much worse, if the estimates for the second halves of the two years of 1978 and 1979 were to be compared. This is because the effects of the 1978/79 Uganda-Tanzania war began to be felt on the economy starting in the second half of 1979. The effects would be most severe for those industries that depend heavily on imported raw materials and spares.

The declining trend in growth rate of output has been coupled with declining factor productivity.² Industrial growth has been declining despite high levels of investments in recent years. The emphasis placed on investment in industry is demonstrated by the fact that its share of total rose steadily from 17 percent in 1974 to 27 percent during 1977/78 (Table 2). The slow growth in output, in turn, implies a trend of an increasing incremental capital-output ratio. According to a World Bank estimate, the capital-output

1. Tentative estimates, see Economic Report, Ministry of Planning, 1980, Document 1.

2. For details, see World Bank, Tanzania Basic Economic Report, Annex V (1977).

Table 1
 PHYSICAL PRODUCTION IN SELECTED INDUSTRIES, 1976-79

PRODUCT	UNITS OF MEASURE	1976	1977	1978	1979
Fertilizer	Metric tons	42,146	36,886	44,443	54,246
Petroleum ¹	Metric tons	544,473	464,842	453,870	468,632
Tyres & tubes	Metric tons	5,514	5,967	5,783	-
Rolled steel	Metric tons	10,500	11,912	16,423	18,600
Enamelware	000 pieces	2,183	2,838	2,331	
Batteries	" "	57,870	64,664	70,914	
Iron sheets	Metric tons	25,943	27,506	30,183	25,762
Aluminum	Metric tons	3,446	4,005	4,048	4,100
Beer	000 litres	69,511	75,129	85,764	74,600
Cigarettes	mil. pieces	3,678	4,003	4,359	4,453
Radios	000 sets	240	257	235	
Konyagi	000 litres	481	543	432	513
Chibuku	" "	11,421	13,560	15,226	
Textiles	000 sq. m.	82,716	77,232	83,456	81,378
Blankets	" " "	3,676	3,514	2,706	
Shoes	000 pairs	3,689	6,331	6,363	5,291
Fishnets	Metric tons	248	528	234	
Cement	000 tons	244	247	272	299
Pyrethrum Extract	Metric tons	138	128	62	

SOURCE: Ministry of Development Planning.

Notes: 1 Production by TIPER refinery

increased about 50 percent between 1966 and 1974.¹ The rise in the capital output ratio has been reflected by declining rates of return on investment. The World Bank study further points out that total factor productivity (value added per unit of capital and labor input) in industry declined over the period 1966/67-1972/73. While the capital stock increased more than two and a half times than labor input, labor productivity remained virtually unchanged. Employment increased at the same rate as output in the manufacturing sector, despite the fact that the capital stock increased at a much faster rate. Thus additional employment and output were possible only at greater investment costs.

The heavy investment in the industrial sector has occurred in the context of significant capacity underutilization.² In the manufacturing industry the problem of the idle capacity has been further aggravated by the latest balance of payments crisis. Supplies of imported raw materials and machinery spare parts to the industry have drastically dwindled. Capacity underutilization is especially pronounced in the agricultural processing industries. As Table 3 shows, the estimated output level for 1979/80 as a percentage of installed capacity output ranged from 60 percent for cashew processing to 10 percent of oil seeds processing. Unlike the case of manufacturing industries, underutilization in agro-processing industries has been caused mainly by declining levels of agricultural output used as inputs by these industries.³

1. See Zanzania: Basic Economic Report, Annex V. *ibid.*

2. Estimates of rates of capacity utilization by firms are reported in S. M. Wangwe, "Excess Capacity in Industry: A Case Study of Selected Firms in Tanzania," in (K. S. Kim et al. ed.) Papers on the Political Economy of Tanzania, Heinemann, London, 1979, pp. 111-118.

3. The analysis presented above depends on Tanzania's national accounts statistics, which provide estimates of gross output, value added and other variables in current and constant prices. As long as these estimates fail to take account of calculated "true" resource costs (shadow prices) particularly in a centrally controlled economy like Tanzania, inferences about productivity performance should not be construed as conclusive. However, given the likelihood that capital services, relative to labor, are undervalued in Tanzania, "true" estimates of labor intensity and returns on investment in the large-scale industry are likely to be even lower than those presented in this paper.

Table 2

CAPITAL FORMATION BY INDUSTRY
(Percentage shares of Total)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977^a</u>	<u>1978^a</u>
Agriculture	5.9	6.6	7.8	7.9	8.5
Manufacturing & Mining	17.0	19.3	25.1	27.2	26.9
Construction	9.2	9.4	9.7	9.2	8.9
Electricity & Water	19.0	14.1	10.0	13.2	11.7
Transport & Communication	32.8	33.4	29.6	23.0	26.8
All Other	<u>16.1</u>	<u>17.2</u>	<u>17.8</u>	<u>19.5</u>	<u>17.2</u>
TOTAL	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

^aEstimate

SOURCE: Tanzania National Accounts 1977

Table 3

CAPACITY UTILIZATION IN SELECTED AGRICULTURAL PROCESSING INDUSTRIES

<u>Product</u>	<u>Installed Capacity (Tons)</u>	<u>Expected Production (1979/80)</u>	<u>Percent of Expected Output in Capacity Output</u>
Cashew Processing	97,000	58,000	.60
Pyrethrum Processing	14,000	2,100	.15
Oil Seed Processing	236,000	22,789	.10

SOURCE: Economic Report, *ibid.*

2. Factors Responsible for Poor Performance. The factors which contributed to the declining trend in the growth of trial output vary from industry to industry. One fact is evident: the declining rate of industrial growth has not been due to a decrease in capital investment. Among the important factors cited by the Tanzanian Government as contributing to the declining trend are shortages of raw materials and spare parts, frequent interruptions of electricity and water supply, managerial weakness, lack of trained manpower, rising cost of inputs, particularly of oil, and transportation bottlenecks. In interviews with Government officials, the restrictions imposed on the import of raw materials and spare parts resulting from the recent balance of payments crunch were frequently mentioned as the most important factor contributing to the industry's poor performance in recent periods. The impact of the foreign exchange constraint can be seen from Table 4.

In Table 4 the availability of foreign exchange for importing industrial raw materials and spares is expressed as the ratio of the "allocated" to the "required" foreign exchange.¹ The ratio was 59.4 percent for raw materials and 29.3 percent for spares in 1976. The respective ratio drastically decreased to 22.0 percent and 11.6 percent in 1979.² In this connection, it is also important to note that large-scale, modern industry in a developing country is energy-intensive relative to other traditional sectors.³ Thus, it is fair to conclude that the gradual decline in oil imports since 1975 must also have had a significant negative influence on the growth of such sectors as manufacturing, transport and construction.

1. "Required" foreign exchange is estimated on the basis of the applications for import-licensing by the Bank of Tanzania.
2. Shortage of intermediate capital goods is directly related to the underutilized productive capacity in industry. See S. M. Wangwe, *op cit.*
3. For example, see World Bank, Energy Operations and Policy Issues in Developing Countries, Staff Paper No. 350, August 1979.

Table 4
FOREIGN EXCHANGE "REQUIRED" AND "ALLOCATED"
(Value in million T. Sh.)

Year	Industrial Raw Materials			Machinery Spares		
	Required	Allocated	(2) as % of (1)	Required	Allocated	(5) as % of (4)
	(1)	(2)	(3)	(4)	(5)	(6)
1977	2,649.6	1,574.8	59.4	362.1	106.2	29.3
1978	4,158.1	2,138.1	51.4	532.8	154.8	35.7
1979	6,092.0	1,339.3	22.0	481.4	55.7	11.6
1980 (Jan- June)	3,488.6	872.9	25.0	262.3	21.3	8.1

SOURCE: ECONOMIC REPORT, 1980.

Another important factor contributing to the poor performance of industry is the role of parastatal firms. While Tanzanian data on capital stock and production is not entirely reliable, there is considerable evidence that poor management in parastatal firms has been a main cause of the decline in total factor productivity.¹

In conclusion, while it is difficult to separately assess the full impact of different factors, the general decline in Tanzanian industrial productivity has been occurring since the mid-1960s and does not reflect a sudden phenomenon related to the more recent balance of payments crisis. Both the capital-output and the capital-labor ratios have risen sharply since the mid-1960s. This shift toward capital-deepening in industry would appear inconsistent with the Government's Basic Industrialization Strategy whose objectives emphasize the use of appropriate technology geared to local factor endowments. To some extent, the capital-deepening process in industry may be viewed as resulting from the overvalued Tanzanian shilling as well as the undervaluation of services of capital goods frequently present in centrally planned economy.² Also, the declining trend in productivity may partly reflect the problems facing large-scale plants in Tanzania: greater dependence on skilled manpower and financial resources which are in short supplies as compared to the case of small-scale plants.

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1. See K. S. Kim, "Enterprise Performances in the Public and Private Sectors: Tanzanian Experience" *Journal of Developing Areas* (forthcoming). And also World Bank, *Tanzania Basic Economic Report, Annex V*. For a more sanguine point of view concerning parastatal performance, see ILO Report on Tanzania, *Toward Self-Reliance*, 1977.
 2. In this connection, the World Bank study (*Basic Economic Report, Annex V*), 1977, p. 147, recommends an increase in interest rates that would exert pressures on parastatals to reduce costs.

3. Outlook. The prospect for future sustained growth in large-scale industries hinges upon the success of the government removing the various bottlenecks mentioned above. It is hoped that the next two or three years will be a period of consolidation during which the Government concentrates its effort on the removal of the bottlenecks.

The immediately binding constraints to large scale industry over the next few years are likely to be the shortages of intermediate goods imports and the existing bottlenecks in the transportation sector (See section VII.). The foreign exchange constraint has also militated against development of infrastructural facilities to ensure adequate supplies of electricity and water to industries. The construction and operation of these infrastructural sectors also heavily depends on the import of essential spares and other inputs. Hence, the solution to problems of intermediate goods and shortages will depend on the capability of the economy to generate sufficient foreign exchange to import these resources.¹

The magnitude of the annual foreign exchange requirement for import of essential industrial raw materials and spare parts, adequate to utilize existing capacities, is estimated by the Tanzanian Government at about U. S. \$875 million.² The planned magnitude of the allocation of foreign exchange to industry for industrial rehabilitation for each of the next three years is U. S. \$437.5 million. The shortfall in foreign exchange allocated is based on the assumption that the Tanzanian economy will gradually increase its foreign exchange earning capability over the next three years. Thus, there is a great deal of uncertainty, whether the planned import support program will be adequate to rehabilitate the industry to the pre-1978/79 crisis level.

1. It is worth noting that the import intensity of Tanzania's manufacturing production has been steadily increasing. For instance, Survey of Industries data reveal that the ratio of import content to gross output in manufacturing steadily rose from 10 percent in 1961 to 14.6 percent in 1973.

2. Economic Report, Appendix II.

The recently concluded IMF-Tanzanian loan agreement should help to alleviate the existing pressures on the balance of payments. Higher priority is expected to be placed on imports of raw materials and spare parts for the directly productive sectors--agriculture and industry--and particularly for ongoing projects geared to the expansion of the export sector. As a result, it is possible that the foreign exchange constraint will ease somewhat over the next few months.

Tanzania's basic industrialization strategy has emphasized production for the domestic market through a strategy of import substitution. In the absence of a drastic shift in Tanzania's basic industrial strategy toward export promotion and given the high import content of industrial production, there is little likelihood that the industrial sector will be able to contribute substantially to foreign exchange earnings.

Removal of the foreign exchange constraint does not by itself ensure improved industrial performance. Among the important measures that need to be taken by the Government to improve industrial performance is the institution of a new incentive system. The Ministry of Industries has already directed the management of the parastatals to devise appropriate incentive schemes based on labor productivity. It is hoped that such a move will have some positive effects on managerial efficiency as well as on productivity.

In addition, consideration needs to be given to the implications of the apparent overvaluation of the shilling and the relative low cost of capital for relatively high capital intensity and capital underutilization in the industrial sector.

The Government is also restructuring the parastatal organization. The case in point is the National Development Corporation, the largest state enterprise in Tanzania established to perform as the government's operational

mechanism in the field of industrial development. The NDC's industrial activity portfolio is considered to be too large for effective management. There is a need to streamline the NDC and other large-scale parastatals by creating more specialized corporations.

In spite of the positive measures taken to improve industrial sector performance, it is not certain how effectively the proposed measures will be implemented; nor is it apparent whether such measures will be sufficient to reverse the declining trend in productivity performance.

Finally, in addition to the slowdown in the production of both basic consumer and producer goods, another serious problem has been that because of the rapidly deteriorating performance of the transport and distribution sector, only small quantities of basic goods have been reaching remote rural areas. Many localities have been left with virtually no supplies of basic consumer goods. Thus current constraints in the transport-distribution sectors further inhibit the capacity of national industries to provide adequately for domestic needs throughout the country.

These conclusions should not be interpreted to imply that large-scale industry merits no outside support in the context of the current Tanzanian crisis. Certain products may require a minimum scale for economic production, and production can be resuscitated through increases in the availability of foreign exchange or relief of the constraints imposed by the transport-distribution network. The longer-term prospects for the basic industries would, however, depend to a significant extent on improvements in the policy measures and environment to permit better utilization of existing resources.

C. Small-Scale Industry¹

1. Performance. Tanzania's small-scale activities are largely concentrated in urban areas, particularly in Dar es Salaam. Out of the total 4,337 units, 2,095 or 48 percent of the total are in Dar es Salaam. If another 400 units in other urban areas are included, this leaves only a little over 40 percent of the small-scale units located in purely rural areas (Table 5).

It is difficult to be definitive about the economic performance of small enterprises, because little is known about their growth patterns.² However, based on a recent SIDO report, several key features of the performance can be identified.³

- (a) The small-scale sector is at least five times as effective as its large-scale counterpart in terms of output measured per unit of investment.
- (b) On average, the incremental capital-labor ratio appears to be lower in rural-based small-scale enterprises than in urban, large-scale ones.⁴

1. The official definition of small-scale firms includes those engaging less than ten employees. This is only for the convenience of statistical tabulation of enterprise activities. See Survey of Industries series.
2. Systematically-compiled, aggregative data for Tanzania's small-scale industry activities preceding 1977 do not exist. The periodically compiled Survey of Industries census data from which many aggregate time-series data have been derived have included only the "full-scale" firms engaging ten or more employees. They have excluded those informal sector establishments constituting small-scale, family-oriented units. However, a substantial amount of information on small-scale industry activity for the past few years has been made available by the recent SIDO census survey. Although a trend analysis is still impossible, this information enables us to at least analyze the small industry performance from a static point of view.
3. The Third Five Year Plan for Development of Small and Medium Industries in Tanzania. SIDO, 1980 (limited circulation).
4. Calculating from SIDO's Third five-Year Plan budget data, it would cost on the average of T/Shs. 10,450 to employ one person in a non-factory unit as compared with T/Shs. 41,518 in a factory-type unit. The results of studies of other African countries generally confirm the relative labor intensity of the small-scale sector. See J. M. Page, Jr. Small Enterprises in African Development - A Survey. World Bank Paper No. 161, 1979.

Table 5

GEOGRAPHICAL DISTRIBUTION OF SMALL INDUSTRY:
1977/78 CENSUS*

<u>Region</u>	<u>No. of Units</u>	<u>Employment (in nos.)</u>	<u>Total in- vestment (in shs. 000)</u>	<u>Total output (in shs. 000)</u>
Tanga	124	2,830	8,466	27,993
Kilimanjaro	169	2,152	9,184	20,778
Arusha	165	4,272	28,914	20,180
Mara	141	1,062	6,911	15,705
Mwanza	120	200	3,088	4,488
Shinyanga	22	196	1,720	4,653
West Lake	79	1,267	1,029	4,130
Dar es Salaam	2,095	27,976	216,932	447,865
Coast	83	1,285	1,084	8,349
Morogoro	003	3,933	22,991	37,512
Singida	32	160	5,671	5,781
Dodoma	107	733	9,979	15,333
Tabora	106	786	19,186	16,604
Rigoma	41	833	465	1,659
Iringa	40	382	6,827	4,864
Mbeya	20	295	1,091	-
Rukwa	23	386	318	1,129
Ruvuma	18	173	443	1,435
Lindi	73	-	4,741	9,880
Ntwara	76	233	1,543	695
TOTAL	4,337	48,884	350,693	719,113

SOURCE: SIDO

* The census does not include craft-based artisan enterprises.

(c) For every shilling's worth of goods produced in a small enterprise, foreign exchange savings through import substitution are calculated at 39 cents. A comparative estimate for large-scale industry is not available. However, it is doubtful that it will be as high in light of the high import intensity of national industries.

Other information on choice of technique, labor productivity, economies of scale and the nature of linkage vis-a-vis other sectors of the economy is not available. However, the existing evidence generally indicates that small firms, as compared with large-scale enterprises, are more labor-intensive, more cost-effective and less foreign exchange intensive.¹

2. Constraints to Small Industry Development. The Village Cooperative Act of 1975 defines the village as the sole legal entity for engaging in industrial enterprise. By law, individual initiatives would be illegal, but in practice this has not been strictly adhered to. Also, currently, all non-perishable crops are handled by the National Milling Corporation--a monopoly parastatal in the marketing and distributing of agricultural produce. The processing of grains is confined for local consumption only. This implies a severely limited opportunity for villages to increase value-added in their productive activities.

The existence of village-unit structure has both positive and negative implications for the viability of village-led entrepreneurship, depending on the cohesiveness of village organizations and the attitude toward cooperative venture in a particular village.

1. In a quantitative exercise to determine the strategic investment planning for Tanzania, M. Roemer et al., (op cit.) similarly concludes that there is considerable potential for "dispersal and ruralization of industry by the adoption of small-scale technologies."

Another constraint to small-scale industry development is the difficulty in mobilizing financial resources internally for small-scale industries. Tanzania's financial institutions have not in general been equipped organizationally and financially to deal with rural-based, small-scale activities. Small industrial ventures have generally been left out of the lending operations of the banking sector. For example, the Tanzanian Investment Bank (TIB) which specializes in lending to industrial ventures has not in the past been able to much assist small-scale industrial ventures. It has been lending to projects requiring not less than T/Sh. 100,000, which has precluded most small-scale activities. Even the Tanzanian Rural Development Bank (TRDB) which specializes in lending to rural development ventures has failed to take up the challenge. Out of the total TRDB loans disbursed so far, only 40 percent went to villages.¹ The main obstacles in mobilizing financial resources to small industry have been: lack of technical know-how among the banks, procedural difficulties for a small-scale industrialist, excessive security considerations and reluctance of risk-lending and absence of providing facilities in a loan package.

There is also the problem of government intervention through the administrative price-setting that may be disruptive to productive activities. Anecdotal evidence arounds in the impact of unrealistic pricing of raw materials which has led to disruptions in supplies of vital inputs to many small-scale processing industries (i.e., lack of animal fat for soap factories, and shortage of maize to maize mills, etc.).

1. From the text of a speech by C. Nyirabu, the Governor of the Bank of Tanzania, at a seminar of bankers and financiers, IIF, Dar es Salaam, 1980.

3. Outlook. Prospects for an enhanced role of rural-based small industry appear more promising especially as long as the foreign exchange constraint (the structure of incentives resulting from the apparent undervaluation of capital) and the current bottlenecks in the transport and distribution sectors continue to plague the prospects for efficient large-scale industrialization. The Tanzanian Government appears interested in reducing the previous emphasis on large-scale industries. The current Industrial Plan (1978/79-1982/83) indicates a perceptible shift in priorities toward small industry development.

The main thrust of the plan is to increase drastically the contribution of small-scale industry to GDP. As Table 6 shows, the share of small industry in total GDP is to rise from 10 percent in FY 1976/77 to close to 17 percent in FY 1982/83. The SIDO Five-Year Plan emphasizes the establishment of:

- (a) Industrial Estimates in twenty regional centers (one for each region.
- (b) District and village industries.
- (c) Handicrafts.

The regional industrial estimates are envisioned to consist of essentially small-scale firms using indigenous resources to serve as the nerve center for further industrialization of the region. Their specific role is to link up industrial activities in the region to the market and resource endowment of the region, thereby relieving the national industry sector of the costs of transportation to regions. After the establishment of the region-based industrial centers, the plan envisages subsequent developments of a series of small enterprises and the handicrafts--mainly for export--first at the district and then at the village level.

Table 6

THIRD - FIVE YEAR PLAN 1976-79 TO 1982-83

CONTRIBUTION TO THE NATIONAL ECONOMY

Year	Total GDP in Million shs.	Contribution of Ind. Sector in million shs.	Contribution from Small scale in ml.shs.	% of Industry to total GDP (with small scale component) 5	% of Industry to total GDP (without small scale component) 6	% of Small scale Ind. to total GDP 7	% of Small Scale to total industry GDP 8
1	2	3	4				
1976-77	20,267	2,047	-	10.1	10.1	-	-
1977-78	21,404	2,237	431	12.4	10.4	2.0	19.2
1978-79	22,773	2,445	489	13.0	10.7	2.2	20.5
1979-80	25,138	2,672	709	13.8	10.6	3.1	29.5
1980-81	26,647	2,920	1,138	11.5	11.2	4.3	39.0
1981-82	28,216	2,191	1,346	16.0	11.2	4.8	42.1
1982-83	29,540	3,488	1,587	16.8	11.6	5.1	44.0

Note: Increase in Total GDP is expected to increase by 6%

Increase in Industry contribution will increase by 9.3%

Industry contribution figures in columns 3 and 4 are in terms of value added.

There is some doubt, however, as to whether even the first phase of these plans could be successfully implemented within the planned period envisaged. Given the budget and managerial capacity constraints which confront SIDO, much of the success in implementing the plans would depend on the availability of external funding and technical assistance.

There have been a few donor commitments to the regional industrialization programs.¹ They fall, however, far short of the targetted investment outlay for rural industrial estate development.

Another worrisome feature of the industrial estate program is its dependence on foreign exchange availability. According to an estimate, implementation of the estate program is expected to require roughly T/Shs. 600 million for machinery imports and another T/Shs. 250 million for raw materials in the initial stage of development.² It is unclear why these requirements are so high in light of the fact that small-scale industry has generally lower foreign exchange requirements relative to large-scale counterparts.

In summary, Tanzania's recent industrial policy appears to encourage small industry development. In this sense, the relative contribution to overall industrial output of small industry is expected to increase in the years to come. However, the outlook for significant growth even in this sector is not bright; in addition to the anticipated problem of shortage of manpower with appropriate expertise and technology, future small industry development will continue to depend on the support it obtains from the government in terms of investment resources, allocation of credit and foreign exchange. Finally, it is unclear whether or not the Village Cooperative Act will on balance promote entrepreneurship at the local level.

1. For examples include the recent completion of Sweden's Amizio Industrial Estate project in Arusha; IBRD commitments for Tabora and Tango Estates; and Danish commitment in Morogoro Region.

2. SIDO report on Five-Year Plan, op cit.

VII. TRANSPORTATION

A. Introduction

Most analyses of the Tanzanian economy cite the transport sector as a key factor in the problems currently facing Tanzania. For instance the IMF notes, "Despite a rapid growth rate during the past decade, transport remains a major bottleneck to improved efficiency and production in other sectors of the economy." The Tanzanian government's statement of foreign exchange needs for short-term rehabilitation amounts to \$1.4 billion, of which almost 2/3 would accrue directly to the transport sector, and a further, indeterminate amount would go for transport equipment and spares in the agricultural and industrial sectors. Dumont points out, "The biggest problem for Tanzania is transportation difficulty For the Tanzanian rural economy, this problem of transportation is now critical. What is the sense of asking peasants to produce more, if there is no guarantee the harvest will be collected in time?"¹

Despite the important role of the transport sector, there do not appear to be any comprehensive analytical studies of the sector. The staff report (December 1978) for the most recent IBRD Highway Project noted that the Ministry of Communications

1. See IMF (1979) p. 14; "Tanzania's Foreign Exchange Needs for Economic Rehabilitation in the Short-Term (1980-1983)"; and Rene Dumont, Self-Reliant Rural Development in Tanzania, p. 60.

and Transport had decided that a National Transport Study should be undertaken by consultants, and reported that a three-man team financed by SIDA had visited Tanzania in late 1978 to draw up the terms of reference for the study.¹ As far as we know this study is not yet complete. A useful analysis of "The Inter-Regional Transport of Major Agricultural Commodities in Tanzania" (FAO/UNDP) was made available, and its findings are reflected in this section. Nonetheless, the discussion in this section should be regarded as particularly tentative, and based on incomplete information.

B. Setting²

Tanzania's surface transport system mainly comprises roads (about 45,000 kilometers), two railway systems (3,570 kilometers of track), three main ocean ports, and a number of minor ocean and lake ports. Of the road network, approximately 7 percent (3,000 ^{is} km)/paved; 2-3 percent is engineered gravel; and the remainder is unengineered gravel or earth. Accordingly, the system is highly vulnerable to heavy rains. The average road density (at 35 km per 1000 km²) is among the lowest in East Africa. The rail network consists of the Tanzania Railway Corporation (TRC) and the Tanzania-Zambia Railway Authority (TAZARA). Since 1977 the TRC has operated the 2600 km of 1 meter

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1. Tanzania, Fifth Highway Project; Staff Appraisal Report, December 27, 1978, # 2187b-TA, p. 5
 2. This section is largely based on material combined in the project papers for two IDA transport projects relating to the trucking industry (9/1977) and highways (1/1979).

gauge track in central and northern Tanzania that was formerly part of the East African Railways Corporation. The TAZARA line extends southwest into Zambia, and is jointly owned by Tanzania and Zambia. Comprising about 1800 km of 1.067 meter gauge track, it was built and financed by the People's Republic of China between 1971 and 1975, and began operations in late 1975. Of the three ports, the port at Dar es Salaam handles 85 percent of total Tanzania traffic, half of which is destined for Zambia.

Trucking is the major single source of the country's supply of transport services, accounting for about 60 percent of Tanzania's domestic cargo traffic. Until 1973 almost all road freight was carried by private companies (usually owner-operators). At that time the government adopted a policy of substituting public transport for private, which led to "aggressive Government expansion in public road transport", and an ensuing significant exodus of private truckers and trucks.¹ Of an estimated 13,000 vehicles, 3,000 (25 percent) are in public hands while the remainder are operated privately. The structure of the private trucking sector appears very competitive; fifty-eight percent of trucks are operated by a single owner-operator; and 90 percent of private truck owners own fewer than four vehicles, accounting collectively for about

1. IDA Project Paper IDA/R77-103; September 1977 p.13.

68 percent of the private fleet.¹

The overall size of the aggregate trucking fleet remained fairly constant between 1972 and 1976, despite the fact that imports of transport equipment (excluding cars) have consistently accounted for over 10 percent of total merchandise imports over the course of the decade.² This could reflect very rapid depreciation and deterioration, and also withdrawal of private entrepreneurs from the trucking sector.

C. Performance

Performance of the transport sector as a whole has been very deficient over the course of the 1970s, and transportation is widely perceived as a major bottleneck to overall economic activity. Looking at the most aggregate data -- output in the transport and communications sector -- the average annual rate of growth decelerated sharply during the 1970s. Whereas the transport and communications sector grew at an average annual rate of about 10 percent between 1966 and 1972, the average growth rate over the 1972-79 period was less than

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1. IBRD Report No. 1526b-TA, "Tanzania: Appraisal of a Trucking Industry Rehabilitation and Improvement Project", September 1977. Annex 3, page 4.
 2. IDA Project Paper, op. cit p. 12. Economic Survey, Table 15F.

4 percent. This decline in growth occurred despite substantial investment in infrastructure during the earlier period, and the completion of the TAZARA railroad in the mid-1970s.

More specific data for the railroads and trucking industry also indicate negative performance. The TRC provided an average of 1175 million ton/kilometers of service in the 1971-73 period, but only 957 in the 1976/78 period, a drop of nearly 20 percent during a relatively good period for Tanzania. Dumont notes that the TAZARA line was designed to carry 2 million tons per year, yet in early 1979 ("even before the floods") was carrying only 50,000 tons per month, or 30 percent of capacity.¹

For agricultural production, rail transport services declined sharply between 1974 (i.e., pre-TAZARA) and 1978, from about 400 million ton/kilometers to 210 million ton/kilometers. Declines in TRC services amounting to about 225 million ton/kilometers were only weakly counteracted by the introduction of TAZARA. This drop was mainly attributable to declining capacity and performance, rather than to declines in demand for rail services. For instance in early 1979, the TRC was able to load and carry only 10 percent of the agricultural tonnage it was offered for transport. The average figure for all goods was 17 percent.² A report for the Board of Internal Trade indicates

1. Economic Survey 1978/79, p. 98; Dumont op cit p.60.

2. "The Inter-regional Transport of Major Agricultural Commodities in Tanzania," FAO/UNDP, June 1979; pp 21-22.

that low availability of engines was at least one factor accounting for the decline. For instance in 1977, only 45 percent of steam locomotives and 67 percent of diesel locomotives were available for service, well below the "standard" figures of 75 percent and 85 percent respectively, as well as availability ratios achieved during the 1971-74 period.¹

For trucking, data are more difficult to come by. The IBRD noted in 1977 that "trucking services have deteriorated rapidly in recent years", despite a fairly constant overall fleet size since 1972.² Data on capacity utilization and availability of trucks indicate that, apart from trends in services, recent performance is considerably below normal standards. The IBRD estimated availability (the ratio of vehicles in working order to total vehicles) has been about 60 percent for publicly owned trucks, compared with the standard figure of 80 percent. Truck utilization (the ratio of capacity used to capacity available) was only 40 percent for parastatals, compared with 60 percent for private truckers and 70-80 percent as the standard.³

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1. "Transport as a Factor Affecting the Efficiency of the Internal Trade System in Tanzania," East African Management Institute, 1978. IV-22.
 2. IDA Project Paper IDA/R77-103; September 1977, p. 12.
 3. IBRD Report No: 1526b-TA of cit pp. 12-13.

D. Determinants of Poor Transport Performance

As with Tanzania's more general economic performance over the decade, the poor performance in the transportation sector is the result both of exogenous factors and policies. In the case of the Tanzania Railway Corporation, the disruption caused by the breakup of the East African Railways Corporation was severe, particularly since a great deal of the human and physical capital that comprised the management and maintenance capacity of the system was located in Kenya. Secondly, the crises of the 1970s have diverted foreign exchange and other resources that might have contributed to better maintenance. Thirdly, until 1979 there existed^a a substantial degree of cross-subsidization of agricultural commodity freight rates, so that production (and transport) of low-value crops was unduly encouraged. Fortunately, this cross-subsidization has been largely eliminated for the TRC, and has been reduced for TAZARA.¹

For road transport, factors such as the breakup of the East African Community, the Uganda war, floods, etc., have also been important. However, public policies have made a significant contribution to poor performance in several respects. The decision in 1973 to adopt a policy of substituting public transport for private had the effect of substituting relatively

1. FAO/UNDP Study op cit p. 30

inefficient enterprises for relatively efficient ones. Data on availability of trucks and capacity utilization of available vehicles point to clearly superior performance for private truckers. Apart from these indicators, most discussions of the transport sector remark on the relative efficiency of private transporters. Dumont (and others) note the tendency for parastatal transport divisions to carry loads in only one direction. The IDA report notes that public transporters have much higher staff to truck ratios than do private companies. They also report, "many such (public transport) entities have been characterized by inefficiency, low productivity, and unreliable provision of services, and, consequently have been neither financially viable nor economic."¹ A revealing passage in the Board of Internal Trade Report remarks on the "cut-throat" competition faced by public transporters: "While BITCO charges Shs. 300 per ton to Moshi, private transporters may bring it down to the level of 150 in order to attract more customers. Of course they can afford this because they have very low running expenses e.g., wages, rent, electricity, etc."²

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1. Dumont op. cit. p. 59; IBRD Report No. 1526b-TA, pp 15, 1;
 2. "Transport as a Factor Affecting the Efficiency of the Internal Trade System in Tanzania," op. cit. p.IV-10

The public incursion into the transport sector led to a significant absolute and relative decline in the size of the private trucking sector. This has been reinforced by the overvalued exchange rate and the scarcity of foreign exchange. Maintaining an overvalued exchange rate has encouraged demand for transport equipment by relatively inefficient firms, which would not be able to afford such equipment at more realistic prices. Secondly, the foreign exchange allocation system has discriminated against the private sector, and in favor of public firms. For instance data on "Suppressed National Motor Vehicle Demand" (i.e., demand in excess of supply) indicate that government and parastatal demand for lorries and other transport vehicles was met to a far greater degree than private demand. For the public sector, 34 percent of demand for lorries was met whereas the figure for the private sector was 11 percent. (See Table 1.)

The discussion so far has pointed to the role of public policies in diminishing the supply capacity of the trucking sector. At the same time, policies have also had the effect of unduly raising demand for transport services. First, the overvalued exchange rate results in costs of transport services which substantially understate true costs. Secondly, the pattern of production and processing puts undue strains on the transport system, by promoting flows of goods to urban centers for processing and then back to the original locus of production for

TABLE 1
SUPPRESSED NATIONAL MOTOR VEHICLE DEMAND
1977/78

Category of Vehicles	GOVERNMENT		PARASTATALS		PRV COMPANIES		INDIVIDUALS		TOTAL	
	No. Req.	No. Supp.	No. Req.	No. Supp.	No. Req.	No. Supp.	No. Req.	No. Supp.	No. Req.	No. Supplied
Pickups/Combis (76/77)	4	4	76	62	156	94	86	53	322	213
Landrovers/Vans	413	127	274	76	5	-	5	-	697	201
Lorries	292	161	973	335	510	60	1476	167	3249	753
Tipperis	226	112	70	42	198	22	15	2	509	178
Trailers	-	-	-	-	20	3	70	12	90	15
Sub-Total	935	404	1393	515	889	179	1652	234	4867	1360

SOURCE: Ministry of Communications and Transport.

retailing. The most often mentioned case of this is for milling. The FAO/UNDP report notes that "a considerable amount of long distance inter-regional transport is involved in hauling, for example, maize to Dar es Salaam for milling, and in hauling milled flour, rice and sembe in the reverse direction."¹ The problem is related to, and aggravated by the policy of pan-territorial pricing, whereby prices of many agricultural goods and other products are not allowed to vary to reflect transport costs. This has resulted in excess production and transportation of low-value, high bulk crops. While this has been justified by the need for food self-sufficiency, the FAO/UNDP report notes that Tanzania has exported appreciable quantities of maize, sorghum, millets, and cassava. The report is also highly critical of the burdens on the transport system imposed by the 100 percent transport subsidy to fertilizer.

A final important factor has been the inadequate level of maintenance of roads. This has resulted from a weak planning and administrative capacity; budgetary constraints and a shift in the pattern of investment away from infrastructure and towards directly productive activity; and shortages of foreign exchange and spare parts.

1. FAO/UNDP Study op. cit. p. 15. Also, p. 49, where it is reported that 2/3 of the maize that was milled in Tanzania was transferred between regions at considerable expense before milling. Dumont (op. cit. p. 170) is also highly critical of the waste in transportation imposed by an overly centralized pattern of production.

E. Outlook and Implications

A number of donors are active in the transport sector directly, as well as in support of the transport arms of various parastatals. In particular, Canada has embarked on a \$70 million program in support of the TRC and Germany is providing new locomotives for TAZARA. The World Bank (IDA) agreed to a Fifth Highway Project in 1979 costing to \$20.5 million, and is also supporting five regional transport companies with a project amounting to \$15 million. A number of bilateral donors, including Denmark, Norway, and The Netherlands are active in various road projects.

Despite these resources it is likely that performance in the transportation sector will continue to be deficient, particularly in trucking for reasons that have mainly to do with public policies. While there was some discussion in interviews about plans to set producer prices by region (rather than panterritorial producer prices) such a reform would not be likely to result in prices that adequately reflect transportation costs. There is no sign of a movement towards more decentralized patterns of production, that would alleviate burdens on the transport system, indeed there is talk of banning private grain mills. Finally, various public measures that discriminate against private transporters are likely to become more rather than less of a factor if past responses to crisis (as well as current rhetoric) are an indicator.

Under these circumstances, assistance activities which aim at alleviating burdens on the transport sector are likely to be more effective than activities that directly support increased capacity in that sector.¹ For instance, activities that promote a more decentralized pattern of production such as local small scale industry would reduce demand for "imports" from other parts of the country. A second example is better storage facilities, so that delays in transport would entail less spoilage. Finally, programs aimed at road maintenance are likely to have neutral effects on the public/private balance, and where pursued at a regional level could reinforce a thrust towards decentralization.

1. Unless, of course, resources could be directly channeled to the private trucking sector.

VIII. MANPOWER

A. Background

As in other developing African countries, the human resource constraint to development in Tanzania takes the form of a general shortage in skilled manpower. The manpower shortage has resulted from the inability of the existing formal and informal training facilities in Tanzania to meet the increasing demand of developing economy. Only the extent of the shortage is relatively more severe in Tanzania, since the complex network of its command economy structure places an increasingly heavier demand on the role to be played by the administrators, managers, extension workers and technicians.

Since independence, the Tanzanian Government has been concerned with the removal of the manpower bottleneck to development. The main objective of the Government has always been the attainment of manpower, self-sufficiency at all skill levels. This objective has two elements. The first is the localization of manpower in the key positions that have been occupied by expatriates. The Ministry of Manpower Development elaborates on this point: "Should the non-citizens still employed decide to quit en masse, Tanzania will have accumulated enough local talent to do without them without significant harm to the economy."¹

The second element is provision of an adequate supply of manpower to meet requirements of the economy for development. The educational strategy for achieving the stated goal is to provide a universal primary education and at the same time to provide secondary and further education to the extent justified by the manpower requirements of the economy.

The primary objective of Tanzania's educational policies is to provide education for the masses rather than for the elite at basic, primary and

1. The Ministry's Third Five Year Plan Report. Survey of the High and Middle Level Manpower Requirements and Resources. 1979.

secondary levels, rooting education in production of the economy by emphasizing the curricula of the practical skills and science. As such, Tanzania's educational policies have been the subject of admiration of all those concerned with promoting a participatory development process. Although the broad economic implications of such a policy are apparent, the question of how these policy priorities have worked out in practice in meeting the objectives of manpower self-sufficiency for Tanzania.

B. Performance Toward Self-Sufficiency

The Government has carried out manpower surveys periodically to determine a basis for projecting output and requirements. These surveys have been intended for providing a guide to Government investment decisions. The following evaluation of manpower development is largely based on the recent surveys. For planning purposes, the Ministry defines four categories of jobs: Category A -- Jobs normally requiring a university degree. Category B -- Jobs normally requiring from one to three years of formal post-secondary training. Category C -- Jobs requiring a secondary school education including the skilled office and manual workers in the modern craft. Category D -- The remainder applying to a wide-range of semi-skilled workers.

Localization of skilled manpower since Independence has been proceeding at an impressive speed. As Table I below shows, nationals serving in high and middle level posts, expressed as a percentage to the total established posts, increased from 26 percent in 1961 to 60 percent in 1974. More recent figures are not available. However, given the steadily increasing past trend in the rate of localization, it could reasonably be assumed that manpower localization, at least in a quantitative measure, has been achieved at a satisfactory level.

Table 1

PROGRESS IN LOCALIZATION AND SELF-SUFFICIENCY ACHIEVED SINCE INDEPENDENCE

UP TO 1974

High and Middle Level Posts								
Year	Filled (1)	Vacant (2)	Total (3)	Citizens (4)	(5) (Col. 4 as % of Col. 1)	Non- Citizens (6)	(6 as % of 1) (7)	% of Citizens to Total Estab- lished Posts (8) (Col. 4 as % of Col. 3)
1961	4,878	1,156	6,034	1,596	32.7	3,282	67.7	26.6
1962	5,006	1,403	6,409	2,104	42.0	2,902	58.0	32.8
1963	5,300	1,427	6,727	2,720	67.9	2,580	32.1	40.0
1964	5,671	1,605	7,276	3,365	59.3	2,306	40.7	46.2
1965	6,229	1,790	8,019	4,218	67.7	2,011	32.3	52.6
1966	6,573	2,433	9,006	4,675	71.1	1,898	28.9	51.9
1967	7,085	2,880	9,965	5,214	74.2	1,871	25.8	52.6
1968	8,093	2,828	10,921	6,474	80.2	1,619	19.8	59.6
1969	7,738	3,286	11,024	6,387	82.5	1,351	17.5	57.9
1970	9,719	4,581	14,300	8,342	85.8	1,397	14.2	58.3
1971	11,005	5,424	16,429	9,954	90.0	1,051	10.0	60.0
1972	12,864	7,467	20,331	12,119	94.1	745	5.9	59.3
1973	13,400	6,477	19,877	12,600	94.0	800	6.0	63.4
1974	16,183	9,605	25,788	15,182	93.8	1,001	6.2	58.9

Source: Ministry of Manpower Development

These quantitative estimates, of course do not address the question of quality. In interviews with Tanzanian government officials, a few expressed concerns that the speed of localization had been too rapid in some sectors of the economy, adversely affecting their productivity and performance.

In contrast to the achievements in the rate of localization, there is little evidence to suggest that the gap between the supply of manpower and its demand by the economy has been narrowing. This is largely due to an enlarged demand placed on skilled manpower as the economy has expanded and diversified. Also the expanded manpower requirements partly reflect the consequences of public-sector involvements in the economy and enlarged government bureaucracy.

The latest estimates of the projected manpower shortfall by sectors cover the period 1975-1980. Roughly, manpower requirements have been estimated by multiplying the target rate of growth for each sector by the historical trend in the ratio of the annual rate of increase in employment to that in output. Estimates of requirements are confined to Categories A and B. It is the Ministry's view that the shortfalls are particularly severe in these categories. Again it must be noted that the projections are only in quantitative terms. The skill components have not been scrutinized.

The situation appears equally serious in terms of quality of the existing manpower. Although no systematic analysis has been carried out on this issue, there has been fragmented evidence to indicate that the inadequate training of personnel has largely contributed to the poor performance of the parastatal sector. For instance, in estimating training needs of NMC's employees a report on NMC operations¹ pointed out that as of 1979 University diploma qualified personnel within NMC accounted for only

1. Marketing Development Bureau, Ministry of Agriculture; "Report on Investigation into the Financial and Operating Position of Kilimo Crop Authorities - National Milling Corporation - Dar es Salaam, May 1979 (limited circulation).

1.5 percent of total employees with an additional 16 percent of personnel with "other training." This left 81.7 percent, an extremely high percentage, without specific training geared to their jobs. In another instance, the Tanzanian Audit Corporation reported that in 1978, 20 to 30 percent of the parastatals could not be audited, because of their bookkeeping method was "so erratic and unconventional." The work efficiency problem is probably not confined only to the middle and high level categories. There is abundant anecdotal evidence of low quality performance in the low levels as well. An extension worker trained at a national institution is generally viewed inadequate to cope with the specific local situation. There have been many reported incidents where village cooperative personnel are incapable of carrying out simple time-consuming work which should be done by subordinates. It appears that for some institutions what should be recommended is not more staff but upgrading of the existing employees.

C. Areas of Critical Shortages

As Table 2 shows, the severity of the shortfall differs in different categories and occupations. The shortage is considered to be relatively more severe in Category B as compared with Category A, (Table 3) and in engineering, teaching, science, management and administration, and medicine as opposed to agriculture. Category B, the sub-professional occupations, normally require a pre-service training course of two years or so. There has been a bigger deficit in this area relative to other categories because of a general neglect of building institutions to provide this level of training.

In health and education, the figures for projected requirements are based on the assumption of the continuing health and universal primary education needs at the village level as directed by the ruling party. In the light of the impending Government measures to reduce the spending on social services in connections with the current macroeconomic crisis, the extent of

Table 2

MANPOWER REQUIREMENTS AND EXPECTED OUTPUT FROM THE LOCAL INSTITUTIONS IN THE THIRD FIVE YEAR PLAN - 1980/81

Field	Total Requirements in the 3rd 5-Yr Plan	Total Output From the Institutions 1975/80/81	Difference (Increase or Short-fall)	Percentage of the Output Requirements 1980/81
Medicine	793	346	- 447	43
Administration & Management	2,523	1,170	- 1,353	46
Engineering	1,481	438	- 1,043	79
Teaching - Arts	591	517	- 74	87
Science	1,140	603	- 537	52
Agriculture	166	240	- 74	144
Law	610	372	- 238	60
Others	972	335	- 637	34
Total	8,276	4,021	- 4,113	49

SOURCE: Ministry of Manpower Development

Table 3

PROJECTED MANPOWER SHORTFALL BY 1980

	<u>Category A</u>		<u>Category B</u>
	<u>Science</u>	<u>Arts</u>	
Total Requirement	4,925	4,288	22,666
Projected Supply	2,790	2,416	16,399
Shortfall	-2,135	-1,872	- 6,267
Currently Unfiled Vacancies	1,875	1,790	6,055
Vacancies as Percentage of Shortfall	88	96	97

Source: ILO Report Towards Self-Reliance, 1979.

of the shortfall in these sectors over the immediate future will likely to be much less than projected by the Ministry.

Agriculture represents an exception to this general picture. According to Roger Simmons' study on Tanzania's agricultural manpower,¹ the demand for diplomas (Category A level) from agricultural training institutions currently far exceeds supply and is projected to continue to exceed supply in the decade ahead. The contrary situation holds with respect to Category B trainees. He concludes that the higher educational levels are needed in agriculture more at this point in time, and over-expansion of certificate ranks (Category B) is deemed unwise in the light of the shortages of both recurrent finance and viable small-scale farmer technologies.

Another area to which more attention could be given is the education and training of women. The potential for women's role in development and the social implications of developing the female human resources are well documented elsewhere.² The situation in regard to women may be exemplified by the fact that in recent years one one-half percent of the Tanzanian graduates leaving the Dar es Salaam University have been women.

1. R. Simmons: "Tanzania Agricultural Manpower Study 1979-1986," Report to A.I.D. 1980 (Unpublished Draft) p. IV-18.

2. See example, L. Fortman, "Women and Agricultural Development," in K. S. Kim et al. ed. Papers on the Political Economy of Tanzania, Heinemann, 1979.

IX. ENERGY

A. Energy Resources and Uses

The major component of internal energy production in Tanzania is fuelwood. Over 95 percent of the population is estimated to rely on the use of fuelwood (and charcoal) as the principal source of fuel. Household activities account for the bulk of traditional energy demands. The main use is for cooking, although in some regions kerosene and much biomass fuels as wood, dung and crop residues constitute important sources of energy. In some parts of the country, industrial use of poles for building has been cited as the main reason for the dwindling of forests. Annual per capita consumption of fuelwood and charcoal, estimated at 25.2 G. J.¹ in 1976, is more than 2.5 times that in Kenya, and is highest among sub-Saharan African countries.² The continued dependence on wood and charcoal as the major source of energy use in Tanzania raises serious questions about the maintenance of supply. Although the current overall fuelwood supply appears generally adequate to meet local demands, there has been a steady trend of deforestation and desert encroachment in the vast area of Sukumaland. Spotty shortages in fuelwood have also been reported in Tabora, Iringa, and the arid parts of Dodoma and Singida.

Commercial energy³ use in Tanzania altogether accounts for less than ten percent of total energy use. As shown in Table 1, annual per capita consumption of non-traditional forms of energy varied between 56 to 97 coal equivalent kilograms (c.e.k.) during the period 1967 and 1975. The pattern of fluctuations is random, and it is difficult to discern a definitive trend in the consumption level from the above time series. In contrast, Table 2

1. G. J. (gigajoule) is equivalent to 34 kg of coal energy.

2. FAO Production Yearbook, 1977.

3. Includes coal and lignite, petroleum, natural gas and hydro, nuclear and geothermal power.

reveals that per capita consumption of electric power has been steadily rising over the same period. This leads to the plausible hypothesis that the process of substitution of hydro power for other forms of commercial energy (mainly oil) is taking place, albeit, at a slow rate. Domestic production of commercial energy as percent of total consumption was 5.8 percent in 1976, slightly rising to 6.0 percent in 1978.¹

Table 1

PER CAPITA CONSUMPTION OF COMMERCIAL ENERGY IN TANZANIA
(Unit: Kg of coal equivalent)

1967	1968	1969	1970	1971	1972	1973	1974	1975
72.0	56.0	75.0	62.0	70.0	72.0	96.0	74.0	69.0

Source: World Bank Economic and Social Data Series

* * * *

Table 2

ELECTRIC POWER CONSUMPTION PER CAPITA IN TANZANIA

1967	1968	1969	1970	1971	1972	1973	1974	1975
24.0	26.0	29.0	31.0	37.0	40.0	42.0	42.0	43.0

Source: World Bank Economic and Social Data Series

* * * *

Tanzania's per capita consumption of commercial energy is low in comparison, for example, with the consumption of 143-174 c.e.k. for Kenya. A good deal of this difference is of course due to its lower level of industrialization. Imported crude oil comprises nearly 95 percent of total commercial energy. Commercial energy is used primarily in the transport and modern industrial

¹ Data source: The Economic Social Data Services Division, A.I.D.

sectors. According to a World Bank estimate,¹ the percentage of total petroleum product demand arising from transport use was as high as 57 percent during the mid 1970s. Furthermore, the demand for fuel oil appears to display a fair degree of price-insensitivity. This is because the internal combustion engine represents the most prevalent mode of transport in the modern transport sector and also many large-scale industrial processes in Tanzania are still fuel-specific. Plants had been constructed to burn fuel oil. All this implies that Tanzania's demand for commercial energy tends to be fairly price-inelastic in the short run, and will be more closely related to the level of industrial output, and specifically to the growth of the modern sectors of the economy.

To date, Tanzania's potential in commercial energy supply has not been well investigated. Natural gas has been discovered in trial bores near Kilwa. The find proved to be in sufficient quantities to be of interest to Tanzania for domestic use, opening up new options for energy development.

The prospect for discovering any oil reserves is still uncertain. Financial and economic constraints have so far inhibited a full scale activity in searching for oil. Oil is expected to continue to be imported for the foreseeable future.

Coal deposits mainly in the Southwest are estimated at 1.3 billion tons. Currently, only a few thousand tons are produced annually with a potential for a steady increase in the future.

The country also possesses good hydroelectric potential with the potential output estimated at 1,400 MW. The current output level is hardly adequate to meet domestic power needs. Currently, two important multi-purpose hydro-power plants are planned. Stiegler's Gorge on the Rufiji River with a possible installed capacity of 800 MW is the largest one. Rusumo Falls on the

1. World Bank Staff Paper, No. 350, Energy Operations and Policy Issues in Developing Countries, 1979, Washington, D. C., p. 91.

Kagera River is another. Both of these projects are designed to contribute to agricultural productivity through irrigation and flood control. Although the potential for hydro power in Tanzania is good, progress in this direction in the next few years is likely to be very slow in the face of the prevailing financial and human resource constraints. The possible contribution of non-traditional renewable energy including geothermal resources is also being assessed by the government in preparation for a strategy of its development.

B. Major Issues and Outlook

1. Commercial Energy. Steep increases in world oil prices since 1973 have placed severe drains on the Tanzanian economy. The oil import bill as a percentage of Tanzanian export earnings increased from 10.6 percent in 1972 to 22 percent in 1976, to 40 percent in 1979 and is estimated to increase to at least 45 percent in 1980.¹ Oil imports in terms of physical volume were at a fairly stable level of a million metric tons per year during the mid 1970s. The successive increases in the country's oil bill have reduced imports of inputs to the vital sectors of the economy, in particular the transport, manufacturing, and construction sections.² A negative influence on the growth of these sectors has already been exerted since 1975 with the continued decline in the ratio of imports to GDP. It is believed that Tanzania can no longer accommodate a reduction in energy imports without exacerbating the current situation.

The growth of Tanzania's modern sectors critically depends on the continued use of commercial energy. Despite the anticipated increase in world oil prices, it is unlikely that these vital sectors of the economy will quickly develop a technological capacity to substitute alternative, domestically produced commercial forms of energy for more expensive oil. In

1. The figures for 1972 and 1976 are calculated from the sources of UN Statistical Series, J.-21, 1972-76. The 1979 and 1980 figures are from the Tanzanian Government's Economic Report.

2. The effects of the oil price rise on agricultural production have not been investigated. It is plausible, however, that the rural sector in general has tended to fare much better in comparison with the industrial sector.

the transport sector, there is the possibility of substitution through the more extensive utilization of the railway system. However, the railroad network in Tanzania is still sparse and inadequate, and is faced with various maintenance and operational problems. The other major user of oil is industry. Hydro power using non-oil resources (1) may be a feasible alternative to imported oil for Tanzania. Again the hydro possibility will be beset with many problems--long gestation period in the completion of the project, and attendant large capital costs. Various World Bank studies, for instance, have estimated that hydro and nuclear plants would require 50 percent to 1000 percent more capital investment, and coal fuel plants 30 percent to 40 percent more than comparable oil fueled plants.¹ In conclusion, in the short to medium terms sustained economic growth in the monetized sectors would be feasible only with continued export-sector growth, which would permit continued imports of oil and other inputs. In the longer-term, Tanzania ought to explore possibilities of developing its hydro and coal potential in order to reduce dependence on oil. However, Tanzania's dependence on oil is unlikely to diminish significantly throughout the 1980s.

2. Conventional Energy.² Equally and perhaps a more serious long-term problem is the deforestation implications of Tanzania's increased dependence on fuelwood. FAO projections based on historical data indicate that fuelwood demand in Tanzania will grow at an annual rate of one to two percent over the next two decades.³ The probable future rate of fuelwood depletion may be

1. Such unconventional renewable energy resources as wind, solar and biogas may have a certain role to play in the future energy shortages in rural areas. However, because of the costs and limitations in technology it is unlikely that they can be substituted on a large scale basis for conventional commercial energy for the foreseeable future.
2. Includes the traditional, non-renewable energy sources such as fuelwood and charcoal.
3. Calculated from FAO Production Yearbook data, 1977.

higher than that projected by FAO,¹ considering the fact that the projected rate of population growth per annum is 2.7 percent and that alternative energy resources to substitute for traditional forms of energy will not be readily available at reasonable cost to satisfy rural demands on a massive scale. There is evidence to indicate that the pressure of demand for fuelwood has resulted in severe deforestation and subsequent soil erosion, particularly in many semi-arid regions of Tanzania where forest regeneration is slow. Presently, the deforestation problem in Tanzania is not as severe as in more densely populated countries in West Africa. However, given the present trends in consumption and in the absence of massive efforts for afforestation and reforestation, Tanzania will be experiencing fuelwood availability problems in the foreseeable future.

1. Other informal estimates put domestic wood consumption at 5.6 million cubic meters per year, which is expected to increase over the years. For example, Tanzania exported 188 tons of charcoal to the Middle East countries in 1972. The figure is expected to rise to 30,000 tons in the near future. See Africa, No. 108, August 1980, p. 75.

X. SUMMARY AND IMPLICATIONS FOR AID ASSISTANCE

A. Summary

Tanzania has the long-term economic potential and the resource endowment to permit significant economic development and alleviation of poverty. Tanzania also has a system of production and a distribution of productive assets such that future growth in income will tend to be equitably distributed.

Tanzania receives significant amounts of external economic assistance-- perhaps up to \$600 million per annum-- which provides it with the opportunity to realize its economic potential. In spite of these favorable economic factors, the economic outlook for the next two to three years is dim, given the current functioning of the system and the present set of economic policies. It is reasonable to expect some relief from the severe degree of the 1979-80 crisis; however, it is too soon to say whether sufficient internal measures will be taken to accomplish a substantive long-term strengthening of the Tanzanian economy.

The crux of Tanzanian economic weakness is related to declining or stagnant physical production levels and falling factor productivity. Physical output and productivity have been declining for several years. The latest crisis is the third one of the decade, with the first one in 1970-71 and a second in 1973-75. As a result of this pervasive economic weakness, only limited progress has been made in alleviating poverty in recent years. Public interventions in economic activity, e.g., price setting, the pattern of public investment, substitution of public for private enterprise

in transportation and distribution, have had the effect of substantially reducing economic efficiency without significantly improving well-being through greater equity.

The present crisis situation in which Tanzania finds itself is a result of the combination of several adverse exogenous factors (the war with Uganda, a drop in 1978 coffee prices and large increases in oil import costs) and a weak, crisis-prone economy. If Tanzania is not able to strengthen its economy by increasing production levels and improving factor productivity, it will continue to be especially vulnerable to adverse external developments. Indeed, Tanzania can realistically anticipate occasional adverse weather conditions and annual increases in energy prices -- along with price increases in many other imported goods and services -- plus population growth. If the producing sectors continue to stagnate and decline, however, these three factors alone will be sufficient to generate a state of chronic and increasingly severe economic crisis.

In general, there are two kinds of policy responses needed: (a) policy responses aimed at addressing the short-term balance of payments problem. These essentially involve stimulating the supply of exports through a variety of price and related incentive measures, and curtailing domestic expenditures and credit expansion; (b) policies that aim at stimulating longer-term efficiency of production, management and distribution.

In many cases the two sets of policies are identical. e.g., reduction in credit to finance deficits of the parastatals might stimulate the latter's long-term efficiency. Modification

of the agricultural pricing structure could cause commodity exports to increase while simultaneously improving the allocation of resources within the sector.

The Tanzanian Government has concluded a standby agreement with the IMF that calls for restriction of government expenditures and credit expansion; measures to increase output, particularly in the export sector; a phased reduction of debt arrears; and further examination of the exchange rate question, leading to agreement on exchange rate policy by June, 1981. On the demand side, the program is a lenient one in the sense that the limits on expenditures and credit expansion are essentially those made possible by the assumed reduction in war expenditures, and the liquidation of debt arrears is to proceed very gradually.

Accordingly, there is a heavy burden on supply side policies if the goals of the program, including the establishment of a sound basis for more balanced growth of domestic production over the medium-term, are to be achieved. Tanzania has taken a number of steps in the right direction in recent months. Tanzania's public statements about the role of prices (including the exchange rate) and other issues surrounding the agreement, however, are not wholly encouraging regarding the success of the program, because these statements frequently reveal an unwillingness to come to grips with the severe resource constraints facing the country. On the other hand, the Tanzanian Government has in the past shown considerable pragmatism and capacity to adjust and change course when faced with difficult economic circumstances.

The agriculture sector is a key element in both the short-term and long-term outlook of the Tanzanian economy. It employs about 90 percent of the economically active population; it generates 40 percent of GDP and 80 percent of export earnings. The Tanzanian agricultural resource endowment is adequate relative to the population for the agriculture sector to become a significant source of long-term growth. The distribution of agricultural assets is of such a nature that redistribution is not a prerequisite to promotion of an accelerated growth policy.

Agricultural performance has been lacking on several counts:

(a) After expansion in production of food and export crops in the 1960s, export volumes declined by 18 percent during the 1970s; (b) food imports have tended to increase from near zero at the beginning of the decade to high levels -- rice and wheat imports have been routine.

Agricultural prices shifted in favor of food crops during the 1970s; however, the official price system^{has} tended to simulate a demand pattern which does not exist. The result is surpluses of foods such as sorghum, cassava and millet, for which there is virtually no domestic commercial demand, while wheat and rice remain in perennially short supply. Export crop producer prices have declined in real terms and relative to food crops, while marketing costs and export taxes have increased disproportionately. As a result, farmers' shares have decreased in spite of rising trends in most international commodity prices. Overall, pricing policy has caused serious resource misallocation and major deficits in the National Milling Corporation (NMC). The NMC deficits have in turn contributed to inflation which, in

combination with declining export volumes, have weakened the Tanzanian international trade position and made the economy more susceptible to adverse international changes such as oil price increases. Lastly, there has been a tendency for an excessively heavy reliance on agricultural pricing policies and neglect of policies to increase agricultural production. Price policies and resources have been used extensively to influence the composition of agricultural output. The core problem of stagnant aggregate agricultural production has continued largely unaddressed. A shift in policy instrument emphasis as well as major price policy changes will be necessary to place the agriculture sector on a sustainable growth path.

The industrial sector has focused on relatively capital intensive import substitution. Despite public statements in support of small-scale rural enterprises, the bulk of investment has gone to major industrial units which have not stimulated significant increases in employment while operating at low levels of capacity utilization. The transport sector has been characterized by significant inefficiencies partly as a result of external disruptions - such as the breakup of the East African Community and partly because of the Uganda war, / scarcity of foreign exchange and partly as a result of a shift to public transport in the trucking industry which has shown to be less efficient by comparison to private operators.

There are pervasive shortages in skilled manpower and breakdowns

in management. This problem is magnified by the fact that Tanzania is primarily a planned economy which places large demands on managerial skills and administrative efficiency. Finally, the oil price increases and related scarcity of foreign exchange have adversely affected production throughout the commercial sectors of the economy. At the same time deforestation is a problem afflicting the supply of fuel to the subsistence sector. Tanzania, however, has significant amounts of untapped energy potential which can be used to address its long-term energy problem.

B. Implications for AID Assistance

1. The present AID level of development assistance (about \$20 million) appears to be appropriate and should be maintained in real terms over the next few years. Significant changes in this level should be related to progress made by the Tanzanian Government in improving the overall economic policy environment, reducing inefficiencies in resource utilization and stimulating increased productivity and growth. Maintenance of a relatively constant real level of economic assistance is justified because the Tanzanian Government has demonstrated a strong and consistent commitment to the principles of broadly based development. Whereas this report has concentrated heavily on problems, Tanzania has established social and economic goals which AID can readily support. Furthermore, Tanzania has made reasonable progress in pursuing its major social objectives, such as universal primary education and improved health care delivery systems. Many of Tanzania's economic problems can be traced to a combination of Tanzanian policies and unfavorable international developments that have placed a significant strain on the economy. Tanzanian economic development policy has been slow to react to the unfavorable events of the 1970s, partially because of its firm commitment to particular long-term social and economic objectives. However, it is becoming increasingly critical to the realization of these long-term objectives that Tanzania start to adjust its development policies in the 1980s. It is important that AID assistance be maintained in support of Tanzanian efforts to adjust to the international trends spawned in the 1970s. Maintenance of a sound relationship with

Tanzania could serve as a basis for a more active assistance program once Tanzania has made the policy adjustments it must to pursue sound long-term economic growth and development.

2. The present emphasis of AID economic development assistance on rural areas and agriculture is appropriate and should be continued. The agriculture sector has sound development potential, a strong comparative advantage in many activities, and the greatest potential for generating economic benefits for a large proportion of the population. Agriculture will continue to employ most of the economically active population for the indefinite future. A continued stress on assistance to agriculture is justified because the sector offers a number of prime opportunities to pursue both economic growth and equity objectives simultaneously. The agriculture policy environment has been plagued by considerable problems including pricing and other administrative policies that have inhibited increases in productivity, relative neglect of agricultural export crops and confused incentives in food production.

a. AID's focus should continue to be in interventions that would increase productivity in the food sector. Other donors are expected to place significant emphasis in the agricultural exports area which is critical to Tanzanian prospects in increasing foreign exchange earnings.

b. In order to enhance long-term productivity growth, AID should become more involved in applied agricultural research. It is widely acknowledged that AID has extensive experience and

access to a large stock of technical talent in this area and that applied agricultural research is weak in Tanzania. Investment in applied agricultural research offers at least two important advantages: First, in spite of current agricultural policies, the probability of realizing the immediate objectives of the research is not appreciably altered by prevailing conditions (e.g., a better plant can still be developed). Second, although the eventual outcome of agricultural policy reforms will affect the degree of impact that research results can exert, applied agricultural research adds an important dimension to policy flexibility. In addition to application of pricing policy to influence output levels, research can lower production costs or risks and thereby be used as an additional tool to influence output levels. In a situation in which pricing policy is less than optimal, judiciously applied research becomes proportionately more important as a policy tool.

c. Agricultural research initiatives should be guided by preliminary economic analysis of agricultural systems and policies. Given the extraordinary range and degree of economic distortions existing in the agriculture sector, some background economic analysis is warranted to help guide the allocation of research resources so research efforts can be adapted to the prevailing agro-economic context. The blending of agricultural research with economic analysis has the potential of becoming an effective tool in developing methods to achieve specific objectives (e.g., decreasing economic losses while maintaining or raising farmer incomes in a specific area which is producing crops for sale for which there is no national

market) and otherwise helping to optimize the economic effects of applied agricultural research.

3. The strong overall commitment of the Tanzanian Government to equitable growth and the relative equitable distribution of assets and income are juxtaposed against a recent performance of limited productivity gains and income growth by the poor. Against this background, the greatest weight in choosing future AID activity or geographic areas of consideration should be related to the likelihood that the activity will stimulate production and output growth; less concern should be given to explicit targeting activities to the poor, since there is strong likelihood that gains in output and production, if they occur, will indeed benefit the poor. The 1982 CDSS and supporting documents stress concentration of assistance on the Central Zone of Tanzania (Dodoma, Southern Arusha and Singida regions) as warranted because the Central Zone is one of the poorest in Tanzania and is subject to frequent droughts and that AID activity there would tend to reduce the need for Tanzania import food. It was proposed that an AID effort in the Central Zone be initiated by a series of development activities in the area around the provincial capital, Dodoma. It was further stated informally that the proposal to open new activities around Dodoma was an effort to be responsive to requests by the Minister of Agriculture, who is from the area and who is seeking support for the planned move of the Central Government to Dodoma.

A shift in AID project emphasis to the environs of Dodoma is largely a moot question now that the Government has agreed to delay transfer of the national capital. While parts of the Dodoma

region are obviously poor and drought-prone, the data on production do not support the argument that the region is a serious drain on national food supplies. To the contrary, it is an important supplier of food. The rationale for the proposal to shift more AID activity into the Central Zone involves the principle of the relative weight given to income distribution effects in the allocation of development assistance. In Tanzania, relative distributional concerns are of limited relevance in guiding resource allocation for large segments of the rural sector because the bulk of the citizens in these large segments are all absolutely poor. Probable effectiveness is the most relevant guide once the large segment is identified. Distributional considerations in this context are relatively minor, and there is a good chance that welfare differences among the absolutely poor as indicated by most indices are not reliable.

4. The policy response of the Tanzanian Government to its current financial crisis has so far not been sufficiently convincing that non-project assistance in conjunction with the IBRD or in support of the IMF appears as the most effective means of channeling AID resources. This factor combined with the weak institutional base and administrative bottlenecks suggest that AID continue its focus on project assistance.

At the same time, AID should explore opportunities for more flexible use of its assistance resources in ways that produce fast disbursement of foreign exchange so as to be indirectly of assistance in a small way to Tanzania in its present financial crisis. Increased analysis is needed of ways to develop non-

project assistance activities so as to be prepared to be supportive of policy changes once the government shows indication of willingness to promote policy changes with significant impact on economic efficiency, especially in the agricultural sector.

5. Recurrent costs and recurrent cost financing should be given prominent and explicit consideration in new project proposals, and ways to address project recurrent cost financing should be explored. It is reasonable to expect that the Tanzanian Government will not be able to pay all of the costs necessary to maintain and/or operate a project once it becomes operational. Therefore, how the recurrent cost of a project will be covered should figure prominently in project selection and project design. Two points seem particularly relevant to this constraint: (a) look for project activities which, when completed, will become self-contained operations, e.g., private enterprise or activities where user fees can be charged and immediately turned back into the activity; (b) explore ways to adapt assistance to cover project recurrent costs; it might be appropriate to consider earmarking budget support in this context.

6. There are significant and pervasive administrative and implementation bottlenecks afflicting most donors' projects. Many existing activities are not functioning adequately as a result of ineffective management, lack of skilled personnel, confused policy signals, etc.

These problems suggest that future efforts be directed to activities that: (a) shore up and improve the functioning of existing institutions and projects rather than starting new ones; (b) new pro-

jects are designed in ways that minimize demands on additional Tanzanian management and administration, and do not depend for their success on a significant number of intermediaries and linkages.

Thus, for example, projects should be avoided which require several logistical steps as well as management and coordinating functions external to the project itself. To a large extent this approach is already being followed by AID/Tanzania. It is noted that the reason is not because of doubt about Government commitment to support projects during and after the investment phase, but rather to adjust to prevailing conditions of widespread shortages, transportation difficulties and general systemic dysfunction.

(c) In order to assure success in projects which require ongoing professional management and technical expertise, AID should make commitments for long-term involvement. In such projects, there is a clear danger that if AID discontinued its support to the project after a short period, the project will not continue to function after the assistance has terminated. The approach is recommended because of prevailing Tanzanian conditions, such as the scarcity of qualified Tanzanian technicians and the high level of demand for their skills exerted by the large number of development projects in Tanzania. In addition, there is a pervasively high level of disorder in operating conditions involving logistical problems, scarcities and constant necessity to deal with myriad regulations. For certain projects to continue to operate successfully, it is necessary that they have consistent and experienced management. For the medium-term it is not practical to assume that foreign technical assistance to projects which involve day-to-day management can be terminated and that the projects will continue to

function in an effective manner. Thus, the idea that assistance to activities should be curtailed because the assistance has been going on for a number of years is not well attuned to the Tanzanian context. Instead, any decision to decrease or discontinue assistance to a project which is functioning well should be closely reviewed with respect to the probability of the project being able to continue to operate near capacity after the assistance has been discontinued. Indeed, if the project is functioning well it should be examined to see if there is justification for replication or expansion.

7. There are significant distortions in the valuation of capital which contribute to low capacity utilization, rapid deterioration of capital stock and unwarranted capital intensity. In light of such distortions, great care should be followed in the evaluation of capital costs, depreciation and rates of capital utilization in evaluating all projects with substantial capital content.

Tanzania is faced with an apparent paradox; there are apparent shortages of equipment, and in many cases physical infrastructure is badly deteriorated. In practice, however, there is reason to believe that many of the equipment shortages and problems with physical infrastructure occur because the economic system works in a way which effectively assigns a low value to fixed capital and an extremely high value to operating capital. While fixed capital is scarce in an economic or relative factor supply sense, Tanzanian decisionmakers and managers are not confronted with the same direct tradeoff in acquiring more capital equipment. Operational

there is no cost to the individual recipient of capital. It comes from the outside. There is little or no penalty associated with having redundant capital, and having the physical capital on hand helps to offset some risks, e.g., unavailability of spare parts. In contrast, there are explicit opportunity costs present in the allocation of operating capital, and the more operating funds are constrained, the sharper the tradeoff. Expenditure with no immediate consequence is delayed, and funds are used instead to meet immediate demands. Thus, preventive maintenance, for example, is a relative luxury. Tanzania receives a relatively large volume of donor assistance which is combined with a relatively small management and skilled manpower base, limited institutional capacity, and a shrinking ability to finance operating costs. The results are a tendency toward excessive (idle) capital and sharply attenuated operating life for capital. Thus, evaluation of the capital assistance element of a project proposal warrants rigorous examination.

8. Assistance activities which attempt to increase utilization rates in industry or other sectors solely through the provision of inputs will tend to provide only a modest and short lived stimulus to increasing output. There is an apparent widespread and urgent need to supply industries with inputs to enable them to operate near their designed capacities. However, in light of prevailing incentives relating to capacity utilization and valuation of capital, increased availability of intermediate inputs alone and in the absence of significant reforms on the valuation of capital, is likely to yield low returns. This is especially the case when there are

difficulties in ensuring that all of the necessary complementary inputs will also materialize.

9. Given the scarcity of adequately trained manpower and its critical role in Tanzanian development, existing manpower forecasts and assessments need to be upgraded. This action is a basic first step in starting to rationalize manpower planning in Tanzania. Consideration needs to be given to technical assistance activities in this area. Moreover, it appears that in Tanzania as well as in other parts of African, there are significant needs for training at the secondary level, in order to address Tanzania's extensive management and skill needs. AID could undertake a more intensive analysis of this area as part of a manpower assessment effort with a view to defining what types of education sector activities are most appropriate to pursue.

10. The development of small-scale enterprises located in rural areas may make significant contributions to rural development and to the alleviation of scarcity of essential manufactured goods consumed by the rural population.

The development of rural, small-scale manufacturing units of basic goods (within the bounds of technical constraints and cost effectiveness) has potential because small-scale operations can use technologies compatible with local factor endowments and if carefully selected, reduce demand for scarce transportation and distribution services. The provision of credit, technical assistance and feasibility analysis for rural-based, small-scale manufacturing is presently not emphasized and thereby provides broad opportunities for assistance. Any AID activity in this

area should be conditioned on further clarification of Tanzanian Government policy; so that there can be reasonable expectations that inputs will be available and that the government will permit private sector initiative unhampered by central administration controls. Nevertheless, there is sufficient prima facie evidence to indicate that the Mission should explore opportunities for assistance, especially if the economic environment improves and there is reason to expand and/or diversify the assistance program.

11. Development of energy policy planning capabilities, development of renewable energy sources and provision of investment resources and technical expertise for energy development are important to creation of a capability for self-sustaining growth in Tanzania. AID should actively explore the possibilities of assistance in this area. Tanzania appears to have a large potential for energy import substitution. This is obviously an extremely large area and one with a long-term perspective, but the large share of oil import costs relative to export earnings and the high rate of growth of petroleum prices suggest that a major effort should be made to accelerate formulation of a response to the problem. There is need for a systematic plan for development of an economically rational energy import substitution program. Given the fact that Tanzania has domestic energy production potential ranging from traditional sources such as petroleum, gas, hydroelectric, coal and wood to nontraditional sources such as solar, wind and biogas, there is ample opportunity to make development of domestic energy resources an integral part of Tanzanian development strategy for the 1980s.

12. There is need to increase the degree of donor coordination. At present, there is a large number of donors active in Tanzania and the level of development assistance is high relative to Tanzanian absorptive capacity. As a result Tanzania is hard-pressed to provide adequate complementary resources. It has been argued, for example, that one effect of building a highway is to thin out further the maintenance received by the total system. The demand for qualified Tanzanians to work on projects or run them after completion far exceeds the supply. Closer donor coordination can contribute to addressing these kinds of problems. It is understood that the Tanzanian Government has long opposed collaboration in the donor community; however, such collaboration offers perhaps the best means of coping with the aggregate effects generated by the total development assistance program and it can directly address Tanzanian Government concerns. For example, with donor cooperation it might be possible to devise an approach whereby a certain amount of budget support would be made an integral part of capital or technical assistance activities, e.g., for every million dollars invested in a grade C road, the highway maintenance fund would receive a specified lesser amount each year for five years following completion of the project. It is difficult to conceive of a scheme to relate donor investment activities directly to domestic absorptive capabilities in the absence of close donor cooperation. Similarly, better donor cooperation would appear to be a necessary ingredient to improved manpower planning.

13. Efforts should be made to explore ways to provide

Tanzanian decisionmakers with more and better empirical information.

The Tanzania Government is frequently handicapped by not having sufficient information on hand to make well-informed decisions. Tanzania is not unique in this respect, but the problems here are exacerbated by the stress on centralized decisionmaking. In the context of such a decisionmaking process, empirical knowledge assumes a premium value. It is not suggested that support for data collection be open-ended and indiscriminant, but rather that it be selective, with collection directed to improving the empirical understanding of controversial policy issues. There appears to be a receptive environment in Tanzania for analytic data collection and processing, and it need not necessarily require large resources. Probably the main requirements are flexibility in the form of assistance and ability to assist small units and work in collaborative arrangements with various levels of government and other donors.