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Tanzania Agricultural Sector Report

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Eastern Africa Projects Department
Southern Agriculture Division

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CURRENCY EQUIVALENT

1 Tanzania Shilling (TSh) = 100 T cents
US\$1 = TSh 8.2 until March 1982
US\$1 = TSh 9.4 from April 1982
until June 1983
US\$1 = TSh 12.2 after June 1983

WEIGHTS AND MEASURES

Tonne = metric ton
= 2,204.6 pounds
= 10 q
Quintal (qq) = 100 kilograms (kg)
Hectare (ha) = 2.47 acres

FISCAL YEAR

July 1 to June 30

AGRICULTURAL SEASONS

<u>Crop</u>	<u>Planting</u>	<u>Harvesting</u>
Cashew	Tree crop *	August-March (peak October-December)
Coffee (<u>arabica</u>)	Tree crop	June-August
Cotton	December	May-July
Maize (Southern Zone)	November-December	June-September
Maize (Northern Zone)	January	July-October
Oilseeds	November-December	May-July
Pyrethrum	Perennial *	Year round
Sisal	Perennial *	Year round
Sorghum/Millet	November-January	May-July
Tea	Perennial *	Wet season (mainly November-March)
Tobacco	Nov-Dec (in field)	March-June
Wheat	February	July-September

* planting of perennial/tree crops done during main wet season December to February

ABBREVIATIONS

AISCO	-	Agricultural and Industrial Supply Company
BOT	-	Bank of Tanzania
CAT	-	Coffee Authority of Tanzania
CATA	-	Cashewnut Authority of Tanzania
CCM	-	Chama Cha Mapinduzi (The Party)
CIDA	-	Canadian International Development Agency
CIMMYT	-	International Maize and Wheat Improvement Centre
CIP	-	Coffee Improvement Program
DAFCO	-	Dairy Farming Corporation
DANIDA	-	Danish International Development Agency
DDD	-	District Development Director
EDF	-	European Development Fund
EEC	-	European Economic Community
FAO	-	Food and Agriculture Organization of the United Nations
GAPEX	-	General Agricultural Products Export Corporation
GOT	-	Government of Tanzania
IBRD	-	International Bank for Reconstruction and Development
ICRISAT	-	International Centre for Research in the Semi-Arid Tropics
IDA	-	International Development Association
IIRI	-	International Rice Research Institute
IITA	-	International Institute for Tropical Agriculture
KILIMO	-	Ministry of Agriculture
KSC	-	Kilombero Sugar Corporation
LIDA	-	Livestock Industry Development Authority
MDB	-	Marketing Development Bureau
NAFCO	-	National Agriculture and Food Corporation
NAPB	-	National Agricultural Produce Board
NARCO	-	National Ranching Corporation
NBC	-	National Bank of Commerce
NESP	-	National Economic Survival Program
NMC	-	National Milling Corporation
NORAD	-	Norwegian Agency for International Development
ODM	-	Overseas Development Ministry, U.K.
PMO	-	Prime Minister's Office
PPMB	-	Project Preparation and Monitoring Bureau
RADO	-	Regional Agricultural Development Officer
RDD	-	Regional Development Director
RIDEP	-	Rural Integrated Development Project
RTC	-	Regional Trading Corporation
SAP	-	Structural Adjustment Program
SAR	-	Staff Appraisal Report (World Bank Group)
SUDECO	-	Sugar Development Company
TALIRO	-	Tanzania Livestock Research Organization
TANESCO	-	Tanzania Electric Supply Company Limited
TANSEED	-	Tanzania Seed Company
TARO	-	Tanzania Agricultural Research Organization
TAT	-	Tobacco Authority of Tanzania
TCA	-	Tanzania Cotton Authority
TCB	-	Tanganyika Coffee Board
TFA	-	Tanganyika Farmers Association
TFC	-	Tanzania Fertilizer Company
TPB	-	Tanzania Pyrethrum Board

TPRI	-	Tropical Pesticides Research Institute
TRDB	-	Tanzania Rural Development Bank
TTA	-	Tanzania Tea Authority
UAC	-	Uyole Agricultural Centre
UDSM	-	University of Dar es Salaam
USAID	-	United States Agency for International Development

TANZANIA

AGRICULTURAL SECTOR REPORT

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IBRD Tanzania - 16580 - Rainfall Reliability Zones for Maize

IBRD Tanzania - 16589 - Main Cropping Areas

IBRD Tanzania - 2802R3 - Regions and Districts

IBRD Tanzania - 2804R - Potential Land Use

List of Draft Background Papers a/

- I. An Analysis of Export Crop Performance
Andrew Spurling (with contributions from Casper Warnaars, Ajit Sidhu, John Greenfield, Arno Klempin, Dirk van der Sluijs, and Ridley Nelson)
- II. A Statistical Annex to the Food Crop Sector
Yahaya Doka with Wilfred Candler
- III. Parastatal Performance
Sithamparam Sengamalay and Paul Duane
- IV. Transport and Agriculture
Martin Staab
- V. Non-Price Producer Incentives including the Role of Social Services
Diane White
- VI. Overall Institutional Performance
Jon Moris
- VII. An Analysis of Budgetary Allocations
Michael Schluter
- VIII. Role of Livestock
Jack Frankel with Ross Wallace
- IX. Size and Deployment of Public Sector Manpower in Agriculture, 1974-75 to 1981-82
Michael Schluter
- X. Problems of Fertilizer Distribution
Andrew Spurling
- XI. Agricultural Research and Extension
Ridley Nelson with Jon Moris
- XII. Translation of the Relevant Sections of the Draft Five Year Plan and the National Economic Survival Program (NESP)
- XIII. Agricultural Credit and Institutional Change
Amal Bose with Sithamparam Sengamalay
- XIV. Foreign Exchange Requirements of the Agricultural Sector
Michael Sackett and Michael Schluter
- XV. Effects of Exchange Rate Adjustment
Wilfred Candler

a/ References have been retained to Background Papers (which are for internal use) so as not to lose the links to the substantial data sources and background reviews on which the report has drawn heavily.

Preface

This report is the result of the cooperative effort of a large team led by Uma Lele. Differing from the normal practice in the Bank, the report was not based on a single formal sector mission to Tanzania but involved pooling together, over a period of nine months, the knowledge of a large number of Bank staff working on Tanzania, and of Tanzanian officials. Wilfred Candler, Andrew Spurling, Paul Duane, Sithamparam Sengamalay, Martin Staab, Diane White, Jack Frankel, Yahaya Doka, Ridley Nelson, Amal Bose, Ajit Sidhu, Ross Wallace, John Greenfield, Casper Warnaars and Arno Klempin did the desk work in Washington. Alexander Wilson and Claude Blanchi from RMEA contributed their knowledge of various crops and institutions. This was supplemented by field visits to Tanzania coupled with regular operational missions. During these missions, existing information, published documents and analyses were gathered and discussions held with government officials, donors, secretariat of the Advisory Group and University of Dar es Salaam analysts. This effort was supplemented by detailed analysis by three consultants - Michael Schluter on the budgetary expenditures, Jon Moris on overall institutional performance and Angus Hone on export prospects. Preparation of background papers involved small group interactions and frequent consultations including with divisional colleagues not directly involved (Barnabas Zegge, Dirk Van der Sluijs, Jan Wijnand, Asaf Malik, Albert Nyberg), with other project divisions especially transport, education, industry, energy and water supply, as well as past and present program staff. The list of draft background papers prepared by Bank staff and consultants on which this report is based is presented on p. viii. Wilfred Candler served as the principal economist and Andrew Spurling as the principal agriculturalist. Michael Schluter and Ellen Hanak (consultants) contributed substantively and Ton T.T. Long and Mary Dyson assisted with research and editing the manuscript. A number of Regional staff provided valuable comments at several stages in the preparation of the report and it was also discussed in depth at a Bank Management retreat at Cremona, Maryland.

Lele, Spurling and Duane visited Tanzania in January to discuss the outline of the report with officials and Lele and Candler in March/April 1982 to discuss the preliminary findings informally. The Ministry of Agriculture was the principal liaison, which provided very considerable assistance through a working group chaired by Mr. David Masanja, then Principal Secretary, and operated on a day-to-day basis, by Mr. Vincent Mrisho, the Director of Planning, Mr. Timothy Banda of the Marketing Development Bureau, and Mr. Jai Krishna of the Project Preparation and Monitoring Bureau, who were members of this working group. Other institutions of the Government also assisted, including the Ministries of Finance and Planning, the Prime Minister's Office, the State House, the Tanzanian Rural Development Bank and the various other agricultural parastatals. Without their considerable assistance, this report would not have the detailed analysis which it now contains. The Bank staff are, however, entirely responsible for the views expressed and any deficiencies in this report.

A green cover draft of this report was presented to Tanzanian officials in early October 1982. Following the preparation of the interim report of the Government's Task Force on Agricultural Policy, the Tanzania National Agricultural Policy, the Government hosted discussions on the agricultural sector with a Bank mission in March 1983, and at the end of March published a Cabinet White Paper The Agricultural Policy of Tanzania. The subsequent revision of this report has taken into account the government's reactions to the earlier draft. The revision, however, purposely does not attempt a precise definition or an analysis of possible changes in agricultural policy which the Government may implement as a result of the White Paper or its consideration of this Bank report. Though the broad lines of the Government's recently announced agricultural policy appear to reflect various of the concerns expressed in this Bank report (e.g., regarding needed increases in budgetary and foreign exchange support for agriculture; greater parastatal efficiency and producer incentives; reorganization and strengthening of extension and research services; improved security in land tenure; development of cooperatives; etc.), the precise tools for attaining those broad objectives and the magnitude, scope and timing of policy and institutional changes are not yet clearly known. Nor is the extent to which marketing channels open to the producer will be broadened known. These matters are under review within Government as part of its planning for implementation of a structural adjustment program. It should be understood that the changes recommended for the agricultural sector in this report cannot be expected to be implemented simultaneously or necessarily in the exact form or magnitude suggested. However, the analysis in this report does suggest the close inter-relationships among various needed policy adjustments as well as the range of major changes which will eventually be needed for a self-sustaining recovery in the sector.

August, 1983

TANZANIA

AGRICULTURAL SECTOR REPORT

SUMMARY AND CONCLUSIONS

1. This report reviews the performance of the agricultural sector. It analyses causes of poor performance and sets out the broad direction of policy, institutional and investment changes needed to bring about an agricultural recovery. Agriculture's overwhelming importance in the economy hardly needs to be stressed. It contributes 85 percent to exports, accounts for 40 percent of GNP and supports 90 percent of the population. It is a major source of food and raw materials for the urban and industrial sectors and of government revenues needed for the development of the economy. The agricultural population is also an important market for the goods and services produced in the industrial sector. Agricultural development is therefore crucial to achieving the objectives of employment, income distribution, modernization and self-reliance on which the Government has laid great emphasis. The macroeconomic crisis in Tanzania is largely a crisis of the agricultural sector.

2. External factors have undoubtedly contributed substantially to Tanzania's current crisis. But a large number of domestic policies have also weakened the agricultural sector to a point where it is no longer able to fulfil its traditional functions effectively. The volumes of food and export crops officially marketed have been declining, leading to increased import dependence on food and reduced ability to earn foreign exchange in a situation of declining world market prices where bigger volumes are needed simply to maintain earnings. Declining quality of the export crops has increased the difficulty in an intensely competitive international market. The growth of the parallel market is leading to the erosion of the tax base and loss of official control over the economy.

3. The degree of deterioration in the policy and institutional environment affecting agriculture is so extensive that a few minor measures are unlikely to make a significant difference to agriculture's declining trend. Major policy and institutional reform is necessary to increase the efficiency of use of the massive sums of resources now needed by the sector.

4. The basic thrust of the Government's 1982 Structural Adjustment Program was in the right direction. However, it provided few concrete proposals to revive the agricultural sector. The implications of giving priority to agriculture for macroeconomic policy also needed to be identified far more fully than those presented in the SAP. This report aims to help fill such gaps.

5. The key areas of policy which need immediate attention are:
 - (a) priority to agriculture as reflected in substantial injections of financial and trained manpower resources for direct agricultural activities and for supporting sectors including transport and consumer goods;
 - (b) improved incentives including substantial increases in real producer prices of food and export crops, liberal supply of inputs and consumer goods and a greater decision-making role for farm families in terms of what crops they grow and where. A major adjustment in the exchange rate will be necessary to sustain an increase in real producer prices; and
 - (c) institutional pluralism leading to liberalization of agricultural input and output markets. This should not only involve reform of the parastatals and introduction of cooperatives as proposed by the Government in the SAP, but also official recognition of the legalized role of the private sector in marketing, distribution, processing and transportation would be necessary. This would again free the Government to perform many of the traditional governmental functions more effectively.
6. None of these measures is likely to work in isolation from the others. The interrelated nature of the constraints outlined in this report highlights the need for a comprehensive package which takes into account all these problems.
7. The short run policy measures for agricultural recovery will of course have to be supported by a long term program of agricultural development including:
 - (a) development of technical packages;
 - (b) substantial increase in secondary education and training of agricultural and related manpower; and
 - (c) strengthening of government institutions such as the Ministries of Agriculture, Transport and Education, and the national research and extension systems. The neglect of these elements in the 1970s and the consequent deterioration of many public services, greatly reduce the response which can be expected from the agricultural sector to any short run recovery measures. Because institutional reform is so complex, recovery will be slow and difficult.
8. Donors will need to support this program through financial and technical assistance and food aid. To be effective donors will have to make a significant change in their own policies and actions. For instance:
 - (i) far greater coordination will be needed among donors in working with the Government to further help articulate a development strategy led by agriculture;

- (ii) donors should attempt to avoid overinvestment in other sectors which divert attention and resources away from agriculture;
- (iii) even more of their current aid commitment would need to be converted from project to program, sector and subsector aid as some donors are already doing;
- (iv) during the difficult period of domestic adjustment their assistance would need to be assured at least for a five-year period; and
- (v) there would need to be a periodic review of the progress on implementation of the policy package with the necessary flexibility to learn from doing.

9. The final chapter contains some 39 specific policy recommendations. As emphasized in the report, many of these recommendations are complementary and would be mutually reinforcing; the more rapidly they are adopted, the quicker and more complete can the recovery be expected to be. Nevertheless, the concreteness of the proposals made should be seen as illustrative of the principles developed in the body of the report rather than as a sign of inflexibility. Alternative proposals which incorporate the general thrust of the recommended policy, but differ in detail, or involve a phasing of implementation could equally be expected to be effective. As brought out in the report, however, extrapolation of current trends suggests that in the absence of some major changes in agricultural policy, in the general directions outlined the future for Tanzania is likely to be bleak.

10. Both the macroeconomic and socio-political implications of such policy changes are substantial and the report does not underrate the difficulties in bringing about the needed policy changes. An agriculturally led strategy would inevitably require some reduction in the priority for development of the industrial and social service sectors and the rate of growth of urban population employed in the public sector monopolies, which together have been the major beneficiaries of the past development strategy. In the short and medium run it would also mean giving greater priority in investments to regions which have the greatest agricultural potential, at the expense of less privileged regions and groups that have benefitted from past policies. Even with this reorientation the majority of beneficiaries would still be the smallholder peasants, whose production and productivity now need to be increased to enable such policies in the future.

CHAPTER I

AGRICULTURE AND THE FOREIGN EXCHANGE CRISIS

A. Introduction

1.01 This report reviews the performance of the agricultural sector over the last decade in terms of production and policies and examines the implications of different policy and investment scenarios with regard to likely production levels during the next five to ten years. The report stresses the need for major policy and institutional changes and reallocation of resources to revive the sector from the severe decline it has experienced in the 1970s. As the previous economic crises have done, the current foreign exchange crisis in Tanzania has once again elevated agriculture to the centre of discussion on macroeconomic policy. Agriculture generates roughly 85 percent of foreign exchange earnings (including agro-based manufactures), about 10 percent of which has been used to finance commercial food imports in recent years. ^{1/} The evidence indicates that the agricultural surplus available to support development elsewhere in the economy has been falling drastically over the decade. If this trend continues, not only will industry and infrastructure be starved of imports, but the continued constraints caused by them will lead agriculture back to subsistence, and the national economy will disintegrate.

1.02 To what extent this is the result of drought and external factors beyond the control of the Government of the United Republic of Tanzania (the Government, URT) and to what extent these external factors have precipitated a crisis which stems from domestic policies has been a central question for both the Government and the donor community. How domestic policies are adjusted to the economic crisis and how donors then respond with financial and other support will be critical to the manner, the speed, the extent and even the possibility of an economic recovery in the foreseeable future.

1.03 External events undoubtedly have been a major factor in Tanzania's current economic crisis. The litany of unfavourable developments is long: the severe drought in 1973-74 and the subsequent poor harvests at the end of the decade, the two oil price shocks in 1973-1974 and 1979, the breakup of the East African Community in 1977, the war with Uganda in 1979 and the declining prices of Tanzanian exports beginning in 1979. By very liberal assumptions, the financial cost of these developments may be as high as US\$1.7 billion in 1978 prices, equivalent

^{1/} Agro-based manufactured products include textiles, sisal products and other consumer goods. Had concessional food aid not been available, the figure of commercial food imports could have been over 20% in some years.

to three years of export earnings.^{2/} There have also been substantial material costs, as for instance in the deterioration of a large part of the country's transport fleet during the war effort. The importance of each event in Tanzania's gradual economic deterioration can only be appreciated by comparing the difficulties of adjustment faced by the economically far more advanced OECD countries, from only one of these developments - the oil price shocks. This was a major cause of the negative rate of growth in GNP in the US in 1974-75 and 1980 and the substantial deceleration in the growth rate over the whole period. Problems of adjustment for non-oil producing developing countries such as Tanzania are likely to be exacerbated in the coming years by the generally unfavorable global economic outlook and the constricted demand projected for many primary commodity exports.

1.04 But it is also beyond doubt that domestic policies are largely responsible for the factors leading to the current economic crisis. Poor performance in the agricultural sector, whereby export crop volumes have declined by over 40 percent since 1971/72 (Statistical Appendix Table 1.3), and dependence on food imports has been growing, cannot be attributed solely to exogenous factors. Institutional and policy choices and resource allocation priorities made since that time have been the prerogatives of the Government, and all have worked to the detriment of agricultural output. Better performance would have reduced considerably the severity of

2/ Breakdown as follows: (in US\$ million at 1978 prices):

(1) Terms of trade loss, 1973-1982 <u>a/</u>	US\$630
(2) Total Value of Food Imports since 1973 (Commercial and Aid) <u>b/</u>	US\$413
(3) Ugandan War Costs	US\$500
(4) Break up of the East African Community	US\$200
Total	<u>US\$1,743</u> million

Excluding the commercial value of food aid, the total comes to US\$1,562.

Source: World Bank Staff estimates; Statistical Appendix Table 1.5

Notes: a/ Calculated to include all net terms of trade losses/gains annually since 1972 (1978 = 100).

b/ This is clearly an overstatement of the costs of poor weather, as it includes all food imports over the period, and therefore does not separate policy-induced from weather induced shortfalls. If foreign trade were managed efficiently, one could expect that imports might be part of a national commercial policy. As this report will proceed to show, in fact much of the supply shortfall in Tanzania since the 1973/74 drought is the result of a poor policy environment for surplus food production, not poor weather.

By contrast with these figures, it should be noted that Tanzania has received US\$2.7 billion (about TSh 21 billion) as aid in the last decade. (See Statistical Appendix Table 1.1 for annual foreign total aid figures which also included food aid).

the crisis. As a rough illustration of the costs of poor domestic performance, Tanzania could have earned an additional US\$900 million between 1973 and 1981 had production of the six major export crops merely stagnated at peak levels since 1971/72 (Statistical Appendix Tables 1.2 and 1.3). In a well-managed economy, one could have expected increasing output beyond those peaks.

1.05 Under the difficult economic conditions which the country now faces, recognition of the needed changes in domestic policies is crucial to achieve a lasting recovery. Unlike international events, domestic policies are directly under the Government's control, and therefore can be changed relatively more easily. The Government's increasing recognition of the domestic factor and particularly of the failures of the agricultural sector, is reflected in the National Economic Survival Program (NESP),^{3/} the draft Fourth Five-Year Plan 1981/82 - 1985/86,^{4/} the deliberations of the Advisory Group set up by the Government with assistance from the World Bank (Credit 1206-TA), the establishment of the Government's Task Force on Agricultural Policy and most recently the Structural Adjustment Program (SAP) based on the recommendations of the Advisory Group.^{5/} These efforts represent an important first step in broadly identifying the problems of the agricultural sector. The SAP, to date the most significant official document concerning the economic crisis, diagnoses agriculture's poor performance as follows:

"Climate and international price movements adversely affected production and exports but the major influences included lack of inputs and incentive goods, processing, marketing and transport problems consequent of foreign exchange shortages as well as institutional inadequacies" (emphasis added).^{6/}

^{3/} URT, Ministry of Planning and Economic Affairs, The National Economic Survival Programme, Government Printer, January 1982, p.2. While emphasizing the role of the external shocks, the NESP states for instance: "there were also endogenous factors which aggravated an already precarious economic situation. Thus among these factors within our control must be included the decline in output and productivity in various productive sectors and services. Where the raw materials were available and weather conditions were not particularly adverse, production continued to stagnate or even decline while there are fertile valleys and other areas they have not been adequately exploited. able bodied people are still unemployed for lack of effective human resource utilization plans."

^{4/} URT, First Union-Fourth Tanzania Mainland Five-Year Development Plan 1981/82-1985/86 (draft), Chapter 1, paras. 20-25.

^{5/} URT, Ministry of Planning and Economic Affairs, Structural Adjustment Programme for Tanzania, Government Printer, June 1982, para. 1.07. Going further than the NESP, the SAP acknowledges: "At the same time there are certain longer term weaknesses in the economy which must be corrected if growth is to be sustained. These include the poor agricultural performance in the past decade, the need to improve parastatal performance, and the need to modify and restructure the industrial sector in order to make it less import-dependent."

^{6/} Ibid., p.16.

Neither the SAP nor the earlier documents, however, provided sufficient documentation of the specific problems facing the sector to enable a systematic examination of how to reverse the declining trend in production. While a number of its macro-economic measures, and some of its specific sectoral measures should have a positive impact on agricultural performance, the SAP did not map out a strategy to deal with the sector's serious problems. Admitting the Government's inability to date to analyze "factors affecting productivity improvement at the farm level", the SAP left this task to the Agricultural Task Force.^{7/}

1.06 The major weakness of the 1982 SAP and previous documents lies not just in the lack of specificity on agriculture, but in their not setting priorities to dedicate the effort and resources which agriculture will need to recover, especially in the context of competing demands of the rest of the economy. The policy packages which emerged revealed considerable ambiguity about the role of the various sectors in generating an economic recovery. Ambitious production targets were set both for agriculture and for manufacturing,^{8/} based on rehabilitation of supporting sectors as well as of the specific crop or manufacturing industries. To finance the substantial rehabilitation requirements of all these activities, the SAP assumed substantial increases in donor assistance; it did not acknowledge the severity of the resource constraints which the economy faced, which make it necessary to choose some activities over others.

1.07 The purpose of this report is to provide more detailed analysis of the obstacles to improved performance in Tanzanian agriculture, and to outline ways in which these obstacles may be removed. Because agriculture is the most important sector in the economy, from the standpoints of national income, foreign exchange generation, and employment, a detailed, far-reaching agriculturally led strategy will be required to bring about a sustainable, overall economic recovery. As this report proceeds to document, many of agriculture's problems are deepseated, and stem from years of institutional deficiencies, policies which did not take into account production incentives and efficiency criteria, and sustained neglect of resource requirements. To halt the decline in production, and to generate a recovery even to previous levels of output, will therefore require a willingness to reorder priorities, reallocate resources, and alter institutions to serve the sector's needs better. Some of these changes have major socio-political implications, and will require the leadership to make the necessary, long-term commitment to the sector.

1.08 Though the responsibility for meeting these needs rests squarely with the Tanzanian leadership, a solution to the agricultural crisis is also of concern to Tanzania's financial partners. Donor assistance to Tanzania has risen steadily over the past decade, and consistently has constituted at least 40 percent of official development expenditure.^{9/}

^{7/} Ibid., p.17.

^{8/} For agriculture, see Table 7.1; for manufacturing, the SAP expects a doubling of exports (SAP, op.cit. p.10).

^{9/} In 1980/81 annual disbursements amounted to US\$534 million, about equal to export earnings of that year, and constituted roughly 41 percent of planned Government development expenditure. The shares allocated to agriculture and other sectors are discussed in paras. 2.29 to 2.30.

The failure of the Tanzanian economy, despite such large aid inflows, raises doubts about the appropriateness of past aid programs. An understanding of the shortcomings of the nature of aid is essential if future aid is to be geared more successfully to meeting the economy's needs.

1.09 While it is beyond the scope of this report to provide a detailed examination of individual donor programs in Tanzania, this and subsequent chapters do discuss general tendencies in development assistance and draw on the experience of World Bank/IDA lending programs in particular. The principal shortcomings are: (a) overcommitment to new projects instead of ensuring that existing ones can be maintained; (b) a lack of coordination among donors, which has resulted in individual projects competing for scarce manpower and other resources; and (c) a tendency to focus on the design and implementation of individual projects, with insufficient attention to whether the overall development strategy pursued by Tanzania was viable in the time horizon envisaged. To assist Tanzania in an economic recovery, donors will need to shift large portions of their budgets from project to program assistance, including recurrent finance and balance of payments support, and will need to improve coordination of their efforts, both with the Government on overall strategy and among themselves.

1.10 Agricultural performance over the last decade is no reflection of Tanzanian agricultural potential. Tanzania still has a relatively low population density with 35 people per sq. km. of cultivable land; it has ample fertile soil, large areas which have not been settled intensively and a wide diversity of export crops which to a certain extent protects it from the vagaries of weather and international prices (see Map IBRD 2804R). Tanzanian farmers, the vast majority of whom are peasant smallholders, have responded enterprisingly and rationally to incentives. Nor are the problems reviewed here unique to Tanzania. Rather, these problems have characterized, to a greater or lesser degree, the development efforts of most sub-Saharan countries. Indeed, it is the generality of the symptoms which makes an intensive review of the Tanzanian experience so valuable.

B. The Foreign Exchange Crisis

1.11 Since 1978, the Tanzanian economy has been undergoing a worsening foreign exchange crisis, unprecedented in its magnitude, duration, and impact on virtually all spheres of economic activity. The balance of payments estimates presented in Statistical Appendix Table 1.1 reveal the major characteristics of the crisis. One is a sharp curtailment in the growth of exports since the second half of the 1970s. In the five years from 1971 to 1976, the value of exports in current Tanzanian Shillings (TSh) rose by 120 percent, to TSh 4.1 billion. In the subsequent five-year period 1976-1981, export value grew by an insignificant 8 percent. This is a result of a decline in the quantity of Tanzania's principal exports as well as in the quality, whereby the country has been receiving downgraded prices. International prices of some commodities have also fallen in this period (para. 1.15). Meanwhile, import values have risen steadily since 1971, increasing by 89 percent by 1976, and then more than doubling to over TSh 10 billion between that year and 1980. One factor in those increases

certainly has been the two rounds of oil price rises, in 1973/74 and 1979, whereby oil imports rose in value from 3-5 percent of total imports in the early 1970s, to 10-15 percent in the mid to late 1970s, to over 25 percent in the early 1980s, despite a more or less constant volume over the period. The other factor, especially evident in the 1970s, has been the importation of capital goods for the country's industrialization program, which consumed 40 to 45 percent of the larger total import bill in the second half of the decade (Table 2.3).

1.12 The trade deficit has been financed by increased aid disbursements, exceptional financing, a drawdown of foreign assets, commercial suppliers' credits and, ultimately, by an accumulated payment arrears of roughly TSh 2.5 billion. With the near exhaustion of foreign exchange reserves, a failure to reduce the queue of arrears, and some uncertainty about additional donor assistance, the Government faces the prospect of having to curtail imports in 1982 and 1983 further below the already reduced level of 1981 of TSh 9.3 billion.

1.13 The likely impact of a further decline in the value of total imports, in the face of steady increases in the cost of imported goods, can be seen in Table 1.1. Even though oil prices did not rise further between 1980/81 and 1981/82, the prices for project-related imports were estimated to rise by 10 percent, and for other imports by 8 percent. This implies a 15 percent decline in total import volumes over this year, and an even greater decline of 23 percent in non-oil, non-project imports. Out of the country's freely available (non-tied) foreign exchange must come oil, food, medical supplies and the bulk of the import requirements of agriculture, industry and infrastructural services such as transport, power and water supply. Assuming the volume of oil imports, already well below the economy's needs, stays constant, this leaves less than TSh 2.6 billion for the remaining import categories (other imports), all of which, with the possible exception of food, have been undersupplied, at least since the onset of the foreign exchange crisis.

1.14 The dilemma the Government faces under such conditions of scarcity is highlighted by the fact that for many of these imports, curtailed volume has serious negative implications for production in subsequent years. Shortage of recurrent imports has been a major factor in the poor performance of the agricultural sector, and similarly accounts for the extremely low levels of capacity utilization in manufacturing since 1978. This points to the need for a strict foreign exchange budgetting system, which allocates imports on a priority basis to those economic activities which generate the greatest net benefits to the economy.

Table 1.1. Composition of Imports, 1979/80 - 1981/82 (TSh million)

	<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>
<u>Total Imports, c.i.f.</u>	9,338	8,919	8,053
% change in value		-4.5	-9.7
% change in unit value		13.0	6.4
% change in volume		-15.5	15.1
<u>Project Imports (tied aid)</u>	3,184	3,463	3,117
% change in value		8.8	-10.0
% change in unit value		13.0	10.0
% change in volume		-3.7	-18.2
<u>Oil Imports</u>	1,667	2,358	2,358
% change in value		46.7	-
% change in unit value		45.0	-
% change in volume		1.2	-
<u>Other Imports</u>	4,487	3,098	2,578
% change in value		-31.0	-16.8
% change in unit value		10.0	8.0
% change in volume		-37.3	-23.0

Note: The numbers differ from those in Statistical Appendix Table 1.1 due to the use of financial rather than calendar years.

Source: World Bank staff estimates.

C. Slow Growth of Exports

1.15 The slow growth in the value of exports since 1976, while in part reflecting declines in the prices of some of Tanzania's exports,^{10/} is more a result of the decline in export crop volume and/or quality (see the volume and unit price rows by commodity in Statistical Appendix Table 1.2) production. Government estimates of the percentage change in performance of the major export crops over the three completed five-year plan periods, shown in Table 1.2, reveal the changes in the trends since the mid-60s.^{11/}

^{10/} Of the six major commodities, declines have been experienced in coffee and tea in the late 1970s. (Coffee peaked in 1976/77 at US\$5.05/kg and was down to US\$2.55/kg in 1981; tea peaked at the same time at US\$2.73/kg, and has since declined to US\$2.01/kg in 1981). Cotton and sisal prices have fluctuated over the decade, while tobacco and cashew prices have increased steadily. See Table 4.10 for commodity price projections.

^{11/} Annual export and procurement statistics for these crops since the beginning of the 1970s are given in Statistical Appendix Tables 1.2 and 1.3 respectively.

Production in the 1960s grew at a very healthy pace. Of the six most important export crops, five had annual growth rates of at least 7 percent p.a. Most of this growth was the result of increasing numbers of peasant smallholders bringing the crops under cultivation, a trend which began in the 1950s and continued through the 1960s, and for some crops (cashews, tobacco and tea) until the early 1970s. Only sisal, which had experienced a major slump in the international market, declined in production. But by the mid-1970s, production had begun to stagnate or decline in nearly all export crops, reflecting not only reduced output from the estate producers, but also a retreat of the smallholder producers who had been responsible for the increases over the previous two decades. Moreover, serious quality deterioration has occurred since the mid-1970s for a number of crops (especially coffee, cotton, tobacco, and pyrethum), resulting in up to 20 percent lower export earnings per unit volume exported (Chapter I, Section G; para. 3.21). That these declines have occurred despite investments of roughly TSh 1.4 billion in these crops over the Third Plan period^{12/} indicates that the problems are much more severe and complex than the lack of capital alone, and that answers must be sought in the institutional environment to make export crop production more receptive to investment.

1.16 There has been some increase in recent years in non-traditional manufactured exports but this category still constitutes less than 15 percent of the total. This increase is primarily due to a shift from unprocessed to processed agricultural products such as sisal rope and twine, shelled cashews, and cotton cloth. To that extent it reflects a reduction in agricultural exports which may not always result in a higher net export revenue for the economy. While the sisal spinning and cotton textiles industries appear to operate efficiently enough to generate additional net foreign exchange, even with the current, over-valued exchange rate, there is a real question as to whether some of the other agro-processing industries are in a position to do so. High cost operations are particularly notable in the cases where installed capacity is greatly in excess of the available raw materials supply, as in cashews, meat, leather and pyrethrum processing. Detailed investigation of the net benefits of these and other industries will be required to evolve an appropriate export strategy, which makes the most efficient utilization of existing scarce foreign exchange and domestic resources.

^{12/} Calculated from planned allocations to the export crops between 1976/77 and 1980/81 (Statistical Appendix Table 2.7), based on average percentage of disbursements to the agricultural sector from 1975/76 to 1978/79 (70%) (Background Paper VII, "An Analysis of Budgetary Allocations", Appendix Table 7).

Table 1.2. Annual Percentage Increase Or Decrease in the Volume of Production of Tanzania's Major Export Crops in the Three Plan Periods

	<u>First Plan</u> <u>1964-1969</u>	<u>Second Plan</u> <u>1969/70-1973/74</u>	<u>Third Plan</u> <u>1976/77-1980/81</u>	<u>Percent of</u> <u>Total Value</u> <u>of all exports</u> <u>in 1980</u>
Coffee	7.0	-3.1	2.5 ^{a/}	25.9
Sisal	-0.2	-6.0	-0.7	10.9
Cotton	8.4	-2.0	-0.1	8.3
Cashews	10.4	7.0	-6.9	5.2
Tobacco	19.6	10.1	-0.1	2.2
Tea	8.4	5.8	4.0	4.2
Pyrethrum	3.9	1.6	-4.4	0.3

Source: URT, Fourth Five Year Plan, op. cit., Chapter 3E, Tables 1, 2 and 3.

Note: a/ The trend for coffee was negative up to 1980 with a sharp increase in 1981. Tea, tobacco and cashewnuts have taken a sharp downturn since 1981.

D. Food Production Performance

1.17 Agricultural statistics provided by various official sources are frequently inconsistent and unreliable, even for some of the most important export crops, like coffee, cotton and tobacco.^{13/} This is both a cause and an effect of poor crop production management, and requires an analysis of production trends to be supported by a substantial amount of research. Food production is even more difficult to estimate, since most of it is consumed by the peasant farming households, and a significant portion is marketed through unofficial channels. Neither of these categories are captured in official procurement statistics, and the Government's estimates

^{13/} Despite substantial donor assistance to agriculture, few resources have gone into such basic matters as improvement of national agricultural production statistics, the recently established Early Warning and Crop Monitoring System being the major exception.

of overall production, which should capture them, are not based on any uniform objective criteria. ^{14/}

1.18 These data limitations make it impossible to make any reliable estimates of food crop production performance in Tanzania. The most recent study of this subject undertaken by the Ministry of Agriculture and the FAO in connection with the formulation of a National Food Strategy, does attempt to give some estimates, and these are presented in Table 1.3. Several caveats should be entered to qualify the interpretation of this data, which suggests that all major food crops with the exception of wheat register increases, ranging from 3.69% p.a. for rice, to 13.71% p.a. for millets and sorghum. First, these data are not based on any independent survey, but rather have been reconstructed from Ministry of Agriculture data, which have the limitations mentioned above. The Food Strategy authors acknowledge these limitations, and note that they expect the earlier year's figures to be underestimates, and the later year's figures overestimates, meaning that the growth rates presented are too high. However, the authors do not proceed to reconcile inconsistencies in the data. The growth rates for millet and sorghum (+13.71%) and maize (+8.79%) imply increases well in excess of the rate of population growth (3 to 3½% p.a.). While it is conceivable that some substitution has occurred in peasants' output mix which could result in per capita increases in food production, this magnitude of increase is not consistent with the observed stagnation in the level of food technology in Tanzania over the decade. In 1978 the tractor fleet was roughly a third the size of the 1971 fleet;^{15/} fertilizer distribution has not grown appreciably since 1975 (Table 5.2); sales of improved seed have been erratic (Table 5.2); and there has not

^{14/} No crop cutting survey has even been attempted in Tanzania. Data on area and production are based on subjective estimates originally provided by the extension agents, revised successively by the District and Regional Agricultural Development Officers before reaching the Ministry of Agriculture. The other sources, FAO and USDA annual production estimates, are similarly based largely on conjecture. In a recent study, Lele and Candler compared food production statistics from the three sources for the period 1966 to 1978. In general, there was a greater correlation between any one series and time, than among the series. For sorghum and millets, the difference between the USDA and the FAO series was by a factor of four in seven of these years. Some series showed production increases over the previous year while others a decline. The growth rates which could be obtained, of course, also varied depending on the choice of base and end years given the substantial fluctuations in year to year production. Thus it was possible to demonstrate a good or poor performance just by selection of production statistics and the time period. (Uma Lele and Wilfred Candler, "Food Security: Some East Africa Considerations" in Food Security for Developing Countries, Alberto Valdez, ed., Boulder, Colorado, West View Press, 1981, pp. 101-121.)

^{15/} The Government census of 1971/72 registered an active fleet of 17,297; the figure was 5,137 in a 1978 Ministry of Agriculture Farm Mechanization Survey.

been any systematic effort to introduce oxen technology at the farm level.^{16/} The authors admit that technology has not advanced, but ascribe the increases in food production to an acreage expansion of over 6 percent per annum. Given restrictions on hired labor and decline in soil fertility noted in areas suffering population pressure following villagization, it seems unlikely that such rate of growth could have occurred under the limitations of hand hoe technology.

Table 1.3: Estimated Trends in Food Crop Production 1972-80

Crops	Output		Annual Rate of Growth(%)	
	1972 ^{a/}	('000 tons) 1980 ^{b/}	Output	Acreage
<u>Preferred Staples</u>				
Rice	218	291	3.69	4.11
Maize	880	1,726	8.79	6.92
Wheat	97	87	-1.40	-3.32
<u>Drought Staples</u>				
Millet & Sorghum	337	943	13.71	11.33
Cassava	780	1,207	5.61	5.29
<u>Other Foods</u>				
Bananas	1,424	2,153	5.31	5.48
Potatoes	421	579	4.08	n.a
<u>Total Food^{c/}</u>			5.04	6.39

Notes:

a/ Estimate made by FAO Study team in June 1975, based on an average for 1971-73.

b/ Estimate for 1979/80, made by URT/FAO National Food Strategy Team.

c/ Includes other cereals, vegetables, fruits pulses oilseeds and sugar.

Source: URT, Ministry of Agriculture, Tanzania National Food Strategy (second draft), Dar es Salaam, June 1982, Tables 3.1 and 3.1a.

1.19 It is highly probable that a considerably greater expansion in food crop acreage occurred as a result of a shift out of export crop production, than as a result of absolute increases in area under cultivation. This phenomenon became increasingly evident after the large increases in official producer prices of both preferred and drought staples relative to export crop prices following the severe drought in 1973/74 (Table 4.1) and the substantial rise in unofficial prices for some food crops over the past several years (Tables 1.6 and 1.7). For maize, there has also been an observed tendency of a shift in rural preference, as peasant households in many areas where drought staples were the traditional caloric source have switched over to the more palatable crop.^{17/}

^{16/} URT, National Food Strategy, op.cit., p.35.

^{17/} URT, National Food Strategy, op.cit., p.53.

1.20 But the magnitude of these observed shifts could not possibly correspond to the production increases suggested in the Food Strategy Report. If rural people are eating more maize now than before, they cannot also be eating more sorghum, millets and cassava. And the evidence of marketed output over this period does not indicate that the country has a much larger food surplus for the urban areas. Official procurement of the drought crops did rise substantially in the mid-1970s (Statistical Appendix Table 1.3) but was still only a fraction of the production figures in Table 1.3. Official procurement of maize has been erratic, and gives no indication of a sustained increase in surplus production (Table 1.4). And while there is clearly an observed tendency of an expanding unofficial market in food grains, (Section F), it is unlikely to be for the drought staples, which are an increasingly unpreferred dietary source, purchased only if the preferred foods are unavailable in the towns. One would expect a significant trade in the maize, rice and even wheat, which are the preferred dietary source for the urban population. But if the unofficial trade in maize were as large as the 8.8% p.a. growth rate implies, it is difficult to understand why the country has become so dependent on food imports in recent years (Section E) and why the parallel market prices are as high as they are expected to be.

1.21 In short, these statistics overstate the case, and it would be dangerous for the Government to assume that food production is in so healthy a state. It is more reasonable to expect that the production of maize and the drought staples has increased at about the same rate as the population or slightly higher, that the production of rice has grown below this rate, and that the production of wheat has declined. Unlike the grain crops, bananas, potatoes and other minor food crops are produced solely for local (intra-district and intra-regional) consumption, and as such their supply reflects local patterns of demand and availability of other food crops, not national trends.

1.22 Official procurement^{18/} statistics reveal the pronounced problem of shortages of preferred food grain for urban consumers. Changes in officially marketed food crop production from average 1970/71-1972/73 to average 1979/80-1981/82 are shown in Table 1.4. Taking these dates avoids the drastic decline in official purchases of staples in 1973/74 and

^{18/} Official procurement of all major food crops, and some minor ones, is undertaken by the National Milling Corporation (NMC). The NMC, established in 1968 to manufacture and process agricultural products obtained from the National Agricultural Products Board (NAPB), took over the NAPB's domestic cereal procurement and grains trading functions in 1973. With the dissolution of the cooperative unions in 1976, it also assumed the responsibility for crop procurement at the village level. Thus, NMC's responsibilities currently include village procurement of cereals and pulses, transportation, storage, processing and countrywide distribution of these and their finished products, principally to urban consumers. NMC also exports and imports grains, operates famine relief programs, manages the country's strategic grain reserve, and is responsible for canning and bottling of fruits and fruit juices.

1974/75, and the large maize surplus in 1977/78 and 1978/79, both due largely to weather factors. The trends reveal that over these eight years, official maize purchases have stagnated, while official purchases of rice and wheat have declined markedly. Sugar, another commodity in high demand in both urban and rural areas, has grown very little, despite large investments in sugar production (Statistical Appendix Table 2.7).

Table 1.4. Changes in Official Purchases of Major Food Items in Tanzania 1970/71 - 1972/73 to 1978/79 - 1980/81 ('000 tonnes)

	<u>1970-1973</u>	<u>1979-1982</u>	<u>Change</u>	<u>Compound Annual Growth Rate %</u>
Maize	112	118	+7	+0.7
Rice	53	19	-34	-11.7
Wheat	49	26	-23	-7.2
Sugar	105 ^{a/}	120 ^{b/}	+15	1.3

Note: a/ 1972/73 only.

b/ 1980 and 1981 calendar years.

Source: Statistical Appendix Table 1.4

1.23 To what extent the constricted official purchases reflect increased consumption by the rural producers, and to what extent they reflect increased marketing in unofficial channels, is an open question. The unofficial, illegal, "parallel" market in these food crops, in principle comprising all private trading in lots of over 30 kg., is undoubtedly large and growing, as the Government recently acknowledged in the SAP:

"In principle, Government, through the National Milling Corporation, has a monopoly in trade in the main cereals... In practice a considerable trade takes place outside official channels in local markets and on an inter-district and inter-regional basis at unofficial prices which have diverged substantially from official prices."^{19/}

In general, the amount of foodcrops marketed unofficially has tended to vary inversely with the size of the harvest. Contrary to the way a government price stabilization policy normally would operate, in Tanzania official prices have provided a ceiling price with a bumper crop and a floor price with a poor crop. But there are also important differences in the extent and possibilities of unofficial marketing among and within regions, depending on local variability in crop production (often substantial, given Tanzania's size and agro-economic variations), the availability of a road network and vehicles which can transport the crops to market areas, and the producer price and/or selection of consumer goods which can be obtained for crops in neighboring countries. This latter factor is especially significant because much of Tanzania's surplus production takes place in border regions.

^{19/} SAP, op.cit., para. 3.01.

1.24 Government policy up to now has been to regard this unofficial trade as illegal, and substantial efforts have gone into its prevention, most notably through roadblocks on major thoroughfares. In the SAP, the Government has announced a possible relaxation of the policy. The SAP advocates a general liberalization of inter-regional trade in agricultural commodities,^{20/} in principle by confining NMC's geographical coverage to areas where surpluses are sufficient to cover overhead costs. "Decentralized institutions at district and village level" would then be allowed to buy, sell, and store crops in other areas.^{21/} So far, this is apparently understood by many to mean the re-emerging cooperatives. Whether private traders or others are included among the intended legal alternative channels remains to be seen. Without their recognition as an important marketing resource, the proposal's merits will be reduced considerably.

E. Growth of Food Imports

1.25 If the rapid urban growth rate and the Government's policy of subsidizing consumer prices of preferred staples (Table 4.4) are seen in conjunction with official food purchases, the reason for the sharp increase in food imports of preferred cereals becomes apparent. As Table 1.5 illustrates, net food imports reached 447,400 tonnes in the worst drought year of 1973/74, receded to a low of 81,000 tonnes in 1976/77, and have subsequently climbed back to 388,500 tonnes in 1980/81. In 1981/82, even larger quantities might have been used to satisfy the urban market, but the Government could neither afford additional commercial imports nor mobilize additional food aid to that end. Excluding the earlier 1973/74 drought year as exceptional, the increasing urban dependence on food aid over time is unquestionable. The balance of payments implications of this dependency are equally clear. Ninety percent of the food imports in 1981/82 were on a concessional basis. If this tonnage had been purchased in commercial grain markets, it would have cost the country TSh 714 million. This, together with the TSh 89 million which was actually spent on commercial imports, would have consumed over 30 percent of the non-oil untied foreign exchange available to the country in that year ("other import" category of Table 1.1).

^{20/} Ibid., para. 1.12.

^{21/} Ibid., para. 3.19.

Table 1.5. Tanzania: Net Imports of Maize, Wheat and Rice
1966/67 - 1981/82 (Volume and Value)

Year	Volume		Total	Value		Total
	Commercial Aid (['] 000 tonnes)			Commercial Aid (US\$ million)		
1966/67	-	-	12.9	-	-	1.5
1967/68	-	-	17.4	-	-	1.8
1968/69	-	-	4.6	-	-	0.6
1969/70	-	-	54.6	-	-	3.0
1970/71	-	-	(12.9)	-	-	(0.8)
1971/72	-	-	104.6	-	-	5.6
1972/73	-	-	79.8	-	-	2.9
1973/74	-	-	447.4	-	-	80.6
1974/75	-	-	268.5	-	-	41.2
1975/76	116	73	189	19.7	9.6	21.7
1976/77	40	41	81	5.4	5.0	10.4
1977/78	27	97	124	12.4	17.3	29.7
1978/79	41	66	103	9.4	12.8	22.2
1979/80	37	83	120	5.7	25.0	30.8
1980/81	202.3	186.2	388.5	27.8	42.8	70.6
1981/82	38.5	349.4	387.9	10.7	88.9	99.6

Source: Statistical Appendix Table 1.5

1.26 Tanzania's current inability to feed its urban population has implications for both export and food crop production policies. Pricing policy changes, while essential, will be an insufficient tool to redress the production imbalance by themselves. Certainly, relative price changes which switched production from food to export crops, would further increase import dependence on food, and the reverse would on the other hand reduce export earnings. A clear benefit for the balance of payments of such a policy could ensue if the value of increased domestic production more than compensates for the increase (decrease) in imports (exports). If concessional food aid could be relied on to fill the gap created by switching from food to export crops, then there might be some merit in making relative export crop prices substantially more attractive than food crop prices. This, however, would cause the food crop sector to revert largely into rural self-sufficiency and make urban Tanzania perpetually dependent on food aid. From the Government's point of view, this is likely to be unacceptable because of the increased risk of shortages it would imply, both locally in inaccessible and drought-prone rural areas, and nationally, in the event sufficient food aid could not be obtained in any given year. The problem therefore goes beyond the matter of "getting the prices right". Tanzania has entered the 1980s with too small a total agricultural output. While pricing will be important in providing producer incentives necessary to increase the overall volume of agricultural production, many other policy and institutional changes will be necessary to expand both food and export crop production.

F. Key Role of Unofficial Prices for Food Grains

1.27 The Government's past unwillingness to recognize the unofficial market in foodstuffs has had several negative consequences, not least of which is the neglect of research on the prices and volumes of trading in this market. In the absence of comprehensive data of this sort, which could be used to gauge the unofficial market's ability to meet the needs of urban consumers, food import requirements must be calculated on the basis of educated guesswork. In areas where there are trading alternatives, knowledge of unofficial prices is also essential to determine the appropriate level of official prices. Preliminary investigations, covering the 1979/80 and 1980/81 seasons, found the price levels for unofficial maize to be from 20 to 600 percent higher than the prevailing official price of TSh 1.00/kg in the six regions covered (Table 1.6). Unofficial prices of the other staples, including the drought crops, also were substantially higher in those years in villages surrounding Mwanza, the country's second largest urban center (Table 1.7).

Table 1.6. Unofficial Market Prices for Unground Maize (October, 1980)

<u>Region</u>	<u>District</u>	<u>Price TSh/kg</u>
Singida	Singida	2.33
	Tabora	2.67
Mwanza	Urambo	2.33
	Ulyankulu	1.20
	Nzega	2.67
	Mwanza	4.00 (5.67) <u>a/</u>
	Geita	4.00 (6.00) <u>a/</u>
Kagera	Magu	(5.33) <u>b/</u>
	Ngara	4.67
Kigoma	Kibondo	4.00
	Kasulu	2.33
	Kigoma	3.33
Rukwa	Mpanda	2.67
	Sumbawanga	1.67

a/ Prices from January-March 1981.

b/ Price in May 1981.

Source: Andrew G. Keeler, Grant M. Scobie, Mitchell A. Renkow, David L. Franklin, The Consumption Effects of Agricultural Policies in Tanzania, Final report, prepared for USAID Contract DSANC-0271, Sigma One Corporation, Raleigh, NC, January 1982, Table 29.

Table 1.7. Unofficial and Official Market Prices for 13 Lake Region Villages 1979/80 - 1980/81

	Official Price		Parallel Price		Relative Price	
	79/80	80/81	79/80	80/81	79/80	80/81
	-----TSh/kg-----					
Maize	1.00	1.00	3.08	4.98	3.08	4.98
Paddy	1.50	1.75	2.31	4.23	1.54	2.42
Cassava	.65	.65	1.99	2.90	3.06	4.58
Sorghum	1.00	1.00	2.96	4.68	2.96	4.68
Millet	2.00	1.50	4.73	6.95	2.37	4.63

Note: Relative price is derived by dividing parallel price by official price.

Source: Keeler, et. al., op. cit., Table 30.

1.28 Allowing for some changes in official prices since those years (the official price of maize went to TSh 1.50/kg in 1981/82, and to TSh 1.75/kg for the coming 1982/83 season-Table 4.1), the divergence between the two markets has probably not widened significantly. On balance, therefore, in those areas of rural Tanzania with either an adjacent urban market or the transport connections which could haul the foodstuffs to distant markets, farmers may be able to expect from two to three times the official price for their surplus production of food. With such price differentials, one could expect the parallel market to influence heavily farmer's production decisions, causing not only a shift from official to unofficial sales of foodstuffs, but also a shift out of export crop production into food for the unofficial market. The unattractiveness of official channels is compounded by the poor performance of the official marketing agencies. The weaknesses of these crop parastatals were noted by the Government Commission which toured 16 regions to investigate the possibilities of replacing them with cooperatives:

"Issues which prevailed at all times and in all regions were:

- (1) Authorities/Corporations failing to buy crops on time
- (2) Authorities/Corporations not paying peasants their dues after the collection of produce
- (3) Authorities/Corporations not transporting crops early enough from the villages."^{22/}

The Commission observed the production effects of these factors:

"This has caused peasants to reduce or abandon completely the farming of crops being purchased by the Crop Authorities/Corporations..."^{23/}

^{22/} URT, Report of the Prime Minister's Commission of Inquiry into the Possibility of Reestablishing Co-operative Unions (draft) Dodoma, February 1981 (English translation August 1981), pp 50-51.

^{23/} Ibid., p. 52.

Evidence gathered on Bank staff field visits over the past year confirms this tendency, especially in the case of cotton, tobacco, and pyrethrum.^{24/}

1.29 In view of the presence of this lucrative parallel market, it is not surprising that NMC procurement has been falling, and that over 70 percent of its sembe (maize meal) sales in 1980/81 and 1981/82 have been based on imported grain. NMC's inability to meet the full demand for preferred cereals at its subsidized prices has meant that on average 25-30 percent of urban food needs may have been met by the parallel market in the period 1974/75 to 1979/80 (Table 1.8). The average masks important regional variations, moreover. In the last three years of this period, Dar es Salaam, the largest urban center, received an estimated 90 percent of its needs from NMC. Over the six years, Dar es Salaam received an average of 46 percent of all maize, 48 percent of all rice, and 53 percent of all wheat sold by the crop authority.^{25/} By contrast, in urban centers such as Mwanza and Mbeya, NMC's role is much less significant than the unofficial channels.

Table 1.8. Tanzania: Percentage of Urban Food Needs Met by NMC Sales, 1974/75 - 1979/80

	<u>1974/75-1975/77</u>	<u>1977/78-1979/80</u>	<u>1974/75-1979/80</u>
Kilimanjaro	49.9	98.8	74.4
Mbeya	6.4	20.8	13.6
Mwanza	55.8	26.0	40.9
Tanga	78.5	66.8	72.6
Dar-es-Salaam/Coast	70.7	90.1	80.4
Tanzania Mainland	74.3	71.3	72.8

Source: Statistical Appendix Table 1.6

1.30 This points to a second reason why non-recognition of the unofficial market has been detrimental to the economy. The risk-associated costs of an illegal trade in foodstuffs are bound to drive up the final prices to consumers. In many urban areas of Tanzania, consumers are forced to depend on the parallel market for their grain supplies. Thus liberalized trade will allow unofficial prices to fall, to the benefit of a large group of consumers. By contrast, the alternative of driving out the unofficial markets, is neither attractive nor practical. If these markets stopped functioning, the already overburdened NMC would have to expand its sales drastically to meet urban food demands--an action which would require much larger food imports, given the low levels of official food crop procurement.

1.31 A third reason in favor of liberalization bears directly on producers. If production for the official market is not sufficiently lucrative, and if unofficial trade in controlled crops is made sufficiently difficult by Government intervention, farmers can be expected to shift into the production of high-paying uncontrolled crops, such as bananas, potatoes, and other horticultural crops. This tendency was noted by the

^{24/} Background Paper I, "An Analysis of Export Crop Performance with Particular Reference to Technical Issues," pp 10, 65, 72.

^{25/} Keeler, et.al., op.cit., p.76.

Cooperative Commission which found peasants cultivating uncontrolled, fast-selling crops to supplement their income^{26/}. Field visits by Bank staff over the past year also have confirmed this phenomenon, with observations of extensive tendencies in favor of potatoes in Mbeya, onions in Tabora, and grasses and vegetables in Arusha and Kilimanjaro. With sufficient difficulties associated with marketing, farmers can also be expected to reduce the efforts they put into surplus production and to confine their activities to subsistence plus the bare minimum farming for cash.

1.32 Despite the positive statements on allowing multiple channel marketing advocated in the SAP, Government policy on the subject remains ambiguous. Prior to the release of the SAP, the principal policy document concerning the economic crisis was the NESP. Considerable differences exist between the two documents concerning the role of the unofficial market. The NESP takes a very hard stand on the need to curb unofficial food sales. It has set high targets for official food purchases (330,710 tons for calendar year 1982, a 60 percent increase over the optimistic target for 1981), and established a mechanism nationwide, whereby each village is required to sell up to 50 tons toward this target to the crop authority.^{27/} Soon afterwards, the Daily News reported the implementation plans in two regions:

"According to the new system, effective this season 75 percent of the maize harvest and other grains from the village communal farms, state farms and large scale private farms (in Mbeya Region) will have to be sold to NMC. (In addition) every family would be obliged to sell to NMC not less than 2 bags of grain from the family farm..."

and,

"The Kigoma Regional Party Executive Committee had ordered each peasant's family to sell three debes (54 kg) of maize, two sacks of cassava (or) ten sacks of paddy to the NMC branch."^{28/}

In the absence of an adequate system of incentives, this coercive policy is bound to be ineffective in generating an increase in food production and may encourage a further retreat from the market. The SAP's alternative approach, provided it incorporates private traders as a legal marketing channel, can have a much greater, positive effect on food production and marketing.

G. Performance by Commodity and Production Unit

1.33 While many of the problems which currently characterize Tanzania's agriculture sector apply generally, there are also some important differences among commodities and among types of producers, requiring different types of corrective action. This section provides a brief overview of the importance of the different types of producers for the individual commodities, and of the specific characteristics of these, including technical, policy and institutional factors.

^{26/} URT, Cooperative Commission, op.cit., p.52.

^{27/} NESP, op.cit., pp. 6-7.

^{28/} Daily News, March, 1982.

Types of Production Units

1.34 Tanzania's production units can be classified into five categories. Their current estimated shares in production are depicted in Table 1.9. While market forces and changes in official policy have affected the relative importance of these categories over time, at present the vast majority of production remains in private hands, and particularly in the hands of peasant smallholders. Some problems pose constraints for all of these production units, but each category also has specific needs for a recovery in production, the details of which are presented later in the report (Chapter V, Section G).

Table 1.9: Distribution of Crop Production by Type of Farming Unit
(As Percentage of Total Crop Marketed through Official Channels)

<u>Food Crops</u>	<u>Peasant</u> (under 10 ha)	<u>Medium</u> (10-100 ha)	<u>Large</u> (100 ha +)	<u>Private</u> <u>Estate</u>	<u>Public</u> <u>Estate</u>
Maize	85*	10*	5*		negligible
Rice	50				50
Wheat				-----5a/-----	95
Drought Staples	95*	5*			
Sugar	15b/				85
Legumes	90*	5*	5*		
<u>Export Crops</u>					
Coffee	85c/			10	5c/
Cotton	95*	5*			negligible
Sisal				50	50
Cashews	100				
Tobacco	90	5*		5d/	negligible
Tea	25c/			70	5c/
Pyrethrum	100				
Seed Beans				-----100-----	

Notes: * rough estimates; no precise breakdown available
a/ Formerly (early 1970s) over 90% of official procurement.
b/ Peasant outgrowers at public estates.
c/ Breakdown between smallholders and public estates estimated.
d/ Formerly (early 1970s) 25% of the total.

Source: World Bank staff estimates.

1.35 (a) Peasant Farmers: As is clear from Table 1.9, small farmers with up to 10 ha are by far the most important source of production. While they rely primarily on household labor and traditional farming techniques, they may employ varying amounts of casual labor, and use oxen, purchased inputs and improved techniques. For most of them, the primary objective of farming is to meet subsistence needs, with a secondary objective of earning cash by small planned surplus production of food and/or export crops. These farmers currently produce 85 percent or more of five export crops (coffee, cotton, cashews, tobacco and pyrethrum), and a fourth of the tea. They also dominate production of officially marketed maize, drought staples and legumes and provide half of NMC rice. Much of the unofficial trading in food grains also comes from this group.

1.36 Peasant surplus production was already significant in some areas in the colonial period, when peasants supplied food to the surrounding sisal estates and nascent towns, and when coffee, as early as the 1920s and 1930s and cotton, tobacco and cashews in the 1950s came to be important cash crops. Over the 1960s, their contribution to the export crop sector expanded greatly, such that the country's export performance essentially came to depend on peasant production over a wide geographical spread. Acreage under maize and paddy also increased, especially in the central parts of the country. This seems to be the result of generally improved prospects for peasant export crop production over this period. There were producer price increases for some crops early in the decade; alternate marketing channels were available; and marketing was facilitated by investment in the road network and vehicles, as was the flow of consumer goods, including durable items, which gave the peasant households an incentive to increase production.^{29/}

1.37 (b) Medium and Large Scale Commercial Farmers: Medium-scale farmers cultivate between 10 to 100 ha and have a large commercial component to their output. They rely heavily on hired labor and are likely to use improved practices and purchased inputs, and in some places oxen or hired tractors. In the 1950s and 1960s, these and their larger scale tractorized counterparts with over 100 ha emerged as an especially important source of production in the maize growing areas of Iringa (Ismani), wheat areas in Arusha (Mbulu) and tobacco areas in Tabora (Urambo), and they were also found in other parts of the country growing coffee, cashews, tea, and rice.^{30/} From the late 1960s, however, there was mounting official opposition to the rural class differentiation associated with this scale of production, depicted most clearly in President Nyerere's 1967 essay "Socialism and Rural Development", where the farmer who expanded beyond 10 or 20 acres was discouraged.^{31/} This official attitude had the effect of putting a stop to the expansion of commercial producers; restrictions were imposed on the hiring of agricultural laborers and on the acquisition of large areas for cultivation. In addition, the extension service was explicitly geared away from catering to this group of farmers and was directed to focus on smallholders.^{32/}

1.38 The current share in marketed production of these farmers is not easily estimated. Medium scale producers are thought to be particularly important in marketed maize, tobacco, cotton, drought staples and legumes and large scale producers in the production of wheat, maize and seed beans, a small but high value export commodity.

^{29/} Improvements in road and rail connections took more Government funds than any other sector in both the first and second five year plans, for example. Andrew Coulson, Tanzania, A Political Economy, Oxford: Oxford University Press, 1982, pp. 165-6; and pp. 218-219.

^{30/} Ibid., pp. 57-8; 163-5.

^{31/} Reprinted in J.K. Nyerere, Freedom and Socialism, Oxford, Oxford University Press, 1968.

^{32/} See William L. Luttrell, "Villagization, Cooperative Production, and Rural Cadres: Strategies and Tactics in Tanzanian Socialist Rural Development," Economic Research Bureau Paper 71.11, University of Dar es Salaam, 1971.

1.39 (c) Estates (Corporate Entities): At Independence, all of the sisal, tea and sugar, most of the wheat and tobacco, and half of the coffee were produced on foreign or settler (European and Asian) owned estates. Many settlers left the country around the time of Independence, while some Africans came into estate farming. In the late 1960s, the same political developments which led to the discouragement of commercial African producers led to nationalization of half the sisal, and many of the coffee, tea, and wheat estates owned by expatriates. Since then, the sugar industry has been nationalized, and the Government has also opened up a number of new estates, most notably in wheat, rice and sugar.

1.40 Private estates currently produce about 70 percent of tea, 50 percent of sisal, 10 percent of coffee, 5 percent of tobacco, and a small portion of officially marketed wheat. Performance of these estates indicates that those which have remained are a valuable source of production. Amboni Limited, the private sisal producers, have, for example, managed to maintain and even increase production while the industry as a whole has experienced a rapid downward trend since the late 1960s. Similar examples are tea and coffee, where private estates have proven much more resourceful than their counterparts in the public sector in keeping both field and processing machinery running at a time when foreign exchange for chemicals, spares and new equipment has been unavailable. In addition to the above privately owned production units, there are some large public estates.

1.41 Both nationalized and new public sector estates now produce most of the officially marketed wheat and sugar, half of the rice and sisal, small amounts of coffee and tea and negligible amounts of cotton, maize and tobacco. They are characterized by poor maintenance and management, low and declining yields and lack of financial accountability, with a few notable exceptions such as the Mbarali rice farm.

Export Crops (Statistical Appendix Table 1.3)

1.42 Coffee. Coffee is Tanzania's greatest export earner, and the best Tanzanian mild arabica has always received a high price relative to other sources.^{33/} In recent years, however, production has suffered a major setback in the traditional growing areas of Arusha and Kilimanjaro. But for the EEC-financed Coffee Improvement Program (CIP), which provided pesticides for the northern growers and encouraged increased plantings in the south, (Map IBRD 16589) overall production would have declined rather than remained static. There has also been an alarming deterioration in the quality of Tanzanian coffee, leading not only to a decline of as much as 20 percent in the prices offered for the crop, but endangering Tanzania's long-term competitive position in the export market which is already suffering from generally poor demand prospects and quota restrictions.^{34/}

^{33/} Background Paper I, p.16. Export earnings from coffee as percentage of total merchandise rose from 12 percent in 1970/71 to 41 percent in 1976/77 and then with the subsequent lower market prices declined to 26 percent in 1980.

^{34/} Ibid., Annex I (Coffee) , Table 10, p. 48. Compared to 1976/77 the grades classified as worse than average in 1980/81 increased from 75 to 92 percent of total exports.

Tanzania's quota, originally set at 48,000 tonnes and recently revised to 40,000 tonnes, means that it must be able to produce sufficiently high grade coffees to be able to compete successfully in the non-quota market for the remaining 20,000 odd tonnes of output. Therefore, a crop program which does not address the most basic underlying causes of quality deterioration, while helping to maintain or even increase overall production, may turn out to be futile in maximizing export earnings.

1.43 Cotton. Cotton is grown primarily in North Central Tanzania (Map IBRD 16589). Purchases of cotton lint peaked at 76,700 tonnes in 1972/73. Procurement has since fluctuated at a lower level, falling to 44,300 tonnes in the 1981/82 season. The decline in cotton production is partly a result of unattractive official prices vis-a-vis the informal market prices of foodcrops, with substantially higher return per manday for the latter (estimated to be about TSh 8 for cotton and TSh 27 for maize sold on the parallel market). But there is also substantial deterioration in the cotton processing and handling sector which is increasingly unable to accommodate even the present levels of production. Effective ginning and oilmilling capacity has been halved in the last eight years.^{35/} Export revenues have declined not only from decreased export volumes, but from quality deterioration. Investigations with Liverpool brokers in April 1982 indicated that demand for Tanzanian cotton was slack despite an overall strong market because of poor quality and market presentation. The 1980/81 crop averaged only 70 to 75 percent of the global average prices for the grade.^{36/}

1.44 Sisal. Tanzanian is the second largest producer of sisal in the world, with 21 percent of global production in 1980. Production has declined by 55 percent since 1970/71, to 80,000 tons in 1981/82; the lowest level since the early 1930s. One factor in the decline, both from higher levels in the 1960s and from the levels of the early 1970s, has been an unfavorable international market, since sisal competes directly with polypropylene in the market for binder and other twine and has been losing its market share. However, there are also a number of domestic factors responsible for decreasing output, which have prevented Tanzania from reaping the benefits of increased prices at the times of a buoyant world market, when the price of polypropylene, a petroleum-based product, has risen. The problems are especially evident on the public sector sisal estates; without the slow but steady increase in private sector production, the overall decline would have been greater.^{37/} The Daily News of November 12, 1981 provided an apt description of the public sector sisal industry:

"Abandoned sisal estates--mostly overgrown by bushes--overaged and uncut sisal leaves, decaying decorticators, ramshackle vehicles, dilapidated buildings, rusty workshops and above all, frustrated sisal growers are reflective of the deteriorating situation".

^{35/} Ibid., Annex II (Cotton), paras. 3.05 and 3.06.

^{36/} Ibid., para. 2.10.

^{37/} Amboni, by far the largest private producer, has had production increases from 17,800 tonnes in 1960 to 26,000 in 1980.

Now even the relatively efficient private estate sector is in jeopardy, though abolition of the export tax in 1981 provided temporary relief. Nonavailability of foreign exchange for maintenance and replacements, increasing domestic costs, poor export marketing arrangements, and low share of the international price going to the estates may well lead to the private sector vanishing unless urgent steps are taken to restore the profitability of estate production.

1.45 Cashews. In 1974/75, Tanzania was the world's second largest producer of cashews at 120,000 tonnes of raw nuts. By 1981/82 estimated production has declined to a post-Independence low of only 40,000 tonnes and may remain at that level without a major cashew production program. Cashew processing equipment installed under two IDA-financed projects in the late 1970s (Credits 801-TA and 1014-TA), with a rated capacity of 110,000 tonnes, remains grossly underutilized. The lack of a replanting program, low producer prices, unattractive marketing facilities since the abolition of private trading, and villagization, whereby growers were moved large distances from cashew groves, have all contributed to the decline. Recently, the prices Tanzania has been getting for raw nuts (TSh 6,057 per tonne) are almost as high as for processed kernels (TSh 7,415 per tonne of raw nut equivalent).^{38/} Under such international market conditions, Tanzania's competitiveness in selling processed cashews rather than raw nuts remains questionable due to its higher cost structure.

1.46 Tea. The production of made tea, which has declined to 17,400 tonnes since the peak of 18,500 tonnes reached in 1977/78, may remain at the lower level, despite increased green leaf produced by smallholders, because of limitations on processing capacity of Tanzania Tea Authority (TTA) and increasing financial difficulties encountered not just by TTA, but also by the more efficient private estates. Even if TTA's production increases by establishment of additional processing capacity under the IDA-funded Tea II Consolidation Project (Credit 1037-TA), the production of private estates may be curtailed if the declining trend in the international price and increasing domestic cost structure are not compensated by other measures to increase profit. Even in traditionally high grade producing areas such as Lupembe there is a problem of inconsistent quality, especially since 1979, due to poor management and engineering standards, lack of spare parts, power failures, non-replacement of machinery and overloading. There have also been substantial delays in payments to smallholders, as a result of TTA's precarious financial position (para. 3.45).

1.47 Tobacco. Since the 1960s and early 1970s, the production center of tobacco has shifted somewhat from Iringa to Tabora, as the crop has become increasingly dominated by smallholders. Procurement of tobacco climbed fairly steadily in the 1970s to a peak of 19,100 tonnes of wet leaf in 1976/77. A decline has since set in, with expectations that the 1982/83 may drop as low as 12,000 tonnes.^{39/} The decline in both output and

^{38/} URT, Ministry of Agriculture, Marketing Development Bureau, Price Policy Recommendations for the 1982-83 Agricultural Price, Review, July 1981, Annex VII, Table 1.7.

^{39/} Background Paper I, para. A.2, p. 63.

yields could well accelerate. As with coffee and cotton, quality deterioration has also been considerable, greatly diminishing Tanzania's competitiveness. Recent sales of significant quantities of tobacco had to be undertaken well below producer prices. Loss in value from harvest to baling is estimated to range from 15 percent by the Marketing Development Bureau (MDB) to 30 percent by other observers. Lack of competitiveness of tobacco compared to maize and other food crops, rapidly declining supplies of fuelwood, declining soil fertility due to inadequate attention to crop rotations and delayed payments to growers all explain the decline.^{40/} Tanzania certainly has the physical potential to grow a considerable tonnage of tobacco. However, in view of international market prospects investments to restore the tobacco industry will yield adequate returns only if the Government is willing to take the far-reaching steps to alleviate these constraints, and to restore international competitiveness. At the level of production, this will mean raising producer prices, improving marketing services, and allowing peasants to move away from the nucleated village sites to areas of greater soil fertility and fuelwood supply. At the level of marketing and processing, Tanzania will have to begin to approach the standards of quality control of competing producers like Malawi and Zimbabwe.

1.48 Cardamom. With annual exports of 400-500 tons, Tanzania is the world's third largest export of cardamom, although far behind Guatemala and India. Although the crop contributes less than one percent to total export earnings, it is a lucrative one for smallholders, who in the late 1970s were trading significantly in unofficial domestic markets and over the Kenyan border from Tanga, where the bulk of production is concentrated. General Agricultural Products Export Corporation (GAPEX) procurement rose following an 80% increase in the official producer price in 1979, and there are reports that the crop is starting to spread as an alternative to coffee in Kilimanjaro Region.^{41/} The quality of the Tanzanian crop is substandard because the green cardamom pods are sun-dried, rather than kiln-dried, resulting in average export realization of less than 30 percent of the quoted market indicator in 1980/81. Thus, despite limited international market prospects in the foreseeable future, Tanzania has considerable scope for increasing export earnings through quality improvements. Pricing alone will not solve this problem, as GAPEX producers are already receiving 50 percent above world price levels for sun-dried qualities.

1.49 Cloves. The principal export of Zanzibar and Pemba, cloves normally account for five to ten percent of Tanzania's total export earnings. Steps taken by the Zanzibar Government to arrest problems of production disincentives in the late 1970s have included a 200% producer price increase in 1979 and provision of essential commodities (wheat, rice and sugar) to pickers, and these appear to have been responsible for the

^{40/} At official prices returns per manday for tobacco are only 60 percent of that for maize. At unofficial maize prices, tobacco may be worth as little as 20 percent of the maize crop.

^{41/} As reported by the national news agency in "Barongo Explains Coffee Situation," Daily News, 18 May 1982.

bumper harvests in 1980 and 1981 of over 7,000 tons (from a previous level of 5,000 tons or less since 1977). If these incentives can be maintained and if tree diseases can be controlled, the prospects for the crop are favorable, as export prices have been rising in response to strong Indonesian demand for cloves for use in their "Kretek" cigarettes.

Food Crops (Statistical Appendix Table 1.4)

1.50 Maize. Surplus production of maize, and especially sales to NMC have been growing from the high potential southern regions where improved technology, including fertilizer and seeds have become increasingly popular. But the experience of the IDA-financed maize project (Credit 606-TA) indicates that only in Rukwa region has there been the supportive regional administration needed to facilitate the activities of the field staff for a rigorous expansion program. Despite indications of a substantial and growing informal export trade in maize, official procurement has risen satisfactorily in Rukwa. Between the 1978/79 and the 1980/81 seasons, NMC's procurement in Rukwa rose from 5,300 to 17,900 tonnes, while in the rest of the country it dropped from 215,200 to 86,800 tonnes. One reason for the continuing attraction of the official market in Rukwa is its remote location, so that apart from the border trade, it does not have a thriving informal market. Elsewhere in Tanzania neither the marketing network, the incentive structure, nor the institutional support to technological advances have been working to the advantage of surplus maize production, especially to official channels. As a result, it was decided that the IDA-financed maize project could not have an immediate second phase. Substantial advances on this front are, however, essential to a recovery in Tanzania's agricultural exports and control of food import requirements. Tanzania has the physical potential for increased maize production. What is required to realize this potential is a vigorous policy package, involving legalized unofficial maize marketing, higher official producer prices, expanded availability of inputs on a cash basis, and dissemination of available but unutilized research results. The specifics of this package are discussed in the following chapters, where the variety of constraints the crop now faces are elaborated.

1.51 Wheat. Wheat is produced almost exclusively on large-scale mechanized commercial farms. The tremendous reduction in official sales from the private sector producers since 1971/72, from 53,000 to 2,000 tonnes, can be traced to:

- (a) nationalization of many of the estates,
- (b) increased cost and unavailability of spares for the private tractor fleet,
- (c) spread of uncontrolled seed beans as an alternative crop, and

- (d) unsatisfactory arrangements for crop procurement, delays in payments by NMC, and difficult arrangements for provision of credit.^{42/}

While there has undoubtedly been a large decline in private commercial production there may also have been some diversion of wheat to the parallel market.

1.52 Meanwhile the state farms run by the National Agricultural and Food Corporation (NAFCO) have been successful in raising both acreage and yields of wheat. NAFCO has plans to expand area further, with yield stabilising at about 1,500 kg/ha. There is, however, already evidence of soil erosion because of the heavy machinery used on these soils, and there is concern that such yields may not be sustainable. NAFCO production costs vary substantially, from TSh 2,000/tonne in the Hanang complex to close to TSh 6,000/tonne in West Kilimanjaro where yields have dropped from the 1,700-2,000 kg/ha range to 550 kg/ha in recent years. This compares with a landed cost of Canadian wheat of about TSh 2,050/tonne at the current exchange rate. The foreign exchange component of direct costs is estimated at TSh 934/tonne for wheat produced on the NAFCO Hanang farms, but if one includes annual capital costs of TSh 1,458 per hectare (most of which is in foreign exchange) the net foreign exchange savings of even this relatively efficient public sector domestic production are negligible.^{43/} At the current exchange rate, wheat produced on the West Kilimanjaro farms is likely to have negative value added in terms of foreign exchange, unless yields can be restored to their former levels. By contrast, private wheat production in Tanzania appears to be both less capital and foreign exchange intensive because of superior yields obtained.

1.53 Paddy. The decline in official procurement of paddy and rice since the early 1970s (Table 1.4) has represented an even greater retreat from the official market by smallholders. While all of the 1970/71 purchases were from individual peasant producers, mainly in Mbeya, roughly half of current purchases are from large NAFCO estates, particularly the rice scheme in Mbarali. Rather than going out of production, smallholder paddy producers appear to have switched to the informal market. Under the Fourth Five-Year Plan and NESP, the Government proposes to increase rice production through the establishment of communal irrigation schemes in

^{42/} Formerly, when the wheat crop was purchased from farmers by the Tanganyika Farmers' Association (TFA), the crop could be used as security against production credit from TFA. Now that all official sales (if any) are meant to go to NMC, TFA has less security on which to advance credit. TFA, an efficient commercial organization, is too big to operate in the informal market, and is prohibited from operating in the official market.

^{43/} Background Paper I, pp. 102, 108. Still more careful costings are needed to check these figures, since inadequate provision for repairs or replacements, or soil fertility problems, could play havoc with otherwise correct costings.

villages. Unlike smallholder rice production which involves no major capital works, but merely the diversion of streams or pumping from lakes and streams, these village schemes would likely be very costly. Including the required technical assistance and logistical support, the costs per hectare are now conservatively estimated at about US\$5,730 at the present exchange rate, compared to US\$50 to US\$100 assumed in the Five Year Plan.^{44/}

1.54 Drought Staples. The drought staples of cassava, millets and sorghum, produced mainly by low income peasant farmers, are quite widely consumed in the drier areas of Tanzania, such as Dodoma, Mwanza, Lindi and Mtwara, but have not been widely consumed by the urban population, except when the preferred staples are in short supply.^{45/} In 1977/78 and 1978/79, substantial volumes of these crops were purchased by NMC, as the official price was quite attractive and the weather was favorable. Because there was little consumer demand for the drought staples in those years, when the weather ensured that preferred staples were also in good supply, NMC subsequently was faced with the difficult choice of carrying large unwanted stocks or of exporting at a loss. The small volume turnover in good seasons, together with problems of storing drought staples over long periods, means that they are not ideally suited to the strategic grain reserve. NMC's experience with the drought staples does indicate a substantial supply response to favorable conditions of production, however.

1.55 Oilseeds. Tanzania has substantial physical potential for producing oilseeds, with a range of oilseed crops already under production including sunflower, sesame, groundnuts, soyabeans and castor seeds. Other sources of oil are copra and cottonseed. Production of vegetable oil has, however, stagnated at 25,000 tonnes since 1977, even though demand is currently estimated at 40,000 to 50,000 tonnes. The industry suffers from old and poorly maintained oil mills, irregular supplies of old and mixed cottonseed, inadequate supplies of tin plate for containers, and low yielding plant varieties. Yet over time with proper policies the industry has the potential to supply all domestic needs and to become export-oriented.

1.56 Sugar. Total annual sugar production has fluctuated around 120,000 tonnes since the late 1970s. This represents a considerable underutilization of existing processing capacity,^{46/} and a sharply

^{44/} Based on recent feasibility studies carried out by the Project Preparation and Monitoring Bureau (PPMB) of the Ministry of Agriculture, in collaboration with FAO-CP.

^{45/} In part this is due to the Government's retail price policy, whereby the preferred staples (even when imported) enjoy a higher consumer subsidy than cassava flour and the other drought staples. Both the NESP and the SAP propose promotion of drought resistant crops and changing consumer habits. The SAP even proposes a food security reserve consisting largely of maize, the less preferred sorghum, millets and pulses. NESP, op.cit. p. 3. (See Chapter IV for further discussion of these issues).

^{46/} Estimated at 69 percent (excluding the Kagera factory which has been underutilized due to inadequate care and damages from the Uganda War).

curtailed national consumption, given an estimated annual demand of 200,000 tonnes.^{47/} Serious deterioration in both the production and processing facilities at the public estates has set in as a result of persistent shortages of foreign exchange for maintenance requirements, the lack of sufficient local managerial talent and financial losses from artificially low prices which the Government has been paying the estates for the finished product. Rehabilitation of the sector requires urgent price increases and allocations of foreign exchange with stringent managerial controls and extensive training of local personnel. Given the costs this is likely to entail, the Government may well want to consider less capital intensive alternatives such as jaggery. For every TSh 1.00 of foreign exchange spent on sugar, the value added is only TSh 1.70 compared to TSh 2.20 for maize, and TSh 4.00 for cotton (Table 2.5).

Livestock and Poultry

1.57 Tanzania's large national herds of cattle, sheep and goats are almost exclusively held in the traditional sector. Current annual beef production is estimated at 127,000 tonnes (at 100 kg per head or 10 percent offtake), and mutton at 25,600 tonnes (20 percent offtake). There is substantial evidence of excess demand for meat both in urban areas and in the country side. Annual poultry production, which has a significant private commercial component near urban centres, stands at approximately 15,000 tonnes. The quantity of milk available for human consumption from traditional herds is unknown. Forty-five million litres from commercial smallholders, five million litres from public sector dairies, and an increasingly large imported component augments the total supply, which does not meet the large urban demand.

1.58 Though the development of livestock holds very substantial long-term potential both for domestic production and exports, the NESP places much hope in the increase of cattle exports in 1982. The review of livestock carried out for this study^{48/} indicates that many of the same problems facing the production of crops discussed here apply to livestock as well. Problems of the livestock sector per se are, however, not discussed in much detail in this report for three reasons:

- It is currently a relatively unimportant sector from the viewpoint of balance of payments and in our view is likely to remain so in the near future.^{49/}
- While a preferred food, it is unimportant as a source of calories in comparison with preferred and less preferred cereals and minor crops.

^{47/} MDB, 1982/83, op.cit., Annex VI.

^{48/} Background Paper VIII, "The Role of Livestock".

^{49/} Official exports of meat and meat products were at their height in the 1960s at TSh 60 million and have declined steadily over the 1970s to an almost negligible level. Official exports of hides and skins, a large portion of which are cowhide, have remained stagnant at TSh 40 million since the 1960s. Dairy imports have increased somewhat over the 1970s, amounting to TSh 83 million in 1978. Much of the current importation for the urban milk market is on grant basis from the World Food Programme.

- Policies and plans considered to be desirable for the development of the livestock sector by the Ministry of Livestock Development mainly involve large-scale, capital-intensive, public sector ranching and dairying, which have proven to be highly inefficient. In the judgement of the Bank's livestock specialists these plans are quite considerably out of line with the long-term development requirements of the sector, which they see as producing more end products as well as increasing peasant agricultural productivity through increased use of draft animals. During the 1975/76 to 1981/82 period, investment in state-owned production facilities (mainly beef ranches and dairy herds) was more than twice as large as total new investment in research, pest control and smallholder livestock production. In constant prices, this meant 78 percent of the development budget for livestock was allocated to the 2 percent of the country's cattle found in state-owned facilities, while support services to individual smallholders were neglected to a large extent.^{50/} As total marketed production has declined, there has been a marked shift in priorities away from processing (the share of which dropped from 59 percent to 20 percent of total investment) towards state production of beef and milk (The share of which increased from 29 percent to 51 percent) to meet the poorly served urban demand for milk and meat produce.^{51/}

1.59 As can be seen from the above review, while the potential is impressive, prospects for export and food crops based on the current state of affairs are poor unless substantial steps are taken to reverse the trend. The declining export earnings and growing food imports will lead to further decline in foreign exchange needed for production inputs and the economy will be caught even deeper in its self-reinforcing downward spiral.

H. Difficulties in Project Implementation

1.60 The shortage of foreign exchange and the consequent pervasive shortage of imported inputs have created severe difficulties in delivering donor assistance in the form of projects. These difficulties are additional to the many constraints created by Government's various policy and institutional decisions discussed in the remaining parts of this report. The foreign exchange related difficulties include:

- Shortage of imported inputs, such as diesel for road construction equipment, or chemicals which should be available locally;

^{50/} Background Paper VII, Table 17.

^{51/} Ibid., p. 13.

- Indirect shortages of items like cement and building materials, where the Tanzanian fabricators have insufficient inputs to operate at full capacity;
- Slow and difficult communications as air, road and train service are degraded in the face of a pervasive shortage of spares;
- Theft of crucial project equipment (in particular, components stolen from almost new vehicles) which is often totally unavailable from local sources (e.g., loss of batteries or starter motors from trucks, tyres from landrovers, etc.);
- Staff spending time "foraging" with the increasing scarcity of essential commodities; and
- Semi-official diversion of project resources to non-project activity. This may involve use of project resources for legitimate production activities, as in the case of Kilombero II Sugar Estate, where tractors and other equipment purchased were diverted to Kilombero I Sugar Estate when the original equipment had worn out, with predictably severe effects on the performance of Kilombero II. (In 1979/80 production at Kilombero II was 26,620 tonnes instead of the 44,000 tonnes expected at appraisal).^{52/} At the other extreme, the lack of transport for Government officials and Party activities may lead to project transport being borrowed for general administrative purposes which have, at best, only tangential relation to project objectives.^{53/}

1.61 Difficulties are to be expected with project implementation in a developing country; they are a sign of underdevelopment. It is not individual difficulties per se, which now require reconsideration of the development strategy. Rather it is their cumulative effect which has put the success of one project after another in jeopardy, and which has threatened the likelihood of additional project assistance providing any significant benefits in the context of the overall deteriorating economic conditions in the country.

^{52/} Observations during implementation of the Kilombero Sugar Project (Loan 1041/Credit 513-TA).

^{53/} There have been numerous instances in the IDA-financed National Maize Project of the extension staff being deprived of project vehicles and field trials in Tabora being supervised by technical assistance staff having to use buses for the same reason.

I. Agriculturally Led Growth

1.62 By all major socioeconomic criteria--income generation, net foreign exchange earnings, employment and income distribution--agriculture is Tanzania's leading sector. Its serious deterioration over the past decade has threatened the viability of the economy as a whole; recovery of agriculture will have to be the leading force of an economic recovery program. An agriculturally led strategy is necessary for several reasons.^{54/} First, the sector produces the economy's most immediate needs food and the foreign exchange with which to purchase the imports which are required throughout the economy. Inappropriate policies in the foodcrop sector have led to large shortfalls in food available for urban consumption, necessitating increasing reliance on food imports. No other sectors have proven capable of providing anywhere near the levels of export earnings which agriculture has generated or can generate in the foreseeable future. Yet the export crop sector has been allowed to deteriorate to an alarming extent. If Tanzania had continued to achieve the rates of export crop growth it experienced in the 1960s, the economy would be in a much healthier state.

1.63 Table 1.10 presents the effects on Tanzania's export earnings over time if 2 and 4 percent per capita growth rates, similar to those of the 1960s had continued to be achieved for the major export crops, starting from peak production levels in the 1970s. Assuming, as is true for all of Tanzania's exports, except sisal and cloves, that this higher level of output would not significantly affect world prices, by 1981, these growth rates would have increased export earnings to two to three times above the actual levels, considerably narrowed the country's trade deficit, and reduced the foreign exchange gap to manageable proportions.

1.64 Agriculture is also an important source of government revenues and supply of raw materials for the industrial sector. Agriculture's declining contribution to government revenue and the consequent shortage of local recurrent resources for development is discussed in Chapter II. The unavailability of raw materials for domestic agro-processing industries and manufacturing (textiles) has now created difficult conflicts between meeting needs of domestic consumption as distinct from increasing manufactured exports which only increased supply of agricultural raw materials can help alleviate. With 90 percent of the population in the rural sector, an agriculturally led strategy is, of course, also important from the standpoints of employment generation and income distribution. With abundant agricultural land, Tanzania has a tremendous capacity to have a broadbased equitable growth, and at the same time avoid rapid urbanization and the social problems which accompany it. Broadbased agricultural growth would also provide a sound basis for longer term

^{54/} Bruce F. Johnston and John W. Mellor, "The Role of Agriculture in Economic Development," *American Economic Review*. September 1961, pp. 56-93.

development of an appropriate industrial sector. Increased incomes and employment generated in the agricultural sector can provide the effective demand for consumer goods, services and manufactured inputs which the domestic industrial sector can gradually provide.^{55/} By contrast, the recent pattern of large scale, long gestation, capital and import intensive industrialization which Tanzania has pursued has not brought the benefits of an agriculturally led growth. It has generated few jobs, and has not been able to provide the commodities in demand in the countryside - whether production inputs or consumer goods - in the quantities needed and at prices which compete with imported equivalents. It has not created a viable set of exports to compensate for the declining agricultural volumes. Instead this strategy has diverted resources away from agriculture, leading to overall weaknesses in the economy. The experience of nearly every country which has successfully industrialized indicates clearly that industry cannot "lead" agriculture in this fashion. Successful industrialization has been achieved in economies which foster a strong agricultural sector.^{56/}

1.65 To understand what went wrong in agriculture it is helpful to look back to the 1960s, when the sector showed many signs of health. Tanzanian agriculture was characterized by high growth rates, increasing diversity of crop output, high quality of produce, and wide distribution of benefits, as more and more of the peasantry became engaged in surplus production. By and large, this occurred because of a favorable production environment. Improvements were being made in the transportation infrastructure. There were positive economic incentives, and in many places there was institutional pluralism in marketing whereby alternative channels had to compete to offer farmers acceptable prices and marketing services. Farmers were also left to make their own production decisions, as the Government for the most part did not attempt to regulate production.

1.66 To have sustained this growth would have required a substantial commitment of resources and policies favoring the sector, improvements in infrastructure and maintenance, training of manpower, fostering of competition among institutions and increases in processing capacity. A positive incentive structure, including both favorable prices and the

^{55/} Comparative work done at IFPRI, "Comparison of rural household expenditures in Nigeria and Malaysia," by P. Hazell and A. Roells (forthcoming) suggests that at lower incomes the major linkages from higher farm incomes are within agriculture (towards preferred foods, including preferred grains, meat and vegetables) whilst at middle income levels, the chief linkages are to consumer oriented local industry (construction, transport, and furniture). See also John Mellor and U. Lele, "Growth Linkages of the New Food Grain Technologies," Indian Journal of Agricultural Economics, Vol. 28, 1973, pp. 35-54.

^{56/} World Bank, World Development Report 1982, Oxford University Press, 1982, Chapter V.

supply of an increasing selection of consumer goods would have had to be maintained. In addition, much more emphasis would have had to be devoted to generating and disseminating technological improvements, as much of the growth rate in the 1960s was the result of acreage expansion, not productivity increases.

1.67 In retrospect, neither the Government nor major donors recognized the policy or resource requirements which these steps implied. Agriculture was in large part assumed to generate a surplus for the rest of the economy with little input. This is easily seen in the planning documents since the late 1960s. In the Second Five-Year Plan, only two of the major Mainland exports had projections of under 6 percent per capita annual production increases; in the Third Plan, only one of these crops had a projection of under 9 percent per capita^{57/}. Not only has there been a lack of resources; the policies and institutions which have been chosen have made resource use extremely inefficient, and have worked to the detriment of agricultural growth.

1.68 As a result, the infrastructure supporting agriculture is now worse in many parts of the country than it was a decade ago. A disproportionate amount of government expenditures have benefitted the urban sector. Public sector employment, has grown at a rate of 10 to 15 percent per annum. The urban sector has received subsidized food, and has had better access to consumer goods. Moreover, its support has been brought about by taxing the agricultural producers heavily, both directly through the imposition of large export taxes and indirectly, through the large marketing margins which have been allowed to build up under the marketing parastatals. But due to the poor agricultural performance it has not been possible to maintain real wages of urban workers, which declined by 50 percent since the mid-70s.

1.69 Government policies have also led to a redistribution within the rural sector. Tanzania's efforts in the provision of social services are well recognized, but have been at the cost of a proper balance between directly productive agricultural services and social services (Chapters V and VI). In the area of agricultural policy also, however, the redistributive element has taken precedence over productivity and efficiency. The Government's pan-territorial pricing policies for crops, inputs, and many consumer goods, whereby transportation costs are not taken into account, have worked to the advantage of more remote, traditionally neglected parts of the country, at the expense of the traditional surplus producing areas. A similar effect has been registered in the case of marketing policy. The most detrimental effect of the abolition of legal alternatives to the crop parastatals has been on the traditional surplus areas, which had evolved strong, effective marketing links through both the private and cooperative sectors. On the other hand, for the more remote areas, the advent of the crop parastatals has led to a significant increase in their share of the marketed surplus. Poorer areas have also benefitted, through Government guaranteed purchase of minor legumes and drought staples

^{57/} URT, Fourth Five Year Plan, op.cit., Appendix 3E, Tables 2 and 3.

Table 1.10 - Two and Four Percent Per Capita Growth Scenarios for Export Crops
('000 mt) (value in TSh million)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Coffee Actual	35.5	54.7	60.3	41.0	54.0	58.1	46.8	50.9	42.4	43.5	72.3
2%	35.5	54.7	60.3	63.2	66.4	69.7	73.3	77.2	81.3	85.8	87.5
4%	35.5	54.7	60.3	64.5	69.0	73.9	79.2	85.0	91.4	98.3	102.2
Cotton Actual	54.8	64.5	60.0	49.1	38.0	57.8	41.0	47.0	31.4	31.5	44.1
2%	54.8	64.5	67.6	70.8	74.4	78.1	82.2	86.5	91.3	96.1	98.0
4%	54.8	64.5	68.9	73.7	78.8	84.4	90.5	97.2	104.4	112.3	116.8
Sisal Actual	160.8	153.1	113.4	93.4	101.6	92.2	68.5	81.1	79.0	48.9	55.1
2%	160.8	168.3	176.3	184.8	194.0	203.8	214.3	225.6	237.7	250.7	255.7
4%	160.8	171.6	183.3	195.9	209.7	224.6	240.8	258.5	277.7	298.6	310.5
Tobacco Actual	4.7	5.6	6.1	8.8	6.3	15.8	11.7	11.0	7.0	8.5	10.5
2%	4.7	5.6	6.1	8.8	6.3	15.8	16.6	17.5	18.4	19.4	19.8
4%	4.7	5.6	6.1	8.8	6.3	15.8	19.9	18.1	19.5	21.0	21.8
Tea Actual	8.3	9.2	9.5	9.6	10.4	12.0	12.0	15.0	15.0	13.3	14.5
2%	8.3	9.2	9.5	9.6	10.4	12.0	12.0	15.0	15.0	15.8	16.1
4%	8.3	9.2	9.5	9.6	10.4	12.0	12.0	15.0	15.0	16.1	16.7
Cashew Actual	96.0	112.9	109.9	113.9	97.3	67.5	74.8	44.2	43.3	9.1	25.1
2%	96.0	112.9	109.9	113.9	119.5	125.6	132.1	139.0	146.5	154.5	157.6
4%	96.0	112.9	109.9	113.9	121.9	130.6	140.0	150.3	161.4	173.6	180.5
Cloves Actual	9.0	11.8	10.8	3.7	7.5	8.0	6.4	2.6	4.0	8.1	7.0
2%	9.0	11.8	12.4	13.0	13.6	14.3	15.0	15.8	16.7	17.6	18.0
4%	9.0	11.8	12.6	13.5	14.4	15.4	16.6	17.8	19.1	20.5	21.3
Value Actual	996.5	1,357.6	1,534.2	1,752.4	1,743.2	2,977.2	3,476.7	2,571.0	2,568.5	2,767.1	3,243.5
2%	996.5	1,372.0	1,732.0	2,840.0	2,714.0	4,028.0	6,317.0	4,882.0	6,316.0	7,594.9	7,634.8
4%	996.5	1,375.0	1,759.0	2,946.0	2,858.0	4,355.0	6,855.0	5,383.0	7,106.5	8,747.2	8,943.9
Population (million)	13.7	14.0	14.4	14.9	15.3	15.8	16.4	16.9	17.5	18.0	18.8

* Projections

Source: Statistical Appendix Table 1.2

with only a limited market under private traders. Subsequent chapters will show how the excessive redistributive emphasis of rural policies has contributed to the sharp decline of production and productivity in the agricultural sector.

1.70 To nurture agriculture back to health will require major actions in three areas: (i) allocation of additional financial and human resources to the sector; (ii) institutions and policies to make resource use more efficient, especially by fostering institutional pluralism, and concentrating the role of the public sector; and (iii) positive producer incentives. This will involve difficult policy choices, as it means reordering of investment priorities and adjusting policies which do not serve an agriculturally led strategy. The political difficulties of making these changes should not be underestimated, especially in the current very difficult economic circumstances. But the choices can no longer be avoided if agricultural production is to be restored. Even with these major changes, restoring agriculture will be neither easy nor quick. But at least a beginning can be made to pave a way in the long run for a strong, peasant-based agriculture which will allow achievement of growth with equity and establish a foundation for strong industrial development.

CHAPTER II

INTERSECTORAL AND INTRASECTORAL RESOURCE ALLOCATIONS

A. Introduction and Summary

2.01 Agricultural production in Tanzania is dependent on a wide range of resources, including those allocated outside what is traditionally called "the agricultural sector". Apart from land, the principal resources are manpower, capital and recurrent finance, and foreign exchange. These have varying degrees of importance in the key areas of: (i) directly productive activities (field technology and processing facilities); (ii) support services (marketing, input distribution, extension, and development of new technologies through research); and (iii) supply of incentive goods. As is readily apparent, the transportation system is a crucial factor in most of these areas, as is the supply, whether by domestic or foreign producers, of industrial goods.

2.02 In Tanzania, all of these resources are wholly or partially under the direct control of the Government. Its traditional prerogatives have been the capital and recurrent budgets; but here its role has increased dramatically over the 1970s with the expansion of the public sector economy. Allocation of foreign exchange has been strictly controlled by the Bank of Tanzania since a foreign exchange crisis in 1974-75, and controls have become much more stringent again since 1979. Manpower allocation is in principle another Government prerogative, as all public sector appointments go through its central manpower ministry. While there is some scope for individuals to influence their postings, it is significant that all persons who receive higher education and training at the Government's expense are obliged to work in the public sector for a specified number of years (e.g., five for university graduates).

2.03 This chapter provides some general indications of government resource allocation priorities since the early 1970s, both within the economy as a whole, and within the framework of a broadly defined agricultural sector. Within agriculture, resource allocations are related to observed resource needs in the three key areas outlined above: productive activities, support services, and incentive goods. The objective is to indicate where and how resource imbalances may have played a role in the current agricultural crisis, and to identify areas where more resources must be directed to achieve a recovery. Because of the substantial involvement of donors in Tanzania's development efforts over this period, their role in resource allocation is included where relevant.

2.04 The analysis makes use of available statistics on expenditure, manpower and foreign exchange allocations; these are not sufficiently complete or unambiguous to stand alone^{1/}, however, and their interpretation must be guided by the experience gained over many years of Bank involvement in agriculture and related sectors. This being the case,

^{1/} For example, actual capital expenditure is only available up to 1978/79, and this is only broken into broad sectoral categories. The categories of expenditure are only broadly, but by no means wholly, consistent over time.

the chapter makes no pretense of providing objective measurements of resource misallocations either within agriculture or within the economy as a whole, nor does it come up with precise figures for reallocation requirements. Rather, the findings are indicative, as are the quantitative assessments of future resource requirements in areas judged to be deficient in this respect.

2.05 The principal areas of resource imbalance are found to be:

- (i) too rapid expansion of the industrial sector, causing a strain on the economy's available physical and human resources;
- (ii) too few resources going to recurrent needs of both agriculture and transport, resulting in deterioration of performance despite capital investments. Shortages of recurrent foreign exchange and skilled manpower for effective maintenance have been particularly acute;
- (iii) within agriculture, too few resources going to research and extension, and too much to less efficient large scale production parastatals and ineffective crop marketing parastatals;
- (iv) within research, insufficient concentration of resources on the most important crops and production areas;
- (v) imbalances in the direction of resources among crops, with too much to processing and too little to production of tobacco, pyrethrum and cashews, too little to processing in comparison with production of cotton, and too little to either production or processing of sisal.

2.06 Major allocative trends, such as the increase in development spending, the increase in industrial investment, a large expansion of the recurrent budget for education, health and water supply, and an expansion of public sector economic activities, are consistent with the Government's expressed priorities since the late 1960s and early 1970s. Donors have supported these priorities with substantial aid inflows, thus exacerbating the strains on the economy. Moreover, donor investments have put further strains on the recurrent budget, as maintenance and operating costs increase with an increasing number of projects.

2.07 To revive agriculture, it will be necessary to reallocate resources from activities which are of lower social and economic priority (para.1.64) in support of an agriculturally led strategy. There will have to be a substantial inflow of recurrent resources into agriculture. The annual recurrent foreign exchange requirements of the current agricultural activities are conservatively estimated at US\$210 million. Moreover, past neglect of the needs of various crop industries implies, in foreign exchange, rehabilitation requirements of the order of US\$235 million over the next five years if all the ongoing activities are to be rehabilitated.

This must be accompanied by support for the transportation infrastructure and for the supply of consumer goods to the rural areas. While no careful estimation of these requirements is available similar to that of agriculture, it would not surprise the experts knowledgeable of these sectors if these requirements amounted to at least US\$100 million and US\$50 million, respectively, for only the most directly supportive needs. Without this support, the country can expect to experience the continued deterioration of the existing food and export crop industries, with serious consequences for food security, foreign exchange earning ability, and economic stability. The physical resources which these funds can provide will have only a transitory impact, however, unless they are accompanied by substantial inflows of skilled managerial and technical manpower, and unless institutional changes are effected which can allow a more meaningful use of resources in the sector.

B. Government Objectives since the Arusha Declaration

2.08 The difficulty involved in reordering priorities in favor of agriculture can be appreciated by reviewing the macroeconomic context in which these decisions will have to be made. Following the Arusha Declaration of 1967 and subsequent Government and Party policy pronouncements, Tanzania has concentrated its political energies and economic resources in the pursuit of two principles, socialism and self-reliance. Socialism has been interpreted to mean public control over the nation's resources, and an equitable approach toward division of those resources among the population. Public control and equity have been pursued through a variety of means described in para 1.64.

2.09 Self-reliance has had a more elusive definition. Economically, it has come to mean several things. Self-sufficiency in food has certainly been one of these, although the steps to achieve this objective have never been clearly articulated. Most significant in terms of its practical implications has most certainly been the adoption of the "Basic Industries Strategy" in 1975 which was intended to rapidly industrialize the economy in the space of twenty years. This strategy would allow the country to achieve self-reliance in two ways: first, it would meet domestic needs for intermediate and consumer goods through domestic production; second, it would lessen the country's dependency on primary commodity exports, which were seen to put developing countries into an unfair trading relationship with the industrialized world. The investment strategy relied on two sources of support: donors, and, by implication, the agricultural sector. ^{2/}

^{2/} For a discussion of the background to the Basic Industries Strategy, see E. Hanak, "The Tanzanian Balance of Payments Crisis: Causes, Consequences and Lessons for a Survival Strategy", Economic Research Bureau paper, University of Dar-es-Salaam, forthcoming.

C. Overall Trends in Resource Allocation

2.10 The record shows that many of these priorities have been reflected in resource allocation, and have significantly affected the balance of resources among sectors. Unfortunately, not all of the goals were mutually consistent in the short time frame envisaged for their attainment. Serious strains have been placed not only on the programs targeted to be achieved quickly, but also on the economy's overall long term productive capacity. The important trends exhibited in resource allocation, and the problems associated with them, are elaborated in turn.

Increased Capital Spending and Industrialization

2.11 Trends in actual capital development and recurrent expenditure are recorded in Table 2.1 and in Statistical Appendix: Tables 2.1, 2.3 and 2.4. Several features are striking. First, there has been a dramatic shift in the balance between recurrent and capital spending (Table 2.1). Whereas recurrent outweighed capital by almost four times in the mid 1960s, they were almost on par in 1978/79. The shift may have become even more pronounced in the 1980s, as planned capital expenditure has outstripped the recurrent budget. ^{3/} This shift is registered in both the agricultural and transport sectors.

2.12 Principal factors in this shift are the rapid increases in development expenditure and the rapid increase in industrial investment which have occurred since the mid 1970s. Total capital spending almost doubled between 1975/76 and 1978/79 and was over four times greater in the latter year than in 1972/73. That industrial expansion significantly explains this trend is apparent: industry's proportion of development spending jumped from 2 percent in the early 1970s, to almost 20 percent at the end of the decade. By the late 1970s, it had outstripped both agriculture and transportation in this respect. While transportation's share remained relatively constant at around 13 percent, agriculture declined substantially in total development spending, from over 20 percent in the mid-1960s to 10 percent in 1978/79, and actual capital spending on agriculture has been stagnant since 1975/76. Annual plans since 1978/79, after which expenditure data are not available, indicate the continuation of these trends (Statistical Appendix: Table 2.2). ^{4/}

^{3/} Background Paper VII, Table 2.

^{4/} Background Paper VII, Table 4 and p.4.

Table 2.1

Actual Capital and Recurrent Expenditures of the Central Government^{a/} 1965/6 to 1978/9, selected years
(current Tsh. million)

	1965/66		1969/70		1972/73		1975/76		1976/77		1977/78		1978/79	
		%B/A		%B/A		%B/A		%B/A		%B/A		%B/A		
<u>Agriculture^{b/}</u>														
A. Capital	49		86		139		387		344		411		418	
B. Recurrent	65	133%	133	154%	184	132%	179	46%	210	61%	196	48%	197	47%
Total	114		219		323		566		554		607		615	
<u>Industries</u>														
A. Capital	1		13		19		83		377		561		746	
B. Recurrent	5		30		53		n.a		n.a		n.a		n.a	
Total	6		43		72		n.a		n.a		n.a		n.a	
<u>Transportation^{c/}/ Infrastructure</u>														
A. Capital	30		177		120 ^{d/}		228		406		374		576	
B. Recurrent	61	203%	72	41%	121 ^{d/}	100%	236	104%	233	57%	309	83%	415	72%
Total	91		249		241		464		639		683		991	
<u>Total</u>														
Capital	230		631		956		2,234		2,764		3,163		4,276	
Recurrent	859	373%	1,410	223%	2,066	216%	3,318	149%	4,413	160%	5,008	158%	5,795	136%
Total	1,089		2,041		3,022		5,552		7,177		8,171		10,071	

Source: (1) 1965-1974 data are from Basic Economic Report, Annex I, Appendix Tables XII to XIV.
(2) 1975-1979 data are from Statistical Appendix Tables 2.1, 2.3 and 2.4 of this report.

Notes: a/ 1975/6 data forward include regional recurrent expenditures.
b/ "Agriculture" includes livestock; recurrent data does not include subventions to parastatals.
c/ Transportation includes road, waterway and rail transport; and any other communication expenditures.

1973/74 data.

2.13 While the industrial sector did experience some growth in both output and range of activities during the later 1960s and most of the 1970s, in general, performance has been disappointing in relation to expectations, and production in most industries has fallen since 1978 below the levels of the early 1970s (Table 6.2). One reason expansion of production has not been as rapid as the large investment portfolio of the later 1970s might have implied is the long gestation period of some major projects, such as the Mufindi pulp and paper mill, which has yet to come on stream. But the sector also has run across some more basic constraints to growth. There has not been the foreign exchange, and the physical and human resources to match the expansion program. Power, water, raw materials inputs, and transportation shortages are common, and can cause firms to shut down operations for months at a time. But even more serious, perhaps, is the scarcity of skilled manpower. This was already a problem before the expansion. Despite some training which has occurred since then, inexperienced management and engineering is so serious that the few available physical resources are not being well maintained, leading to lower and lower levels of capacity utilization (Table 6.1). Production is high cost and import dependent, and organization and discipline are generally poor. ^{5/}

2.14 In recognition of the many resource constraints affecting the economy's existing productive capacity, the 1982 SAP announced the Government's intentions to substantially reduce the overall level of development expenditure during the recovery period, by postponing or cancelling a number of individual projects. ^{6/} The general thrust of this proposal is positive, for without some years of consolidation, whereby the economy's scarce resources can be channeled into recurrent and rehabilitation needs, recovery will not be possible. Two points must be borne in mind in considering the nature of consolidation which will be necessary to support an agriculturally led strategy, however. First, consolidation does not only imply reducing the number of future projects. It is highly likely that the economy cannot maintain all the projects now being implemented. Those ongoing projects which do not meet the various socioeconomic criteria outlined in para. 1.64 may well need to be forfeited if an agricultural recovery is to be funded adequately for the benefit of the economy as a whole. Second, there undoubtedly will be a need for some new investments critical to an agricultural recovery, both in agricultural activities, such as processing, and in the supporting sectors such as physical infrastructure.

Increased Spending on Social Services

2.15 In line with the Government's rural equity objectives, there have been large programs in the three main social services - education, health and water supply. The performance record in each of these areas is discussed in Chapter VI. Here it should be noted that the resource requirements of the programs (Statistical Appendix: Table 2.4) have been substantial. Altogether, the three sectors consumed 15% of the Ministries'

^{5/} For a more complete discussion of the problems the sector faces, see "Tanzania: Recent Developments in Manufacturing", World Bank Industries Department, May 1982.

^{6/} SAP, op.cit., paras. 2.06 and 2.18.

budget in 1981/82, and 65% of the regional budget or a total of TSh 2.8 billion. Rural (primary and adult) education has been the biggest area of spending, regional recurrent expenditures standing at TSh 1 billion in 1981/82. This represents over 40% of the entire regional budget, and a real increase since 1974/75 of 21%, while the budget as a whole has declined in real terms by the same proportion. Health is the second largest item in the regional budgets. It consumed 18% of the total in 1981/82, a real increase of 4% over the period. Rural water supply has exhibited a similar trend with a real increase of 8 percent.

2.16 The capital costs of these programs have been less significant. Water supply, the most capital-intensive of the three, was allocated TSh 195 million in the regional development budgets between 1977/78 and 1981/82. ^{7/} It is uncertain how much of the Water and Energy Ministry's much larger capital expenditure (Statistical Appendix: Table 2.1) went to rural water supply. The problem of dividing up between rural and urban projects similarly exists for health and education; though in the latter case it was a conscious Government policy that the facilities for universal primary education be constructed on a self-help basis with little or no financial assistance from the Treasury.

Increase in Government Subsidies

2.17 Another trend exhibited, more recently, is the practice of the Government to provide financial assistance to ailing public corporations. This has been the major reason for the rapid increase in the recurrent budget of the Ministry of Finance, which jumped from TSh 323 million in 1979/80 to TSh 1,527 million in the next year, to TSh 2,249 million in 1981/82 or 31% of the Ministries' total recurrent budget (Statistical Appendix: Table 2.3). Unlike either industrialization or the expansion of social services, this practice springs from necessity rather than intent, and results from either policy ambiguities or plain poor performance of the recipient parastatals. Major subventions are shown in Table 2.2.

2.18 The areas of policy ambiguity are the subsidy to NMC and the grant to the Tanzania Fertilizer Company (TFC) (items B and E of Table 2.3). The NMC subsidy is principally a support for low consumer prices of grain set by the Government (paras. 4.11-4.13). Costing data are so incomplete, however, that the real costs to the crop authority of the pricing policy have not been established. The corollary of this is that its other operational losses have been allowed to skyrocket (para. 3.27); and the Government has been required to spend an additional TSh 250 million (Item C) just to guarantee the much larger loan which NMC has made from the banking system.

^{7/} Background Paper VII, Appendix Table 51.

Table 2.2: Government Grants and Subventions Through the Budget
(TSh. million)

	1980/81a/	1981/82b/
<u>Major Items</u>		
A. Acquisition of shares - Kilombero Sugar Company	5	-
B. Subsidy to NMC	211	275
C. Government guarantee to NBC on NMC loans	250	250
D. Parastatal rehabilitation ^{c/}	-	750
E. Tanzania Fertilizer Company Grant	145	157
F. Tobacco Authority of Tanzania	19	8
Total Subventions	630	1,440
Total Ministerial Recurrent Expenditure	5,731	7,331
Subventions as % of Ministry Expenditure	11%	20%

Source: (1) World Bank, "Tanzania: Update on the State of the Economy", June 10, 1982, Table 2.3.
(2) Statistical Appendix Table 2.3.

Notes:

- a/ Approved estimates
- b/ Budgeted estimates
- c/ Subsidy to Tanzania Railways Corporation, Air Tanzania, Tobacco Authority, Cotton Authority, and Tanzania Fertilizer Company.
- d/ The SAP gives the following estimates, which vary from the above figures for 1981/82:

	<u>1981/82</u>	<u>1982/83</u>
	----(TSh million)----	
Parastatal Subsidies	427	1,102
Parastatal Rehabilitation	1,000	730

2.19 The grant to TFC is for the transportation costs of fertilizer, designed to allow farmers all over the country to pay the same ex-factory price. TFC's operations, however, are excessively costly both to farmers and to the Government. It has been estimated that by closing the factory down and relying on fertilizer imports, the Government could eliminate the transport subsidy and provide farmers with the same or lower cost inputs.^{8/}

^{8/} Background Paper X, "Problems of Fertilizer Distribution", June 1982.

2.20 The other items, and particularly the TSh 750 million which appears in 1981/82 under parastatal rehabilitation (Item D), reflect the Government's attempt to help bail out parastatals on the verge of financial collapse. As the problems of the agricultural parastatals are discussed fully in Chapter III, they will not be elaborated here. It should be borne in mind, however, that these transfers are a reflection of grossly inefficient operations of these bodies, and as such should not be considered as support to agricultural producers. Marketing services have deteriorated rather than improved under the parastatal marketing network which has been in place since the mid-1970s.

2.21 Altogether, these grants and subventions amount to over TSh 2 billion for the two years considered, and represent 20% of Ministry recurrent expenditure in 1981/82. By comparison, the total allocated to agriculture's recurrent costs for the same two years (including livestock) in the Ministry and in the regions is TSh 635 million. Alternately, elimination of the subsidies in 1981/82 could have freed up half of the entire recurrent costs of rural and urban social services.

Donor Contributions

2.22 Tanzania has been a major recipient of development finance from bilateral and multilateral aid agencies. Principal supporters have been the World Bank/IDA, the Scandinavian countries, Canada, and the Netherlands, but assistance has also come from most other OECD countries, the USSR, many Eastern European countries, and even other developing countries such as China, India, Cuba and North Korea. Levels of assistance have grown dramatically since the late 1960s, as has the proportion of grants and soft loans in the total. In 1973 the country received the equivalent of US\$121 million, 20% of which was on grant basis.^{9/} By 1979/80 that figure had risen to roughly US\$440 million, over seventy percent of which was in grants.^{10/} There are indications that these trends have continued over the past two years, with total estimated disbursements of US\$650 million in 1981/82, less than 20% of which was in loans. At 1979/80 levels, this meant a per capita aid disbursement of US\$25, one of the highest in the developing world.

2.23 What has made Tanzania attractive to donors is the priority the leadership placed on concerns for equity and for broad-based development of the population; Tanzanian leaders have been able to articulate these goals coherently when many governments in the developing world have not even alluded to such concerns. General support for Tanzania's aspirations has translated into specific support for the policy measures the leadership evolved to meet its objectives of socialism and self-reliance, in particular satisfaction of basic needs in the countryside, public sector control of the economy, and industrialization.

9/ World Bank, "Economic Memorandum on Tanzania", January 1981, Table 3.1.

10/ These and the following figures from "Tanzania: Update on the State of the Economy", op.cit., Table 3.8.

2.24 The support for basic needs and rural equity is most apparent if one considers that much of donor activity in the countryside has been either specifically directed toward provision of a social service, or generally directed toward the provision of an "integrated development package". The first type of project has often been rural water supply, whereby donors, and particularly the Scandinavian countries, would support the regional water engineer's office with a large technical assistance team and finances for the physical resources required for the schemes. At present, at least six regions have such teams; others have received assistance in the past. Available figures suggest that donors have financed roughly half of the water schemes.^{11/} It is apparent that without donor support for rural water supply, the Government would have had to proceed at a much slower pace. Similarly, though the capital costs for rural health and education have been less substantial, an even larger proportion has probably been met by donors.^{12/}

2.25 The second type of project which has been a very popular channel for donor assistance in Tanzania since the mid-1970s is the rural or regional integrated development project (RIDEP). While RIDEPs vary in thrust, they have in common their multisectoral approach to the development of an area. RIDEPs have been actively pursued by the Government as a means to spread development assistance throughout the countryside, including to traditionally poorer, neglected regions. The idea appealed to donors for both developmental and pragmatic reasons. With the decentralized system of administration in place since 1972, donors have been able to channel all of their finances for a particular area through the regional administration, a much easier task than trying to deal with different central ministries for each separate project component. To date, eleven regions have received finance for a RIDEP; and another four have had donor financed technical assistance teams draw up RIDEP plans, for which implementation funds have not yet been committed. Only in one case did the Tanzanian Government draw up a RIDEP plan on its own, which it subsequently declined to fund.^{13/}

2.26 Total RIDEP financing from donors to date is unknown, but it must be substantial. IDA alone has committed over US\$30 million to three projects in Kigoma, Tabora and Mwanza/Shinyanga, each of which received additional funds from other sources. What distinguishes RIDEPs from traditional agricultural development projects is that they focus on a much broader range of concerns, some of which have only tangential relationships to agricultural productivity increases, and that they focus on areas which are not necessarily chosen on the basis of agricultural potential.

^{11/} Background Paper VII, Appendix Table 51.

^{12/} Ibid.

^{13/} Funded projects are in Kigoma (IDA), Tabora (IDA/UK/Canada), Mwanza and Shinyanga (IDA/IFAD); Arusha (USA); Tanga (West Germany); Lindi and Mtwara (UK); Kilimanjaro (Japan); Morogoro (Netherlands); and Iringa (EEC). Plans which have not been funded include Mara (IDA), Ruvuma (IFAD), Kagera and Mbeya (Denmark) and Rukwa (Tanzania). The Mbeya project plan is very recent, and has not yet been presented for finance. Mara and Ruvuma have both been appraised by IDA, the latter for IFAD, but the decision to finance has been deferred (para. 2.26).

Certainly the RIDEP activities supported by IDA exemplify these two factors. While the projects have had agricultural components, most of the successes the projects have had have actually been in the sphere of social services, and, to some extent, feeder roads. A small beginning appears to be taking place in Tabora on the productive side four years after the project was approved. The regions invested in were not chosen on the basis of vast untapped agricultural potential; rather, they were chosen because the Government wanted investments in these regions for equity concerns. Nor were the crops focussed on the ones with the greatest potential in the regions, i.e. tobacco in Tabora or cotton in Mwanza and Shinyanga. Relatively few of the project resources were allocated to dealing with problems of these crops. Just as the earlier donor funded projects in Africa in the 1960s showed relatively little concern about rural food self-sufficiency and instead concentrated on export crops^{14/}, many of the projects financed in the 1970s went to the other extreme of focussing mainly on foodcrops, to the neglect of export crop production. Performance in these projects has been so far below expectations that IDA has deferred the decision to approve finance for the Mara RIDEP which it has already appraised.

2.27 Two important lessons can be drawn from the lending experience in the rural sector--the first concerning the appropriateness of an integrated development strategy in Tanzania, and the second concerning the level of resource requirements in agriculture. In principle RIDEPs are an attractive way to develop an area; under Tanzanian conditions, they proved impractical, both because the macroeconomic policy environment was not conducive to agricultural growth and because the RIDEPs themselves were complex projects, which required a level of administrative and technical support not available in the country. That the Government was able to attract so much donor assistance for these projects is a measure of the extent to which donors have supported Tanzanian aspirations. By 1974 evidence was already accumulating through the World Bank initiated African Rural Development Study, designed to learn lessons for project formulation, that integrated projects in Africa would likely run into severe manpower and institutional constraints.^{15/} The findings of this study were strongly endorsed by the Bank and were reinforced in an Agricultural and Rural Development Sector Study at around the same time.^{16/} The subsequent implementation experience has added more weight to their concerns.

2.28 In retrospect, it can be seen that none of these reports - the African Rural Development Study, the Agricultural and Rural Development Sector Study, and the Basic Economic Report of 1977^{17/} - recognized the resource requirements of Tanzanian agriculture. These reports had argued for an approach which alleviated the most critical constraints to

^{14/} Uma Lele, The Design of Rural Development: Lessons from Africa. John Hopkins Press, Baltimore, Md., 1975. See especially Chapter II.

^{15/} Ibid.

^{16/} World Bank, "Tanzania: Agricultural and Rural Development Sector Study", December 1974.

^{17/} "Tanzania Basic Economic Report", December 1977.

increasing productivity, and emphasized high potential areas, but underrated the policy support and the levels of investment that a successful agricultural strategy required. There was also greater optimism about the time horizon in which development could be achieved. Evidence now suggests that the capital requirements of agriculture are great in Tanzania and that the results will take time to achieve. This is not only because of the need for supporting a transport network, education and training and other infrastructure in a large, sparsely populated country at its early stage of development. The economy's heavy reliance on the public sector and the frequent institutional changes that have taken place in the rural areas, have tended to discourage mobilization of private savings for either productive or social services (paras. 2.50; 6.1). Thus while substantially greater resources are needed for agriculture from the public sector, policies which would facilitate private capital formation are also needed simultaneously to reduce both the cost and the time required to achieve agricultural development.

2.29 In industrialization, the large extent of donor support can be seen readily by reference to the figures. Between 1975/76 and 1981/82, industry and its supporting infrastructure were together the largest recipient of donor finance (Statistical Appendix: Table 2.5). At constant prices, TSh 2,100 million of aid was allocated to the industrial sector over this period in the annual plans. In addition, there were TSh 1,970 million for capital investment in water and power supply, most of which is linked to the industrial sector's requirements. Over the period, moreover, there was a shift toward increased emphasis on industry. Whereas the proportion of all aid allocated to industry was less than 10 percent in 1975/76, by 1978/79 this had jumped to over 20 percent and remained so for the rest of the period (Statistical Appendix: Table 2.6).

2.30 The other sectors receiving large sums of aid for capital investment are transportation infrastructure (broadly defined to include the Ministry of Transportation and the Ministry of Works) and agriculture, with TSh 2,210 million and TSh 1,480 million, respectively over the same seven year period at constant prices (Statistical Appendix: Table 2.5). For transportation, this reflects a considerable increase in emphasis over the period, from 8 to 25 percent of total lending, while for agriculture, it represents a decline from 40 to 10 percent (Statistical Appendix: Table 2.6). Donor assistance to transportation has been the most important source of capital finance, accounting for over half of the total planned investment in the sector (Statistical Appendix: Table 2.5). By contrast, in both agriculture and industry, the donor's share has been under 40 percent, as the Government has contributed more of its own resources and used local bank and other sources of finance. Aid has supported increasing public sector control of the economy through financing of parastatals, often with very poor results. World Bank/IDA support to agricultural parastatals in particular has been significant enough that it is taken up separately in the following chapter (para. 3.11).

2.31 While the vast majority of donor finance has been for the capital costs of new projects, there has been some shift in emphasis since the foreign exchange crisis began to be felt generally in the economy in 1979. To help ease the shortage of import capacity, some donors have provided program lending for entire sectors or general balance of payments support

for essential imports. Precise figures are not available on the amount of this assistance, but it is estimated to be over US\$250 million between 1979 and June 1982, half of which was disbursed in the last twelve months of this period.^{18/} Including food aid, this means that roughly 30% of all aid to Tanzania in 1981/82 has been in non-project form, representing a significant shift from earlier years. Some of this represents project funds released for general lending, while some of it is additional. The scope for further reallocation of aid to import support is discussed later in the chapter (paras. 2.63 - 2.65).

D. Resources in Support of Agricultural Production

2.32 In the agricultural sector, the principal overall resource problems have been (i) insufficient recurrent finance for either local or foreign exchange costs; and (ii) insufficient skilled managerial and technical manpower. While overall capital investment has not been a binding constraint, within the sector there have been imbalances in the allocation of capital resources. The transport sector has also suffered from insufficient recurrent finance (local and foreign exchange), and there have been insufficient foreign exchange allocations to either production or importation of consumer goods. The way these problems have exhibited themselves in different facets of the sector are discussed briefly in turn.

Shortage of Recurrent Finance

2.33 Agriculture's recurrent budget, which principally finances the administrative expenses of the Ministry of Agriculture^{19/} as well as research and extension services, stood at TSh 346 million in 1981/82, representing a decline in real terms of 25 percent since 1974/75 (Statistical Appendix: Tables 2.3 and 2.4). Administration, research, and extension have all suffered from insufficient recurrent finance. The constraint for all three has been in operating funds, as a very large share of the total budget has been consumed by the wage bill.^{20/} This has severely hampered the mobility of Ministry officials and research and extension staff, as there is almost no money left for vehicles and travel allowances. Research stations are also left extremely short of materials they need to run their trials. Among research stations, resources have been heavily concentrated on three large stations (Tropical Pests Research Institute in Arusha, the Uyole Agricultural Center in Mbeya and the University of Dar es Salaam in Morogoro) and the establishment of new stations, to the neglect of the traditional crop research stations (Ilonga, Lyamungu, Mtwara, Mlingano, Ukirigu, Maruku, Mpiji, Nachingwea, Chambezi, and Kilombero) whose budgets have remained constant in current TSh since the early 1970s.^{21/}

^{18/} "Tanzania: Update on the State of the Economy", op. cit., Table 3.8.

^{19/} Livestock expenditures are included in the aggregate figures, though their specific allocational problems are not discussed here.

^{20/} For example, personal emoluments have accounted for at least 70 percent of the total budget for agricultural services in the regions. Background Paper VII, Table 21.

^{21/} Ibid., Appendix Table 19.

2.34 Data are not available on the details of recurrent expenditures of the crop parastatals, which are responsible for the remaining support services of marketing and in some cases (cotton, tobacco, coffee) input distribution, as well as for processing and in some cases (sisal, sugar, wheat, rice, tea, coffee) crop production. One thing is readily apparent, however. Although these corporations have run up high local costs, requiring large overdraft facilities from the National Bank of Commerce (para. 3.15) and, more recently direct government assistance, (Table 2.2) by and large they have been starved of recurrent foreign exchange for maintenance and repair of their capital stock (including vehicles, field and processing equipment), with the result of a very serious deterioration in these facilities since the early 1970s.

2.35 Problems stemming from this shortage are particularly acute in the case of sisal, cotton, and sugar, but they exist to some extent throughout agriculture. It is not possible to quantify the extent to which the sector as a whole has been deficient in recurrent foreign exchange allocations over the 1970s; its share in the total value of imports was 10 percent or lower between 1970 and 1978 (Table 2.3). Estimates are available, however, of both the annual recurrent needs and actual allocations to agriculture for 1981/82. The recurrent needs, presented later in this chapter in Table 2.4, are of the order of US\$209 million, of which US\$184 million are for non-oil imports.^{22/} Actual allocations for these non-oil products over the period July 1981 to June 1982, when adjusted for the use of some products by sectors other than agriculture, amounted to US\$118 million. Of this, 53 percent was financed by IDA and bilateral donors, 25 percent by the Government, and 22 percent by suppliers' credits.^{23/} This probably represents a significant increase, both in total allocations and in Government allocations over the previous year, owing in particular to the establishment of a special agricultural account at the Bank of Tanzania, to an Agricultural Imports Allocations Advisory Committee (AIAAC) to guide allocational decisions for agriculture, both established under a US\$50 million IDA-financed Export Rehabilitation Credit (Cr. 133-TA) to be used for this purpose. Judging from the total import figures of Table 1.1, in 1981/82 agriculture's share of US\$118 million (TSh 968 million) suggests that it received a higher proportion (12%) of total imports than in the past. Funding is still well below minimum requirements, however, in part because the Government did not allocate the US\$50 million to the agricultural account from Tanzania's own resources, as had been agreed under the credit. Moreover, there are indications that the Government is having difficulty in getting its own allocations, issued as letters of credit from the Bank of Tanzania, honored by foreign banks. This has meant that of the US\$29.8 million allocated by the Government in 1981/82, only US\$13.2 (44 percent) has actually been

^{22/} Background Paper XIV, "Estimates of 1981/82 Import Requirements for the Production, Processing and Marketing of Major Crops in Mainland Tanzania", May 1982, Table 2.

^{23/} Observation during implementation of Export Rehabilitation Project (Credit 1133-TA).

disbursed, either by letter of credit drawings or direct payments from Government funds. Larger amounts of foreign exchange appear to have been disbursed for industry and other purposes in the economy.^{24/} The picture becomes even bleaker if one considers that suppliers' credit, another important source in the 1981/82 allocations, are likely to be a dwindling source of foreign exchange in light of Tanzania's growing payments arrears.

2.36 The transportation sector has been short of both local and foreign exchange recurrent finance. Recent estimates made for the Ministry of Transportation, for example, suggest that only about 40 percent of the Ministry's recurrent requirements were funded.^{25/} As will be discussed in more detail in Chapter V (paras 5.35-5.52), the run-down of the transportation infrastructure in the country has been considerable, as maintenance operations have been insufficient in some areas to even keep the roadways passable. Agricultural marketing services have been the principal casualty of this deterioration (paras. 5.29-5.31).

Table 2.3: Percentage Increase in Value of Imports into Tanzania Between 1970-72 and 1976-78 by Commodity Classification

	Average 1970-72		Average 1976-78		<u>% Increase</u>
	(TSh.m)	(%)	(TSh. m)	(%)	
Oil	45.4	3	804.0	13	1,670%
Basic Foods	133.7	8	577.8	9	332%
Agricultural Sector	149.8	10	540.9	8	261%
Road Transport Sector	221.0	14	724.5	11	228%
Industrial & Construction					
Materials	536.8	35	1,670.5	26	211%
Industrial machinery	196.9	13	1,027.8	16	423%
Consumer goods	191.8	12	566.6	9	195%
TOTAL	<u>1,534.1</u>	<u>100</u>	<u>6,403.5</u>	<u>100</u>	<u>317%</u>

Source: Tanzania Annual Trade Reports 1970-78.

Shortage of Skilled Manpower

2.37 A major factor in the overall poor performance of the agricultural sector is the shortage of skilled managerial and technical manpower. The shortages are widespread throughout the system: in research and extension (Table 5.1), in the parastatals (paras 3.31-3.37) and in the Ministry of Agriculture itself. The Planning Directorate of the Ministry for instance, which is meant to propose and monitor all parastatal and Ministry development expenditure, had fewer than 40 university graduates as of the end of 1981, only two of whom were qualified accountants, provided under IDA technical assistance to the Ministry.

^{24/} Ibid.

^{25/} Benno Ndulu, "The Role of Economic Infrastructure in Tanzania's Economic Development". Economic Development in Tanzania, 1961-1981. (Twenty Years of Independence Study), ed. Bank of Tanzania, chapter 9 (forthcoming).

2.38 These shortages have contributed to the sorry state of financial management in the sector (paras 3.28 to 3.29); to the mismanagement and mishandling of physical assets in the absence of enough staff possessing engineering skills, and to a virtually non-functioning research network. The reasons for the shortage are complex. Clearly, the rapid growth of the public sector in the country's economy has been an important element, as has the expansion of the industrial sector, both of which have created many new jobs requiring higher education. In addition, a Government priority since Independence has been to Africanize the civil service. That step together with a general expansion of the civil service, has had a dramatic impact on staffing requirements. The Five-Year Plan for 1981/82-1985/86 noted that the number of Africans employed in the Government increased five-fold between 1964 and 1978 to 157,000.^{26/}

2.39 When these trends are seen in conjunction with the country's very low initial manpower availability at Independence (when it shared a single university with Kenya and Uganda), and with the subsequent policy decision at the end of the 1960s to restrict the growth of secondary school intake (para. 6.31), the size of the economy's overall manpower deficit becomes apparent. Government estimates for 1975, for example, found there to be only 350 qualified Tanzanian accountants and no more than 270 Tanzanian degree-level mechanical and agricultural engineers.^{27/}

2.40 But even within these general manpower constraints, agriculture has been given less attention in allocations than other sectors. The industrial sector, with its much less significant contribution to either the GDP (less than 10% as opposed to agriculture's 45%), or to exports (maximum 15%, including agro-based manufactures),^{28/} had 139 qualified accountants (including expatriates) in 1980, while agriculture had only 45 to manage a parastatal turnover of TSh 5 billion.^{29/} Agricultural marketing activities are far more accounting-intensive than industry, because they are decentralized and comprise many small transactions. This comparison illustrates quantitatively a phenomenon which is noticeable in many contexts in Tanzania. Namely, among the educated nationals, there is a strong preference for employment in the non-agricultural sectors of the economy, which is made attainable by the Government's policy of rapidly expanding these sectors.

^{26/} URT, op.cit, Chapter I.

^{27/} Manpower Development Plan (1975-1980), Third Five Year Plan for the Economic and Social Development from 1st July 1976 to 30th June 1981, Part IV, Govt. Printer, Dar es Salaam, 1979.

^{28/} "Tanzania: Recent Developments in Manufacturing". op.cit, p.8 and Appendix Table 13.

^{29/} Ministry of Manpower, 1980, Manpower Survey (unpublished).

2.41 While there may be a variety of reasons for this preference, one surely is the desire of many educated Tanzanians (and of most of the educated population in most other African countries as well) to modernize the economy, a desire which is reflected very clearly in the industrialization program. As agriculture in Tanzania is largely perceived as a backward sector (witnessed by the disparaging references made to the present level of hand-hoe technology in most of the sector and the need to tractorize), nationals with the chance to get a higher education typically do not wish to remain concerned with it in their subsequent careers. As a result, the sector is deprived of some of the most able people in the country right from the outset, as the more able secondary school leavers are the ones given more of a choice in selecting their further course of studies. This is not to say that the sector is altogether devoid of talented, trained personnel, but that those few who are both skilled and committed to solving the problems of agricultural development find themselves operating with little support. The low status of the agricultural sector among Tanzanians is a fundamental problem, which will only be reversed if the top leadership of the country recognizes the need for massive infusions of skilled personnel in the sector and if more and more Tanzanians receive higher training in agricultural fields. As the experience of agriculturally more advanced developing countries has shown, with a large increase in the supply of skilled manpower, performance of the agricultural sector will improve, in turn raising the social esteem of those associated with it.

2.42 As Chapter III will discuss further, the absolute shortage of skilled manpower is exacerbated by the type of institutional framework which has evolved in the sector. The rapid expansion of public control in marketing, processing and production as well as in input and consumer goods distribution, has resulted in large, centralized parastatal bureaucracies. As a rule, this has created the need for many more highly trained personnel, as the parastatals have more complex and comprehensive organizational requirements than the more atomized private and cooperative sectors which they replaced. The latter types of institutions, which of course do have skilled manpower requirements, can nevertheless avoid some of the pitfalls the parastatals run into because their operations tend to be more limited in scope and geographical coverage, and consequently less dependent upon elaborate, centralized, formal financial and organizational planning and control mechanisms to run smoothly.

Imbalances in Capital Investment

2.43 The major part (90%) of the total TSh 6,400 million of planned capital expenditure to agriculture over the period 1975/76-1981/82 was allocated to the crop parastatals, with small amounts of the remaining 10% allocated to research (2%), irrigation, seed production and soil and land survey. ^{30/} Among the parastatals, the single largest recipient was the Sugar Development Corporation (SUDECO), with 25% of the total at constant

^{30/} Background Paper VII, Table 13.

prices, followed by the Tanzanian Sisal Authority (TSA), with 16% (Statistical Appendix: Table 2.8). NAFCO, the Cotton Authority (TCA), the Cashewnut Authority (CATA), and the Coffee Authority (CAT) each received 9-10%, leaving tea (TTA), tobacco (TAT), oilseeds (GAPEX), pyrethrum (TPB) and the National Milling Corporation with the remaining 20% (Statistical Appendix Table 2.7).

2.44 A comparison of the performance of these crop industries with these levels of investment is sobering. Production was either stagnant or declined for oilseeds and all the export crops except coffee and tea (Statistical Appendix: Table 1.3); the increase registered in sugar production (Statistical Appendix: Table 1.4) was below what should have been achieved with that level of investment; and the increase in NAFCO wheat production has only been possible with relatively high unit costs of production, compared to either private domestic producers or the landed cost of imported wheat. ^{31/}

2.45 What accounts for this pattern of negative capital:output ratios? In large part, the declining production stems from lack of maintenance of existing capital stock, attributable to the insufficient allocations of foreign exchange and manpower discussed above (paras. 2.33-2.40). On top of this, investments have often been concentrated in one part of the crop industry, while the rest of the industry has been neglected. This is clear in the case of cotton, where investments focussed on production^{32/} while the ginning and milling facilities were allowed to deteriorate to such an extent that there are back-ups of up to two years in processing the cotton harvest.

2.46 The reverse situation has occurred in tobacco, cashews and pyrethrum, where large processing capacities were installed at the same time that production was neglected. The imbalances in sisal are much more obscure--in fact, over 25% of the total allocated to the TSA was for purposes of diversification into dairy farming; it is unclear where the rest of the capital might have been spent, given the utter state of disrepair in the public sector sisal industry, (para. 1.44). Sugar investments at Kilombero II have been used to maintain Kilombero I when the latter could not get the imported spares it needed to keep its machinery working.

2.47 The only two export crop industries where a balance has been achieved are coffee and tea. Investments in production in the former have managed to maintain output, and investments in both production (IDA Credit 287-TA) and processing (IDA Credit 1037-TA) in the latter enabled the industry to grow up to the end of the 1970s. These balances were tentative, however, and there are signs that the tea industry will be seriously ailing without major improvements in capacity utilization at the existing factories.

^{31/} Background Paper I, Wheat Section.

^{32/} E.g., the Geita Cotton Project, IDA Credit 454-TA.

E. Recurrent and Rehabilitation Requirements of the Agricultural Sector

2.48 As the foregoing discussion in this chapter and the commodity by commodity treatment of Chapter I have demonstrated, the trends of stagnant or declining marketed output and quality deterioration will continue without substantial increases in the allocation of resources--including manpower, local finance, and foreign exchange--to the agricultural sector. This section presents estimates of the sector's foreign exchange requirements. Given the overall shortages of foreign exchange and other resources, this will imply reallocation of government resources from other sectors. To this end the section also discusses on a preliminary basis what types of criteria the Government could use to make allocational decisions, and what scope exists for increasing the level of donor funding of foreign exchange requirements to augment the Government's own efforts.

2.49 The estimates of foreign exchange requirements are based on the existing patterns of management, production, processing and transportation in the sector, and correspondingly reflect the efficiency of foreign exchange use of the existing institutional framework and level of technology. Over time, the scope for raising the standards of efficiency is considerable, both through raising productivity by adopting more appropriate technologies where applicable, and especially by altering institutions and cutting down on the waste which now occurs. This would include introducing a workable scheme of incentives and disciplinary code in the crop and transport parastatals and substantially reducing their role in the agricultural economy. These and other actions are discussed in some detail in Chapter III (Section F).

2.50 It should also be noted that these resource requirements need not be funded entirely by the Government or foreign assistance. There could be a greater mobilization of private capital, both from entrepreneurs and from farmers, provided profitability of agricultural investments increased. This would also require changes in the existing policy and institutional environment, however. At present, neither the incentive structure nor the security exists to encourage private investments. Entrepreneurs and large farmers have not been willing to invest because of the general insecurity which has surrounded their continued operations in the country since the Arusha Declaration and subsequent policy actions to restrict the role of private capitalists. Neither are the Tanzanian peasants willing to invest in the capital stock of their holdings. Their unwillingness stems from the lack of financial incentives in the sector, and from the insecurity caused by frequent institutional changes, most notably in marketing, and by the experience of villagization (Chapter 6, Section B). The lack of private investment represents a great loss of potential wealth in the economy. Peasants all over the world have demonstrated their aptitude for making significant capital investments under favorable conditions;^{33/} by failing to provide a favorable investment climate the Government is neglecting to tap the country's most valuable resource--its enterprising citizens.

^{33/} World Development Report, op.cit., Chapter VI.

Food and Export Crop Industry Requirements

2.51 The estimates of recurrent and rehabilitation foreign exchange requirements of the individual crop industries are presented in Table 2.4. Recurrent estimates are based on a detailed study of the production, processing, and transportation costs of these crops in 1981. They indicate the amount of foreign exchange required simply to maintain existing levels of production. The rehabilitation estimates are rough orders of magnitude of the additional foreign exchange requirements for rehabilitation of the capital stock in the crop industries to restore previous peak production levels, and in some cases expand beyond those levels, over the next six to eight years (Table 7.1). The estimates are indicative and do not imply any priorities within agriculture (see para. 2.57 for a discussion of allocation criteria). Rehabilitation has been necessitated by past neglect of the recurrent foreign exchange requirements of these crops, by shortages of skilled manpower for maintenance, and by misjudgments on the capital investment needs of certain crops. Because of pervasive manpower constraints in the sector, rehabilitation programs will require technical assistance teams to improve management in the range of activities associated with the various crops, and to assist with appropriate training programs for local staff.

2.52 For peasant and medium-scale producers (Table 1.9), the principal recurrent needs are for inputs and for the marketing and processing functions for their crops (foodgrains, cotton, coffee, tobacco, tea, cashews). Principal rehabilitation needs are for restoring cotton and tea processing capacity, for improving the management of the Tobacco Authority, and for providing new nursery and planting materials for cashews and cloves. The recently launched Coffee Expansion Program, a second European Development Fund project aimed at smallholder coffee growers, is covering the production and processing rehabilitation needs of this group. The IDA-financed Food Grain Storage and Milling Project (Cr. 1015-TA) made provision for the immediate rehabilitation needs of NMC, the parastatal serving smallholder food producers.

2.53 For the larger scale producers, principal recurrent needs are inputs, field machinery and processing facilities, especially for sugar, wheat and rice, all of which are dominated by public estates and are domestically consumed. Sugar, with rehabilitation requirements of at least US\$100 million, will be by far the most costly crop to restore to acceptable levels of production. The implications of its investment requirements are taken up later. Rehabilitation requirements intended for large scale producers of other crops, including private estates and commercial farmers, are estimated on the assumption that the economy will benefit from restoring levels of output from this source, both in food crop production (especially wheat and maize) and in export crops (especially sisal, coffee and tea). To the extent that not all these requirements can be met, a lack of resources will have negative effects on the levels of domestic production, and consequently for the balance of payments, if they were to be imported commercially or if exports were to be reduced further. Rehabilitation expenditures would be especially important for spares and replacements of tractors, other field machinery, and processing equipment. As an indication of the extent to which the capital stock has been run down through lack of foreign exchange allocations over the 1970s, by September 1981, 52% of the 2,663 tractors and combine harvesters owned by clients of

the Tanganyika Farmers' Association were inoperable due to lack of spares. ^{34/} This represents a significant loss of production capacity: allowing 400 acres per tractor, some 500,000 acres are being held out of production. By reactivating this fleet, the country could potentially produce enough additional maize to do away with the current level of imports. ^{35/}

Requirements for Transportation Infrastructure and Consumer Goods

2.54 Studies of the foreign exchange requirements of these two crucial support sectors to agricultural production have not been undertaken. However, that the needs are substantial is clear. The estimates of the requirements for the various crops included transportation costs; but they did not include rehabilitation of the trucking sector, railway rolling stock or road network, all of which are essential to agriculture's recovery. Similarly, the severe shortages of consumer goods in the rural areas are threatening existing levels of production; an increase in supply of the basic commodities^{36/} is an absolute prerequisite to an agricultural recovery program.

Foreign Exchange Intensity of Crop Production

2.55 Based on the recurrent needs of the crop industries, Table 2.5 presents the percentages of foreign exchange spent on domestic production in relation to import prices of food crops and export prices of export crops, and gives a measure of the US dollars saved or earned for every US\$1.00 spent on domestic production. There are wide divergences among crops in this respect. Of the export crops, hard coffee is the least foreign exchange intensive, followed by cashews, cotton and mild arabica coffee. Sisal and tea are at the bottom of the list, consuming almost 50 percent of their export earnings in foreign exchange, and are followed closely by tobacco. Of the food crops, maize and cassava make the most use of domestic resources, while over half the cost of producing sugar and NAFCO wheat and rice are foreign exchange costs.

2.56 Both the magnitude of foreign exchange requirements for some of these crops, and their high import content, raise important questions from the macroeconomic standpoint. First, there is the question of whether, at

^{34/} Personal communication, TFA, 1981.

^{35/} At typical yields of 610 kg per acre for this type of cultivation. At a cost of US\$10 million for spares, plus foreign exchange needs for fuel, fertilizer, processing, etc., as this land is brought back into production.

^{36/} Women's and men's clothing, soap, edible oils, sugar, salt, matches, bicycles and bicycle parts, batteries, plastic sandals, kerosene, and pharmaceuticals. While considered luxuries, corrugated iron sheets, transistor radios, alcoholic beverages, soft drinks and cigarettes are also important incentive goods which have not been available.

this time of economic crisis, agricultural activities will yield the greatest returns on scarce foreign exchange and other resources, or whether there might not be more gained from putting resources into other activities, such as manufactured exports or freight and shipping services for neighboring countries. Second, there is a question of whether enough resources can be made available to support the activities deemed necessary for an agricultural recovery.

Criteria for Resource Allocation

2.57 To answer the first question, the Government will need to adopt a set of criteria by which to compare the potential benefits of allocations both within and across sectors, and to investigate the activities of the different sectors accordingly. Under the present crisis, most economic activities are operating at a reduced level because of resource deficiencies, and would improve performance with additional resources. With competing demands for a limited amount of finance, setting priorities is obviously crucial to the prospect for recovery. Among criteria, short-term net foreign exchange earnings or savings, such as those presented in Table 2.5 for agriculture,^{37/} would have to be weighted heavily; but other factors, including contribution to Government revenue, income distribution, employment generation and contribution to essential services, presumably would also require consideration.

2.58 By all these criteria, with the exception of sugar, state farm produced wheat, rice and sisal (Table 2.5), agriculture would of course be favored highly, and clearly will need to receive a large share of available resources. The deterioration in export crop industries and the growing failure of marketed food surpluses to satisfy urban demand, have alarming and far-reaching consequences for the entire population. To support an agriculturally led strategy, allocations will also be necessary for some supporting sectors, especially transportation and consumer goods industries, which may not directly appear favorable judged by the above-mentioned criteria. But they should be viewed as a direct, necessary input into the agricultural sector, and as such will generate foreign exchange, employment, and revenues once they reach the agricultural producers. In this context, an industrial recovery for exports must be distinguished from a recovery of those industries essential for agricultural sector; the former represents resources taken away from the needs of agricultural producers, and would be justified only if the net returns from manufactured exports appeared relatively attractive.

^{37/} For industry, the deductions from gross export earnings would have to include the foreign exchange foregone by not exporting agricultural raw materials used in production. Consideration would also have to be made of the agricultural production foregone when consumer goods are exported rather than used as incentive goods in the countryside (as with textiles).

Table 2.4: RECURRENT AND REHABILITATION FOREIGN EXCHANGE REQUIREMENTS OF THE AGRICULTURAL SECTOR (US\$ MILLION)

		<u>Recurrent^{a/}</u>	<u>Rehabilitation^{b/}</u>	
Food Crops ^{c/}	Production	37	20	Spares and parts for tractors
	Processing	16	-	Short-term needs covered by IDA credit
Cotton	Production	14	7	Technical assistance team, machinery and spare parts for processing machinery (ginneries and oilmills) (in addition to \$11 m provided under Dutch Aid 1982-1984)
	Processing	15	33	
Coffee	Production	29	10	Estate sector (tractors, machinery for pulper, transport) Needs covered by European Development Fund Credit
	Processing	4	-	
Sisal	Production	13	20	Agricultural machinery and transport Decorticators and water supply
	Processing	11	10	
Tobacco	Production	9	15	Technical Assistance Team and support costs
	Processing	3	-	
Tea	Production	7	10	Vehicle and machinery replacement
	Processing	5	-	
Cashews	Production	1	5	New nursery and planting material development
	Processing	6	-	
Cloves	Production	n.a.	5	New nursery and planting material development
	Processing	-	-	
Sugar	Production	26	65	Field and factory equipment replacement for Kilombero, TPC and Mtwiba Estates
	Processing	13	35	
		209	235	

^{a/} Production costs include fertilizers, agro-chemicals, tools and hand equipment, tractors and spares, field vehicles machines, oil and tubes, management, and farm-to-factory transport; processing costs include machinery spares and renewals, fuel oil, electricity, process inputs, packaging and all remaining transport.

^{b/} Estimated capital requirements. Does not include rehabilitation of trucking sector, railway rolling stock, permanent way or road network; does not include construction of new facilities for input distribution or investment needs for research and mobility of extension service.

^{c/} Includes all (official and unofficial) marketed maize and cassava, and NAFCO wheat and rice.

Sources: (1) Schluter, M. and Sackett, M., "Estimates of 1981/82 Import Requirements for the Production, Processing and Marketing of Major Crops in Mainland Tanzania." Marketing Development Bureau, 1981.

(2) World Bank Staff estimates; cotton estimates by British Cotton Grower's Association.

Table 2.5: Foreign Exchange Intensity of Food and Export Crop Production

	<u>Mild Coffee</u>	<u>Hard Coffee</u>	<u>Cotton</u>	<u>Sisal</u>	<u>Tobacco</u>	<u>Tea</u>	<u>Cashew</u>	<u>Marketed Maize</u>	<u>Marketed Cassava</u>	<u>Sugar</u>	<u>NAFCO Wheat</u>	<u>NAFCO Rice</u>
Percentage of foreign exchange spent in relation to import or export price												
Production Imports	24%	4%	10%	20%	26%	20%	1%	18%	neg.	35%	46%	58%
Processing Costs	neg.	1%	10%	19%	7%	12%	8%	4%	4%	19%	3%	2%
Transports	<u>3%</u>	<u>5%</u>	<u>5%</u>	<u>8%</u>	<u>5%</u>	<u>13%</u>	<u>3%</u>	<u>23%</u>	<u>41%</u>	<u>4%</u>	<u>14%</u>	<u>3%</u>
Total	<u>27%</u>	<u>10%</u>	<u>25%</u>	<u>47%</u>	<u>38%</u>	<u>45%</u>	<u>12%</u>	<u>45%</u>	<u>45%</u>	<u>58%</u>	<u>63%</u>	<u>63%</u>
Total US\$ saved/earned for US\$1.00 spend on domestic production	<u>3.70</u>	<u>10.00</u>	<u>3.95</u>	<u>2.13</u>	<u>2.62</u>	<u>2.20</u>	<u>8.50</u>	<u>2.24</u>	<u>2.20</u>	<u>1.74</u>	<u>1.60</u>	<u>1.59</u>

Source: M. Schluter and M. A. Sackett. "Estimates of 1981/82 Import Requirements for the Production, Processing and Marketing of Major Crops in Mainland Tanzania", draft Background Paper XIV.

2.59 Despite agriculture's demonstrated substantial needs, it may be difficult for the Government to reorder its priorities. The heavy industrialization program, the large investments such as the new airport in Dar es Salaam and the new capital city in Dodoma, will make it difficult to give agriculture the necessary resources. But unless the Government takes these politically difficult decisions, the economy as a whole will suffer the consequences.

2.60 This does not mean, however, that agricultural activities should not be subject to the same scrutiny in allocational decisions by which activities other sectors should be screened. In particular, the average figures on import intensity for the individual crop industries no doubt hide variations among different production units. More detailed data within the subsector will help to refine these estimates, to determine which producers do not use foreign exchange efficiently enough to warrant import allocations. In the case of wheat, where some breakdown is available, some NAFCO farms consume more foreign exchange than the cost of imported wheat (para 1.52). With a concentration of resources on the more efficient units, the overall import intensity of crop industries will fall. Furthermore, some of the policy suggestions, notably the use of multiple marketing channels are actually likely to save foreign exchange as local decision making cuts out excessive cartage and reduces empty running. Other changes required imply switches of resources within the same overall resource constraint. Thus, switches from industry and unproductive infrastructure (the new International Airport, or shifting the Capital) to agriculture and exports, switches from investment to recurrent resources, switches within agriculture from parastatal production to support services for smallholder agriculture, better balance between production and processing capacity of crops, etc., are all needed, and would allow marked improvement within existing budgetary and assistance levels. Of course, the more constrictive the resource constraints are, the more important it is to establish, and implement clear priorities. Principles which might guide the required choices might be that productive recurrent resources (fertilizer, insecticides, seeds and spares) are likely to have a higher and quicker pay-off than machinery replacement and construction. Always allowing for the intra-commodity diversity of productivity mentioned above, Table 2.5 provides the basis for gross judgements between commodities.

- (i) Highest Earners. Hard coffee and cashews, particularly unprocessed cashews, have the highest earnings, 10:1 or better, per dollar spent. These crops should, presumably, be fully funded with foreign exchange, up to the limit of present capacity. ^{38/}

^{38/} Development of new capacity would alter the amount of foreign exchange earned per dollar spent and how quickly it would become available.

- (ii) High Earners. Cotton and mild coffee return over four dollars per dollar spent, and again should be liberally supported.
- (iii) Moderate Earners. Sisal, tea, tobacco, maize and cassava all earn over two dollars per dollar spent. This group of products would need to be reviewed critically, in particular any tendency to inefficiency in parastatal sisal or tea estates could argue for lower priority to funding of their import requirements.
- (iv) Parastatal Production. Sugar, and Nafco wheat and rice are shown as returning less than two dollars per dollar spent. As already observed there is diversity within the parastatal sector, some estates having been shown to make better use of foreign exchange than others.

2.61 How selective Government will need to be in the support of individual commodities depends, inter alia, upon the total foreign exchange which can be made available to the sector. This in turn depends on how strongly Government feels it can cut back elsewhere and what volume of additional donor assistance can be mobilized. Sugar presents the most difficult problem of conflict in economic and sociopolitical objectives. Its foreign exchange intensity and resource requirements are so great that it is difficult to justify allocation of full funding to sugar on economic grounds in the current most stringent economic circumstances, if the foreign exchange requirements of the remaining agricultural sector cannot be met. The Government may, however, find it necessary to allocate some resources to sugar to ensure some quantities for domestic consumption, given the consumer preference for sugar and hence its political importance especially in urban areas.

2.62 Rigid selectivity is however likely to be unwise even on broad socio-economic grounds in other agricultural industries under present conditions in Tanzania. While some export crops (sisal, tea and tobacco) have a large import content with the current structure of production and institutional framework, the chances are that in the short and medium term few alternative activities would be able to generate as much foreign exchange as would be foregone if these crops were eliminated through attrition. Even with the generally limited market prospects for Tanzania's exports in the coming decade (discussed in more detail in Ch. IV, Section D), there are advantages in maintaining a diversified base of agricultural exports; Tanzania has benefitted from this diversity in the past when, as frequently occurs, low prices for some crops have been offset by buoyant markets for others. Moreover, the country's agroecological diversity limits the scope for further concentration on two or three export crops. With limited substitutability among zones, this would imply taking vast areas of land out of export crop production, rather than switching it into other export crops, with substantial adverse consequences not only for the balance of payments, but also for employment and income generation.

Availability of Resources for Agriculture

2.63 Whether sufficient resources can be made available to support an agricultural recovery will depend on the extent to which both the Government and its donor supporters will shift resources to the sectors needs.

Commitment to an agriculturally led strategy must come first and foremost from the Government, but it will need donor support to meet the range of requirements. Assuming the Government significantly reallocates the current levels of freely available foreign exchange toward the sector's needs, it will not be able to finance all of the recurrent foreign exchange requirements of the crop industries and supporting sectors, let alone rehabilitation needs of these activities. This can be readily seen by reference to the import figures presented in Table 1.1. By those estimates, the Government had TSh 2,578 million of foreign exchange available for non-project, non-oil imports in 1981/82, or TSh 2,489 million if commercial food imports were deducted (Table 1.5). Of the TSh 1,714 million recurrent foreign exchange needs of the crops for that year,^{39/} only TSh 246 million would be coming from project imports, and another TSh 205 million would be for oil, leaving TSh 1,263 million to be financed from the residual freely available foreign exchange. If that entire amount had been allocated to agriculture only TSh 1,226 million, or US\$150 million would have remained for all other essential imports. The recurrent needs of the transport sector and consumer goods industries alone are likely to be at least that high.

2.64 Table 1.1 also reveals that allocations for recurrent needs could be increased dramatically if the TSh 3 billion of annual tied project aid could be reallocated for that purpose. This indicates the positive role which increased shifting from project to program assistance could have on a recovery program. From the standpoint of donor agencies, this is hardly a simple matter, because project aid is usually committed over a period of years, and cannot be terminated without an involved set of procedures. Moreover, many donors have difficulties in getting program or general balance of payments assistance approved by their boards or domestic constituencies. While project aid concentrates on a specific, identifiable area, program aid is less tangible, and its results are less easily demonstrated. It is only with a clear program for recovery, including the policy and institutional changes needed to bring it about, that donors can justify a large shifting of aid to program assistance.

2.65 The extent to which Tanzania has already mobilized a shift to balance of payments support (para 2.31), in the absence of such a recovery program, indicates the goodwill which it has achieved among its donor supporters. Further shifts, to the level needed for a recovery, could well come to fruition if the Government indeed demonstrates its commitment to an agriculturally led strategy. With an acceptable program of action, donors should be able to justify the balance of payments support. Coordination among donors will be crucial to the successful allocation of these resources.

^{39/} Calculated at the then prevailing exchange rate of
TSh 8.20 = US\$1.00

F. Institutional Deficiencies of the Ministry of Agriculture

2.66 Both a cause and an effect of the poor state of affairs in resource allocations to the agricultural sector is the weakness of the Ministry of Agriculture. The Ministry itself has too few qualified personnel to create an effective agricultural lobby in the Government. It can barely monitor the activities of its own operations and the operations of its parastatals; when it goes to ask the appropriate government body for expenditure, foreign exchange or manpower allocations, its data are weak and it cannot argue its case effectively.

2.67 The structure of decision-making in Tanzania is certainly an important factor in the Ministry's weakness. Rarely do key decisions relating to the agricultural sector rest with it. This is understandable in the case of some of the major policy changes which have affected agriculture, from the decision to villagize the rural population (para. 6.6), to the decision on the future role of the cooperatives (Chapter III, Section F) which rest with the Party, the supreme political body in the country's system of government. But in strictly sectoral matters, the Ministry has either been underrepresented or ignored. Producer pricing of agricultural commodities is determined by the Economic Committee of the Cabinet, in which the Minister of Agriculture is one of six to eight ministerial heads. Prior to 1981, the Ministry was not even represented on the Bank of Tanzania's Import Allocation Advisory Committee. The most extreme example of the Ministry of Agriculture's low rank is that it does not have jurisdiction over agricultural extension personnel, which have been answerable to the Prime Minister's Office since the decentralization of the Government administration in 1972.

2.68 The reasons behind the low rank of the Ministry are complex, and probably reflect to some extent the present weakness of the Ministry's staff. Decentralization has also been a contributory factor to the Ministry's manpower constraints, and to its inability to take a leadership role in the development of the agricultural sector. After decentralization, the new regional and district administrations required 383 new highly qualified personnel to fill the newly created positions of regional and district development directors, finance officers, personnel officers and planning officers. The importance of agriculture in regional production and planning led to recruitment of 67 of the Ministry of Agriculture's most highly qualified personnel to fill these posts. ^{40/}The Ministry has not recovered from this setback. The problems were compounded by the rapid growth of the agricultural parastatal sector in the years following decentralization which gave the Ministry of Agriculture an increasingly unwieldy coordination task, and absorbed professional staff who otherwise might have entered the Ministry since the pay scheme in parastatals is superior to that of the civil service. The many difficulties which the advent of these large, inefficient marketing and production institutions have brought to the agricultural sector are the subject of the next chapter.

^{40/} Background Paper VI, "Overall Institutional Performance", June 1982, Chapter I, p.47.

CHAPTER III

PARASTATAL SERVICES

A. Introduction

3.1 Since the late 1960s, Tanzania has witnessed a spectacular growth in the size and scope of its parastatals--publicly owned institutions which operate with some autonomy from the Government bureaucracy. The phenomenon of parastatals is neither unique nor particularly socialist; a number of countries with a variety of economic systems developed similar institutions in the post-World War II period.^{1/} In Tanzania, however, the parastatals have an overwhelmingly dominant role in the economy. Their numbers have grown from just under 70 in 1967 to almost 400 in 1981.^{2/} The expansion is in large part attributable to the Government's desire to control a range of economic and commercial functions previously operated by the private and the cooperative sectors, including crop marketing and processing, agricultural and industrial production, tourism, banking and retail commodity distribution.

3.2 Parastatals activities in agriculture now include:^{3/}
Agricultural Marketing:

- (i) sole rights to buy foodgrains domestically and to import them, National Milling Corporation (NMC);
- (ii) sole rights to market, export, and import sugar, Sugar Development Corporation (SUDECO); and
- (iii) sole rights to purchase and export cotton, coffee, pyrethrum, tobacco, tea, sisal, cashewnuts, and a range of minor crops: Tanzania Cotton Authority (TCA), Coffee Authority of Tanzania (CAT), Tanzania Pyrethrum Board (TPB), Tobacco Authority of Tanzania (TAT), Tanzania Tea Authority (TTA), Tanzania Sisal Authority (TSA), Cashewnut Authority of Tanzania (CATA), General Agricultural Products Export Corporation (GAPEX);

Agricultural Production:

- (iv) crop production, principally wheat and rice, National Agriculture and Food Corporation (NAFCO), and sugar, Kilombero Sugar Corporation, Tanganyika Planting Company and Mtwiba Sugar Estates; and
- (v) livestock and milk production, Dairy Farming Corporation (DAFCO), Livestock Industry Development Agency (LIDA) and National Ranching Corporation (NARCO);

^{1/} Background Paper III, "Parastatal Performance", Appendix A, para. 1.2, June 1982.

^{2/} Ibid., Appendix A, para. 4; Appendix E, para. 5.

^{3/} Ibid., para. 3.

Agricultural Credit:

- (vi) provision of agricultural credit and inputs, Tanzania Rural Development Bank (TRDB);

Agricultural Inputs:

- (vii) importation of agricultural inputs and equipment, Agricultural and Industrial and Supplies Company (AISCO);
- (viii) sole rights to import vehicles and vehicle parts, State Motor Corporation (SMC);
- (ix) production and marketing of fertilizer and seed, Tanzania Fertilizer Company (TFC) and Tanzania Seed Company (TANSEED);

Agricultural Research Extension and Education:

- (x) generation of new technical packages, Tanzania Agricultural Research Organization (TARO), Tanzania Livestock Research Organization (TALIRO), Uyole Agricultural Centre (UAC), University of Dar es Salaam (UDSM);
- (xi) provision of extension (CAT), (TCA), (TAT), (TTA); and
- (xii) agricultural education and training (UDSM and UAC);

Transport and Retailing:

- (xiii) food crop retailing, Regional Trading Corporation (RTCs); and
- (xiv) provision of transport services, Regional Transport Companies.

In most countries, the public sector typically provides a number of non-economic "public" services, including research, extension, transport and education and frequently includes agricultural credit under its domain. It is in the provision of commercial and directly productive functions--marketing, distribution and production--that Tanzania is rather atypical. While many countries have partial public sector involvement in these functions, in Tanzania there has been a strong tendency toward public sector monopolization. This has placed an enormous burden on parastatal performance. Both the quality and efficiency of parastatal services have now become the major bottlenecks to maintaining or increasing agricultural production.

3.3 The leadership has already taken many steps to deal with the parastatal problem, including: (a) exhortation by the President, (b) denial of overdrafts to parastatals, (c) increase in and strengthening of watchdog agencies, (d) ad hoc Party and Government investigations of the parastatals to examine their operations or scope, (e) imposition of production or purchasing targets as in NESP, (f) occasional removal of management and staff, (g) reestablishment of cooperatives and (h) consideration of breaking-up NMC and liberalizing food trade.

3.4 By reviewing the long history of Government attempts of institutional reform and the magnitude of the current problems of agricultural services, the chapter will illustrate that though these steps are necessary, by themselves they are unlikely to be adequate to improve the quality or efficiency of agricultural services. Neither the resources, nor the manpower and administrative capacity in the public sector at this early stage of Tanzania's development are large enough to deal with the many national, policy, political and managerial problems facing public sector monopolies. On the other hand, by stretching itself too thinly, the Government has neglected such traditional public services as transport and research which are critical to increasing agricultural production (Chapter V). Instead of helping to increase production, the parastatal monopolies have become large consumers of subsidies.

3.5 These arguments are, however, not advanced to imply that the public sector's role should be completely eliminated in performance of the commercial function. On the contrary, experience of agriculturally more advanced countries indicates that a strong presence of public and cooperative sectors is essential to avoid exploitation, increase competition and thereby ensure both equity and efficiency while also pursuing agricultural growth. However, the cooperatives' long run viability depends on measures to ensure that they become genuine grassroot entities, not simply replacements for the current public sector monopolies in another form. But it will take a long time for genuine cooperatives to recreate themselves efficiently. In the meantime the institutional vacuum in services will be a major problem in the agricultural sector. The Government's guarantee of minimum prices for inputs and outputs and its (or the cooperatives') readiness to supply these services where and when they are needed therefore must be complemented by legalization of the role of the private sector. Official recognition of the private sector for the sale of inputs, consumer goods and agricultural produce will help alleviate the current excessive strain on public resources, and increase agricultural production, thereby increasing the size of the officially marketed surplus both for domestic consumption and export. This is one of the few ways the Government can begin to regain control of the increasingly clandestine economy.

3.6 This chapter documents the nature of problems parastatals have exhibited in executing purely commercial functions--marketing, processing, production, and retailing--by drawing on evidence from the eleven major crop parastatals (TSA, CATA, GAPEX, TAT, CAT, TCA, TPB, TTA, NAFCO, SUDECO, and NMC) as well as from AISCO, the agricultural equipment importer.^{4/} By examining the internal and external factors which influence parastatals' performance, the chapter illustrates the difficulty of providing services through centralized bureaucratic monopolies, given the highly decentralized nature of agricultural production, the scope for political interference in agriculture, and the difficulty of attracting the limited qualified manpower to the sector. It then examines possible ways of improving

^{4/} Many of their problems can be generalized to other crop, livestock and dairy parastatals. See for example World Bank, Tanzania Second Livestock Project Completion Report, July 1981, Ch VI.

commercial services. Deficiencies in the provision of traditional public services--research, extension, credit and transport--have resulted from inadequate resources and institutional ambiguities or weaknesses, where the lines of authority and responsibility among institutions have been either insufficiently worked out or inappropriate. These problems are discussed in Chapter V.

B. Parastatal Performance

Evolution of the Parastatal Monopoly in the Agricultural Economy

3.7 Until the mid-1930s the private sector handled all wholesale and retail agricultural commerce and finance, agro-processing, transport, small-scale servicing and repairs. Most of these entrepreneurs were Asians, although occasionally Europeans engaged in these and other more export-oriented activities. While there was undoubtedly some exploitation of producers by these traders, the evidence suggests that they performed a useful service in inaccessible areas at relatively low cost.^{5/} They were able to perform these services without receiving the subsidies which now characterize the parastatals. From that time until the mid-1960s, the private sector had to compete with a growing, voluntary cooperative movement in the areas of the country where African peasants were beginning to produce large surpluses of export crops (especially coffee in Kilimanjaro, Kagera and Mbeya, cotton in the Lake Victoria basin, and tobacco in Tabora). Cooperatives were fostered as much by the desire of the African farmers to abolish perceived exploitation by the Asian traders as by their enterprising response to the opportunities provided by business and commerce. Assertion of economic and social independence from the colonial administration was also an element. The most rapid expansion occurred from the mid-1950s to Independence, when the number of cooperatives increased from 172 in 1952 to 857 in 1961.

3.8 Following the mid-1960s, however, the Party and Government became increasingly involved in directing what had been a spontaneous movement, partly with an intent to eliminate the role of private traders and partly to achieve parity between the more advanced parts of the country and the less privileged. Both measures were attempted through the issuance of Compulsory Marketing Orders, which instructed that cooperatives be set up in those areas which had not developed them voluntarily, and which forbade the selling of produce to private individuals. These steps were contrary to the findings and recommendations of two Government-commissioned studies on the cooperative sector's role in marketing. The 1966 Committee of Enquiry to examine the workings of the cooperatives recommended greater Government assistance to cooperatives, but pointed out the importance of an independent movement.^{6/} A study done for the Ministry of Agriculture in 1969 found a number of weaknesses in the cooperative's marketing activities:

^{5/} See Coulson, op.cit., p. 121, for an excellent history of the role of the private sector. He cites a 1962 Survey on Wholesale and Retail Trade in Tanganyika "which more than once points out that Tanganyika has a low cost distribution system".

^{6/} URT, Report of the Presidential Special Committee of Enquiry into Cooperatives' Movement and Marketing Boards, Dar-es-Salaam, 1966.

- "1. Employment of excess resources ... particularly labor ...
2. Payment of excess rates for service ...
3. Loss of produce in handling, storage or transit."

Lest these weaknesses become exacerbated by lack of competition, the study recommended that the cooperatives not be encouraged to enjoy a monopoly status, and that the government should either "...allow private traders to compete with cooperatives" or "...establish joint ventures between the farmer, private traders and the cooperative units".^{7/}

3.9 By 1974 there were over 2,500 societies. Those cooperatives which had been imposed from the top typically operated in units which had little or no trained staff; often they had to cover uneconomically small volumes of food crops which could easily have been disposed of in the informal market. Corruption, fraud and mismanagement increased, and, according to one observer, there was clear and growing evidence that the rural elite who controlled the movement in many places were the only beneficiaries of the system, which was leading to increased socio-economic differentiation.^{8/} In the post Arusha Declaration period, there was a growing tension between the rural elite who dominated the cooperative movement and the central leadership of the Party and the Government. Not only did the emergence of this elite challenge the leadership's aspirations for rural equity; it also was a potential challenge to local political control.^{9/} With the establishment of parastatal crop authorities in 1973, some of the cooperatives' jurisdiction over crop collection and processing activities was reduced; in May 1976 the cooperative unions were abolished, and all of these economic functions were transferred to the crop authorities. The primary cooperative societies which had served as procurement points for the unions were replaced by the newly established villages (para. 6.6) which could be legally authorized as multi-purpose cooperative societies under the 1975 "Villages Act". The ownership of the assets and liabilities of the unions remained in dispute as late as 1982. The bitterness and tension of those who were strongly associated with the cooperative movement continues, because of the sudden abolition of the movement from above and the subsequent exclusion of many of the members from key local decision-making. Awareness of this history is critical to the present attempts to develop a viable cooperative movement, an issue which is addressed at the end of this chapter.

3.10 Thus, since 1976, the crop authorities have had a legal monopoly in crop procurement of all the export crops, major food crops, and many minor ones. They also control processing, and most of the distribution of inputs to growers. Moreover, Government policy since the mid 1970s has

^{7/} Kriesel, Herbert, et. al., Agricultural Marketing in Tanzania, 1970, 1-2, Michigan State University.

^{8/} Coulson, op.cit., pp. 148-152.

^{9/} Ibid.

been to foster public sector domination of consumer goods retailing, by setting up a network of parastatal retail corporations in the regions, and by increasingly circumscribing the role of private retail shop owners. In February 1976, the Government initiated a mass campaign, Operation Maduka, to establish communal shops in each village. At the local level this was frequently interpreted to mean closing down private shops. Policy on private sector retailing has wavered since. In 1977 President Nyerere encouraged the establishment of private shops after the worst effects of their abolition were evident, but a campaign against private shops was reintroduced in 1980 (paras. 6.39). The recent report by Copac on cooperatives in Tanzania observes that the number of cooperative village shops in 1977 was said to be 5,800 but a 1979 survey found that only 64 percent of the village had shops, indicating a decline.^{10/} Their performance problems are discussed in Chapter VI (paras. 6.40-41). Private trade continues to dominate retail trade in grains in rural areas, and horticultural products throughout Tanzania. Public sector supplies of other essential consumer goods and inputs continue to be inadequate and erratic. The effects of official discouragement of the private sector on marketing margins, parastatal costs, consumer and producer prices and supplies are taken up in Chapter IV, V, VI and VII.

Donors' Support of Parastatal Growth

3.11 Much donor support for the agricultural sector has been channelled through parastatals. Sometimes, as with the Grain Storage and Milling Project (Cr. 1015-TA), working through a parastatal (NMC) was intended as a way in which to help improve realization of Government's economic and social objectives in the food marketing sector efficiently. In other cases, the parastatal's monopoly position has been taken as given, and channeling funds through it has been considered a logical way to deliver services to the agricultural sector. Since 1973/74 the World Bank and IDA alone have provided loans and credits of US\$174 million to six of the eleven major crop parastatals (TAT, TTA, CATA, SUDECO, TPB and NMC). From the Government's point of view, the substantial donor support for parastatals has probably been seen as supporting evidence of their suitability as a form of agricultural organization. However, the lending experience shows that, due to overwhelming institutional and national problems, this assistance has had little if any positive impact.

^{10/} Copac Secretariat, "Cooperative Information Note, United Republic of Tanzania," 1982, p.16.

Financial Performance of Parastatals

3.12 From a financial standpoint, the crop parastatals are very poorly managed, with little or no attention to cost consciousness, out of date, badly kept accounts, and an increasing reliance on bank overdrafts to finance their operations. Because annual audited accounts and reports, or even draft financial statements for most of these parastatals are either outdated or non-existent, accurate analysis of performance is difficult, if not impossible. Table 3.1 shows the latest situation of financial accounts for several agricultural parastatals.

Table 3.1 State of Parastatals' Final Accounts as of February 28, 1982

<u>Parastatals</u>	<u>Latest Audited Accounts</u>	<u>Draft Accounts</u>
TSA	1977	---
CATA	1978	1981
CAT	1977	1979
GAPEX	1979	1980
TAT	1979	1981
TCA	1978	1980
TPB	1980	1981
TTA	1980	1981
NMC	1977	---
NAFCO	1978	1979
SUDECO	1980	1981

Source: PPMB, Accounts Unit
(Background Paper III)

3.13 Basic financial data for the preceding several years were recently constructed mostly from unaudited draft accounts, by the Project Preparation and Monitoring Bureau (PPMB) and the Marketing Development Bureau (MDB) of the Ministry of Agriculture ^{11/}. Such efforts by PPMB, MDB and other agencies have been augmented substantially in recent years because of the Government's increasing concern with financial problems of the parastatals. But despite PPMB's painstaking work preparing these accounts, their value is limited as the draft unaudited accounts were hastily prepared by the parastatals and contain estimates and historical figures. Nevertheless, these data provide an indication of the severe financial problems now faced by the major agricultural parastatals.

(a) Operating Losses

3.14 The total loss of all crop parastatals in 1980/81 (Table 3.2), excluding NMC, amounted to TSh 210 million, representing 9% of their total sales revenue of TSh 2,455 million. NMC alone made a loss of TSh 470 million, or 31% of its turnover of TSh 1,524 million. All crop authorities taken together therefore registered a total loss of TSh 679 million, or 17% on their combined turnover of TSh 3,979 million. NMC's share of the total crop parastatal losses was about 70% in 1980/81. Even these figures probably underestimate the losses, as they have not taken adequate account

^{11/} MDB was established under UNDP financing in 1971 with FAO as the executing agency. IDA provided MDB temporary financing under its National Maize Project in 1978 when UNDP experienced funding shortages. The unit's original aim of establishing a marketing section in the Planning Division to carry out marketing studies, generate market information and provide training had been broadened considerably to include the analysis of many facets of pricing policy, parastatal performance and market prospects. Recognizing its importance, IDA undertook to provide it financing on a longer term basis under the Grain Storage and Milling Project approved in 1980. The Project Preparation and Monitoring Bureau was also established with Bank Group assistance in 1977, "to establish within the field of agricultural production and processing, a cadre of national officers capable of playing a major role in the preparation of a flow of projects and of monitoring the progress of projects undertaken by the parastatals for which the Ministry of Agriculture has responsibility." In recent years, PPMB has become a major force in monitoring parastatal performance and indeed in creating a consciousness of the need for improved agricultural planning and budgeting. Both MDP and PPMB have carried out substantial training of Tanzanian staff. A subsequent technical assistance project of US\$15 million approved by IDA in 1981, following the Export Rehabilitation Credit, was to reinforce the excellent work being done by MDB and PPMB. Their effectiveness is constrained, however, by the number of institutional problems and policy deficiencies facing the agricultural sector.

of machinery depreciation and interest payments. CAT, which has the largest turnover among export crops parastatals, has made a profit, but unlike others its profit is guaranteed, as the final price to the producer has been determined after taking into account CAT's operating costs^{12/}.

Table 3.2 Summary of Profits or Losses Account of Major Crop Parastatals for 1980/81 (or most recent year)

<u>Parastatal</u>	<u>TSh Million</u>
TSA (Sisal)	34.8 loss
CATA (Cashew)	23.5 loss (1979/80)
CAT (Coffee)	(10.1) profit (1977/78)
GAPEX (Ag. export)	20.3 loss
TAT (Tobacco)	128.5 loss
TCA (Cotton) ^{a/}	5.3 loss
TPB (Pyrethrum)	9.6 loss
TTA (Tea)	18.2 loss
NAFCO (Food)	0.2 loss
SUDECO (Sugar)	(2.6) profit
Sub-total	209.7 loss
NMC (Grain milling)	469.5 loss
TOTAL	<u>679.2</u> loss

^{a/} Includes data for MOPROCO (a TCA oil-milling subsidiary) only.

Source: Background Paper III, Appendix C, Table 1. Quoted from PPMB/MDB Report No. 27, (B)/81, dated September 1981.

(b) Assets and Equity

3.15 The estimated assets and liabilities as at the end of the 1980/81 financial year are summarized in Table 3.3. The total book value of investments in the agricultural parastatals by that or the most recent year, is over TSh 5 billion. But as Table 3.4 shows, NBC has been the major source of finance to the parastatals. The crop authorities have also been NBC's major borrower. Data on NBC lendings, like other financial aspects of the parastatals, are inconsistent but seem to suggest that as much as 80% of total NBC lending was going to the eleven major parastatals in 1981.

^{12/} In 1981 (for the 1982/83 marketing season), MDB began reviewing coffee prices in the same way that they review other crop prices.

Table 3.3: Summary of Estimated Consolidated Balance Sheet of Major Crop Parastatals as at End of 1980/81 Financial Year a/

<u>Assets</u>	<u>TSh millions</u>	<u>%</u>
Fixed Assets, (buildings, vehicles, plant & machinery, etc.)	1,121.0	(21%)
Investments (purchase price of subsidiaries)	1,146.9	(22%)
Current Assets (stocks, debtors, cash, etc.)	<u>3,052.7</u>	(57%)
TOTAL investments in crop parastatals	<u>5,320.6</u>	(100%)
<u>Liabilities</u>		
Government equity and grants	426.8	(08%)
NBC	3,444.3	(65%)
Others	<u>1,449.5</u>	(27%)
TOTAL	<u>5,320.6</u>	(100%)

Source: Background Paper III, Appendix C, pp.8 and 9.

Note: ^{a/} Excluding TCA. For TSA and CATA, 1980 figures have been used. In the absence of information on the numerous subsidiary companies, interpretations have been made from the available data.

Table 3.4 Lending to the Eleven Major Crop Parastatals as a Proportion of the Total NBC Lending (TSh billion)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Total NBC Lending	3.9	5.4	4.8	6.4
Total (average) lent to crop authorities (11)	2.8	3.5	4.3	5.1
Percentage	71%	65%	74%	80%

Source: Background Paper III, Appendix C, Table 3.

Note: Earlier data (Bank of Tanzania, Economic and Operations Report, June 1980) reveal discrepancies with the March 1982 data used in these calculations, and show figures of 53% and 43% for crop authority lending to the total in 1978 and 1979, respectively.

3.16 With the parastatals on such shaky financial grounds, the very existence of such major financial institutions as NBC and TRDB is now threatened. To meet parastatal overdrafts has required an expansion of TSh 5 billion in the money supply over and above the Government's official budget, or 12 percent of GDP. Since this has not been matched by increases in Government income, it has added substantial inflationary pressure in the economy ^{13/}. This in turn has contributed to the growing parallel market for agricultural products at prices well above official prices (Tables 1.5 and 1.6), causing volumes sold through the parastatals to fall sharply, further destabilising their financial position.

3.17 The Government has contributed little or no equity capital to the crop parastatals. While the long-term fixed assets (investment capital) have largely been financed by long-term loans and grants (mainly from foreign sources), the working capital requirements are provided by NBC. Although Government's equity in some crop parastatals increased during the initial years due to undistributed profits, ^{14/} the situation has since deteriorated; continuous annual losses of recent years have reduced Government's net equity to a mere TSh 426.8 m (Table 3.5), or less than 10% of the total assets. This may well be completely eliminated by the end of 1981/82 due to the projected losses of parastatals during the 1981/82 financial year.

Table 3.5 Government Equity Contributions to Crop Parastatals, 1980/81
(TSh million)

Contributions to share capital and grants	594.8
Reserves built up by parastatals	<u>1,060.6</u>
Deduct: Accumulated losses	<u>1,228.6</u>
Net Equity at end of 1980/81	<u>426.8</u>

Source: Background paper III, Appendix C, Table 2.

(c) Working Capital

3.18 The working capital position is an indication of an entity's ability to meet immediate commitments (i.e., purchase of stock, staff salaries, and other day-to-day running expenses). A ratio of current assets to current liabilities of around 1.5 is usually considered acceptable in a sound business and the minimum acceptable is often 1.0. However, even with the likely exaggeration in the current assets, due to stocks valued at cost, not sales value, six out of ten of the crop

^{13/} Officially, inflation has been running at about 30% for the last two years.

^{14/} Providing inferential evidence that in an earlier period, as taken over, the parastatals were able to operate as profitable concerns.

parastatals for which data were available fall under the minimum acceptable level of 1.0; and of the others, two show ratios only marginally above 1.0 (Table 3.6). With the continuing adverse trends in their trading, there is every possibility that these ratios will deteriorate further. The practical implication of this is that many parastatals do not have the cash to pay farmers on time (or in some cases at all), which leads clearly to reduced incentives and declining volumes.

Table 3.6 The Working Capital Position of Major Agricultural Sector Parastatals as at End of 1980/81
(or most recent year)

	<u>Working Capital</u> <u>TSh million</u>	<u>Ratio to</u> <u>Current</u> <u>Assets</u>
TSA (1980)	166.0	1.5
CATA (1980)	36.4	1.1
CAT	12.7	1.0
GAPEX	(2.1)	0.9
TAT	(159.4)	0.6
TCA - not available		
TPB	(20.2)	0.6
TTA	(13.1)	0.7
NAFCO (1979)	53.8	3.0
SUDECO	<u>(16.2)</u>	<u>0.9</u>
Sub-total	57.9	1.0
NMC	<u>(449.5)</u>	<u>0.7</u>
TOTAL	<u>(391.6)</u>	<u>0.9</u>

Source: Background Paper III, Appendix C, Table 2.

3.19 Almost all eleven crop parastatals have been operating at a loss in the recent past and continue to do so. Their accumulated losses up to the end of the year 1980/81 totalled TSh 1.2 billion. In addition, the current annual losses are expected to reach TSh 1.0 billion, making the cumulative total loss TSh 2.2 billion by the end of 1981/82.^{15/}

Operational Performance of Parastatals

3.20 From an operational standpoint, the crop parastatals have been very deficient in executing the functions assigned to them, whether in crop collection, input distribution, or sales to international buyers; and their lack of attention to maintenance has resulted in breakdown of their vehicle fleets and of the processing equipment on which many crop industries depend. The severe problems in marketing and input distribution under the parastatals are discussed in detail in Chapter V (Sections C and E). Here

^{15/} While losses (an accounting measure) and overdraft (a cash flow measure) would be expected to be different, the difference from 2.2 to 5 billion is larger than one might expect a priori. This suggests that the accounting conventions and practices used may have underestimated parastatal losses.

it should be noted that crop collection is frequently delayed, and payments are even later as the parastatals' liquidity problems force them to purchase crops on what amounts to a de facto credit agreement with growers. ^{16/} Untimely and uncertain distribution of chemicals and seeds is similarly common.

3.21 This has not only led to a decline in the quantity of officially marketed output, but to a decline in quality of most crops, most notably in coffee, cotton, tobacco and pyrethrum (Chapter I, Section G), leading to lower export prices on the crops because of downgrading by the international buyers. A range of managerial weaknesses, associated lack of maintenance, and the endemic shortage of spares account for the quality problem. While the precise managerial factors vary among crops, they are generally reflected in poor quality and untimely supply of planting materials (pyrethrum and tobacco), inadequate extension to ensure good crop husbandry (cotton, cashews, tobacco), delayed collection of crops purchased (cotton, tobacco, coffee), inadequate reward for quality in pricing of output (coffee, tobacco, cashews), poor storage and frequent breakdowns in crop processing (tea, cotton, coffee)^{17/}. Quality losses in handling of food crops are also extensive especially in sugar and food grains.

3.22 The difficulties producers have faced as a result of these marketing and distributional shortcomings of the crop authorities were exacerbated early 1981 when the the Government announced the confinement of all imports, thus interposing a monopoly parastatal importer (confiner) between existing agents and their foreign supplies. The Agricultural and Industrial Supplies Company (AISCO) was nominated as the sole importer of a wide range of agricultural inputs, for many of which it had little or no expertise or experience. Rather than leading to more efficient use of scarce foreign exchange resources, confinement has resulted in: (i) for some purchases the payment in foreign exchange of a 20 percent "buyer's fee" in the United Kingdom, which was not previously incurred^{18/}; (ii) cost increases of as much as 60 percent to the end-user (TFA gives an instance of one order for spare parts in which AISCO charges led to a doubling of the cost of the order); (iii) loss of suppliers' credit

^{16/} This was a major complaint of the farmers interviewed around the country by the Commission on the reestablishment of cooperatives: "Also the peasants complained that instead of the government giving loans and assisting the peasants it now borrowed from him/her". URT, Report of the Prime Minister's Commission of Inquiry, op.cit., p. 52.

^{17/} Some external tobacco buyers now insist on personal supervision of blending of tobacco leaves for a fee, to ensure maintenance of minimum standards required in the international market.

^{18/} Since AISCO was not the Tanzanian agent for many of the commodities for which it was sole importer, it had no direct contact with suppliers. To overcome this difficulty, and save on excessive communication costs from Dar es Salaam, an agency was appointed to buy on its behalf. Quite apart from the size of the fee, which if arranged by a private importer would immediately be identified as a way of avoiding exchange control, the wisdom of disrupting established commercial relations must be suspect.

previously available to non-parastatal suppliers such as TFA, which supplies inputs and equipment to growers in six important agricultural districts (Table 5.3, footnote b); (iv) loss of direct contact between supplier and customer; and (v) great delays, in some cases extending beyond a year, in procurement of vital spares previously available in a much shorter time. The addition of the buyer's fee has resulted in a 17 percent reduction in the quantity of inputs that can be imported for a given expenditure. For one agricultural importer with Bank of Tanzania foreign exchange allocations of TSh 375,000 in 1980/81, AISCO only managed to actually import TSh 49,000 of goods at its escalated prices. The balance of the license eventually lapsed. In August 1981, Government deconfined 177 companies including all the major agricultural parastatals, but did not deconfine private importers, including the principal and most efficient commercial agricultural supplier, TFA.

C. Impact of Macroeconomic Policy Variables

3.23 Macroeconomic policies clearly have been among the reasons for the poor performance of the agricultural parastatals. In general, the failure to accord the agricultural sector sufficient priority in foreign exchange allocations over the past decade (paras 2.34 to 2.35) has made maintenance of the existing capital stock much more difficult. The current overvalued exchange rate (Chapter IV, Section E) leaves no scope for many export crop parastatals to cover costs, especially as the international prices of some crops have stagnated or declined over the past several years in the face of increasing import costs associated with crop marketing. For the food crop parastatals, low official consumer prices of both food grains and sugar have had a similar effect (Chapter IV, Section C(ii)).

3.24 The effects of these policies on the crop parastatals reveal mutually incompatible Government objectives. In foreign exchange allocations, agriculture was not starved intentionally, but because there were not enough funds to allocate to it once the needs of other objectives, and particularly the industrial expansion program, were addressed. With exchange rate policy, the Government's reluctance to devalue the currency has been founded on a fear that the associated inflationary effects would be too great; yet at the existing exchange rate, parastatal losses have come to exert a major inflationary pressure. The consumer pricing policy for foodstuffs has sprung from a desire to cushion low income urban wage earners from the rising cost of living; yet by contributing to NMC's vast accumulated overdraft, this too is an inflationary policy.

3.25 The steps which will be needed to alter these parameters to foster an agricultural recovery are discussed elsewhere in the report. Chapter II (Section E) enumerates the foreign exchange requirements of the sector, and Chapter IV discusses the range of pricing and exchange rate issues which bear upon both the incentive structure in production and the financial viability of the parastatals.

D. Systemic Problems and their Impact on Parastatal Performance

3.26 A number of organizational characteristics of the agricultural parastatals also adversely affect performance. They tend to reflect general weaknesses in the structure of the Tanzanian parastatal sector at large, but are often exceptionally pronounced in agricultural activities.

Lack of Well-Defined Objectives

3.27 Apart from the problems caused by macroeconomic policies, the crop parastatals' problems arise from simply having to do too much. NMC is the most obvious case of a parastatal operating without established criteria of performance, a problem which has recurred in various ways since its inception. During the drought in 1973 and 1974, NMC incurred high operating costs as a result of massive public distribution of imported food. Then between 1976 and 1978, there were substantial increases in NMC purchases of low value cassava, millet and sorghum which it was unable to dispose of without making a loss. On top of this have been the mounting losses from the low official consumer prices for grains. There have also been frequent government directives on famine relief, purchases from GAPEX, politically determined exports and Party directives on the size of village levies. In almost all cases, the financial implications or procedures for these actions are not clearly assessed before they are adopted. Treasury and NMC (through the Ministry of Agriculture) have been trying since 1978 to resolve the question of how much of the overdrafts needed by NMC are the result of its own inefficiency as distinct from the Government's pricing and distribution policies. Without any reliable record of NMC's operating costs, this remains unanswered. Because of the importance of urban food supply, cutting off NMC's overdrafts has never been a real option. In the case of less sensitive crops such as tea and cotton, however, Treasury has refused to provide overdrafts. The negative incentive this results in, as payment to producers is delayed or neglected, illustrates the conflict between reducing local costs and maintaining export earnings.

Shortage of Skilled Manpower

3.28 Given the low initial base of trained manpower which Tanzania had at Independence, human resources were bound to be a major constraint to development throughout the economy for some time. However, the choice the leadership made in the Arusha Declaration and related policy pronouncements to greatly expand the public sector has heightened the ramifications of this constraint. In many economic activities, a parastatal form of organization is much more demanding of formally trained manpower than a comparable private sector operation which places greater emphasis on experience and incentive. This is particularly so in marketing and distribution in the countryside, which involves a widely dispersed, small-scale production and consumption. The centralized administrative decision-making of the crop authorities requires much more skill and experience in planning and coordination of these economic services than smaller, more decentralized institutional alternatives, and particularly the small family enterprises which traditionally carried out these functions (para. 7.17).

3.29 When the effects of this organizational bias are seen in conjunction with the agricultural sector's general inability to attract highly trained nationals (para. 2.40-2.41), the imbalance between requirements and availability of skilled managerial and technical staff in the agricultural parastatals becomes painfully obvious. Several key parastatals, NMC, CAT and CATA, have gone months without permanent general managers. The shortage of professionally qualified accountants in the parastatals--with only 45 in the entire sector in 1980 (para 2.40)--is one

reason for the extreme delay in finalizing parastatal accounts (Table 3.1). Table 3.7 shows the vacancies of senior financial positions in the crop authorities in early 1982. At the other end of the scale, there is an even greater dearth of trained bookkeepers. The overall shortage of accounting staff also explains, in part, the ineffectiveness of the watchdog agencies. The generally recognized superior performance record of the Tanzania Audit Corporation can be directly traced to its access to properly qualified accounting staff.

Table 3.7 Vacancies of Senior Financial Positions in the Crop Parastatals as of February, 1982

<u>Parastatal</u>	<u>Situation</u>
TSA	Finance Manager - vacant
CATA	Finance Director - vacant
CAT	2 in post
GAPEX	Finance Manager - vacant
TAT	5 in post
TCA	Positions vacant
TPB	1 in post
TTA	1 in post
NAFCO	Position vacant
SUDECO	1 in post
NMC	No data available

Source: Background Paper III.

3.30 Engineers are similarly in very short supply. According to the 1980 Manpower Survey used in the development of the current Five Year Plan, there are only 65 qualified mechanical engineers and 30 agricultural engineers in the whole of the agricultural sector. ^{19/} TSA, which covers widespread sisal estates recently grouped into 5 separate production companies and with a turnover of over TSh 400 million, had just two qualified engineers in March 1980. By contrast, Amboni, the large private sisal company with a similar turnover, working in a far more limited geographical area in the northeast (Tanga), found it essential and profitable to employ ten qualified engineers in their workshops. ^{20/} The rapid deterioration of field equipment and processing machinery in sisal must, in large part, be attributed to this factor and lack of foreign exchange. Similarly, in the case of cotton processing, the poor maintenance of the ginneries can in large part be attributed to lack of adequate qualified and experienced local staff.

3.31 To avoid repeating mistakes, it must be recognized that the manpower requirements of the sector have been underrated. The reasons for the negligence of trained manpower requirements by the Government and the donors alike are, of course, complex. In some cases, externally financed

^{19/} Ministry of Manpower Development, Manpower Development, Manpower Survey, 1980 (unpublished).

^{20/} Personal communication from TSA and Amboni, 1980.

projects have not recognized the extent of the skills required for the project. The two IBRD/IDA supported cashew processing projects (Credits 801-TA and 1014-TA), for example, involving loans totalling US\$48.5 million, made provision for only 2 positions for which funds were provided for international recruitment - neither of which (financial director and chief engineer) have been filled by qualified staff since the approval of the projects by the Bank's Board of Directors in June 1974 and May 1978, respectively. Even to the extent that technicians from donor agencies did recognize the skill requirements, the Government argued, and the donors agreed, that many of these positions could be staffed with nationals, as long as adequate funds were available for their training, and expatriates would be recruited in the event qualified national candidates did not materialize. This meant that availability of qualified personnel was not made a precondition for large sums of financial assistance, provided mostly in the form of physical capital. As long as the Government said it was in search of a local or an expatriate staff member, disbursements on physical hardware and operating costs have continued. The Government's insistence stemmed from:

- (i) desire to staff with local personnel and to train Tanzanian nationals;^{21/}
- (ii) the concern that the benefits derived from the very high cost technical assistance provided by donors (now typically costing upwards of US\$100,000 per post per year) is limited, due to the difficulty of recruiting qualified expatriates, their frequent inability to operate effectively in an alien environment, and their rapid turnover;
- (iii) inadequate appreciation of the limited supply of nationals with the necessary prequalifications (for instance with the needed science and mathematical background) who could qualify for the training being offered under aided projects, and of the time required to get the necessary on-the-job experience;^{22/} and
- (iv) the failure of the overall national manpower planning process to assess and to admit the extent of the gap between the supply of nationals and the overall national requirements, which could reflect adversely on earlier manpower planning exercises.

^{21/} The draft Fourth Five Year Plan observes in this connection, "The aim to increase self-reliance in the demand for specialists in various fields goes hand in hand with the aim of improving the state of the economy. The number of sectors will grow and thus the demand for specialists will increase. It will therefore be necessary to use various strategies to train citizens in various fields of science and socialism." URT, op. cit., Chapter I.

^{22/} Almost half the B.Ag.Sc. facilities at Morogoro Agricultural Faculty have gone unused for lack of qualified candidates.

3.32 Both the donors' project-by-project approach and their desire to support Tanzanian aspirations of self-reliance have prevented them from fully recognizing the growing manpower shortages at the national level. Donors' own procedures often have come in the way of turning to the private commercial sector and to the skill-abundant countries to recruit the qualified international staff. Also, the limited capacity of the few expatriates provided to perform managerial jobs (such as a financial controller) and at the same time conduct effective on-the-job training (in bookkeeping) has not been appreciated. Finally, it has been both less contentious and easier for donors to deal with the symptoms than with basic causes. Thus, financing of high-powered consultancy firms to bring accounts of parastatals up-to-date is immediately possible, whereas providing on-the-job training in development of financial records on which to base final accounts and providing management advice is more difficult and requires both donor and Government commitment to a long-term process.

3.33 In conclusion, more imaginative ways to solve the acute shortage of formally trained and qualified manpower to the public sector will have to be found both domestically and internationally if economic recovery is to be brought about in Tanzania. Given the extent of the problem, two options should be explored. One would be to reduce the public sector control to manageable proportions, more in line with the domestic manpower and administrative capacity. The other would be to examine ways of recruiting international and existing domestic expertise far more liberally, but differently than in the past, to ensure that it fills the void that now exists. Some suggestions in this direction are put forward in Chapter VII. Concurrently, however, Tanzania would have to place far greater emphasis on systematic training of its professional manpower in technical and managerial fields than it has done to date. While there is greater recognition of the need for higher training in the Government than previously, it is doubtful if its full implications for the present, universal primary education-oriented strategy have been adequately considered. At the same time, the lower level skill requirements, as in bookkeeping and mechanics, must also be recognized and tackled through large training programs. Without this support, high cost technical assistance or training programs for nationals at the senior levels will do little to improve financial systems or maintenance operations.

Low Productivity and the Lack of Incentives

3.34 While the parastatals suffer from chronic understaffing in key managerial and technical posts, overall levels of employment have been clearly well beyond their needs, principally as a result of rapid growth in the number of low level positions. Data on the number of employees are neither up to date nor extremely accurate; but they do indicate this staffing increase, at the same time that the volumes of crops handled by most parastatals have either stagnated or declined. Table 3.8 presents a simple indicator of labor productivity in the ten crop authorities for which data were available, by comparing volume of throughput (tonnes) per employee for 1974/75 and 1977/78.

Table 3.8: Changes in Labor Productivity of Major Crop Parastatals
1974/75 to 1977/78

	<u>Production or throughput % change tons</u>	<u>Manpower % change total Nos. employed</u>	<u>Labor Productivity % change</u>
TSA	-33	-7	-29
CATA	-42	+1	-42
CAT	0	+111	-53
TAT	+21	+313	-54
TCA	-29	+90	-63
TPB	-40	+85	-67
TTA	+200	+187	+2
NAFCO ^{a/}	+1,300	+105	+577
SUDECO	+123	+235	-33
NMC ^{a/}	+499	+74	+243
	<u>+18</u>	<u>+39</u>	<u>+2</u>
Excluding NMC and NAFCO	<u>-16</u>	<u>+35</u>	<u>-38</u>

Note: a/ For explanation see paras. 3.35-3.36.

Source: Background Paper III.

3.35 The table admittedly reflects a rather mechanistic approach, as there are important factors, such as weather and price incentives, which are beyond the control of the crop authorities and affect production or throughput. For instance, in the case of NMC, the low purchases in the initial year were at an abnormally low level because of the drought, while the mandate to procure vast quantities of unpreferred staples and pulses has skewed the productivity figures for the latter year, since this amounted to tonnage which the crop authority was subsequently unable to dispose of, except at a loss. Nevertheless, the analysis is indicative of the general problem of low or declining productivity of parastatals.

3.36 Table 3.8 suggests that while overall manpower increased by 39% during the three years between 1975 and 1978, production or throughput in absolute quantity rose only by 18%. Excluding NAFCO, whose large increase in productivity resulted from low initial throughput per man,^{23/} and NMC, all other crop authorities recorded an average 38% decline in productivity over this period. Only in the case of sisal was there a decrease in manpower (due in part to recruitment problems for field labor), and only one crop authority, CATA, maintained the same level of employment.

3.37 Not only is overstaffing costly; it creates a demoralizing work environment for people who are underemployed. The poor standards of discipline which spring from this situation exacerbate the problem of low productivity. Examples of delayed reporting to work, absenteeism, and non-performance abound, and this seems to have been a problem at least since the early 1970s. In September 1974 the Daily News summarized a situation which remains virtually unchecked to this day:

^{23/} NAFCO had 798 employees in 1974/75 with an output of 1,000 tonnes of grain. Clearly some of these workers have been engaged in development activities, by which production increased to 13,000 tonnes in 1977/78.

"We have many examples of people who regularly report late to duty and quite often the excuse is that the transportation system is to blame. We have many others who come into their offices, as it were, to register their presence and then go on doing nothing all day. They make large numbers of phone calls to their friends and acquaintances, just to pass the day. We have others who report to duty, albeit, only to quietly sneak out of their offices to conduct other business, unrelated to work...."^{24/}

3.38 It is very difficult to alleviate these problems under the present incentive structure of Tanzanian parastatals, where there is very little scope for either rewarding or sanctioning employees. Parastatals have neither the right to go outside the SCOPO salary scales to attract and reward good managers, nor the incentive, which comes from profit or the possibility of bankruptcy, to use existing staff to their best advantage. Under present regulations, however, even experienced, skilled managers have great difficulties improving labor productivity to any significant degree. Employees are extremely well protected by the Permanent Labor Tribunal and the workers' association of the Party, JUWATA, and it is not uncommon that institutions are forced to rehire workers who have been dismissed. This not only inhibits strong disciplinary codes in workplaces; it also acts as an obstacle to layoffs to reduce overstaffing.

3.39 Several examples do exist of high worker productivity under the present regulatory system.^{25/} All of these, however, come from the construction sector, where daily wage rates, non-Tanzanian foremen, and tight worker supervision are sometimes still permitted. Similarly, there recently have been several successful examples of cutting down on redundant staff, as for instance CATA, which laid off workers at underutilized processing plants, and TTA which laid off a large number of staff. But this is still a small beginning in what will have to be a major staff reduction exercise in the crop authorities, both to cut costs and to improve operating standards. In light of the system's rigidity in this area, it will require authorization by the highest levels in the Party and Government, both to encourage reductions and to permit tighter standards of discipline.

Overlapping Reporting Relationships of Parastatals

3.40 The split responsibility between the Ministry of Agriculture and the State House for appointment and supervision of parastatal management is no less an important factor in explaining inadequate control over parastatals. The Executive Chairman of the Board of Directors is a Presidential appointee, and the Minister appoints Board members. The parastatal general manager is bureaucratically essentially equal with to Principal Secretary of the Ministry. The Ministry does not have the jurisdiction to dismiss a general manager, even in cases of flagrant

^{24/} Quoted in Hyden, op. cit., p. 168.

^{25/} Background Paper VI, Chapter V.

violations of management standards, but can only recommend action to the Board of Directors or the President. Further, when appointments are made centrally, frequently criteria other than commercial or managerial acumen seem to enter in the choice of a general manager. Since the State House makes CEO appointments across the spectrum of the roughly 400 parastatals, its span of control is far beyond levels which would be considered desirable under reasonably well-working systems of management. It is no wonder, therefore, that the degree of control needed on a daily basis to ensure managerial efficiency in the agricultural sector is not exercised and major decisions even about the future of the organisation itself (as for instance, with NMC) remain pending for years.

E. Management Lapses Within Parastatals

3.41 It is evident that numerous other examples of factors external to parastatal management which influence their performance can be pointed out. Among these are appropriation of parastatal resources for use on business which is unrelated to parastatal functions, and priorities where commercial or technical considerations get sacrificed in favor of the other more prestigious ventures. ^{26/} Unless this external environment is improved even the best trained and most experienced managers will find it difficult to distance themselves from these various pressures.

3.42 There are, however, also indications that the problems of the parastatals are partly attributable to poor internal management. While in part both overstaffing and delayed accounts are attributable to external factors of job creation and lack of trained manpower to prepare accounts, they are also due to a lack of concern by the management of the parastatals to ensure efficiency and to produce accounts on time. Inefficient bookkeeping is also an important cloak for existing high levels of corruption throughout the parastatal system. ^{27/} In addition, there is a willingness on the part of parastatal Boards of Directors to make crucial long-term investment decisions without the necessary financial data. This problem is by no means new, though its importance has increased as parastatals have expanded their role in the economy. One observer noted these problems in agricultural parastatals as early as 1972:

"It is not to be suggested that the facts presented here were well understood at the time the discussion took place on changes in the parastatals' organizations or at the time government re-organized the parastatal sector in 1969. In the Basuto Wheat Scheme where and when a problem in meeting target acreage was recognized, it was referred to NAFCO headquarters who would have less costing data than the subsidiary directly responsible for the scheme. Similarly when cash flow reports indicated that the

^{26/} Background Paper VI.

^{27/} As the President has strongly acknowledged, most recently in May 1982 address to the Tanzania Workers' Organization: corruption, he said, was "spreading like cancer".

processing factory of Lime Products Development Ltd., was operating much below rated capacity, so that revenues were falling far short of operating costs, the board, after much discussion, decided that the price of lime juice paid by the foreign buyer should be raised. Subsequently, ... [it] began a study of how to increase the supply of raw material (limes) to the factory, to raise its production, revenues The point to be emphasized, however, is that the initial approach was administrative". ^{28/}

3.43 Examples of such decisions are abundant in the World Bank's own experience in supervising IDA-financed projects in the sugar, pyrethrum, and tobacco sectors. In the case of tobacco, for instance, seed production annually costing no more than TSh 70,000 was never considered in place of the cost of its importation from Malawi involving TSh 2,400,000, until an experienced internationally recruited tobacco agronomist provided under the project took it upon himself to organize seed production.^{29/}

3.44 Reports of theft from parastatal stores and vehicles are widespread, as are instances of apparent falsification of records on the volume of crops purchased.^{30/} Sums of cash extended to local NMC branches have gone unaccounted, with no grain purchases to back up the advances.^{31/} Such reports may now become exaggerated due to overall shortages in the economy, but it would seem that more internal control to guard parastatals' assets is possible even under Tanzania's present managerial conditions.

3.45 The Tanzania Tea Authority's current state of affairs exemplifies the extent of organizational crisis in the crop parastatals. TTA's current financial position deteriorated to a point where it had insufficient liquid funds to meet operating expenses. It had in 1982 exhausted the latest additional overdraft of TSh 20.0 million and it was about one to two months late in payment for green-leaf. It was late on debt service obligations to the government under loans received under IDA Credit 287-TA and was running into serious arrears for payment of major items of supplies and services

^{28/} P. C. Packard, "Corporate Structure in Agriculture and Socialist Development in Tanzania", Eastern African Journal of Rural Development, Vol. 5, pp. 163-182, 1972.

^{29/} Observations during implementation of Tobacco Handling Project (Credit 802-TA).

^{30/} See for example, MDB Price Policy Recommendations for 1982-83, op. cit, Annex 8 (cotton); Daily News, November 30, 1981 "Tobacco Vanishes" which reported the disappearance of over 430 tonnes of tobacco; and Chapter V, footnote 52, of this Report.

^{31/} Observations during preparation of Grain Storage and Milling Project (Credit 1015-TA).

(fuel, tea-chests, vehicle repairs, etc.) for the three years 1982/83 to 1984/85. Operating losses (i.e., before taking into account extension costs, and non-operating income such as tea-cess and the entire accounts for financial charges) were expected to amount in 1982 to at least TSh 53.0 million.^{32/} External factors, such as bad weather and shortages of fuel and machinery spares notwithstanding, the mission noted several areas of significant "over-expenditure" and/or wastages which the TTA management could have, but failed, to control. Accounting records show total "over payments" for green leaf to smallholders amount to TSh 3.6 million, implying falsified weight and/or payment records. Similarly, per kilogram costs attributed to TTA-managed estate production were up to three times higher than the price paid to smallholders, again implying great inefficiencies if not falsification of records. Factory out-turn ratios of green leaf to made tea are poor because of insufficient leaf quality and in-factory production control; and processing costs during 1980/81 were almost three times TTA's own budgeted costs.

F. Strategies for Reform

3.46 It is clear that major organizational changes will have to be made to rectify both the quality and cost of agricultural services. Domestic recognition of the parastatals' shortcomings is mounting, and is evidenced in the numerous Party and Government committees set up to look into various aspects of parastatals, and in the suggestions to transfer some parastatal functions (like extension) back to the Ministry of Agriculture (para. 5.15), revive the cooperatives, and reorganize NMC. These latter two are the most significant policy moves to date, and warrant consideration.

Cooperatives

3.47 In response to a growing awareness of the operational deficiencies of the parastatals, a Commission was appointed in 1980 to investigate the possibilities of reestablishing cooperatives in the country. The group, which had substantial representation from the earlier cooperative movement, toured 16 mainland regions, soliciting the views of peasants and district and regional functionaries, and issued its findings in early 1981.^{33/} The commission strongly recommended reestablishment, but emphasized that the move should not be made without adequate preparations and planning for a transition from the crop authorities. Legislation was subsequently drafted and approved by Parliament in June 1982, under which the cooperatives will be expected to resume crop purchasing and input distribution.

^{32/} Observations during implementation of Smallholder Tea Project (Credit 1037-TA).

^{33/} URT, Report of the Prime Minister's Commission of Inquiry into the Possibility of Reestablishing Cooperative Unions (draft), Dodoma, Feb. 1981 (English translation, August 1981, pp. 110-112).

3.48 Signals which emerge from this process are confusing on several points. On the one hand there is a stress on the need to go slowly to ensure that the cooperatives will be economically viable and sufficiently well staffed; yet many officials see the cooperatives as the means to solve the operational problems of crop marketing in the short run, as an aid to an agricultural recovery program. There is thus either an implication that cooperatives will be able to cope with the substantial demands of a recovery program or that special measures are not needed to deal with the urgent problem of recovery. The goals of developing a grassroots cooperative movement and of using cooperatives as an instrument of crisis management are incompatible. If they were used to meet the needs of recovery at this embryonic stage, their long-term viability will be jeopardized even before their inception. On the other hand, with excessive focus on their grassroots development, the institutional vacuum in the agricultural service sector will continue.

3.49 Whether such a commercially viable, grassroots oriented cooperative movement will be allowed to develop also remains to be seen, however, because of the previous conflicts between the rural elite and the Party and the Government referred to earlier (para. 3.9). The legislation already contains passages which state that membership will be compulsory for all adults in villages; and it is far from clear whether the leadership is willing to let cooperatives develop in some regions but not others. This indicates that many of the past weaknesses of the compulsory cooperative period have been forgotten.

NMC's Reorganization

3.50 In April 1980, the then Prime Minister announced a decision to reorganize NMC into twenty regional food companies. This measure was founded on general concerns about NMC's inefficiencies in crop procurement and sales and its large overdrafts, the idea being that NMC was "too big" and that decentralization would solve these problems. The Ministry of Agriculture, which was skeptical that this move would prove successful in light of the unresolved pricing policies and lack of well-defined objectives for the parastatal (paras 3.23 and 3.24), persuaded the Government to appoint a task force to examine the merits of alternative organizational approaches to deal with NMC's problems. Because IDA had been involved in the preparation of a US\$43 million grain storage project with NMC since 1976 (Credit 1015-TA, approved in 1980), it was requested to provide technical assistance to the task force.^{34/}

^{34/} The purpose of the IDA credit was to rehabilitate storage and milling facilities, to improve NMC's management and to make the costs of Government's pricing and marketing policies explicit by improving NMC's financial and accounting management, so that these costs could be reflected in a regular subsidy for NMC, in place of ad hoc bank overdrafts.

3.51 The task force report issued in May 1981 highlighted that NMC's problems were a result of a combination of its poor management and government pricing and procurement policies and suggested that these should be ameliorated by substantially improving management and correcting policy. The report further argued that splitting NMC into 20 separate companies not only would fail to solve its basic problem but would multiply it. It took a pragmatic position that as and when cooperatives develop effectively, some of NMC's functions which are at the heart of its management problems, i.e. procurement and storage below the regional level, should be taken over by them, thereby reducing the scope of NMC's operations. The spread of the small marketed surpluses throughout the country does pose logistical and financial problems for NMC, but this only highlights the need for strong management and for a change in the Government policy which required NMC to be present in all parts of the country to buy grain on a monopolistic basis irrespective of the size of the surpluses and consequent cost of NMC's operations. The virtually non-existent spread between the producer and consumer price of maize and pan-territorial pricing are yet other matters which need to be addressed.

3.52 The SAP made no direct mention of the plan to split NMC, leaving the future of NMC uncertain, and the IDA approved credit for NMC's rehabilitation in jeopardy. The SAP did make several encouraging proposals, including to focus NMC's activities primarily on:

- (a) procurement and management of urban food supplies;
- (b) the guarantee of minimum producer prices and maximum consumer prices; and
- (c) surplus procurement for and management of the emergency food reserve and contingency planning.

To reduce costs it proposed to rationalize and consolidate NMC's activities. One means to do this is by reducing NMC's geographical coverage, allowing unspecified "decentralized institutions at the district and village level to undertake buying, selling and storage operations where crop surplus are too low to cover NMC overheads." It also mentioned the need to introduce regional pricing to reflect transport costs and to take into account regional specialization. All these movements, most of which were subsequently agreed by Government, are in the right direction and should be pursued vigorously. However, they do not yet go far enough in dealing with the severity of the current parastatal problem, especially in view of the likely time lag in the development of effective cooperatives.

3.53 For instance, the SAP was silent on how the Government proposes to deal with the already active but currently illegal private trade in food marketing. Official recognition of the private sector would seem to be essential as part of the 'decentralized institutions' SAP mentions, though these may only refer to the cooperatives. Without addressing the issue of parallel markets, it is not clear how a low-cost food marketing system will be ushered in, nor how Government will regain control of the economy.

3.54 In the short run, however, decontrol of the food market may well lead to speculative activity in the food market, with attendant political risks and adverse effects on the welfare of those who have to pay higher prices. A Government program would therefore need to be supported with an adequate, guaranteed food aid program to make the period of adjustment easier.

3.55 The SAP similarly included few policy proposals with regard to the local marketing of inputs, export crops or consumer goods, all of which pose serious obstacles to increasing agricultural productivity. Possible remedies to deal with the problem of input sales are taken up in Chapter V and of consumer goods in Chapter VI. As for export crop marketing, regulations have recognized only villages as a legitimate intermediary between the producers and the crop parastatals. Allowing individuals or a group of producers and traders to purchase the crops for sale directly to parastatals will help alleviate the current marketing bottlenecks producers face due to lack of cash and logistical support within the parastatals. Reducing field marketing responsibilities of parastatals should reduce their operating costs and improve their financial situation, thereby ensuring prompt cash payments for the produce offered to them by producers. The gross inefficiencies noted in the current public sector agro-processing operations could also be addressed by selling these operations to private or cooperative entities. Alternatively even with public ownership giving management contracts to experienced local or international firms such as Amboni in the case of sisal, Williamsons in the case of tea, or the Government food corporations in South or East Asian countries in the case of NMC, should be considered. Such contracts could be combined with explicit long-term training programs for Tanzanian staff in technical and managerial fields to ensure their eventual return to effective national management.

3.56 Even with these various policy and institutional reforms, the financial viability of many export crop parastatals will be questionable under the present highly overvalued exchange rate regime. The increasing non-viability of the relatively efficient private sector operations in crop production and processing illustrates that improvement in operating efficiency can no longer suffice in making parastatals break even. The interaction of parastatal finances with the exchange rate adjustment are illustrated in Chapter IV. The full range of steps needed to bring about parastatal reform are brought out at the end of the report, after the presentation of the various interrelated issues concerning parastatals in the remaining chapters.

Conclusion

3.57 Several conclusions are evident from the above review:

(i) The parastatal sector is unable to cope even with the present level of services, let alone augment them in support of an economic recovery. While there may be differences among outside analysts of parastatals as to what other kinds of institutions may supplement or replace them, it is unanimously held that parastatals in their present form are unlikely to be the exclusive or even the major source of agricultural recovery in Tanzania. This diagnosis is not new. The Bank's Basic Economic Report summarized the parastatal problems in 1977 as follows:

"The system has been characterized by a lack of competition, high marketing costs, poor service and delayed payments to farmers or cooperatives. Many of the parastatals have proven to be highly inefficient and have been characterized by overmanning and excessive overhead costs.... there is evidence of crops not being purchased and transported at the right time, of delayed payments and of further increases in marketing costs." (p. 26, Annex VI).

3.58 These problems have been acknowledged in the past by the President. In his 1977 speech, The Arusha Declaration Ten Years After, he said:

".... Our parastatals are not producing sufficient surplus to finance new investment. In 1975 even the Breweries' pre-tax profit was only just over TSh 4 million on gross sales valued at TSh 535.5 million and they certainly have no sales problem! ... we have been ... grossly inefficient in our factories and workshops ... Not every failure is the direct fault of the individual firm... But problems external to the firm are not sufficient to account for the extent of our inefficiencies. Some of these failures are the result of inexperience or lack of confidence among young people holding such posts....But if they do not learn quickly and improve they must be replaced. ... we have virtually eliminated the discipline of fear... TANU and NUTA Branches are still better at protecting the workers in the particular plant... than the workers and peasants of Tanzania Every parastatal must examine its own record ... and try to find ways (to) cut costs ... This work is urgent a very serious matter" (pp. 33-36).

3.59 (ii) The rapid growth and large-scale mismanagement of agricultural parastatals has continued to be a source of broad-based patronage and a form of social security. Any institutional reform leading to increased efficiency, while beneficial to the rural producers with actual or potential surplus, will be at the cost of the urban employed salaried class in the short run. The difficulty of curbing the inefficiency of the parastatals should, therefore, not be underrated since vested interests are involved. Moreover, the Government's commitment to the public sector appears to remain strong. In the words of the Fourth Five-Year Plan:

"In a bid to strengthen Ujamaa policies and to be self-reliant, the public sector will continue to be strengthened in order to contribute more to the growth of the national economy. The aim is that by the year 2000, the public sector, that is Ujamaa villages, the cooperative societies, the parastatal bodies and the Government should contribute 60 percent of national income ..."

This is reinforced in the SAP, which strongly asserted that one of the objectives of the recovery program will be to "defend the role of publicly owned institutions."^{35/}

^{35/} SAP, op.cit., p.6.

3.60 (iii) A dual approach to improving parastatal performance is called for. The first would focus on improving the efficiency of the parastatals themselves, possibly with technical assistance, rehabilitation, piece-work, contract-plan agreements, etc. The second would have to involve opening up the channels for other, including private, institutions to provide services where they would be obviously better able to operate within parastatal margins.

3.61 Clearly, the institutional disorder threatens to continue unless there is a willingness in the Government and the Party to search for and adopt pragmatic solutions to these problems. Otherwise, economic recovery will not be possible and the country will only witness further economic deterioration.

CHAPTER IV

CROP PRICING

A. Government Assessment of the Functions and Performance of Crop^{1/}
Pricing

4.1 Until the mid-1970s price policy did not figure significantly in any major policy statement on agriculture, as the basic concern was reorganizing the rural population into villages (Chapter VI, Section A). Since then, price policy has received more attention than other aspects of agricultural strategy, both because villagization was completed, and because policymakers gained awareness of the importance of pricing during the drought in 1973 and 1974 when low official food purchases put a severe strain on national food security. The resources devoted to agricultural pricing policy have also been substantially greater in Tanzania, and the review process more structured than in many neighboring countries. The basic analytical work, and initial producer price recommendations are the responsibility of the Marketing Development Bureau (MDB) of The Ministry of Agriculture. After review by the Ministry and an inter-ministerial committee, the final recommendations are presented to the Economic Committee of Cabinet (ECC) and prices are announced on "Peasant's Day", July 7th, in time for planting decisions in September/October to reflect the announced prices. ^{2/} The result is that the ECC considers all producer (but not producer and consumer) prices simultaneously. Cabinet adjustments of the recommended prices are not uncommon.^{3/}

4.2 Given the dominant role of parastatals in crop marketing described in Chapter III, official pricing has acquired an added significance in agriculture's overall performance. For export crops, the official price is often the only price, except for farmers close to a border where the crop can be sold lucratively. For food crops, official procurement is only a portion of the total marketed production. There is a thriving but unquantified informal market, including trade across the borders with several neighboring countries. Substantial switching takes place between marketing channels for food crops, making it quite difficult to predict the volumes going through official channels in any season (Chapter I, Section D).

^{1/} Live animal prices are not controlled, and while there are official prices for meat, very little trade takes place at official prices. Small volumes of milk are sold to TDL at official prices, some of which is then blended with imported ingredients for sale in urban areas. Most whole milk is traded informally at uncontrolled prices.

^{2/} The SAP announced that producer prices will now be announced in September instead "... to reduce the possibility of withholding" (SAP, op. cit., p. 19). This will bring the announcement closer to the planting date, but runs the risk that last minute disagreement as to what the price should be might lead to delays past the commencement of the rains.

^{3/} c.f. Cabinet decision to introduce regionally differentiated maize prices in 1982/83 versus MDB's recommendation of a uniform price; Cabinet decision to double MDB's recommended price rise for cashews in 1980/81; and Cabinet decision not to reduce the price of some drought staples for the 1981/82 season.

4.3 The Government's current concern about agricultural price policy is reflected in the recent draft Fourth Five Year Plan.

"...prices for various (export) crops have not... impressed the farmers or have remained stagnant, or have been raised after a long time, and thus reduced the enthusiasm to produce these particular crops... This problem was on many occasions made worse by the competition of good prices which farmers were able to get from other crops, which require less work to produce and which are also very marketable in unofficial markets. It should be remembered that these low prices for cash crops to farmers do not in many cases, come as a result of the low world market prices, but because the farmer has been paid a very small portion of the income found in these markets. A big section of the income has been used to meet the expenditures of maintaining the crop parastatal bodies, custom duty and sales tax" (emphasis added).^{4/}

The plan recommends increasing the proportion of the international price reaching the farmers by reducing parastatal costs and export taxes. But in recognition of the poor marketing procedures of parastatals, including late collection and delayed and inaccurate payment, it argues that price increases need to be accompanied by an improvement in village level marketing services.

4.4 This chapter reviews briefly the mechanisms and effects of the Government's product pricing policy^{5/} and then identifies the policy actions needed to address the major pricing issues now facing Tanzania -- how to reduce the budgetary drain of the parastatals and how to stimulate crop production through improved price incentives. To this end, substantial adjustments will need to be made in the exchange rate, official retail food prices, and producer prices of food and export crops. It is critical to remind the reader, however, that important as pricing policy is, pricing changes alone will not bring about an agricultural recovery unless the necessary institutional and investment priority changes are made simultaneously, and unless incentive goods are available in rural areas.

B. Analytical Support for Price Recommendations

4.5 As was noted earlier (para 1.24), the Government has only recently recognized the substantial informal market officially, and in the SAP points to the "emergence of an unofficial market parallel to the formal channels which have undermined the country's planning and control

^{4/} URT, op. cit., Chapter 3E, pp. 19-20.

^{5/} Subsidies on purchased inputs were addressed in para. 2.18-2.19. See also Chapter V for a discussion of the input subsidy issue and supply problems and also Background Paper X, "Problems of Fertilizer Distribution."

system". ^{6/} Consequently, determination of official prices has not directly taken into account the competitiveness of Government prices vis-a-vis unofficial prices. Indirectly, of course, in years when official prices have been uncompetitive, procurement levels especially of food have been adversely affected, leading to lagged response on the part of MDB and the Cabinet in favor of maintaining or raising producer prices in the following year. The opposite has occurred in the late 1970s, which saw substantial procurements of the drought staples and legumes, which NMC has had difficulty disposing of.

4.6 Given the persistent and growing presence of the parallel market, its effect on farmers' decisions to produce and market can no longer be dealt with indirectly. It has to become an explicit consideration in the formulation of official prices.

4.7 How overlooking the presence of the parallel market has affected MDB's otherwise meticulous approach to price recommendations can be seen from a review both of its analytical approach and of the history of price policy in the country.

4.8 MDB's price review, which is published^{7/} in connection with its recommendation to the Economic Committee of Cabinet, presents data on four aspects of agricultural prices:

- (a) budgeted producer earnings per man-day,
- (b) import-export parity,
- (c) break-even retail prices, and
- (d) official procurement levels.

These data reflect four of the major concerns which MDB balances in the process of arriving at a recommendation.

4.9 Among export crops, the variations in producer prices are generally consistent with the variations in export parity for the individual crops at the current exchange rate. ^{8/} But these prices have become increasingly irrelevant in influencing resource allocation to export crops, given the much higher, albeit uncertain, profitability of food crops in the parallel market (Chapter I, Section F). Among food crops there is less consistency between MDB recommendations and border prices (Table 4.5).

4.10 In various studies in recent years, MDB has been a persistent advocate of abandoning pan-territorial (i.e. uniform national) pricing for both consumers and producers, with the objective of fostering regional specialization and reduction of transport costs, and Cabinet has shown willingness to experiment with regional pricing systems, but in a manner which is contrary to the efficiency pricing principle (Section C(iv)).

^{6/} SAP, op.cit., Preface, para 2. iii. See Chapter I, Section F of this
^{7/} URT, Ministry of Agriculture, MDB, Price Policy Recommendations for the 1982-83 Agricultural Price Review (with 9 Annexes). July 1981.
^{8/} Background Paper III, Appendix G, Table 1, p.8.

While this may help to bring the parallel market in the distant regions under control, its effect on parastatal finances will be even more devastating than pan-territorial pricing.

4.11 Despite careful documentation of the retail price implications of its producer price recommendations, and studies showing the intimate relationship between the exchange rate and break-even producer prices,^{9/} MDB has not been successful in fully alerting policymakers to the relationship between producer prices, parastatal profitability, and the exchange rate. Faced in recent years with high domestic inflation and a fixed exchange rate, MDB has, on balance, favored price recommendations which would maintain farmers' real incomes, rather than the financial solvency of the parastatals. The Government has unsuccessfully tried to address this problem through more stringent controls on parastatal spending (para. 3.3) and has had to resort to high subsidization (Table 2.2) and increasingly large overdrafts from NBC (Table 3.4). MDB's valiant efforts have been inadequate to preserve real incomes and incentives of producers as far as official prices are concerned.

C. Review of Past Pricing Policy

4.12 Producer prices for food crops marketed through official channels for the period 1971/72 to 1982/83 are given in Table 4.1 and export crops prices are given in Table 4.2. Export realizations are given in Statistical Annex Table 1.2, and recent official retail food prices are given in Table 4.3.

(i) Achieving balance in food and export crop production

4.13 In the late 1960s and early 1970s, the principal concern with pricing policy was to introduce pan-territorial pricing and to bring an increased number of crops into the official marketing channels. Little attention was given to the level of prices and until the mid-1970s official prices hardly were changed. Following the drought and heavy food imports in the 1973 and 1974, prices of all crops were raised, with a relative balance in favor of food over export crops, and drought staples over preferred staples. In 1977/78 and 1979/80 export crop prices, were edged up relative to food crops, and drought staples were held constant as food production recovered, mostly at the expense of export crop production. As discussed below (paras 4.28-4.29), for drought staples, the doubling of prices between 1974/75 and 1977/78 was too drastic and resulted in a sharp rise in procurement and accumulation of costly excess inventories.

(ii) Providing low prices to urban consumers

4.14 The preferred staples of sembe, rice and wheat flour feature very significantly in the diet, and hence in the cost of living of the urban population. Subsidization of these grains helps restrain wage demands, and protects public morale. Consumer grain prices are a very visible index of the Government's success in Tanzania as in many countries, and changes in consumer grain prices consequently can be very controversial.

^{9/} "An Economic Analysis of Regional Producer Price Determination in Tanzania", Doris J. Jansen, MDB, November 1981.

Table 4.1 Announced Producer Prices for Selected Food Crops 1971/72-1982/83
(cents per kg - current prices)

	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
<u>Preferred Staples</u>												
Maize	24	26	33	50	75/80	80	85	85	100	100	150	175
Paddy	52	56	57	65	100	100	120	120	150	175	230	300
Wheat	57	57	57	77	100	120	125	125	135	165	220	250
Weighted (1) Av.	33	35	40	56	86	89	96	96	113	121	172	204
<u>Drought Staples</u>												
Sorghum	-	30	50	55	75	90	100	100	100	100	100	160
Burush millet	-	30	50	55	75	90	100	100	100	100	100	160
Finger millet	-	-	50	55	80/85	95	200	200	200	150	150	150
Cassava Gr. I	-	-	31	36	40	50	60	65	65	65	70	90
Cassava Gr. II	-	-	29	34	38	40	50	50	50	50	50	70
Weighted (1) Av.	n/a	n/a	45	50	69	81	123	123	123	107	108	139
<u>Oilseeds</u>												
Sunflower (Jupiter)	43	57	55	75	100	110	150	150	150	160	180	260
Sesame	113	120	160	200	200	250	300	330	350	400	450	570
Groundnuts	100	103	115	150	200	250	400	400	400	420	480	580
Copra	-	-	-	-	135-220	210-230	220-250	230	230	250	300	420
Weighted (1) Av.	85	94	112	142	176	205	263	275	282	308	352	461
<u>Other</u>												
Sugarcane	-	-	4.25	5.25	7.25	9.37	9.62	9.62	10.12	10.62	13.73	n/a
Grapes	-	250	250	250	250	350	350	350	400	400	500	600
Beans Gr. I	-	-	-	-	-	200	200/350	350	350	350	350	350
Gr. II	-	-	-	-	-	175	175/275	275	275	275	275	275
Weighted (1) Av. Price All Food Crops	n/a	48	51	65	92	119	163	165	173	177	211	246

Note: (1) Weighted according to value of official purchases 1977/78 to 1979/80 inclusive.
SOURCE: Price recommendations for the 1982-83 Price Review, Appendix 4. MDB

Table 4.2

Announced Producer Prices for Selected Export Crops 1971/72 - 1982/83
(cents per kg - current prices)

Product	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Coffee (1)									(p)	(p)	(p)	
Mild Arabica PI	450	415	440	385	800	1,500	1,089	907	1,020	1,220	950	n/a
Robusta Dry Cherry	400	365	375	315	600	885	527	464	490(p)	520(p)	500(p)	n/a
Cotton - AR	110	113	113	150	200	200	230	240	300	320	370	470
- BR	55	60	60	65	100	100	115	120	130	150	170	250
Tobacco - flue	580	585	585	585	700	740	740	740	880	1,050	1,260	1,800
- fire	210	213	240	255	300	450	520	520	625	625	770	1,150
- burley	-	-	-	-	-	480	480	480	650	650	680	1,000
Cashewnuts - SG	95	95	95	105	105	110	115	170	180	300	500	n/a
- UG	75	75	75	95	95	95	100	140	150	200	350	n/a
Tea (green leaf)	73	71	74	74	80	90	150	150	150	150	150	150
Pyrethrum (2)	285	275	275	421	400	400	400	400	600	750	1,000	1,000
Cardamom (3)	-	-	1,700	1,800	1,200	1,500	2,500	4,500	4,500	4,500	4,500	4,500
Cocoa	-	-	-	-	-	400	550	800	1,000	1,100	1,100	n/a
Castorseed	49	53	55	70	75	75	100	100	100	120	170	170
Weighted Av. Price (4)	269.5	258.3	282.9	278.4	439.1	669.4	557.9	532.2	603.5	694.6	668.7	n/a

(1) Estimated producer price before 1976/77, thereafter total of advanced, interim and final coffee payments; final payments for 1979/80, 1980/81 and 1981/82 are estimates hence (p) provisional figures.

(2) From 1975/76 price is that for Grade IV pyrethrum.

(3) BI Splits Cardamom.

(4) Weighted according to value of official purchases 1977/78 to 1979/80 inclusive.

Source: Price Policy Recommendations for the 1982-83 Price Review, Appendix 6, MDR.

Table 4.3: Official Producer and Retail Food Crop Prices, 1981/82
(TSh/kg)

	<u>Producer Price</u>	<u>Retail Price</u>	<u>Estimated Break-Even Price</u>	<u>Producer Price as % of Break-Even Price</u>	<u>NMC's Loss/Kg/TSh</u>
Maize	1.5	2.50	4.5	33	2.0
Wheat	3.33	5.65	6.5	51	0.85
Rice	4.7	5.35	8.0	59	2.65
Cassava Roots I	0.7	1.65	3.15	22	1.5
Cassava Roots II	0.5	1.50	2.90	17	1.4
Cassava Flour	-	2.25	3.95	-	1.7
Sorghum	1.0	2.00	3.15	32	1.15
Bullrush Millet	1.0	2.00	3.90	26	1.9
Finger Millet	1.5	2.65	3.75	40	1.1

Source: MDB, Price Policy Recommendations for the 1982/83 Agricultural Price Review, Annex 1 and 2.

4.15 As shown in Table 4.3, NMC loses from TSh 0.85 on wheat flour to TSh 2.65 on rice per kg of the preferred staples. This represents a subsidy financed largely by NMC's growing overdraft with NBC.^{10/} The resulting increase in the money supply is inflationary; the subsidized food prices, the predominant beneficiaries of which are urban consumers,^{11/} are paid for by the rest of the economy. The total retail foodgrains subsidy, measured in terms of NMC's unrecovered costs, was about TSh 470 million in 1980/81. To the extent that the subsidy leads to higher consumption of the preferred staples, large quantities of which are imported, the result is that consumers are being subsidized to eat imported grain. These factors indicate that it may be preferable to foster a different mix of domestically produced staples through producer price changes, and elimination of the consumer subsidy for imported staples, and to subsidize instead the consumption of locally produced staples. The consumer subsidy could then be varied depending on the predominant grain produced in the region (i.e., subsidize cassava in Mtwara, Lindi and Mwanza, sorghum and millet in Dodoma, but maize in Rukwa, Ruvuma, etc.- Table 4.4).

^{10/} In 1981/82 the Government's progress in paying off NMC's consolidated overdraft, (Table 2.2), was about balanced by increases in NMC's current overdraft. The high food aid imports helped reduce NMC's losses to about TSh 550 million in 1981/82 since for most food aid NMC only repays Treasury on the basis of full cost recovery (para. 4.16).

^{11/} Between 63 and 82% of NMC sales of preferred grains went to the six major towns of Dar es Salaam, Tanga, Arusha, Kagera, Kilimanjaro and Dodoma over the period 1974/75 to 1979/80. Keeler, et. al., op. cit., Table 25.

Table 4.4: Regional Consumer Prices for Sembe, Rice and Cassava Flour
1980/81 (TSh/kg)

	Current Retail Price	Fully Costed Price	Regional Economic ^{a/} Price	
			High	Low
Sembe	2.50	4.00	4.00 (Singida)	3.00 (Ruvuma)
Rice	5.35	6.40	7.98 (Mara)	6.85 (Mbeya)
Cassava	2.25	3.95	3.61 (Morogoro)	2.41 (Rukwa)

Source: D. Jansen, op. cit. Table 5.

a/ Border price either plus transport costs to deliver the food to deficit regions, minus transport costs to remove the food from surplus regions, plus milling, packaging and distribution costs in all regions.

4.16 NMC obtains imported grain commercially, on concessional terms under Title I of the U.S.-financed PL 480 program and on a grant basis from other food aid programs. For both commercial and PL480 imports, NMC has to pay the c.i.f. value in TSh. Though this imported grain is cheaper than domestic grain at present exchange rates (Table 4.5), NMC still makes a loss on it. For other food aid, NMC has only had to return to Treasury revenue less costs of TSh 1,645 per tonne rather than the c.i.f. cost of TSh 2,068. This will change in 1982/83 when NMC will reimburse Treasury for food aid on the same basis as PL480 and commercial imports. NMC's losses will increase correspondingly.

Table 4.5: Estimated Into-Store Cost of Maize, Wheat and Rice, 1982/83
(TSh/tonne)

	<u>Domestic</u>	<u>Imported</u>
Maize	3,612	2,781
Wheat	4,621	3,120
Rice	8,365 (4,500) ^{a/}	5,554

Source: MDB, Price Policy Recommendations for 1982/83 Agricultural Price Review, Annex 1.

a/ smallholder rice TSh 8,365/tonne, NAFCO rice TSh 4,500/tonne.

(iii) Maintaining the real value of producer prices

4.17 Real producer prices of export crops declined continuously over the 1970s, as illustrated in Table 4.6. Food crops first fell and then staged a partial recovery. The progressive export tax on coffee meant that much of the higher world prices during the coffee boom of 1977/78 was appropriated by the Government. At the height of the boom, the average export tax was 40% of export price; the marginal rate of tax, for a price above TSh 14,000/tonne was 60%.^{12/} There were similar taxes on sisal, tobacco and cotton. Taxes on the first two were abolished in February 1981, and the tax on cotton was abolished in June 1982. Abolition of the taxes became necessary because with an over-valued currency they acted as an additional constraint on raising producer prices. With a more appropriate exchange rate, the Government could again consider raising revenue from an export tax.

4.18 The decline in real producer prices translates into a corresponding drop in income for smallholders selling on the official market. The erosion of real agricultural prices has had several effects. First, it has caused a retreat from export crop production, as those crops experienced the greatest real decline. Some of this shift has been to food crops, though the higher parallel market prices have increased the incentive to produce and sell food (and some export) crops unofficially, both domestically and across the borders in peripheral regions. But the combined factors of price disincentives, poor marketing facilities, and the lack of consumer goods have also effected a shift toward increased subsistence orientation among peasant producers.

4.19 The decline in real official producer prices broadly corresponds to the drop in public service real incomes by about 50% between 1975 and 1980. But because of the importance of the largely undocumented parallel market in both the agricultural economy and in the urban areas, it is really not possible to estimate rural-urban per capita income shifts. Incomes are increased for those in the economy who are able to sell in the unofficial market, and are decreased for those who have to buy. Availability of consumer goods is superior in border areas and in the large urban areas, and the high unofficial prices often require purchasers to have incomes from illegal trade. However, the 15% p.a. increase in public sector employment means that the total share of income (not per capita) going to the urban sector has almost certainly increased.

^{12/} During 1976-77, revenues from coffee constituted 16.1 percent of total Government revenues. See F. Ellis and E. Hanak, "An Economic Analysis of the Coffee Industry in Tanzania 1969/70-1978/79", Economic Research Bureau, University of Dar es Salaam, 1981, Appendix Table 8.

(iv) Achieving inter-regional equity and ensuring supplies for urban consumers

4.20 Prior to the disbanding of the cooperatives in 1976, producers received a price equal to the nationwide into store prices from the agricultural marketing board, less the cooperative costs in getting the commodity from farm to store. With the institution of crop authorities, the nationwide (pan-territorial) price was made applicable at the village level. Thus, NMC paid the same price for maize procured in Morogoro or Mwanza, irrespective of the transport costs involved. The generally recognized justification for this policy has been inter-regional equity. But there may also have been a less frequently articulated concern about mobilizing surpluses for urban consumption. The recent change to regional pricing for maize illustrates this point. A study by MDB in 1980 of the transport costs of pan-territorial pricing led the then Minister of Agriculture to support its replacement by regional pricing, which would reflect transport costs. MDB's recommendations envisaged lower producer prices in more remote regions in view of the higher transport costs. Cabinet, while accepting the principle of regional pricing, opted for paying a premium in the more remote, transport expensive regions, perhaps because without such incentives trading across the border would be attractive, thus reducing surpluses available to the official sector. The 1982/83 season will therefore see the reintroduction of modest regional price differentials mostly in a direction contrary to the principle of "efficiency" pricing as is normally understood.

4.21 The effect of pan-territorial pricing has been to shift the pattern of NMC'S maize procurement towards the more remote regions with higher transport costs (Table 4.7). Even though the volume purchased in 1980/81 was almost identical to 1972/73 purchases, the higher transport costs associated with the major procurement regions meant that the 1980/81 crop was, in effect, worth 21% less to NMC than in the earlier years. Thus there are large potential gains from regional producer and consumer pricing which takes into account of both transport costs and comparative advantages. Regional production potentials have been discussed at some length in the Government's recent National Food Strategy Report.^{13/}

^{13/} URT, op. cit. In general the National Food Strategy Report agrees with this report in advocating restriction of maize promotion to the areas of more reliable rainfall, but goes beyond this report in predicting large rice surpluses from Mbeya and Morogoro and successful remedy to the fuelwood and fertility problems of tobacco. See also the discussion of future prospects for individual crops in Background Paper I.

Table 4.6: Trends in Agricultural Producer Prices for Selected Crops, 1969/1970-1979/1980, Money and Real Terms^{a/}

Crop	Producer Prices TSh/kg			% Increase/Decrease			
	1969/1970	1973/1974	1979/1980	1969/1970-1973/1974		1973/1974-1979/1980	
				Money Terms	Real Terms	Money Terms	Real Terms
Export Crops							
Cashew	0.91	0.91	1.74	0.0	-38.4	91.2	-24.0
Coffee	5.41	5.80	11.87	7.2	-33.9	104.7	-18.6
Cotton	1.06	1.10	2.83	3.8	-36.0	157.3	+2.3
Pyrethrum	3.00	2.75	5.51	-8.3	-43.5	100.4	-20.3
Tobacco	4.09	5.28	8.35	29.1	-20.5	58.1	-37.1
Domestic Crops							
Maize	0.28	0.33	1.00	17.9	-27.4	202.9	+20.4
Paddy	0.52	0.57	1.50	9.6	-32.5	163.2	+4.6
Wheat	0.57	0.57	1.35	0.0	-38.4	136.8	-5.8
Groundnuts	0.92	1.15	4.00	25.0	-23.0	247.8	+38.3
Sunflower	0.42	0.55	1.40	31.0	-19.3	154.5	+1.2

Source: Frank Ellis, "Agricultural Price Policy in Tanzania", World Development, Vol. 10, p.268, 1982.

^{a/} Deflated by a modified National Consumer Price Index, (i.e. with specifically urban cost, e.g. house rent, deleted).

Table 4.7: NMC Purchases and Regional Values for Maize 1980/81

<u>Region</u>	<u>Value a/</u> TSh/kg	<u>Purchases</u> 1972/73 '000 tons	<u>Purchases</u> 1980/81 '000 tons
DSM/Coast	.98	-	-
Morogoro	1.06	9.6	.7
Tanga	.94	-	.1
Mtwara	.94	-	.2
Lindi	.99	-	.2
Arusha	.79	17.1	17.4
Kilimanjaro	.98	11.8	.1
Dodoma	.94	54.1	23.7
Singida	1.21	.7	.4
Tabora	1.28	.5	2.4
Kigoma	1.31	-	.2
Rukwa	.56	-	17.8
Mwanza	1.28	.2	-
Mara	1.32	3.6	-
Shinyanga	1.25	-	.2
Kagera	1.31	-	-
Iringa	.71	8.2	21.8
Mbeya	.94	.1	5.4
Ruvuma	.44	.5	14.0
National Average	<u>.99</u>	<u>106.4</u>	<u>104.6</u>
Total Value (TSh million)		<u>987.3</u>	<u>780.9</u>

a/ Total value taking into account transport costs.

Source: D. Jansen, op. cit. Table 1; MDB, 1982/83 Price Review, Annex 1, MDB, Appendix 2.1.

(v) Increasing overall crop production

4.22 Two of the most frequently raised questions in the context of an agricultural recovery in Tanzania are whether farmers are price responsive, and whether price policy should be an instrument for achieving increases in overall production. In light of the evidence of changes in relative levels of official procurement corresponding to the decline in real prices for export crops and increased prices for drought staples, it would be difficult to argue that Tanzanian peasants are not price responsive (Table 4.8). Not only is there evidence of producer response to relative prices but more significantly, over the decade of the 1970s, there is evidence on overall downward responsiveness to lower real prices and to associated disincentives discussed elsewhere in this report.

Table 4.8: Relative Levels of Official Procurement in the 1970s--Food and Export Crops (metric tons^{a/})

<u>3-year average</u>	<u>Export Crops</u>			<u>Domestic Crops</u>			
	<u>Estate Produced</u>	<u>Peasant Produced</u>	<u>Sub Total</u>	<u>Staple Grains</u>	<u>Drought Crops</u>	<u>Oilseeds</u>	<u>Sub Total</u>
1969/1972	240,003	391,309	631,312	208,284	16,347 ^{c/}	28,388	253,019
1977/1980	155,016	314,876	469,892	279,344	117,948	22,193	419,485
% Change	-35.4	-19.5	-25.6	+34.1	+619.7	-21.8	+65.8

	<u>Crop Categories</u>	<u>1973/1974</u>	<u>1979/1980</u>	<u>% change</u>
Old Scheduled Crops	Export Crops ^{b/}	614,345	472,375	-23.1
	Staple Grains	166,097	234,547	+41.2
	Oilseeds	20,895	25,571	+22.4
New Scheduled Crops	Sorghum/milletts	4,089	37,575	+818.9
	Cassava	19,018	44,214	+132.5

Source: Ellis, Agricultural Price Policy, op. cit, p. 270.

Notes:

a/ Measured at point of purchase from the producer.

b/ Estate tea and all sisal.

c/ Marketed output prior to state intervention estimated on the basis of the subsequent trend in official purchases.

4.23 In the right circumstances, smallholder producers in Tanzania have shown themselves capable of quite astonishing rates of expansion -- as in the expansion of coffee in the south from 1976/77 onwards, cashews from 12,000 tonnes in 1952 to 60,000 tonnes in 1962, cassava from 20,200 to 63,800 tonnes and sorghum from 10,100 to 58,600 tonnes between 1976/77 and 1978/79. However, an overall expansion--as distinct from shifts in the composition of production experienced in the 1970s--requires an infrastructure of agricultural services and availability of incentive goods without which not much aggregate supply response would be possible in the short run even with attractive producer prices. Chapters V and VI illustrate the extent of depletion in the infrastructure of agricultural services experienced in the 1970s in Tanzania, and hence the limited scope for effective price policy actions alone.

4.24 If the parastatals are to remain competitive with the informal market in their major procurement regions, an increase in real official producer prices will be needed, in conjunction with other policy changes. Such price changes will need to bear in mind regional potential and substitution possibilities (coffee versus banana and vegetables in Kilimanjaro; coffee versus dairying in Arusha; cotton versus maize in Geita; tobacco versus maize in Iringa; coffee versus maize in Ruvuma; cassava versus cashews in Mtwara and Lindi, etc. (Chapter I, Section G); and the relative import intensity of export and food crops (Table 2.5)). While the general direction of cross-elasticities are known, there are no quantitative data on the supply elasticities for most crops (see however footnote 18). The actions which will need to be taken to permit producer price increases are examined in Section E of this chapter.

(vi) Achieving high quality of produce

4.25 The extensive decline in the quality of Tanzania's export crops, which has severely affected its international competitiveness and caused a substantial loss of foreign exchange, was observed in Chapter I. While a range of factors have affected the quality of produce (paras. 1.42; 1.46; 1.47; 3.21) price policy has certainly been an important cause of the quality problem as well. For coffee, Tanzania's major export earner, the quality premium has narrowed in recent years (Table 4.9). For a number of other crops the quality premium has been too small and has been too unevenly applied to provide an incentive even to maintain, let alone improve production standards. Major losses in quality subsequently occur during processing for cotton and tobacco, as documented in Background Paper I.

Table 4.9: Grading of Annual Coffee Crop, 1976/77 - 1980/81
(percent)

<u>Class</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>
1-4	5	9	4.81	3.69	2.45
5 (basic)	20	35	17.93	20.35	6.09
6-17	75	56	77.26	75.96	91.64

Producer Price Spread (percent of basic kilo price)

<u>Year</u>	<u>Class 1</u>	<u>Class 17</u>
1972/73-1975/76	114	58
1976/77	110	59
1978/79	107	70
1980/81	110	59

Source: Background Paper I, p. 17.

(vii) Growth of illegal competition

4.26 Growth of illegal competition from the parallel market,^{14/} while plainly not an objective of price policy, has certainly been one of its results in recent years. The much higher producer prices paid by the parallel market, where producers can get two to three times the official price for food crops, have already been noted in Chapter 1 (Section F). These higher prices both stimulate grain production and tend to divert supplies from NMC. The only region with a marked upward trend in NMC procurement is Rukwa, and this region together with Arusha, Dodoma, Iringa, Ruvuma and Mbeya provide over 90% of NMC maize procurement. Elsewhere, the trade is either insignificant or, as in Kilimanjaro, dominated by the parallel market. If NMC is to continue to make substantial purchases, then it would seem sensible for it to concentrate on the six regions where farmers are still willing to produce at the official price, and where the substantial volume of operations can support reasonable NMC overhead costs. Very considerable savings could be realized by cutting back or eliminating NMC operations in regions where NMC bought less than 1,000 tons in 1980/81.^{15/} Concentrating equipment, funds, and the best technical and accounting staff in these six regions, while letting other staff go, is likely to lead to greater procurement, at much lower cost than achieved with nominal country-wide coverage. A similar concentration for export parastatals would reduce their costs and improve performance in the high production areas.

4.27 Any attempt to reduce the activity of the parallel market under the current system is more likely to discourage production, and thus increase the population dependent on NMC for imported food supplies, than it is likely to divert supplies from the informal market to the crop authorities. Rather, as discussed later, NMC may itself need to raise producer prices in the limited area it continues to serve, to compete with, rather than prohibit, the parallel market.

(viii) Food security and drought staples

4.28 The pricing of drought staples to ensure national food security has posed some difficult problems. Technically, it is hard to set fixed official prices for drought staples at the right level. In a good season, producer sales to NMC tend to expand, exactly at the time that there is little consumer demand, since preferred staples are in abundant supply. In a poor season, supply dries up, but consumer demand permits stocks to be moved into consumption. Following the near doubling of prices for drought

^{14/} Private trade in food grains was officially limited to 30 kg per transaction until mid-1983 when the limit was raised to 500 kg, and all export crops have had to be sold exclusively to the appropriate crop authority.

^{15/} In special circumstances, where for one reason or another private trade has not emerged or is not effective, a case can be made for parastatal operations, even at a loss, to provide producers with a marketing outlet. Such circumstances need to be considered on a case by case basis.

staples (almost quadrupling for finger millet--Table 4.1), opening stocks increased rapidly from 1976/77 to 1978/79 for most drought staples (cassava roots from 2,200 to 39,700 tons; sorghum from 800 to 34,800 tons; and bullrush millet from 100 to 19,500 tons), tying up about a third of NMC's grain storage capacity. It became clear that an imbalance in grain prices had developed and, since the surplus drought staples could not be stored indefinitely, some were exported at prices which did little more than cover the direct cost of exporting them.

4.29 To avoid repetition of this experience, drought staples need to be priced in inverse relation to NMC's stock position; with producer price declines being triggered by excessive stock accumulation. There are income distributional difficulties in making this kind of change, however, since the high official prices for drought staples have benefitted some regions where there are few alternative cash cropping possibilities. Consequently, it might be appropriate to institute a bonus for these crops when inventories are low, which could be withdrawn when inventories recovered. The basic requirement, however, is to recognize that direct assistance to these regions would be preferable to directing NMC to buy unwanted drought staples at inflated prices for income distributional reasons. In accordance with a policy of concentrating NMC activities on its most important functions and regions (para. 4.24), it may even be preferable to drop the requirement that NMC purchase drought staples, especially since consumer demand for them is quite modest. Alternatively, consumer prices for these crops should be made low relative to the prices of the preferred staples; to stimulate demand for these crops which Tanzania can produce in abundance.

D. Export Price Prospects

4.30 An overall assessment of future price prospects for crops of major importance to Tanzania is presented in Table 4.10. These projections, made by the Commodities Division of the World Bank in July 1982, do not cover sisal, cashews, or cloves. In the case of sisal, competition with polypropylene means that the price of the substitute provides both a ceiling, and to some extent a floor, to likely prices for sisal. Petroleum is projected to rise by 19% between 1982 and 1990, and jute, another partial substitute for sisal, is projected to rise by 40%, so a modest sisal price rise in constant dollars could be expected.

4.31 Overall, the price projections in Table 4.10 are not encouraging. A new commodities boom is not projected, so that the prospects for improved terms of trade appear poor.^{16/} On the other hand no major further price collapse is projected, beyond the declines which have already taken place, meaning that the worst of the price declines for Tanzania's major exports is projected to be over. Prices of grains and sugar, which Tanzania imports, are projected to rise faster than the prices of crops which it exports with the exception of cotton. This adds urgency to the Government's aim to increase food self-sufficiency. In the case of sugar, a 55% increase in the real price raises further doubts about the economy's ability to afford the same per capita consumption as it has in the past.

^{16/} Table 4.10 throws considerable doubt in the 5% improvement in terms of trade, used to project balance of payments prospects in the SAP (SAP, op. cit., p. 10).

Table 4.10: Price Projections for Tanzania's Major Crops
(Constant US\$ 1981 = 100)

<u>Crop</u>	<u>Unit</u>	<u>Average</u> <u>1960-70</u>	<u>Estimated</u> <u>1982</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Coffee <u>a/</u>	c/kg	311	300	262	265	315
Tea <u>b/</u>	c/kg	427	195	171	184	174
Cotton <u>c/</u>	c/kg	219	164	200	215	215
Tobacco <u>d/</u>	\$/MT	2,825	1,931	2,071	2,110	2,113
Sugar <u>e/</u>	\$/MT	256	240	372	372	372
Maize <u>f/</u>	\$/MT	179	112	137	142	142
Wheat <u>g/</u>	\$/MT	227	173	181	190	190
Rice <u>h/</u>	\$/MT	538	313	425	425	418

Source: World Bank, Commodity Price Forecasts, July 1982.

Note: a/ Guatemalan, Prime Washed Spot New York.
b/ London Auction, average price received for all teas.
c/ Mexican Middling 1-3/3" CIF N. Europe.
d/ India, Export value of Flue Cured.
e/ World, ISA Daily Price, FOB and stowed at Greater Caribbean ports.
f/ US No. 2, yellow, FOB Gulf Ports.
g/ Canadian No. 1 Western Red Spring (CWRS) in Store Thunder Bay.
h/ Thai, milled 5% broken FOB Bangkok.

4.32 Coffee, Tanzania's most important export earner, represents a rather special case. Not only are the price prospects for this crop poor, but much of any increase in Tanzanian production will need to be sold on non-quota markets, at a probable discount of 20 to 30% below quota market prices. Tanzania is a low cost producer of the crop, however (as indicated by the maintenance of production levels over the 1970s despite declining real producer prices well below the international price). Even with the non-quota price disadvantage, coffee continues to look attractive relative to tea and the food grains if average realizations in the 1960s are taken as a benchmark. Tanzania is already exporting between a third and a fourth of its coffee to non-quota markets. A return to high standards of quality and the development of marketing acumen will be necessary to compensate for the general price decline and to increase sales in non-quota markets.

4.33 The overall market prospects have important implications for the scope the Government has in addressing the dual problems of the inflationary budgetary drains of crop parastatals and low export earnings. Because Tanzania cannot expect a major boom in international commodity prices, it will have to regain stability in the light of existing world prices. This will require a substantial devaluation, both to reduce parastatal losses and to allow for higher producer prices to stimulate the production of export crops.

E. Price Policy for an Agricultural Recovery

4.34 The following factors observed in conjunction with Tanzania's pricing policy will need to be taken into account in devising a price policy in support of a recovery program:

- (a) stagnant or declining international terms of trade,
- (b) declining export crop production,
- (c) increased import dependence on food for urban consumption,
- (d) high marketing margins for officially traded crops,
- (e) consumer prices for food which do not cover parastatal costs,
- (f) large and growing parastatal losses,
- (g) extensive and growing parallel market, reflecting the shortages of cereals,
- (h) rates of inflation well above those reflected in officially controlled prices,
- (i) redistribution of income from producers to urban consumers and from traditionally surplus to other producing areas,
- (j) realignment of price incentives in favor of food crops and away from export crops, and
- (k) overvalued exchange rate.

4.35 One assumes the Government's price policy objectives in these circumstances to be to:

- (a) increase the food and export crop volumes going through official channels,
- (b) reduce marketing margins,
- (c) reduce parastatal losses,
- (d) reduce food imports,
- (e) bring the parallel market under control,
- (f) ensure food security,

- (g) increase overall agricultural production, and
- (h) bring down domestic rates of inflation.

4.36 Several implications of the current situation and these objectives are self-evident. Without price policy changes, unofficial food prices would continue to induce a production substitution from export crops to food crops.^{17/} Similarly, official prices which do not match parallel market prices are not conducive to voluntary grain sales through the official channels. But, even if the Government would continue to allow food crop production and marketing decisions to be dictated by the high prices in the informal market, official export prices would need to be increased relative to unofficial food prices to bring back resources into export crop production. Tanzanian producers have demonstrated supply responsiveness both to relative price changes, and in an overall downward direction to absolute declines in the real values of prices (paras. 4.22-25). Under the assumption that they would also respond positively to overall improved terms of trade vis-a-vis the urban areas (i.e. positive absolute supply response to increased prices), there are some important steps the Government can take to meet its price policy objectives.

4.37 The Government is unlikely to want to relinquish control of the food crop market altogether for both political and welfare reasons. Because it would be difficult to justify continuing NMC's food purchasing functions with official food prices too low to be able to command a significant share of the market, official food prices will need to be increased to a level competitive with parallel market prices. Lack of precise data on the parallel market and of supply response greatly reduce the precision with which required price increases can be recommended.^{18/} However, if the fragmentary data on the parallel market are any indication, initial official producer price increases for food crops of at least 10 to 30 percent above those recommended by MDB in 1982/83 would seem to be necessary for the Government to purchase additional grain. While these may

^{17/} With the exception of sisal most export crops compete with food crops if not in acreage (as for instance in the case of tree crops) then for labor and other inputs in the short run. In the long run, even acreage is being substituted by uprooting tree crops (para. 1.42).

^{18/} MDB estimates suggest that a 40% price rise in nominal terms (in the face of 30% inflation) might raise procurement of arabica parchment 17%, from 42.5 to 49.8 thousand tonnes (and increase CAT losses by TSh 170 million); hard coffee 17% from 13.2 to 15.5 thousand tonnes (adding TSh 36 million CAT losses); seed cotton 30% from 86 to 112 thousand tonnes (adding TSh 172 million to TCA losses); pyrethrum 30% from 1,957 to 2,550 tonnes (adding TSh 5 million to TPB's losses). This assumes a real price elasticity of supply of 0.5 for coffee and 0.8 for cotton and pyrethrum. If anything, MDB's assumption perhaps errs on the side of too great supply elasticity, at least pending the institution of a full structural adjustment package for the agricultural sector.

well turn out to be too modest to compete with the parallel market, higher producer prices for food crops may not be wise until other services are put in place to obtain a greater supply response (Chapters V and VI). Subsequent adjustments in official producer prices may well need to be made on the basis of actual production responses achieved following the initial price increases.^{19/}

4.38 Without adjustments in export crop prices, however, the guarantee of more attractive official food prices could further reinforce diversion of resources into food crop production (assuming NMC improved its procurement operations) as it will reduce the uncertainty and the risk of return prevalent in the parallel market. Official export crops prices would thus need to be increased relative to food crop prices if export production is to increase. A 30 to 50 percent increase in export crop prices in real terms may be necessary to ensure an overall supply response.

4.39 A number of government reports recognize the need to raise the incentives to producers of cash crops for export which have fallen steadily in real terms and relative to the prices of food crops. In deriving the suggested increases in agricultural prices, account has been taken of the fact that the official prices for food grains have also fallen in real terms and that the prices of food grains on the unofficial market are two to four times greater than official prices (See Tables 1.6 and 1.7). Since NMC procures only 10% of the marketed output of grain, increases to the level of unofficial prices are not necessary. In the judgement of staff who have analyzed farm survey and budget data in the course of project work and who have discussed prices and costs of transaction with farmers, increases of 10 to 30 percent in the real prices of food grains would enable NMC to maintain its market share in the major surplus regions.

4.40 The suggested increase of 30 to 50 percent in the increase in real prices of export crops arises from the need to increase the price of export crops relative to the price of food crops since a decline in exports is a major cause of Tanzania's current difficulties and since, for most crops, there is no parallel market to "take up the slack" in the event that suggested prices are too low. This would remove over half the decline in the real prices which has taken place over the past decade (as illustrated in Table 4.6). The wide range in the suggested increases reflects the unknowns with respect to farmer response (cross-supply elasticities, etc.) and the volume of food procured in the unofficial market. For this reason, no attempt has been made to give crop specific recommendations. But experience in Tanzania and in other countries suggest that smallholders do respond well to price/policy package incentives.

^{19/} Reflecting transport costs into producer prices would be another factor which needs consideration. But due to the additional complexities it creates, its consideration should perhaps be deferred until after the subsequent rounds of price adjustments.

4.41 As has been noted elsewhere, an increase in prices alone cannot be relied on to reverse past productivity trends, and there are alternative methods of raising real incentives to producers, for example, increased retention of foreign exchange by exporters, and/or abundant availability and lower prices for essential consumer goods could be traded off against higher cash payments. The emphasis has to be on a policy package so that the "required" value of any one parameter is a function of the other elements of the package.

4.42 Can the suggested price increases be sustained, given the already large parastatal losses at the current exchange rate? Increasing the official consumer prices of food crops should help bring in additional revenues for domestically consumed food items. Consumer prices which are more closely in line with the parallel market prices will also reduce the demand for official supplies, thus reducing NMC's commitments and operating costs. Increased consumer prices would undoubtedly reduce real urban incomes further from their already reduced levels (para. 4.19). But the actual decline may not be as great as would seem on the surface given the high degree of consumer dependence on the parallel market (para. 1.29). While it undoubtedly will be politically difficult, some redistribution of income in favor of rural producers will be necessary to stimulate surplus production, which will allow the Government to regain a measure of control over the economy. Given that the vast majority of Tanzania's population is employed in agriculture, this shift is also justified on equity and income distributional grounds.

4.43 The option of raising consumer prices, is not open in the case of export crops. It is evident from Chapter III that further increases in producer prices could not be sustained in these cases without increasing parastatal losses. Substantial continued reductions in real official producer prices would be needed for the export crop parastatals to break even, at the present exchange rate. If real declines in producer prices continue, this would further reinforce the decline of agricultural production traded in the official channels. Clearly, a significant exchange rate adjustment would be essential to increase official producer prices of food and export crops. How substantial this adjustment would need to be can be seen* from the fact that an exchange rate of TSh 18 to TSh 20 per US dollar and a doubling of consumer prices would not bring parastatal losses under control without reducing real producer prices further.

4.44 The actually needed exchange rate adjustment would depend on the current and likely rates of inflation with and without devaluation, possible consumer and producer price adjustments and other fiscal and monetary measures which would be put in place, in addition to any institutional changes along the lines recommended in Chapter III which may be undertaken. Such macro-analysis goes far beyond the scope of this report and is not attempted here, except to stress the urgent need for increases in producer and consumer prices and their consequent implications for an exchange rate adjustment.

CHAPTER V

AGRICULTURAL SUPPORT SERVICES

A. Introduction

5.1 Essential support services for the agricultural sector embrace three main areas of activity:

- (a) research, extension and training;
- (b) the provision of agricultural production inputs, including seed, fertilizer, pesticides, farm equipment and credit; and
- (c) primary marketing, payment and transport.

The disappointing performance of the agricultural sector can be largely attributed to the Government's inability either to provide satisfactory services in all of these areas, or to allow more development of non-governmental alternatives to provide these services. The multitude of public sector institutions involved and the frequent switching of responsibilities between institutions has been the principal reason for the weakness of the whole system. As pointed out in the previous chapters, one facet of this matter lies in the attitude of the Party and the Government to perceived weaknesses of institutional performance; changes have been made in the structure of the institutional framework rather than in the sources of the problem. Thus neither has there been a move to strengthen existing institutional capacity through infusion of trained manpower and recurrent budgetary resources nor to reduce reliance on overburdened Government institutions. Political rather than technical decisions appear to have been paramount in this vital sector; yet improvement in the support services of the agricultural sector will depend upon a return to decisions which place greater emphasis on technical and managerial considerations.

5.2 While the crop parastatals and the Ministry of Agriculture have had the primary responsibility for most of these functions, a range of institutions, including the Tanzanian Rural Development Bank (TRDB), the regional administrations, the fertilizer and seed production parastatals, the Regional Trading Corporations, and most recently a new research parastatal, TARO, have also been involved in some aspect of support services over the past decade. The problems in providing support services are both institutional and resource-related. In the first respect, many of the public sector institutions involved have lacked the organizational capacity to carry out their responsibilities; at the same time there has been a history of ambiguity on the role of the various institutions in providing these services. Resource scarcities - of skilled manpower, operating budgets, and imported requirements - have then prevented any of these institutions from reaching the farmers adequately. The financial and managerial problems of the parastatals (Chapter III) have become so overwhelming, that day-to-day firefighting to keep them under control has reduced the ability of the agriculture ministry's top management to devote attention to key areas of agricultural services.

B. Research and Extension

5.3 Creation of the basis for improved agricultural productivity involves two essential processes: first, creating the knowledge of superior farming techniques, and second, disseminating that knowledge to farmers. In Tanzania, the first part of this process, research, has been neglected to an extreme degree for at least a decade, and the second part, extension, has been sufficiently alienated from both the research process and its parent ministry that its value to farmers is insignificant in most parts of the country.

Problems of the Research System

5.4 The neglect of research is largely a matter of budgetary and manpower allocations far below levels which permit an adequate program for any given crop (para. 2.33). The budgetary allocations to the ten traditional crop research stations (Ilonga, Lyamungu, Mtwara, Mlingano, Ukiriguru, Maruku, Mpiji, Nachingwea, Chambezi and Kilombero) have not increased even at current prices for eight years despite rapid inflation in salary levels and material and equipment costs. Three other research institutions which are better endowed (TPRI, UDSM and Uyole), nevertheless have difficulty utilizing their budgets effectively because of staff shortages. Similar problems exist for livestock research stations. To support development of technical packages, the Ministry would need to give higher priority to the budgetary requirements from its existing allocations, as also to develop a sound long-term program of research which would attract additional resources.

5.5 Table 5.1 highlights the scarcity of highly qualified personnel in both research and extension. The need for training programs for nationals is clear: in 1979, in ten of the research stations, only one of the 116 Tanzanian senior staff possessed a Ph.D; half the stations did not employ staff beyond the B.Sc. level.^{1/} Tanzania will clearly have to depend on technical assistance to staff the research system for at least the next ten years if effective research is to be carried out.

^{1/} Agriculture and Livestock Research Project Proposal, Vol. 2, Annex 5, Table 10, 1979.

Table 5.1 Available and Required Levels of Highly Trained Personnel in Research and Extension

	-----Research-----		-----Extension-----	
	<u>Available At 30 June 1979</u>	<u>Total Required by 1987</u>	<u>Available At 30 June 1979</u>	<u>Total Required by 1987</u>
BSc	142	239	144	907
Post Graduate Diploma	9	9	8	8
MSc	33	179	8	179
Ph.D	4	22	0	5

Source: Ministry of Agriculture, "Agricultural Manpower: Local and Expatriate, as on June 30, 1979", Paper Presented to Arusha Conference on World Bank-Funded Agricultural Projects in Tanzania, Arusha, 1980.

5.6 Organizational uncertainties have similarly had a detrimental effect on research station performance. Administratively, research activities are the responsibility of five separate institutions. The commodity research stations, formerly under the Ministry of Agriculture and supported by the parent industries, have been under the newly created research parastatal, TARO, since 1981. The Tropical Pests Research Institute is an independent parastatal, as are the University of Dar es Salaam and the Uyole Agricultural Center, a former Nordic Group project which combines research, training and extension for the southwestern zone. TALIRO is TARO's counterpart for livestock research. None recognizes the overlapping interests and activities of the others and all are separated institutionally from extension. In addition, the two new parastatals, TARO and TALIRO overlap the research divisions in their parent ministries, which continue to exist.

5.7 Coordination of research activities was poor under the Ministry of Agriculture; the recent institutional change from Government departmental services to parastatal operations has further disrupted the organization of research activities. It remains unclear who should decide upon research priorities, professional personnel deployment, communication of results with extension personnel, and coordination of interdisciplinary research such as pasture research. As a recent study for the Ministry of Agriculture argued, in the event, all too often no decisions are agreed upon or communicated to the research station level, so work has to proceed

without clearly defined objectives or terms of reference.^{2/} The approval of IDA funds for a national research project was prevented because of the persistence of these organizational uncertainties.^{3/}

Availability of Research Results and Technical Packages

5.8 Tanzania has lost a decade of valuable time in development of technical packages due to the setback that its research system has received through organizational budgetary and manpower problems discussed above. Given Tanzania's early stage of technological development, the need to articulate area-specific packages and especially to assess their economic viability in the farmer's field hardly needs to be stressed. Nevertheless, there is much more information available from earlier research programs that is not being used. Recommendations made by the National Maize Research Program provide the best illustration of this. In 1981 the results of five years' work on both research stations and farmers' plots were summarized into specific recommendations for the six major ecological zones where maize can be grown, covering time of planting, varieties, plant population, fertilizer, insecticide application and weeding. For example, no fertilizer is recommended for most of the low altitude areas while in the high altitude, high rainfall areas applications of up to 120 kg/ha nitrogen have given yield responses. At 1981 official prices, it would have been necessary to achieve a yield response of 10.3 kilos of maize grain for every kilo of nitrogen applied in the form of calcium ammonium nitrate (CAN) in order to achieve a value to cost ratio (VCR) of 2:1. At present informal market prices for maize and subsidised prices for fertilizer a VCR of 2:1 could be achieved with a yield response of only 2.6 kilos of maize grain for every kilo of nitrogen. In 1981, applications of 65 kg/ha in Rukwa were supporting crops of 5 to 6 tonnes per hectare^{4/}, and research results for both Rukwa and Ruvuma and the wetter parts of the Southern Highlands indicate that economic responses (16 kilos of grain) are

^{2/} Albrecht, H. A., "Report of a Study of Research Priorities", DSM: Crop Development Division, Ministry of Agriculture, (1979) cited in URT, op. cit. vol.II, p. 13, lists a number of the weaknesses of the research system as follows:

- research staff are spread too thinly and assigned more projects than can be handled.
- they have too much responsibility for unrelated, on-station production programs (most ARIs have linked farms not under experimental use).
- new graduates are not selected for their research aptitude.
- transfers of staff are frequent.
- the Ministry's research policy is not clear to researchers.
- At all institutions, one or more specialized fields fundamental to research success are not represented.
- The coordinating structure of national committees is not effective.
- there is no obligation for Kilimo, USDM, and Uyole to cooperate.
- program responsibilities and budgeting are not linked.
- institute and program administration is loose.

^{3/} The National Agricultural and Livestock Research Project, 1980.

^{4/} Observations during implementation of National Maize Project (Credit 606-TA).

readily achievable (up to nitrogen levels of 60 kg/ha) at present official prices for maize and unsubsidized fertilizer prices (TSh 12.38 per kilo of nitrogen as compared to the subsidized price of TSh 7.74 for CAN). By contrast, the lower altitude and drier areas of Iringa, Morogoro and Lindi/Mtwara will rarely provide economic yield responses to applications of nitrogenous fertilizer. This detailed information is not made use of by the extension service who recommend one maize package for the whole country,^{5/} although the results were presented at a research-extension conference. The present distribution of fertilizer to maize farmers does not, therefore, make use of the technical information available to ensure the most effective use of this costly and scarce input. The demand for fertilizer by farmers in the high response areas of Rukwa and Ruvuma could not be met in 1981, and no particular priority was given to servicing those areas.

5.9 For cotton, research findings clearly show the variable and uneconomic response to fertilizer in the absence of large quantities of organic manure for almost all soils. Data indicates that improved husbandry (planting methods, population and weeding) can lift yields (from the present 300 to 500 kg/ha) by more than 50 percent while a further increase of 50 to 60 percent is possible if well husbanded cotton receives regular insecticidal spraying. In 1979, the lack of response to fertilizer was observed in the Geita Cotton project,^{6/} and yet fertilizer distribution on credit (50 kg/ha TSP (triple superphosphate) and 125 kg/ha sulphate of ammonia) is continued by TCA to cotton farmers in the western growing area of Mwanza and Shinyanga, and insufficient emphasis is given by extension to the much cheaper and more effective option of improving the basic husbandry of the crop. Lack of control over ginning operations has gradually undermined the process of diffusion of selected planting material, which is one reason for the decline observed in the quality of international sales by TCA.^{7/}

5.10 For coffee there are already published handbooks for both robusta and arabica coffee prepared by research personnel on the basis of local research results. However, these handbooks rarely seem to be used by extension staff. For tobacco, an experienced internationally-recruited agronomist has only recently begun to extrapolate research results into recommendations for farmers.

5.11 For most crops, there has been little effort to make use of the substantial amount of information that is available, either by new research staff or by extension personnel, despite the resolutions of the 1979 workshop held in Arusha under the sponsorship of the World Bank and the subsequent appraisal mission by IDA of a national research program.^{8/} A start needs to be made immediately to extract and summarize existing research data for the different crops and ecological areas along similar

5/ Ibid.

6/ Geita Cotton Project (Credit 454-TA).

7/ Background Paper I (Cotton Section).

8/ National Agricultural and Livestock Research Project, 1980.

lines to that completed for maize. These findings then need to be proved on a narrower ecological basis under farmers' conditions. This would require a national program of district trials and would need to be supervised by experienced regional agronomists on a sustained basis.

5.12 Once the existing research results are extended to farmers and inputs are made available liberally to enable them to follow the extension recommendations, undoubtedly many new technical problems will emerge at the farm level and those will have to be dealt with by the research system. But the lack of technical packages can hardly be said to be the major constraint to increasing agricultural production at present. Following a thorough stocktaking of existing research results, priorities should be oriented towards problem-solving research. Though it will not be possible to run effective programs on all commodities for some time, it is possible to use the existing scarce research resources more productively.

Extension Operations

5.13 The ineffectiveness of the extension service has been acknowledged by many commentators, including the President, who once remarked that it would make no difference to agricultural production whether extension staff were there or not.^{9/} While the effectiveness of Tanzania's extension services has never been better than mediocre,^{10/} there is little doubt that services have deteriorated over the past decade. Shortages of operating funds have limited the mobility of extension personnel to an increasing degree over this period; but this cannot be viewed as the principal cause of ineffectiveness. Rather, it was the organizational deficiencies which severed both research-extension and the Ministry of Agriculture's extension linkages, resulting in a failure on the part of most branches of extension to disseminate anything farmers will benefit from knowing.

5.14 Ambiguities which have characterized the extension service's organization are to blame for the lack of linkages. The institutional ambiguities go back to the 1972 decentralization policy, which put Ministry of Agriculture field staff directly under the regional administrations of the Prime Minister's Office, and which even forbade direct communication from them to their original parent ministry. The staff were put in even more of an organizational limbo in 1976, when the cash crop authorities took over many extension functions, despite their lack of training and expertise in this area.^{11/} The separation of extension from the Ministry of Agriculture has undermined the basis for increasing the technical competence of the field staff. In the regions, shortages of highly trained personnel augment the organizational weakness - there is an acute problem in finding qualified personnel to teach research findings to lower level extension

9/ "The Arusha Declaration Ten Years After", Dar es Salaam, Government Printer, 1977.

10/ Coulson, op. cit., pp. 152-57; 166.

11/ More recently, both the Tea and Tobacco Authorities have released extension functions to the Ministry of Agriculture to externalize costs in an attempt to reduce their financial losses. Recent Government policy announcements suggest that this type of consolidation will shortly become the general practice.

personnel, who outnumbered senior staff (BSc and above) at the ratio of 15:1 in June 1979. ^{12/} In addition, the effectiveness of senior staff has been hampered in the regions by frequent appropriations of vehicles, housing and other facilities by other offices in the regional and district headquarters. Under such conditions, the large increases in lower level staff since the mid-1970s is of little value to the program.^{13/}

5.15 It has been over four years now since the question of whether the Ministry of Agriculture or PMO should control extension was raised. There now appears to be a movement in the direction of giving extension back to the Ministry. But unless the implementational details of the organizational and reporting arrangements are clearly worked out, another change will only increase institutional uncertainties further. Without a clarification of the institutional roles and a definition of the relationships between institutions for both research and extension activities, increased funding will not enhance the possibilities of disseminating useful knowledge to Tanzania's farmers.

C. Inputs, Distribution and Credit

5.16 The record on distribution of agricultural inputs and credit has been disappointing, especially since 1978/79. After rapid growth in the 1960s (38,000 tonnes by the end of the decade) and further rapid growth to 1975 (94,000 tonnes), partly as a result of direct political enforcement of use, fertilizer consumption has stagnated and in 1979-81 only averaged 99,000 tons per year (Table 5.2). Levels of use are substantially lower in Tanzania than in all neighboring countries except Uganda. ^{14/} Within Tanzania, there are wide divergencies in fertilizer consumption, with over 75% of the 1980 total going to six of the major surplus producing regions (Table 5.3). Current (1981) estimates of allocation among crops suggest that at least 45 percent of all fertilizer is applied on food crops, 18 percent on tobacco, and the remainder on coffee, cotton, tea, sugar and other commercial crops. This represents a significant shift in use from export crops to food crops since 1972.^{15/}

5.17 Sales of improved grain seed have been declining following a steady increase from the early 1970s to 1979 (Table 5.2). TANSEED, the parastatal seed production company, estimates that sales of improved varieties of seed in 1979/80 may have covered only 9% of the maize area, 10% of the paddy and sorghum area and 10% of the wheat area. The correlation between high fertilizer and improved seed use is only noticeable in Iringa and Rukwa (Table 5.3); this may be due in part to regional preferences for locally selected seeds (as in Ruvuma) and to dissatisfaction with the quality of seeds from TANSEED.^{16/}

^{12/} Ministry of Agriculture, "Agricultural Manpower", op.cit.

^{13/} There was a doubling of numbers employed in extension between 1974/75 and 1981/82. Background Paper IX, "Size and Deployment of Public Sector Manpower in Agriculture".

^{14/} Background Paper X, "Problems of Fertilizer Distribution," June 1982, Table 2.

^{15/} Ibid., p. 11.

^{16/} Ibid., Annex II, pp.5-6. Similar quality problems are exhibited in the case of cotton seed produced by TCA.

Table 5.2 Fertilizer and Improved Grain Seed Distribution, 1962-1981
(tonnes)

<u>Year</u>	<u>Fertilizer</u>	<u>Seed</u> ^{a/}
1962	8,700	-
1968	31,315	-
1969	31,785	-
1970	38,300	-
1971	42,886	-
1972	52,850	n.a.
1973	66,370	n.a.
1974	82,568	1,362
1975	93,541	4,154
1976	70,357	5,202
1977	84,817	4,905
1978	82,275	5,881
1979	93,704	7,096
1980	107,091	6,548
1981	96,596	5,489

Source: Background Paper X, Table 4.

^{a/} principally maize, plus smaller amounts of wheat, sorghum, and paddy.

5.18 Similarly, the value of farm machinery and pesticide sales to institutions and farmers grew steadily until 1978 and since then has declined sharply.^{17/} The record of growing loan default is equally discouraging. After an encouraging start in the mid-1970s, by June 1980, 65% of all TRDB loans due were in default. Some of the problems undoubtedly arose from the previous free distribution of fertilizer and subsequent misapprehension by the farmers of the implications of fertilizer on credit. The activities with the highest rate of default were cotton (90%), transport (90%), TTA factories (78%), farm machinery (78%) and smallholder tea (78%). Not only villages or individuals, but also organizations or corporations like NARCO ranches, DDCs, RTCs and TCA and TTA are among the major defaulters.^{18/} The defaults have led TRDB to cut down on lending, which in turn is now adversely affecting input distribution.

^{17/} Ibid., Annexes III and IV.

^{18/} Background Paper XIII, "Agricultural Credit and Institutional Change", June 1982, p.3-4. The National Food Strategy team attributes only 4 percent of the TSh 275 million in credit defaults as of March 1981 to crop failures, and the remaining 96 percent to "willful" default. (FAO, Tanzania Food Strategy Report (Summary), 1982.)

5.19 What accounts for this record of fast growth followed by stagnation and increasingly rapid decline? An obvious cause is the growing foreign exchange crisis, which has severely restricted imports of tractors and pesticides, and was probably the chief reason why maize seed imports from Kenya abruptly ceased in 1980/81.^{19/} However, this does not account for lack of growth of fertilizer sales, nor the growing rate of default on agricultural credit. Reasons for these can be traced in the first instance to political intervention affecting the pattern of distribution and to institutional ambiguities. There have been frequent institutional changes regarding input distribution, with insufficient attention to the needs of the agricultural producers. Prior to 1976 the cooperatives distributed half of total fertilizers and a significant proportion of farm machinery and chemicals.^{20/} Whatever purposes were served by their abolition in that year, much damage was done to the input distribution network. These functions were then transferred to the crop authorities and to TRDB. TRDB is an exceptionally well-managed Tanzanian agricultural parastatal, with well-established record-keeping systems and regularly audited accounts. However, it was set up as a credit agency, and has had great difficulty in managing the physical distribution of fertilizer. It owns no storage facilities, nor does it have the institutional capacity to use the exercise as a profit-making opportunity. The parastatals also distribute fertilizer on credit, and have some, but insufficient warehousing capacity. The result has been large losses for TRDB and the crop authorities, both through inadequate control over physical movement of the fertilizers and severe defaults on credit. As a consequence, some crop authorities (TAT, TTA, and TCA) have tried to externalize these costs by insisting that TRDB carry sole responsibility for fertilizer distribution.

5.20 The alternatives to distribution on credit through TRDB and the crop authorities are limited. The RTCs experimented with cash sales of fertilizer in 1977, but dropped the activity after making heavy losses. As of 1980, there were only 13 retail distribution outlets for fertilizer in the entire country (Table 5.3), including six outlets of the TFA. Apart from this, farmers in some regions can purchase inputs through the Regional Agricultural Development Officer (RADO), but the procedure involves a considerable number of stages, long lags between payment and collection of inputs, and heavy use of senior agricultural field staff.^{21/} While the evidence (Table 5.3) suggests that fertilizer has been getting through to high potential, high response areas (three of the top six regional consumers have no retail outlet), it is equally apparent that distribution problems have hampered consumption, especially in the more remote and higher demand areas.^{22/} The lack of cash retail outlets has also been a major problem both for TANSEED and for farmers who wish to use improved seed. With both TRDB and RADO purchases dropping dramatically in 1980/81 and 1981/82, TANSEED has resorted to the establishment of its own sales agencies to complement TFA sales outlets.

^{19/} Background Paper X, Annex II, p.1.

^{20/} Background Paper XIII, p. 12.

^{21/} Background Paper X.

^{22/} As evidenced by the lack of fertilizers for the National Maize Program (Credit 606-TA) in 1981/82 in Rukwa.

Table 5.3: Regional Fertilizer and Seed Sales 1980 (tonnes)

	Population 1980 ^{a/} 000s	Retail outlets No ^{c/}	Fertilizer export crops ^{b/}	Fertilizer food crops ^{b/}	Fertilizer ^{d/} total mt	% of national total	Improved ^{e/} Grain Seeds 1980/81	% of total	Principal crops grown with fertilizer.
Iringa	971	5	8,030	14,090	22,248	21	730	13	Maize, rice, tobacco, tea.
Ruvuma	600	Nil	7,455	9,220	17,675	17	23	1	Maize, tobacco, coffee
Mbeya	1,147	1	10,969	4,116	16,085	15	238	4	Maize, coffee, pyrethrum, rice, tea, cotton.
Tabora	893	Nil	5,200	6,743	12,234	11	81	1	Maize, tobacco, cotton.
Rukwa	492	Nil	434	4,281	6,340	6	482	9	Maize.
Kilimanjaro	953	1	2,271	3,793	5,901	6	240	4	Maize, rice, sugar, coffee.
Morogoro	992	1	Nil	4,653	4,653	4	549	10	Maize, sugar, cotton.
Tanga	1,099	1	3,410	465	3,929	4	436	8	Maize, rice, tea.
Mwanza	1,526	Nil	1,566	1,231	2,923	3	177	3	Maize, cotton.
Arusha	997	1	1,800	846	2,751	2	973	18	Maize, coffee, rice.
Shinyanga	1,414	Nil	1,770	837	2,607	2	283	5	Maize, cotton, rice.
Coast	1,542	2	550	678	1,704	2	331	6	Maize, rice, cotton.
Mara	758	Nil	475	567	1,158	1	320	6	Maize, coffee, cotton.
Kagera	1,086	Nil	783	223	1,104	1	43	1	Maize, coffee, cotton.
Kigoma	687	1	600	884	1,661	2	50	1	Maize, cotton, coffee.
Hwara	801	Nil	251	177	428	0	11	1	Maize, rice.
Dodoma	1,026	Nil	Nil	319	356	0	243	4	Maize.
Others	1,194	Nil	n/a	n/a	3,334	3	279	5	-
Total	18,178	13	45,664	53,557	107,091		5,489		

a/URT, National Food Strategy, op.cit. estimates from 1977 Census data.

b/Ibid., estimates.

c/TFC Fertilizer godowns, TFA sale points of Arusha, Moshi, Mbeya, Iringa, Njombe, Tukuyu and RTC sale point in Kigoma.

d/In some regions total includes in "others" category thus food + export does not always equal the total. Food crops includes sugar.

e/Principally maize plus smaller amounts of wheat, sorghum and paddy.

5.21 Other reasons for inter-related difficulties of credit and input distribution are a consequence of problems elsewhere in the sector, or in the economy at large. This is particularly clear in the case of credit. The lack of delivered technical packages, itself the result of the absence of a research/extension link, is a major cause of the high default rate. The cash flow difficulties of parastatals have led crop authorities like TAT and TTA to retain a portion of the loan payments they collect from farmers, leaving TRDB with larger outstanding debts than are owed by villages.^{23/} Frequently farmers apply fertilizer provided on credit for a given export crop to their maize crop instead, since the economic returns are better. Because the export crop does not get fertilized, the yield is low and credit repayment suffers; even if maize yields are higher as a result, credit will be difficult to recover if the crop is sold unofficially. Perhaps symptomatic of the general institutional malaise, there are also problems of poor record-keeping and apparent falsification of records by some village leaders, and a confusion on the part of some villagers and creditors as to how much is owed, since some villages assumed that seasonal inputs were grants rather than on credit, perhaps partly because they were grants (in the case of fertilizers) in the initial period of distribution.^{24/} The credit default situation has become so serious that it threatens TRDB's continued viability; up to now its financial status has only been maintained through continued support since the early 1970s from USAID, the Nordic countries, West Germany and IDA. Resolution of the problem clearly goes beyond the scope of TRDB to tackle on its own, and will require high level support from the relevant parent ministries.

5.22 Domestic production of fertilizer has led to problems of irregular supply and a high cost, uneven product. The supply problem has led the Government to depend on ad hoc foreign aid for importation of additional fertilizer, not all of which is appropriate for the country's needs, nor available at the time and on the scale required. But the cost of domestic production does not make boosting the Tanzania Fertilizer Corporation (TFC) an attractive alternative to a systematic fertilizer import and stocking policy. Farmers pay more for domestically produced fertilizer than they would for imported fertilizer^{25/}, even if the current transport subsidy, whereby farmers do not pay the costs of shipping fertilizer up country, were removed.^{26/} This subsidy costs the Treasury about TSh 150 million, nearly half the size of the Ministry of Agriculture's entire budget (para. 2.32). The high costs of hybrid maize seeds to farmers can also be traced in part to macroeconomic policies, which have resulted in high operating costs of vehicles and other equipment, and difficulty in obtaining imported materials and equipment.^{27/} The principal policies responsible for these costs are confinement of agricultural input imports through AISCO, which has raised the cost of farm machinery, equipment and pesticide products by as much as 100% (para. 3.22), in addition to the 15% duty payable on pesticides and 40% on farm machinery.

^{23/} Background Paper XIII, p. 5.

^{24/} Ibid., p. 5.

^{25/} National Food Strategy Report, op. cit., p. 284.

^{26/} Background Paper X.

^{27/} Ibid., Annex II.

5.23 Devising an institutional framework which can operate more effectively is a first step toward re-establishing a growth trend in agricultural inputs use, as far as this is possible without changes in the macro framework. The urgent task, in our view, is to allow cash sales of inputs to expand in areas which are currently being undersupplied through institutions which can sustain their expanded operations, augmented where possible with agencies provided by private traders. The two Government-proposed initiatives, to transfer credit and distribution functions to the emergent cooperatives^{28/} and to set up Ministry of Agriculture "farm service centers" in the rural areas to supply inputs, farm equipment and technical advice^{29/} should be seriously weighed against the advantages of strengthening the existing institutions. As will be true of their other activities, the cooperatives will need time to develop a capacity to fulfil this service. The need for developing an effective rural service system is so great now that the idea of developing Farm Service Centers now under consideration by Government is of course a very good one in principle. Certainly the Ministry of Agriculture's planning and overseeing capacity for input distribution needs strengthening. But the most important policy question is who should run such centers? Experience suggests that a Ministry or regional administration should not themselves get directly involved in operating commercial activities. More viable private, cooperative or existing public sector commercial agencies need to be used for this purpose. Once a policy decision has been reached on this issue, donor assistance to the Ministry, TRDB, the crop parastatals and the chosen institutions can be contemplated in order to expand their planning and coordinating capacity, facilities and to improve their services. Similarly, in the case of seeds, the existing institution, TANSEED and its distribution agents need all possible support. The existing laboratory at Morogoro for the seed regulating agency TOSCA needs to be made operational, rather than a new one initiated at Iringa as the Ministry of Agriculture recently proposed.^{30/}

D. Irrigation

5.24 The frequency of drought in Tanzania, especially between 1973/74 and 1974/75, and again after the years of exceptionally good rain in 1977 and 1978, has brought irrigation to the fore in discussion of agricultural priorities. The primary objective is food security; if rainfall is generally inadequate, there is indeed little alternative to irrigation to stabilize food production and ensure self-sufficiency. However, inadequate rainfall is occasional, regional and usually not severe; alternatives to achieve food security are available and need to be considered.

^{28/} "Cooperative Unions and the New Organizational Set-up of Cooperatives in the Country" September 1981 by PMO, cited in Background Paper XIII, Annex 5.

^{29/} National Food Strategy Report, op. cit., Summary.

^{30/} UNDP/FAO 1981 (cited in Background Paper VI).

5.25 Only an estimated 3% of cultivated areas in Tanzania is under irrigation.^{31/} In 1981 there were 114,378 ha under traditional small-scale farmer irrigation and 25,260 ha under large-scale operations. The major large-scale schemes are on sugar estates, and two state-owned rice farms (Mbarali and Dakawa). Among the smaller scale schemes are some village-owned communal schemes up to 200 ha each. As early as 1972, all large and non-traditional small schemes were suffering from poor management and lack of resources for regular maintenance.^{32/} Capital allocations for increasing acreage under irrigation have yet to reflect the Government's ambitions. Excluding NAFCO farms, irrigation investment has constituted only TSh 200 million, 3% of total planned capital investment in the agricultural sector at current prices over this period.^{33/} However, there was a sharp increase in planned investment in 1980/81 and 1981/82 in both Ministerial and regional development budgets, and irrigation receives considerable attention in the new Five-Year Plan for 1981/82 - 1985/86.^{34/} The Government proposes that more of the small-scale traditional irrigation should be organized into "better regulated village irrigation projects" despite the acknowledged failure of all but one of this type of communal village project to date.^{35/}

5.26 A detailed survey of agro-climatic conditions and land suitability was carried out by the agrometeorological unit of the FAO in Rome which collaborated with the Early-Warning System and Crop Monitoring Project in the Ministry of Agriculture.^{36/} It demonstrated that in much of the southern zone of Tanzania the frequency in which maize is likely to receive adequate water supply at the tasseling stage exceeds 95% (see Map IBRD 16580). These areas correspond to Ruvuma, Mbeya and Rukwa regions.

31/ Instrupa, Hydroplan, Rodeco Consortium, Lower Mkomazi Irrigation Project Feasibility Main Report, 1982, p.22.

32/ FAO, Report to Government of Tanzania, "The Economics and Planning of Irrigation" (No. TA 3096), Rome, 1972.

33/ Irrigation was 1.3% of the planned allocation in the Ministry of Agriculture annual plans, and nearly 20% of the relatively small Regional Development Budgets for Agriculture. Background Paper VII, Table 13 and Appendix Table 15.

34/ For example, The Fourth Five-Year Plan, op. cit., Chapter 3D on Foodcrops. This plans to set up six new zonal irrigation offices at Mbeya, Morogoro, Moshi, Tabora, Mtwara and Kagera. The National Food Strategy endorses a similar plan, to set up village communal irrigation schemes with the assistance of the zonal irrigation teams, National Food Strategy, op. cit. (Summary).

35/ National Food Strategy, op. cit., (Summary).

36/ D.P.J. Van de Vyvere and Early Warning Systems and Crop Monitoring Project, "Agro-Climatic and Land Suitability Study", Working Paper No. 10, National Food Strategy Project in Tanzania, FAO, August - October 1981.

The extent of these areas and the low levels of their current yields suggest national food security would be achievable if real production support was given there without recourse to irrigation. National average maize yields are probably of the order of 700-900 kg/ha; yields in Ruvuma in 1981 were estimated to average 1,460 kg/ha^{37/} and similar average yields were quoted for Arusha by regional staff.^{38/} A number of farmers in Mbeya and Rukwa regions were attaining yields of 5-6,000 kg/ha^{39/} and provision of effective advice and input supply could readily raise the average yields of significant areas of Rukwa, Ruvuma and Mbeya Regions to 2,500-3,000 kg/ha. The report also points out that significant areas are suitable for rainfed rice,^{40/} so rice self-sufficiency also exists as a viable alternative in the form of smallholder rainfed agriculture.

5.27 In view of these findings, the key issues become those of capital:output ratios, labor availability and income distribution implications of investments in large scale schemes or smallholder schemes, and investment in roads and other infrastructural facilities required to extract surpluses from relatively remote Ruvuma and Rukwa regions. Recurrent costs in terms of both budgetary and foreign exchange needs are also significant considerations as is the widespread lack of experience in managing irrigated agriculture. The enormously high capital costs of large-scale irrigation projects (Dakawa cost US\$10,000 per ha) and even of the village communal projects (for rice estimated at US\$5,730 per ha, para 1.54) raise the question of whether the country can afford to spend scarce resources on these schemes, given that alternatives exist for seeking a solution to the food security issue.^{41/}

E. Output Marketing Services

5.28 Farmers have little incentive to expand acreage and adopt improved technology, unless they are assured of having a marketing outlet. While marketing services in Tanzania never have been uniformly good, there is evidence of substantial deterioration in their quality over the past decade. Previously, farmers in the established surplus producing areas had access to private traders and cooperative societies. Despite some irregularities in these services, such as wide variations in the costs of crop handling,^{42/} marketing was performed sufficiently well to stimulate

^{37/} Ruvuma Regional Rural Development Project.

^{38/} Observations during implementation of National Maize Project (Credit 606-TA).

^{39/} Ibid.

^{40/} Areas identified as suitable for rainfed rice were Iringa and Morogoro (Njombe, Ilonga, Kilombero), Kagera (Bukoba, Muleba), Mbeya (Kyela, Rungwe), Ruvuma (Mbinga, Tunduru, Songea), Van de Vyvere, op.cit., p.9.

^{41/} To the extent that some of these are local costs, devaluation should reduce the costs in dollar terms, but would nevertheless involve far higher per acre investments than for rainfed agriculture. However, irrigation investments are generally more import-intensive than investments for rainfed agriculture and so on balance devaluation would favor investments in rainfed production.

large increases in surplus production in the 1950s and 1960s. However, once cooperatives were established by executive order in other areas and became legal monopolies in the late 1960s and early 1970s, marketing problems--including poor collection and payment records--became commonplace. Dissatisfaction with the quality of cooperative marketing was probably a key element in their abolition in 1976. But the parastatal monopolies which were set up in their stead, have proven less able to provide satisfactory marketing services, particularly in the areas which previously had well established marketing links.^{43/} In the numerous meetings conducted by the commission on the reestablishment of cooperatives, crop authority personnel "admitted that produce collection is no easy task, and that they have not got the capability to perform it efficiently."^{44/}

5.29 The parastatals frequently have difficulties in organizing collection and payment, because of poor management, lack of spares for their own transport fleets, and lack of cash either to hire private transporters or to pay growers. More serious difficulties arise when they are unable to collect the crop because of lack of central storage facilities, or a breakdown of the crop processing equipment. In either case, the delayed collections, even later payments, and in some cases absolute breakdown of the marketing system, cause widespread dissatisfaction among the growers.^{45/}

5.30 The immediate problems of organizing transport have been noted for every crop in the last eight years. In 1975 the National Maize Project appraisal report notes that although NMC had 60 trucks, there was "lack of transport caused by poor vehicle maintenance, poor road maintenance and a shortage of vehicle spares", which was becoming "a significant problem to expanding food production and to rural development as a whole".^{46/} In 1978, the Tobacco Handling Project Appraisal Report referred to an estimated loss of 25% of the crop through inefficient post-curing handling and marketing procedures.^{47/} In 1980 the Pyrethrum Appraisal Report stated that transport of the flowers to the factory was "seriously constrained by the poor state of the district and feeder roads and by poor management and organization of the TPB transport fleet".^{48/}

^{43/} In the more remote areas, like Rukwa and Kigoma, the advent of the parastatals may have been an improvement over the extremely ineffective Regional Cooperative Unions which had been set up by the Government. But problems of non-collection and delayed payments are also eroding growers' confidence in these areas.

^{44/} URT, Cooperative Commission, op.cit., p.48.

^{45/} Ibid., pp. 50-55.

^{46/} National Maize Project Appraisal Report (Credit 606-TA), Dec. 1975.

^{47/} Tobacco Handling Project Appraisal Report (Credit 802-TA), April 1978.

5.31 In 1982, after initiation of Bank projects in these crop industries, supervision reports consistently mention transport difficulties in marketing. In 1982, it was observed during the implementation of a tobacco project that only half of TAT's transport fleet was serviceable, but due to shortage of spare parts even these were frequently off the road.^{49/} There is similar evidence of severe transport problems hampering collection in the case of tea,^{50/} cashews,^{51/} and coffee.^{52/} Apart from organizational and cash flow problems of the parastatals, the difficulties experienced in transport of produce reflect the general deterioration of the road network, as well as insufficient allocations of foreign exchange for vehicle stock of either their own or the private trucking fleets whose charges have been escalating as a result.

5.32 In the case of coffee, cotton, tea and sisal, problems downstream in the processing or marketing areas have led to the failure of the crop authorities to collect farmers' produce. This has affected whole areas of the industries. For two years after the 1979 explosion of the boiler in the Bukoba coffee factory^{53/} smallholder coffee farmers were compelled to store as much as 50% of their coffee crop because CAT did not have the money to pay for storage nor did it permit farmers to sell through possible alternative marketing channels, despite the long delays in putting the new boiler into the factory.^{54/} In 1981, the Geita Cotton Project experienced similar difficulties in the cotton industry due to problems in the processing sector. Due to fuel shortages and lack of spare parts in the cotton ginneries and oil crushing plants, no crushing was taking place. At least 40% of 1980's seed cotton was still in storage either at the village level or at the ginneries.^{55/}

In the case of tea, inability of TTA factories to handle the volume of smallholder production has resulted in a rationing system for smallholder

^{49/} Tobacco Handling Project (Credit 802-TA).

^{50/} Background Paper I, p. 55.

^{51/} Frank Ellis, "A Preliminary Analysis of the Decline in Tanzanian Cashewnut Production 1974-79," Economic Research Bureau, University of Dar es Salaam, 1979, p.18.

^{52/} CAT has had great difficulty keeping its vehicles on the road due to shortage of spares. In one night, starters were stolen from all six of its 18-ton lorries for collection in Kagera Region, and it took a considerable time to obtain replacements. CAT graders also have been out of action for maintenance of feeder roads owing to lack of spares (personal communication with CAT, March and November, 1980).

^{53/} The blowing up of the Bukoba boiler cannot just be viewed as a misfortune. It reflects lack of regular maintenance, lack of trained personnel to handle sophisticated equipment and other systemic factors.

^{54/} The throughput shortfall at the Bukoba factory for 1979/80 and 1980/81 was estimated at 10,000 tons. (CAT Communication with World Bank staff, November 1980.)

^{55/} Geita Cotton Project (Credit 454-TA).

leaf deliveries. This shortage of processing capacity is due to poor maintenance of machinery, poor management and power failures,^{56/} and has yet to be tackled despite two IDA-financed tea projects (Credits 287-TA and 1037-TA). In the case of sisal, TSA did not purchase smallholder hedgerow sisal in 1980/81 because it could not obtain the required funds from the Treasury.^{57/}

5.33 Delays or confusion in payment have been another aspect of output marketing services which has discouraged smallholder production. In the case of mild arabica coffee, farmers in Kilimanjaro, Arusha and the southern coffee areas have been waiting up to two years to receive their third and final payment from CAT.^{58/} In Kagera, once CAT resumed purchases, it was not paying the increased price approved for 1981/82.^{59/} TTA frequently has not had sufficient cash to pay smallholders after their delivery of leaf, even for a new crop; this must be a great discouragement to growers who have waited 3 to 4 years for their first picking.^{60/} In the case of cashews, the introduction of grading in 1969 discouraged producers, who lost confidence in the payment system,^{61/} though in recent years the bulk of the crop has been bought as Grade I. A significant proportion of the cash taken to the field to pay farmers in fact never reaches them.^{62/}

5.34 It is difficult to measure the extent to which these severe deficiencies in the marketing system have affected production. There is no doubt that they have been a major factor in the decline in export crop production, where few alternative marketing opportunities exist under the present system, to the growing parallel market in food crops. They underline again the complexity of the changes that will be necessary to restore agriculture to a growth path. Major macroeconomic changes will have to be accompanied by action on a number of interlinked production problems.

F. Services of the Transport Sector

5.35 As the experience of crop marketing indicates, transportation is a serious bottleneck to agricultural growth in Tanzania. The agricultural

^{56/} Background paper I, p. 55.

^{57/} This was despite a clear case that the sisal would bring in net foreign exchange and tax revenue. (Personal communication from TSA, October 1980.)

^{58/} Background Paper I, Coffee section.

^{59/} MDB communication with World Bank staff, April 1980.

^{60/} Background Paper I, Tea Section.

^{61/} F. Ellis, op. cit., pp 17-18.

^{62/} Observations in 1981/82 during implementation of Second Cashewnut Development Project (Credit 1014-TA).

sector in Tanzania is served by (i) fairly extensive trunk road and rail systems (ii) more limited coverage of connecting secondary access and feeder roads, branch rail lines and sidings, (iii) transport parastatals (railways, regional trucking companies and the truck fleets of the various crop parastatals) and (iv) private trucking companies. The entire road and rail network suffers from poor maintenance. Shortages of spares and other imported needs are a problem throughout the transport sector, though the private transporters are particularly constrained by controls on licenses and new vehicle purchases. The parastatal transporters have serious managerial weaknesses, resulting in unreliable and inefficient services, and large financial losses. The modal distribution of inter-regional agricultural traffic in 1978/79 is summarized below.

Modal Distribution of Inter-regional Agricultural Traffic^{63/}

<u>Mode</u>	<u>Ton-km</u> (million)	<u>% of Total</u>
Road	357	62
Rail	210	36
Water	12	2
Total	<u>579</u>	<u>100</u>

5.36 Since total tonnage at present is fairly close to what it was in 1978/79, the above figures are reasonably indicative of the present situation, though the railway's relative importance has probably decreased because of further deterioration, making the roads correspondingly more significant. Nevertheless, the railway's share over a third of total inter-regional agricultural traffic is higher than in most countries. This may reflect more on the inefficiency and undynamic state of the road transport industry than on the efficiency of the railway.

5.37 With a total road network of about 50,000 km, less than 20 per cent of which is paved, the average road density is about 2.9 km of road per 1,000 inhabitants, which is among the lowest in Africa. In relation to land area, this represents about 5.3 km of road per 100 sq. km. The main trunk system consists of the coastal road from Dar es Salaam north to Arusha and the TANZAM Highway from Dar es Salaam west to the Zambian border. The rest of the system consists of low standard secondary and feeder roads, many of which cannot be used during the rainy season. Lack of maintenance has caused some feeder roads to deteriorate to the point

^{63/} URT, Ministry of Agriculture, MDB, "The Inter-Regional Transport of Major Agricultural Commodities in Tanzania," June 1979.

that they reportedly no longer exist.^{64/} Recent (mid-1982) observations of progress under the Fourth Highway Project suggested the seriousness of insufficient maintenance on both the feeder and trunk road systems.^{65/}

5.38 The deteriorating road system continues to take its toll on both the quantity and quality of agricultural production. This has been most noticeable in the case of cotton in Geita, tobacco in Tabora, coffee in Kagera and maize in both Ruvuma and Rukwa. The poor condition of the feeder road network in Mbeya and Iringa regions is cited in the Pyrethrum Project SAR (March 1980) as a major cause of delay in the processing of pyrethrum flowers, leading to a considerable reduction in the pyrethrin content of the dried flowers. In many important agricultural surplus areas (e.g. Mwanza, Shinyanga, Tabora and Ruvuma) where both the feeder and trunk road systems are virtually unmaintained, private transporters are no longer willing to provide trucking services at rates which the crop authorities can afford.

5.39 There appears to be only a limited relationship between the road network and the present or potential level of agricultural activity in the regions. For example, some of the highest road densities in relation to available agricultural land (per 100 sq km) are found in those regions with relatively little agricultural land such as Kilimanjaro (22.0 km), Tanga (15.7 km) and Coast (12.4 km), while lower road densities are found in regions with relatively large agricultural areas such as Arusha (5.0 km), Shinyanga (7.9 km), and Mbeya (8.8 km).^{66/}

5.40 Compounding the infrastructure problem is the poor state of road transport services. Government policy has been to promote public sector trucking, while confining the role of private truckers through controls on route licensed and vehicle imports. At this stage in Tanzania's development of managerial and technical capacity, this policy has been detrimental to this critical economic activity. Both the specialized transport companies and the truck fleet of the crop authorities are considerably less efficient than the small owner-operator in serving the agricultural sector in Tanzania. While the specialized regional transport companies are in some position to secure backload and out-of-season cargo, both they and the transport branches of the crop parastatals have large

^{64/} A graphic example of this phenomenon is provided by the Third Highway Project (Loan 586-TA). This project included 475 km of new feeder roads in the Geita and Mara regions. Due to lack of maintenance all of these roads are now impassable and probably in no better condition than before the project was started.

^{65/} Fourth Highway Project (Credit 507-TA).

^{66/} Background Paper IV, "Transport and Agriculture", Table 6.

overheads (offices, workshops, depots, etc.) which have to be spread over a large volume of business in order to be feasible, and they are very management and technician intensive. Because of their limited access to foreign exchange-intensive spare parts, the private sector truckers have been unable to meet the countryside's needs, meanwhile, limiting operations to mostly urban, though also some rural, areas.

5.41 The Bank and several other donors have supported the expansion of the truck fleets of many agricultural parastatals through various agricultural projects. In 1977 a Trucking Industry Rehabilitation and Improvement Project supported the establishment of five new regional transport companies.^{67/} In light of the crippling effects which the shortage of road haulers has on the agricultural sector, support of the private sector trucking industry is essential to a recovery strategy, because the public sector alternative alone cannot be expected to work in the near future, given the extreme scarcity of managerial and other resources needed to run it.

5.42 Capacities on the country's two railway systems (TRC and TAZARA), have also been declining continuously due to the lack of maintenance and repair. TRC, with a total track length including branch lines of 2,640 km, traverses an area comprising 12 regions, which account for roughly 65% of officially marketed export crops, 80% of officially marketed food crops, and almost all of the country's cereal milling and export processing facilities.^{68/} However, despite this large market, TRC actually carries only about 200,000 tons of agricultural traffic. TRC's situation is most graphically illustrated by the fact that when the fertilizer factory was sited at Tanga, it was envisaged that most of the plant's output (presently about 70,000 tons annually) would be carried by rail. Due to TRC's declining capacity, mostly related to the unavailability of wagons, only about 15,000 tons of fertilizer are presently carried by TRC, with the rest delivered to the regions in trucks.^{69/}

5.43 The situation with respect to TAZARA is not very different. The 970 km of the line in Tanzania traverses the south western regions (Morogoro, Iringa and Mbeya) which, although presently representing only a modest proportion (13.7%) of export crop production already account for a fourth of officially marketed food production. But this market potential is far from realized. Since the first full year of operations in 1977, freight traffic has been continuously declining because of declining rail-

^{67/} SAR No. IS266-TA, Tanzania: Appraisal of a Trucking Industry Rehabilitation and Improvement Project, September 21, 1977.

^{68/} 84% of coffee, 87% of cotton, 98% of sisal, 53% of tobacco, 37% of the tea and 22% of cashewnuts; 77% of maize, 94% of wheat, 85% of sorghum, 100% of sugar, and 43% of rice.

^{69/} Background Paper X.

way capacity. Of the approximately 1 million tons carried by TAZARA in 1980 (approximately equal to the volume carried by TRC), about 90% was transit traffic from/to Zambia. Of the remaining 100,000 of local traffic, 60 percent was agricultural traffic (mainly grains, sugar and some molasses).

5.44 Both railways have equipment problems to blame for part of their limitations (TAZARA's original locomotives had insufficient horsepower; and TRC has too few cars and a very old track). But both railways also have severe operational and management weaknesses, which will not be solved by massive injections of hardware and equipment.

5.45 Many of these problems are endemic to the parastatal structure itself; for example, management practices consistent with the operation of a government department rather than a commercial business, external control over prices, a non-incentive salary structure, political interference and an organization whose size and complexity severely strains available managerial and technical human resources.^{70/} To the extent that it is technologically infeasible to reorganize the railways to make them more compatible with available human and other resources, either their management will have to be substantially improved, or, if this is unachievable, the comparative economics of the situation could possibly suggest their complete abandonment in favor of a mode, such as road transport, which does have this flexibility.

5.46 Comparative intermodal economic cost studies have not yet been carried out in sufficient depth to determine whether, in the light of the present and prospective future efficiency of both modes, it is in the economic interests of the country to have more or less agricultural traffic carried by road or rail. A number of factors would need to be taken into account to compare total long run marginal costs, including the normal line-haul and station costs (based on realistic operating assumptions), full origin to final destination costs, necessary investments in sidings, (especially important for TAZARA), shippers' time costs for some commodities (pyrethrum flowers, cotton, sisal and tea), and loss, theft, damage and spoilage (for all agricultural commodities). For comparative purposes, it would be necessary to decide which road costs to use (those of the specialized parastatal trucking companies, the crop parastatals or those of the relatively more efficient private truckers).

^{70/} See Background Paper VI, Chapter 3 for a discussion of TRC as an illustration of general parastatal management and organizational problems.

5.47 Before embarking on major new road or rail investment programs, a road-rail comparative cost study of this type needs to be carried out for specific commodities and routes.^{71/} In the meantime, the Government should immediately move to liberalize the issuance of route and vehicle import licences to allow private truckers to compete on those routes which are presently dominated either by regional transport companies or by the truck fleets of the crop parastatals. This is likely to have the quickest positive impact on the level and quality of transport service rendered to the agricultural sector and to be the least costly to implement.

5.48 The present costs associated with using the transport system are extremely high. Financial costs appear to have already reached prohibitive levels for several agricultural commodities on many routes. Though current estimates of economic costs are unavailable, they are probably even higher, since transport charges do not always cover adequately vehicle depreciation and other fixed costs. Road haulage rates are highest on routes in the north-western regions (Mwanza, Shinyanga and Tabora) and on routes in the south-east regions (Ruvuma and Lindi), all areas where the roads are unsealed, in poor condition, and quite distant from the supply centers for fuel and spare parts. On a commodity basis, tobacco and pyrethrum flowers, with their large space requirements and low density, have relatively high road haulage rates as does, quite unexpectedly, refined sugar, which may reflect inefficient transport hiring by the Sugar Development Corporation (SUDECO). Road haulage rates in general are higher than railway tariffs for the same commodities and routes; the difference ranges from a factor of about 1.5 for maize transported from Arusha to Tanga to a factor of about 7.5 for the transport of sugar between Dar-es-Salaam and Shinyanga. However, these financial comparisons are not adequate to draw conclusions of relative modal efficiency.

5.49 Another factor which contributes to the high cost of transport in the northern regions of Tanzania, is the fact that Mombasa port in Kenya is no longer accessible since the closing of the border in April 1977. In general the problem of high transport costs is further exacerbated by the pan-territorial pricing, which leads the location of production and storage to be determined irrespective of the total real cost of transport. High transport costs are bound to be a severe constraint to a recovery of agricultural growth.

5.50 The present state of the transport sector reflects inter alia, low capital investment in the past decade, and insufficient recurrent resources for maintenance. It is noteworthy that, among the developing

^{71/} In the recent study of the TCA conducted by the Canadian International Development Agency, some financial line-haul railway operating costs are derived and some comparisons are made between average rail and truck tariffs. However, the tariff comparisons are not related to economic costs.

countries, Tanzania ranks among the lowest in the share of public capital resources allocated to transport. While it is not uncommon to find shares of 20-25%,^{72/} in Tanzania, where the country is large, economic activity widely disbursed and the transport system relatively underdeveloped, the proportion has remained relatively constant at 13% (para 2.12). While this percentage is in itself no objective indicator of underinvestment, it does give cause for concern in a country so heavily dependent on smallholder rural agriculture, especially when one considers the meager commitment to rural roads (1.0% of total capital budgetary allocations). Moreover, this 13% includes allocations to such economically unproductive investments as the new airport in Dar-es-Salaam.

5.51 But increased capital allocations will not be justified without substantial increases in resources to meet the recurrent requirements (only 4.8% of the total recurrent budget),^{73/} as the useful economic life of existing capital stock is already very short because of insufficient maintenance. The Government's decision not to concentrate its efforts in certain traditional areas such as infrastructure has taken its toll on the transport sector.

5.52 Improving the transportation sector will have to be a key component of a program to revive agriculture. It is estimated that to return to peak agricultural production levels the transport system would have to carry an additional 750,000 tonnes of cargo annually.^{74/} This will require large increases in recurrent resources and in rehabilitation of essential parts of the sector. Moreover, it will require reforms which allow more efficient use of existing transport capacity. Given the extreme scarcity of experienced and trained managers, accountants and technicians, it will be necessary to devise systems which place the least demands on these resources and, therefore, rely as little, rather than as much, as possible, on large-scale parastatal monopolies.

^{72/} The transport sector's share in neighboring governments' capital budget allocations averages about 22 to 25% in Kenya, 25% (including only roads and aviation) in Zambia and about 31% in Malawi.

^{73/} Background Paper IV.

^{74/} The breakdown of total freight tonnage by region and commodity group (fertilizer, seed, export crops and officially market food crops) are given in Tables 5.4 and 5.5 for the present (1980/81) and post-independence peak years, respectively. Because the quantity of unofficially marketed food crops has probably increased in relation to what it was in the year when officially marketed sales reached its peak, the above figure of 750,000 additional tons to be carried by the transport system is probably overstated by the extent of this difference.

Table 5.4: 1980/81 Total Agricultural Tonnage
(tonnes)

Regions	Fertilizer Consumption	Seed * Consumption	Export Crop Purchases	Food Crop Purchases	Total
Arusha	2,751	110	8,256	41,000	57,117
Coast	1,703	68	11,200		12,971
Iringa	22,249	890	10,105	24,200	57,440
Kagera	1,104	44	13,927		15,075
Kigoma	1,661	66	2,300	500	4,527
Kilimanjaro	5,901	236	25,874	300	35,011
Lindi			22,800	200	23,000
Nara	1,158	46	11,900		13,104
Mbeya	16,085	643	15,644	16,200	48,572
Morogoro	4,653	186	14,900	1,000	20,739
Mtwara	429	17	32,000	200	32,646
Mwanza	2,923	117	69,552	300	72,892
Rukwa	6,540	262	1,500	18,300	26,602
Ruvuma	17,675	707	13,742	14,000	46,124
Shinyanga	2,607	104	61,900	1,800	66,411
Singida			4,000	400	4,400
Tabora	12,234	489	20,200	2,900	35,823
Tunga	3,929	157	38,100	100	42,286
Dodoma	357	14			
Others	3,132	125	3,000	23,600	26,971
					3,257
Total	107,091	4,281	380,900	147,700	<u>639,972</u>

Figures are rounded

Note: *Estimated at 4 percent of Fertilizer Consumption

Source: Ministry of Agriculture Statistics.

Table 5.5 Highest Annual Agricultural Tonnage in Post-Independence Period

(tonnes)

Regions	Fertilizer Consumption	Seed * Consumption	Export Crop Purchases	Food Crop Purchases	Total
Arusha	8,192	328	11,200	109,800	129,520
Coast	2,076	83	50,200	3,400	55,759
Iringa	22,739	910	14,500	43,600	81,749
Kagera	1,135	45	20,200	1,900	23,280
Kigoma	3,425	137	3,100	2,400	9,062
Kilimanjaro	6,465	259	34,400	41,600	82,724
Lindi			41,600	3,400	45,000
Mara	5,955	238	34,600	18,800	59,593
Nbeya	16,085	643	18,900	47,600	83,948
Morogoro	4,653	186	56,600	25,700	87,139
Mtwara	1,825	73	71,000	4,800	77,698
Mwanza	7,220	289	82,900	24,000	114,409
Rukwa	6,540	262	1,600	19,600	28,002
Ruvuma	17,675	707	24,900	23,700	66,982
Shinyanga	3,459	138	68,300	17,900	89,797
Singida			4,400	5,400	9,800
Tabora	17,770	711	24,800	42,300	85,581
Tanga	6,735	269	145,700	20,800	173,504
Dodoma	1,525	61			76,086
Others	4,344	174	15,900	58,600	4,518
Total	137,818	5,513	724,800	515,300	1,384,151

Figures are rounded

Note * Estimated at 4% of Fertilizer Consumption.

Source: Ministry of Agriculture Statistics

G. Special Needs of Different Types of Producers

5.53 Many of the deficiencies in agricultural support services affect the range of production units in the country (Table 1.9). Each category also faces some special problems peculiar to the scale of production and the level of technology employed. The numerous problems faced by peasant smallholders are discussed fully in the following chapter and can be summarized as: (i) land shortage and lack of fuelwood induced by villagization (para. 6.16-6.18), (ii) administrative regulation over production decisions (para. 6.19-6.21), and shortage of consumer goods (para. 6.38-6.42). These problems are additional to the already discussed deterioration of marketing and input distribution, a poor quality and disorganized extension service (paras. 5.13-5.15), and low prices (para. 4.14).

5.54 Many of the medium, large scale and estate producers are now facing serious constraints to continued operation, which the Government will have to address if it wants to retain this valuable, and potentially even more important, source of production. All commercial producers (medium, large scale, and private estates) need assurances from the Government on their long term security. Late in 1981 the Government indicated it is not adverse in principle to large scale producers and this has been reinforced in the recent National Food Strategy Report.^{75/} For the medium-sized farmers (10-100 ha) who produce maize, tobacco, cotton, other cereals and pulses, and large-scale (>100 ha) tractorized farmers who produce wheat, maize and seed beans (para. 1.32), a serious constraint is input supply. Inputs are absolutely crucial for these commercial farmers, because, unlike peasants, the scale of their operation makes them much more susceptible to financial ruin. To date, they have been relying on the six outlets of the TFA (Table 5.3) for inputs and other services. TFA's services have been hampered considerably, however, by restrictions on foreign exchange allocations and by its decreased revenues following the monopolization of crop marketing under the crop authorities. As a result, TFA is also hampered in providing credit to its members. The widespread shortage of tractor spares has already been noted as a serious production constraint (para 2.53). Purchase of these items is only possible on the black market, where costs are phenomenally high. This also involves a considerable amount of time and energy to locate dealers. Medium-scale farmers face problems in acquiring land and in employing labor; in particular, without formal Government sanction of their use of non-occupied agricultural land, they are at the mercy of the dictates of local officials in this respect.

5.55 For the private (mostly settler) estates, lack of foreign exchange availability both to meet direct production needs and to meet certain consumption needs, such as air tickets and education abroad, are now considered to be such a major bottleneck that the estates may not continue their agricultural operations. If Government policy were more conducive to allocating resources to agriculture, then their production requirements would be looked after. However, to the extent that the

^{75/} URT, National Food Strategy Report, op.cit., Summary.

consumption needs are vital to incentives, allocations for production alone may not be sufficient. In the longer run, to the extent allocations to estate production improve the country's foreign exchange position, there would be more scope for meeting these consumption needs through external accounts (as occurred with the growth in the 1960s). But in the short run, meeting their consumption requirements will remain a problem, even if the production environment is otherwise improved. Under the present conditions of extreme foreign exchange scarcity, a foreign exchange budgetting system needs to take into account whether it is preferable to meet some of their consumption needs through external accounts, or to risk losing this significant source of foreign exchange revenue.

5.56 Public sector estates will require many of the managerial reforms necessary throughout the parastatal system, including improved incentive structures, and will require infusions of skilled manpower, by technical assistance if necessary.

H. Areas Which Require Action

5.57 The following actions are all essential for rehabilitation of agricultural support services:

- (i) Strengthen the Ministry of Agriculture so that it can coordinate the sector's needs for research, extension, input distribution, and transport.
- (ii) Allow private transporters to have access to import allocations for spares and vehicles, and liberalize route licensing.
- (iii) Extraction of existing research information and dissemination to extension staff as far as possible. Appoint regional agronomy teams to start up district adaptive research programs in the short run; and strengthen the national research system in the long run.
- (iv) Discussion of input delivery system with all the parties involved (TRDB, crop authorities, TFA, and other private or cooperative organizations) to prepare an action plan for making much increased use of all existing or potential outlets; encourage the development of small private outlets and distribution by truckers to complement large regional outlets operated by existing institutions.
- (v) Early action on the institutional responsibility for extension.
- (vi) Resolution of the serious credit default situation.
- (vii) Rehabilitation of the key trunk and feeder road network.
- (viii) Recognition of the different needs of the various types of the small and large-scale producers and removal of unnecessary constraints and discouragement.



CHAPTER VI

ROLE OF NON-PRICE INCENTIVES AND DISINCENTIVES

6.1 More than in most other developing countries, Tanzania's development policies have been influenced by broad socio-political considerations. These have not only been considered important in themselves, but also as a means of increasing production and productivity of the majority of smallholder producers. In this chapter, these policies and programs are reviewed and their direct and indirect effect is assessed both on production and productivity and on achieving the Government's broader socio-political objectives. The chapter concludes that the Government has made considerable strides in provision of social services. However, such evidence as exists suggests that the adverse effects of various rural policies on smallholder production and productivity are far from short term. To the extent that increased smallholder production is important for equity and broad-based participation, the realization of these objectives has thus been directly undermined. Poor agricultural production is also undermining the Government's tax base and hence its ability to mobilize the resources needed to fulfill the ambitious programs of rural social services. Moreover, the Government's inability to support local level initiative has jeopardized the promising beginnings of rural capital formation undertaken by the peasantry earlier, thus unnecessarily increasing the burden on the Government to directly provide the various rural investments required. This chapter stresses that the accumulated evidence on these issues, though fragmentary, is strong enough for the Government to reconsider the relative balance between the directly productive and other elements of its broad socio-political objectives and to examine the appropriateness of the policy and institutional approaches needed to restore smallholder production and productivity.

A. Ujamaa and the Government's Political and Social Objectives

6.2 Following Independence in 1961, politicians understandably wanted rapid and spectacular achievements on all fronts. President Nyerere promised to "try to achieve in ten years all the things our colonial rulers failed to achieve during the whole time they governed our country."^{1/} In this atmosphere of optimism and receptiveness, the Tanzanian leadership embraced the recommendations of a World Bank Report on the agricultural sector which identified "transformation" and "improvement" approaches as the two appropriate strategies for agricultural development.^{2/} The transformation approach aimed to modernize agriculture through a limited number of planned village settlement schemes with intensive capital investment, trained management personnel and modern technology. While costly, this was expected to produce results quickly. The improvement approach on the other hand aimed to upgrade traditional peasant agriculture

^{1/} Lionel Cliffe and Griffiths L. Cunningham, "Ideology, Organization and the Settlement Experience in Tanzania" in Lionel Cliffe and John Saul (Editors), Socialism in Tanzania, East African Publishing House, 1973, p. 134.

^{2/} World Bank, The Economic Development of Tanganyika, Baltimore: Johns Hopkins Press, 1961.

in its own surroundings and teach modern agricultural techniques through extension and credit programs, improvements in marketing, etc. Seen as less resource-intensive than the transformation approach, its results were expected to take greater time to realize.

6.3 In 1962, the Government established the Village Settlement Commission and during the early and mid-1960s experimented with a number of settlement schemes aimed at regrouping segments of the rural population for productive purposes. While the Village Settlement Commission recommended that there be eight model villages, once the recommendations went through the political process, the First Five-Year Plan called for 69 highly capital intensive village organizations at a cost of TSh 3.0 million each.^{3/} By the mid-1960s, the failure of the transformation approach became apparent. Many settlement schemes scheduled in the First Plan could not be implemented as the necessary capital was not available. The reasons behind the failure of the settlement strategy are well documented and may be summed up as bad planning, over-capitalization and lack of voluntary participation.^{4/}

6.4 The Arusha Declaration in February 1967 outlined the Party's objectives in seeking that Tanzania become a socialist society (Chapter II, Section B). Translation of these broadly defined goals into a special program for rural transformation was contained in President Nyerere's essay, published in September of that year, entitled "Socialism and Rural Development".^{5/} In it he described the basic values embodied in the ujamaa^{6/} concept: communal work and ownership of land, equitable distribution of basic necessities and respect for the rights and position

^{3/} Jon Moris, unpublished paper, 1982. One particularly flagrant example of over-capitalization was Upper Kitete in Arusha Region where one hundred settler families began their farm operations of 1,600 acres for maize and wheat with ten tractors, while 2 to 4 would have been sufficient for this operation.

^{4/} Goran Hyden, Beyond Ujamaa in Tanzania Underdevelopment and an Uncaptured Peasantry, University of California Press, Berkeley and Los Angeles, California, 1980, p. 73.

^{5/} Nyerere, op.cit.

^{6/} While it has come to mean "socialism," the literal translation of "ujamaa" is "familyhood," consciously chosen to be distinct from communism or socialism of a Marxist/Leninist orientation. While the term ujamaa is frequently associated exclusively with Tanzania's policies in the rural areas, in fact it has a much broader usage, including at the most general level Tanzania's whole set of socialist objectives and policy measures.

of each member of the society. His belief that traditional life in pre-colonial Africa was organized around these basic principles formed the basis of Ujamaa's application in the rural areas.^{7/}

6.5 Ujamaa was intended to achieve the political and social objectives of the Arusha Declaration in a number of ways, with the overall goal of mobilizing all the resources of the country towards the elimination of poverty, ignorance and disease. The President believed that moving the peasants into villages was a prerequisite for the state to provide peasants with the social services required to eliminate these evils. Villagization was also seen as a major step towards guaranteeing equal opportunity and eradicating exploitation. As Mwansasu and Pratt characterize the thinking at the time, "individual peasant farming was seen as a barrier to the spread of socialism, as being likely to inculcate personal acquisitiveness, to undermine communalism, and to generate rural inequality."^{8/} Villagization was also seen as a tool for socialist mobilization, making it easier to raise levels of political consciousness.

6.6 Following these policy declarations, peasant relocation into villages proceeded, initially voluntarily but with growing pressure and localized cases of forced movement,^{9/} so that by 1973, over 2 million people, or 15% of the population, were living in villages. New villages were given priority for provision of social services (education, health and water), and were also required to practice communal farming. In September of that year, Party dissatisfaction with the pace of relocation culminated in a directive which required all rural Tanzanians to live in villages by 1976, a village being defined as a site acceptable to the Party with adequate agricultural land and at least 250 families. Another two years passed before the legal basis was provided for the structural reorganization of the countryside, with the 1975 "Villages Act" governing the registration, recognition and government of villages.

6.7 The forced relocation which followed the 1973 directive was dramatic: an estimated 13 million people were reported to be living in villages by the end of 1976. For this reason alone, "Operation Villagization" came to be seen as a tremendous logistical success by

^{7/} It should be noted that the President's writings were also inspired by contemporary examples of the African socialist ideal, in particular, the 15 plus villages which had spontaneously formed a collective organization known as The Ruvuma Development Association. The historical irony of the entire rural relocation episode which followed, is that these same villages were handed a court order to discontinue all communal and cooperative activities in 1969, a clear sign that Government and Party organs were not willing to allow for autonomous grassroots activities in the countryside which challenged their authority. Coulson, op.cit., pp. 263-71.

^{8/} B.M. Mwansasu and C. Pratt, "Tanzania's Strategy for the Transition to Socialism," in Mwansasu and Pratt, eds., op. cit, p. 13.

^{9/} As, for instance, Operation Rufiji (1969), Operation Dodoma (1970), Operation Kigoma (1972), Operation Chunya (1972) and similar exercises in Mtwara, Mara, Tabora and Kagera. (Coulson, op. cit., pp. 248-49).

Government and Party officials. But while it speeded up the physical relocation process, Operation Villagization also marked a change in the official perception of the time required to transform society within the villages. Earlier requirements for communal farming were shelved in favor of privately cultivated adjacent plots or "block farms," with the eventual goal of modern communal farming practices. And while the objective to provide social services remained, simple arithmetics dictated that not all new villages could be given priority in receiving them.

6.8 It is beyond the scope of this paper to provide a thorough critique of the strategy and implementation of the Government's rural policy.^{10/} However, it is important to recognize that while increasing agricultural production was seen as an important means to an end, the primary objectives were political and social rather than economic. Thus, a critique on purely economic criteria, as is attempted below, is not a critique of the idea as a whole. Tanzanians may rightly claim that it has been a success if it has met political and social objectives, regardless of economic performance. However, to the extent that the goals underlying the policy were to eliminate poverty, to provide social services and to raise production, it can and should be evaluated on its ability to deliver a higher standard of living to rural Tanzanians. The remainder of this chapter assesses its achievements in these areas.

B. The Impact of Villagization on Agricultural Production

6.9 That agricultural growth was important to the Government's rural policy was clearly emphasized by the President from the outset. In his "Socialism and Rural Development" speech, he said, "An increase in production must have a very high priority in our social plans, it is the cornerstone for all our other ambitions." Ways in which villagization was thought to benefit agricultural production, as enumerated by the ILO^{11/} and other sources include:

- (i) Economies of scale in large-scale production, through increased block farming and communal plots, and also in land clearing;

^{10/} For an excellent set of critiques of the broader social and political achievements of the ujamaa strategy, see Mwansasu and Pratt, Towards Socialism in Tanzania, op. cit.; for the goals of the strategy, see Justin H. Maeda, "Popular Participation, Control and Development: A Study in The Nature and Role of Popular Participation in Tanzania's Rural Development," unpublished doctoral dissertation, Department of Political Science, Yale University, 1976, pp. 163-65. For a thorough discussion of the methods of villagization and the motives behind it, see Coulson, op. cit. Chapter 22.

^{11/} Jaspa, Towards Self Reliance, ILO Report on Tanzania, Addis Ababa, 1978, pp. 50-57.

- (ii) Increased labor time for agriculture through reduced time seeking education, health, water and other services;^{12/}
- (iii) More effective extension with people living near to one another, and use of the communal plot for demonstration of new techniques;
- (iv) Lower costs and higher efficiency in input delivery and output marketing systems;
- (v) Greater access to transport vehicles and agricultural machinery, including greater opportunities for collective purchase and ownership;
- (vi) More effective utilization of labor in construction of storage facilities, workshops, irrigation, roads and other economic facilities; and
- (vii) Greater demand for consumer goods produced by the agricultural sector directly or indirectly (milk, vegetables, etc.). In the longer term, it was believed villagization would also help to improve grassroots contributions to national planning and lead to major gains from intervillage specialization in agriculture.

6.10 Some of these benefits, particularly rural capital formation through the increased opportunity for collective purchase of vehicles and machinery and group participation in rural works, have clearly been realized in some places; others, such as realization of economies of scale in production and more effective extension clearly have not. The successes have by and large depended upon whether there was indeed an advantage in group association for a particular activity, and whether the larger institutional environment was able to meet the villagers' needs with respect to that activity.

6.11 Collective ownership of a maize mill, a bus or a truck could be very attractive to villagers who could individually benefit from both the services and the income which the village received from hiring out the equipment, and yet would never have had the possibility to make so large a purchase as individuals. Enterprising villages have been known to pay back commercial loans for such purchases within six months, and to make enough profits from the first vehicle to build up a small fleet. Similar advantages have been found in "self help" rural works, where villagers contributed labor to building schools, dispensaries and godowns, digging trenches for water systems, and upgrading and maintaining feeder roads. Here success has depended on the villagers' own desire to have the new or improved facility, and on the regional or district government's ability to

^{12/} Availability of labor time is crucial in extensive traditional agriculture such as characterizes large parts of Tanzania, as production is limited primarily by labor constraints in land preparation and other activities.

help organize the work and to provide the needed purchased inputs (such as cement, pipes, nails and corrugated iron sheets) when they were called for.^{13/}

6.12 Release of labor for agricultural activities was an important theoretical advantage of moving people together, but in practice, depended very heavily on the difficult institutional task to relocate people and set up social services in a way which achieved a net savings of villagers' time. When new villages were either very large or located in infertile areas, as was often the case given the speed of Operation Villagization, this has meant considerable increases in walking time to fields as compared with the previous, scattered settlement patterns.^{14/} If the Government was subsequently unable to provide the social services, or if, as was often the case, the water scheme did not function well (para. 6.25), or the dispensary was not operational for lack of drugs or manpower (para. 6.30), villagization did little or nothing to decrease time spent on household activities. In cases of overpopulated or poorly located villages, time spent fetching water can actually have increased in the absence of a functioning scheme, since traditional water points are either insufficient for the increased demand or far away from the village site. Even villages with water schemes may have problems in this respect, if the water points are insufficient in relation to demand.^{15/} Nevertheless, in those few cases with the right constellation of village sites and effective water schemes and dispensaries, villagers can have benefitted significantly from release of labor in the critical parts of the agricultural season.^{16/}

^{13/} For a case study of self help experiences under an IDA-financed rural development project, see M. Loft, E. Hanak and A. Ndyeshobola, "An Evaluation of the Kigoma Rural Development Project," Economic Research Bureau, University of Dar es Salaam, 1982.

^{14/} Examples of this induced land shortage were found in farm management surveys in Tabora, Kigoma, Mwanza, and Shinyanga Regions. In a survey of production constraints in Tabora, "lack of bicycle spares" was cited as the greatest constraint, indicating peasants need for mobility to cultivate at further distances from the village nucleus (personal communication from Tabora RIDEP). In Kigoma, it was estimated that in the 1977/78 agricultural season, in the larger villages, farmers spent 52 mandays per year walking to and from their fields. (M. Loft and J. Oldewelt, "Developments in Peasant Agriculture in Kigoma Region During the Post Villagization Years," Economic Research Bureau, University of Dar es Salaam, 1981), p. 140.

^{15/} Background Paper V, "Non Price Producer Incentives Including the Role of Social Services," p. 33. The paper cites cases in Morogoro and Korogwe Districts where women have been known to walk as much as 6 miles to fetch water.

^{16/} A village survey in Mara Region prior to the appraisal of the Mara Rural Development Project revealed, for instance, that by halving the time spent fetching water, released labor could increase the cropping area by 20% (Mara Regional Development Project Preparation Report, Project Preparation Team, Office of The Prime Minister, Dodoma, 1979).

6.13 The benefits of increased rural demand for agricultural goods and inter-village specialization have no doubt been realized in some places, as is evidenced by thriving localized trade in honey, vegetables and dairy products. The potential benefits of increased specialization, however, whereby villages could concentrate on production of crops in which they have a comparative advantage and rely on purchasing their other requirements from other areas, have been blocked by the legal restrictions on food trading and many officials' narrow interpretation of self-reliance to mean that every village be self-sufficient in food production.

6.14 At the opposite end of the spectrum from group ownership of vehicles is group production. Under the simple hand-hoe technologies which predominate in rural Tanzania, there are no economies of scale in large scale production, and consequently neither the communal agriculture originally aspired to nor the "shoulder by shoulder" block farming held any advantage to farmers.^{17/} They resisted both systems wherever possible in favor of separate, private plots. Communal farms, where they continued in name, were by and large neglected, and block farms were maintained primarily for annual export crops, which were from time to time subject to scrutiny by local officials (Section C).

6.15 Alternatively, that villagization did not aid dissemination of extension advice was not a fault of the relocation exercise, but of the institutional problems at the level of research and extension (paras. 5.13-5.15) which prevented useful information from reaching the villages. Similarly institutional problems in marketing (paras. 5.28-5.34) and input distribution (paras. 5.16-5.23) were responsible for the poor performances in these areas. One advantage of the siting of most villages on the existing road network was that farmers who previously lived in more remote areas did gain better access to these marketing services.

6.16 Apart from these specific areas of success and failure, the negative production effects of this massive relocation exercise threaten to be long lasting. In the immediate one to two seasons following villagization, production was seriously disrupted, as people had to devote most of their energies to rebuilding domestic infrastructure and to land clearing. These short run effects were exacerbated by the coincidence of a major drought with the peak of the relocation in 1974. The new sites also posed immediate problems in some cases either where the peasants were not accustomed to new ecological conditions and had to adapt their cultivation practices,^{18/} or where the site itself was unsuitable for cultivation in

^{17/} For a thorough discussion of the various schools of thought on the failure of communal agriculture to take hold, see J. Barker, "The Debate on Rural Socialism in Tanzania," in Mwansasu and Pratt, op. cit. The technological explanation given above, while not necessarily exclusive, seems overriding.

^{18/} Hyden, op. cit.; Background Paper V cites a case in Singida Region where villagers were subjected to famine when their crops failed because they planted at the wrong time.

any case.^{19/} This was a major disadvantage of using the existing road network as a siting tool - roads were often built in areas with little agricultural potential.^{20/} And while villagization gave some peasants the opportunity to open up relatively fertile, virgin soils, those peasants moved from their perennial cash crop groves (especially cashews along the coast, and coffee in Kagera)^{21/} experienced extreme difficulties in tending them, and in some cases had no choice but to abandon the crops.

6.17 It was not until several years after resettlement that some of the more lasting effects came to be felt more generally in the countryside. Population pressures began to take their toll even in areas where the initial land/people ratio was not particularly high, leading to ever increasing walking times to open up new land. This was exacerbated by soil exhaustion around the village nucleus, a result of land mining and overgrazing. Distant fields not only pose a problem of time loss; they are also more difficult to guard from pests. Similarly, firewood shortages, already an emergent problem before villagization, have become widespread, necessitating increasing amounts of walking time to obtain this essential fuel source. This is a particular problem in tobacco and pyrethrum growing areas, where wood is also needed for crop processing. In the case of tobacco, the combined problems of soil exhaustion and fuelwood shortages have become so serious that the ecological basis for the crop no longer exists at the present village sites.

6.18 As these longer term ecological constraints have emerged, it has become increasingly clear that one or both of two solutions must be pursued if Tanzania is to avoid widespread, severe declines in agricultural productivity. Either peasants in overpopulated villages will have to abandon traditional extensive cultivation techniques and adopt intensive, input-based practices; or they will have to be permitted to disperse from the village nucleus so that they can successfully continue the extensive land use practices. The first is technically the more difficult solution; it will require availability of appropriate input packages in areas which are undergoing the ecological trauma. The second is politically the more difficult, for it will require the Government to accept the fact that its villagization policy has worsened, rather than improved, the conditions of many of the country's farmers. The frequent suggestions by outsiders^{22/} to set up "satellite villages," which would consist of smaller settlements dispersed around a central village nucleus containing economic and social infrastructure, to date have not been taken up. Even if the political

^{19/} Background Paper V, p. 33. Some villages in Mwanza and Shinyanga, for example, were sited on flood plains, and had to be relocated a second time.

^{20/} A. Mascarenhas, "After Villagization, What?" in Mwansasu and Pratt, op. cit., p. 160.

^{21/} For cashews, see Ellis, Cashews, op. cit. Coffee farmers typically were able to resist physical relocation, so villagization primarily consisted of a political reorganization.

^{22/} E.g., the World Bank in the 1977 Basic Economic Report, the Tabora RIDEP team, and Rene Dumont in his unpublished 1979 report to the Prime Minister's Office on developments in the agricultural sector.

obstacles to some form of satellite system are overcome, however, the method of implementation will be critical, lest the same mistakes of villagization recur. Both the lack of land use planning capacity and the widespread feelings of ill-will and insecurity among the peasantry which remain from the first villagization exercise would seem to caution for a gradual, flexible resettlement process wherein peasants themselves were allowed to experiment on the suitable population size for the satellites. In tobacco areas, the need to allow this type of relocation is urgent; unless growers can move to new areas, the crop will all but vanish in several seasons.

C. Government Production Directives

6.19 Administrative regulation of production has been a feature of Tanzanian agricultural policy since colonial times, when by-laws were introduced to enforce the adoption of extension recommendations on the production of specified food and export crops.^{23/} Following a lapse in coercion in the last decade of British rule, which continued into the first decade of Independence, the country has witnessed a surge in the use of a range of instruments of control. There have been two basic categories of production directives, which have different sets of justifications. One category, which has already been referred to in the discussion of large-scale farming (paras. 1.37), embodies the ideological leanings of the Arusha Declaration and related policy pronouncements, and includes the restrictions on hiring permanent agricultural laborers (since 1968) and the since abandoned communal cultivation requirement in villages (para. 6.7).

6.20 The second category is more closely in the tradition of the colonial regulations, and consists of instruments intended to administer peasant production. Regulations of this sort can be based on one of several overlapping premises. The first, which is the most benign, is based on the premise that enforcement will help peasants overcome what is perceived as their conservative bias in adopting new crops or techniques. The second views enforcement as necessary to make peasants use surplus labor for crop production, in the belief that they do not respond to economic incentives. The third views enforcement as necessary to safeguard national economic interests, on the assumption that peasants left to make their own decisions would not produce an output mix conforming to the macro balance perceived to be necessary or desirable by officials.

6.21 Examples of the various types of enforcement abound. Expressions of the first view are found in connection with extension recommendations, such as the prevalent regulations to grow crops in single stand block

^{23/} Coulson, op. cit., pp. 52-55.

farms, and regulations to use fertilizer, both of which have been demonstrated to be economically and/or agronomically unsound in some areas subject to enforcement.^{24/} The second view finds its expression in the frequently-voiced official pronouncement that peasants should "work harder" to increase food and cash crop production. The third view finds its expression in the official designation of export crops, and more recently food crops (in light of the NESP), which should be grown in various parts of the country to serve the national interests of foreign exchange generation and food security.^{25/}

6.22 The instruments used to these ends vary in severity and/or forcefulness. At the bottom of the scale are the exhortations to produce more, and the imposition of high production targets; these can serve as the basis for minimum acreage by-laws, crop tending regulations, and freedom of movement restrictions. Punishment for failure to comply can range from reprimands, to fines, to prison sentences. Ellis provides a graphic illustration of the lengths officials went to in promoting cashews in 1979:

"(a) the mounting of a well publicised official campaign in Mtwara and Lindi regions to try and "teach" the cashew growers how they should care for their cashew trees; (b) the setting up of road blocks in the same regions to prevent peasants from freely moving out of their villages without an official pass to state that they have cleared their cashew groves; (c) the banning of petty trading in Rufiji district since it was deemed to be distracting peasants from the care of their cashew plantations; (d) the introduction of by-laws in Kisarawe and Bagamoyo districts of Coast Region to make failure to tend to cashew trees a legal offense, punishable with fines; (e) frequent exhortation on the part of senior Party and Government officials to the effect that peasants must tend their cashew trees "or else."^{26/}

Because these regulations are explicitly founded on the premise that they will enforce practices which run counter to economic incentives, their chances of meeting with anything more than limited success are minimal.

^{24/} Farm management surveys have found that inter-cropping of maize with groundnuts, and maize with beans are advantageous in Tabora and Kigoma Regions, respectively, but the regulations against intercropping persist (personal communication from Tabora RIDEF team; Loft and Oldwelt, op. cit., p.53 ff). Similarly, a mid-term review in 1977 of the IDA-financed National Maize Project found officials were pushing maize and fertilizer in areas where it was not agronomically appropriate (National Maize Project, Credit 606-TA).

^{25/} For regulations in coffee production, see Ellis and Hanak, op. cit., p. 19; for cotton, Loft and Oldwelt, op. cit., Section 9.6.

^{26/} Ellis, Cashews, op. cit., p. 20.

Their success depends entirely on the vigilance of the enforcers, and even the most diligent of these cannot supervise enough of the production process to guarantee widespread results. The peasantry's reaction, which has been exhibited since the colonial period^{27/} is to circumvent or passively resist the regulations wherever possible.

D. Social Services: Water, Health, Education and Agricultural Production

6.23 The chief objectives in the provision of social services in rural Tanzania have been to raise the standard of living of the rural people, and to combat elitist tendencies by ensuring an equitable distribution to the total rural population. Water, health care and primary education are all free, and targeted to become universally available by the 1990s, if not sooner. Tanzania's record in providing each of these social services is examined briefly here, with a view to assessing the impact on rural communities and the implications for agricultural production.

Water

6.24 In 1970, an estimated 9% of the rural population had access to piped water systems.^{28/} The water supply policy which was set up has the objectives to provide potable and dependable water within a reasonable distance, not exceeding walking distance (4 km) of every village by the end of 1981; and to provide all villages with access to a public water point at an average distance of 400 meters by 1991.^{29/}

6.25 The rural water supply situation ten years later has been summarized as follows:

"About 20 to 30% of the 8,300 registered villages in Tanzania have been provided with a source of clean, potable water. However, less than 50% of these systems are in working condition (1980), basically due to lack of fuel, maintenance and repair facilities."^{30/}

6.26 The experiences of teams developing water master plans for Iringa, Mbeya, Ruvuma, Rukwa, and Kigoma confirm the extremely high proportion of installed water schemes which are not functional.^{31/}

^{27/} See footnote 23.

^{28/} World Bank, Economic Memorandum on Tanzania, 1981, p. 1.

^{29/} Stahl, Sachak and Mkusa, "A Socio-Economic Study of Water Related Problems in Northern Njombe," BRALUP Research Paper No. 54., University of Dar es Salaam, 1979, p. 4.

^{30/} Background Paper V, "Tanzania: Analysis of Social Services Available at Village Level, Rural Water Supplies", Appendix A, p. 1. This is lower than the Government's estimate that 39% of all village are served (Minister of Economic Affairs and Planning "Speech to Parliament on the 1981/82 Annual Plan," Daily News, 24 June 1981).

^{31/} Personal communication from Water Master Plan teams for those regions, 1981.

An investigation of the water schemes in Rukwa Region in 1979 found that out of 28 pump-operated water schemes, only 11 were functional.^{32/} Respondents reported frequent and long-term breakdown of water schemes, lack of fuel or spares, and lack of cash or transport at the village level to go and buy the needed items from the district or regional headquarters among the most serious problems of water supply. A 1981 survey in Kigoma found only 25 to 30 percent of the Region's 72 schemes to be operational at some time during the year. The effects of the diesel shortage are readily apparent if one considers that less than 25 percent of the requirements of the functional pump operated schemes actually reached the villages in that year.^{33/}

6.27 Thus the overall picture which emerges from the water policy's implementation record is one of significant achievements in relation to the previous conditions in some places, but of grave shortcomings in relation to targets and expectations. For every fortunate village where a scheme has been installed and operates, there are one or two dissatisfied villages where schemes have been installed, often with the help of free village labor, which at best function sporadically, but more likely have broken down altogether or never worked in the first place. On top of this, there are another six or seven forsaken villages for whom piped water supply is still a pipe dream. That villagers both want and await this service is apparent throughout the countryside. The Government's strategic error has been to promise prematurely services which it has had neither the physical, human, nor financial resources to deliver. Moreover, overambitious targets have the result of spreading the existing resources even more thinly, as regional water offices are implicitly encouraged to sacrifice maintenance and repair of existing schemes in order to complete additional ones.

Health Care

6.28 The Government's rural health care strategy is centered around: (i) rural health centers (RHCs), designed to cater to all essential medical services except those like major surgery, which can only be provided by hospitals, and to practice preventative medicine (targetted: one RHC to 50,000 population); (ii) rural dispensaries, designed to cater to simple community medical needs (targetted: five to one RHC, or one to 10,000 population); and (iii) rural hospitals at the regional and district levels.^{34/} A rough indication^{35/} of the strides made in this respect is found in health personnel/population ratios. In 1962, there was one physician for 21,000 Tanzanians; by the late 1970s, this had been increased to one per 18,000. More significant in the rural areas, the ratio of

^{32/} A.S. Kauzeni, "Villagers Expectations and Attitudes Towards Traditional and Improved Water Supplies," Bureau of Resource Assessment and Land Use Planning, University of Dar es Salaam, Research Report No. 50. 1981, pp. 35-36.

^{33/} Loft, et. al, op. cit., pp. 29-30.

^{34/} Ibid., p. 31.

^{35/} All statistics in this paragraph and the next are from World Bank, Economic Memorandum on Tanzania, op. cit., p. 1.

registered nursing persons to population has increased from roughly one per 10,000 to one per 3,000 over the same period. In both indicators, Tanzania is some 40 percent better off than the average for low income sub-Saharan African countries. There has also been a large increase in physical facilities, with TSh 469 million allocated in capital expenditures for health care between 1975/76 and 1981/82 (Statistical Appendix:Table 2.2).

6.29 As a measure of the success of the program, life expectancy has increased from 42 at Independence to 51 in the late 1970s. This is five years higher than the average for the low income, and on par with the middle income sub-Saharan African countries. Moreover, child mortality (ages 1-4) has decreased from 32/1,000 to 20/1,000, again superior to the performance of countries with comparable income levels.

6.30 The health sector is not without problems, however, the most serious of which are scarcity of properly trained personnel and shortages of drugs and medical equipment. In a 1979 Ministry of Health study,^{36/a} a random survey of seven village health posts found only one equipped with soap, only three with a thermometer, only one with a wash basin, only four with small scissors and none with a flash light, scale or height measure. Nor did any have transport to get their drugs, which were delivered on an irregular basis. In the same study, 68 patients were asked to identify what they perceived to be the main problems of the rural health centers and dispensaries. The problems most often mentioned were inadequate drugs, insufficient numbers of health workers and inadequately trained staff. A 1978 World Bank^{37/} study on the health sector confirmed this observation about inadequate supplies, and noted that this led villagers to seek out district or regional level facilities where drugs were more likely to be available, a practice which results in excessive travel costs, poor utilization of peripheral health units and less effective care than the health system was designed to provide. The shortages have, of course, become more and more serious as the country's foreign exchange situation has deteriorated, and even the most basic drugs such as chloroquin and antibiotics are not available in regional and district centers, let alone rural outposts.

Education

6.31 The major guidelines for Tanzania's education policy are in the President's essay "Education for Self Reliance", which first appeared shortly after the Arusha Declaration in 1967.^{38/} In it he stressed the need for broad-based primary education of the rural population, with a self-contained, technical curriculum directed toward the needs of village life. Primary school students would be discouraged from aspiring to higher education and urban sector jobs; and at the same time, secondary school intake would be restricted. With this latter measure he intended to minimize the perceived problem of growing social stratification, and was

^{36/} URT, Ministry of Health, Evaluation of the Health Sector 1979, National Printing Company, Ltd., pp. 149, 151-2.

^{37/} World Bank, Tanzania Health Sector Report, 1978.

^{38/} Reprinted in J.K. Nyerere, Freedom and Socialism, op. cit.

probably also hoping to avoid the political difficulties presented by unemployed school leavers in many other developing countries. The original target for universal primary education (UPE) was 1989; this was brought forward to 1977 following the Party's Musoma Resolution of 1974, which expressed dissatisfaction with the pace of achievements in this sector.

6.32 In terms of enrollment and literacy rates, the educational system may be regarded as extremely successful.^{39/} The first two national literacy tests showed a decline in illiteracy from the 1961 benchmark of 75%, to 39% in 1975 and 27% in 1977. Most recent tests indicate illiteracy down to 10%. There has been a similar huge increase in primary enrollment from 0.5 million in 1961, 2.2 million in 1976 to over 3.5 million in 1981. This has been achieved with a relatively modest capital allocation to education, but with substantial increases in recurrent finance. The share of the Regional recurrent budget going to education increased from 27% to 42% between 1974/75 and 1981/82, implying a 21% increase at constant prices (Table 2.5).

6.33 In terms of tailoring the curriculum to the requirements of rural life, the record is less impressive. Although there are exceptions, the curriculum is still quite standardized and heavily academically biased. Schooling is still seen as a means to wage employment, and expansion of primary education may well have added to rates of rural-urban migration, especially as many of the educated would rather not do agricultural work, which has low social esteem.

6.34 Problems of achieving UPE and revising the curriculum are not unrelated. When the UPE target was brought forward to 1977, this sent shockwaves through the system. Massive crash training programs were introduced for primary school leavers to fill the teaching staff shortages; and any additional resources which were available went for construction of classrooms and teachers houses and increasing supplies of school furniture and books, which are still in very short supply in most parts of the country. Developing the new curriculum, and training people for the particularly demanding job of teaching an interdisciplinary, non-traditional course of studies, simply could not receive the attention needed for the program to be successful.

6.35 The Government's dual objectives of expanding primary and restricting secondary school intake have posed some serious practical problems at the level of trained manpower availability. The proportion of

^{39/} Data are from Enrollment Statistics, 1980 "Primary Education Analysis and Comments, A Reflection on the Implementation of the UPE Resolution," as cited in Background Paper V, p. 19.

the population receiving secondary education is now lower in Tanzania than in most other African countries.^{40/} As pointed out earlier (paras. 2.37; tion may well have added to rampressive. Although there are exceptions, th curriculum is still quite standardized and heavily academically biased. is a contradiction between the Government's moves to restrict intake of secondary schools, and at the same time rapidly expand the public sector in agricultural marketing, transportation, and retailing. In these fields, public sector operations both formally require people with secondary training and above and are structurally more management and technician-intensive than smaller scale, decentralized private or cooperative sector alternatives.

6.36 Finally, while the longer term benefits to the agricultural sector of an educated population are undisputed, there have been some short-term conflicts between UPE and agricultural production. In most areas of Tanzania, labor is the operative resource constraint to crop production, and families have had to rely on their older children to help in the lighter agricultural tasks (guarding crops, weeding, and in some cases harvesting) as well as household tasks (water fetching, minding the younger children) which release more of the adults' time for the heavier work. Because villagization has increased walking times to fields, it has accentuated the need for child labor. Primary school enrollment restricts the children's availability for this work. One way to alleviate the labor shortage, which is practiced in many agricultural areas of developed countries as well as in the developing world, is to tailor the school calendar according to the agricultural season, so that the children can work at home at the time when they are most needed. This has not yet been tried in Tanzania. Any move away from strict enforcement of villagization (para 6.18) would of course also relieve the need for child labor by increasing accessibility of farm families to their fields.

The Effect of Social Services on Agricultural Production

6.37 To summarize, the provision of water, health and primary education have all contributed to an improved quality of life for their recipients. The direct production effects of these services have been mixed. Water schemes have no doubt released agricultural labor under some

^{40/} For example, the percentage of eligible children enrolled full-time in secondary school in Tanzania is estimated conservatively as 4%; in Kenya, 28%; in Uganda, 23%; and Zimbabwe, 15%. A recent World Bank study (Richard Sabot, "A Preliminary Overview of Educational Policy, Inequality and Productivity: an East African Comparison," World Bank mimeo, November 1981) has shown that restriction of secondary school intake has also reinforced the existing social stratification, as high proportions of children enrolled have parents with higher education and incomes. Coulson confirms this: "The ratio between the numbers leaving primary school and those going on to a Government secondary school had become so low (about 1:16 in 1975) that peasants were saying that secondary-school places were for the children of teachers only" (Coulson, op.cit., p. 217).

conditions (para. 6.12). Improved health is similarly very important to a peasant family's production capacity.^{41/} Education has more long term, indirect beneficial effects, but may have actually hampered production in the short run (para. 6.30). The Government's basic needs program has been costly, however, particularly in recurrent expenditures, where the three sectors are allocated roughly 15 percent of the Ministries' 1981/82 budget and 65 percent of the region's budgets (Statistical Appendix: Tables 2.3 and 2.4) These sectors also depend on foreign exchange, as the crippling shortages of diesel, spares, drugs, medical equipment and school supplies make all too apparent. With declining agricultural exports and an eroding domestic tax base,^{42/} the Government will soon be compelled to make some difficult choices. Social services can only continue to be provided if a turnaround in production is achieved, and if the budgetary drain of the agricultural parastatals (paras 3.12-3.19) is stopped.

E. Availability of Consumer Goods

6.38 To comprehend the Tanzanian rural development strategy since the Arusha Declaration, it is essential to understand that availability of consumer goods at least initially was regarded as a potentially harmful rather than constructive contribution. Early in 1969, Presidential Circular No. 1 required that:

"All government policies and the activities and decisions of all government officials...should attempt to dampen the urge for private expenditure on consumer and farm durables in favour of communal expenditure on things like cooperatively owned farm implements, stores, water supplies..."^{43/}

Though it is uncertain whether this ideological stance was taken to heart, the official view for many years clearly was to regard incentive goods as unimportant (if not harmful) to the development of peasant agriculture. More recently, as virtually all basic goods in demand in the rural areas have become extremely scarce or non-existent, there has been more official recognition of the detrimental production effects when peasants cannot purchase these commodities. But remnants of the earlier view have also remained prominent, resulting in ambiguous policy pronouncements concerning the importance of increasing the supply of these goods.

^{41/} In the Kigoma RIDEP evaluation survey (1981), for example, of those households which reported a decline in agricultural production from 1977/78 to 1980/81, the most common reason given was bad health or death in the family (Loft, et. al., op. cit., footnote 13, p. 123).

^{42/} Itself largely a reflection of agriculture's performance - nearly 20% of tax revenues are collected directly from foreign exchange earnings (through customs, duty and sales tax on imported goods). In addition, company tax is based heavily on the profitability of import-reliant industries (Background Paper VIII, Table 25). Prior to 1980/81, there were also substantial direct taxes on agricultural exports (paras. 4.14).

^{43/} Reprinted in Lionel Cliffe, et.al. eds, Rural Cooperation in Tanzania, Dar es Salaam, 1975, pp. 27-36.

6.39 Though the foreign exchange crisis has made consumer goods^{44/} shortages more acute over the past several years, problem of shortages and randomized availability began already in the mid 1970s, and to a large extent reflect Government policy actions in both supply and distribution of goods to the rural areas. In distribution, there has been a concerted drive to curtail or eliminate the role of private traders. This is evidenced, on the one hand, in the increasing authority delegated to the Regional Trading Companies (RTCs) and specialized national trading companies in the distribution of essential commodities, and on the other in the attempts, in 1976 and again since 1980, to introduce "village cooperative shops" which would replace private shops at the village level.^{45/} Another element has been the concomitant drive to circumscribe the role of private transporters in the haulage of commodities to distribution points, as witnessed by restrictions on route licensing (para. 5.40), by enlargement of the vehicle stock of parastatals such as the RTCs, as well as by regulations that the State Motor Corporation, the sole licensed distributor of imported vehicles and vehicle parts, discriminate in favor of the public sector.^{46/}

6.40 These actions spring from the official view that private individuals take advantage of their commercial privileges by making large profits at the expense of rural inhabitants. The Government enters to ensure equitable distribution at the "fair" or official prices. Principles of this case aside, the measures themselves have had a very detrimental effect on consumer goods supply. In particular, the encouragement of village shops has been implemented prematurely. In both 1976 and more recent campaign, private shops were closed down in many districts before the village shops replacing them in name had the means to replace them in practice. In this respect, the odds are against the village shops. They have little operating capital, and their employees have neither the retail experience nor an incentive structure which can make the system work. A recent report by COPAC on cooperatives in Tanzania noted that most village shopkeepers are inexperienced, and that the village shops have had a checkered history of losing money and being bolstered up again.^{47/}

6.41 The official distribution procedures are, in principle, supposed to ensure that essential goods are distributed equitably throughout the country and that each village gets its share. But neither an elaborate chain of allocation committees nor the sparsely manned watchdog activities of the Ministry of Trades' Board of Internal Trade have succeeded in this

^{44/} Women's and men's clothing, soap, edible oils, sugar, salt, matches, bicycles and bicycle parts, batteries, plastic sandals, kerosene, and pharmaceuticals. While considered luxuries, corrugated iron sheels, transistor radios, alcoholic beverages, soft drinks and cigarettes are also important incentive goods which have not been available.

^{45/} On the public trading companies, see Daily News articles on February 12, 15 and 17, March 15 and July 18, 1980; on village shops, see Hyden, op. cit., pp. 132-3 for the 1976 "Operation Maduka," and for the recent initiatives, see Daily News, February 6, August 3 and October 3, 1980.

^{46/} Daily News, November 7, 1979 and March 20, 1980.

^{47/} Copac Secretariat, "Cooperative Information Note, United Republic of Tanzania", 1982, p. 16.

task.^{48/} Because of the scarcities, there is a large financial incentive for individuals along the way to divert goods to sell them on the black market. Moreover, the relative inefficiency of public transporters cuts down on the flow of commodities to the regions and districts (paras. 5.41 - 5.61) with the result that even fewer goods than are destined for the villages reach them, particularly since it is easier to sell on the black market in towns, which are more accessible and less closely controlled. Even when villages do get their allocations, these are often hopelessly small in relation to demand.

6.42 What began as a distribution problem has been aggravated by supply shortfalls. Evidence from the manufacturing sector shows that despite a substantial increase in capacity from 1975 to 1981 for a number of consumer goods industries of relevance to the rural areas (Table 6.1), there has been a major decline in production since 1979 (Table 6.2). Output in 1981 was below the 1974 levels for all industries listed except batteries, and especially for iron sheets, enamelware, blankets and shoes. Production of textiles and beer remained more or less constant, in the case of beer, no doubt because it is an important source of Government tax revenue.

Table 6.1: The Increasing Capacity of Industrial Goods Production
Tanzania Mainland (1975-81)

	Weight per yr	Capacity <u>1/</u> 1975	Capacity <u>1/</u> 1980/81	1980 Capacity <u>2/</u> Utilization
Soap	Tonnes	21,000	28,000	30%
Vehicles tires/tubes	No.	438,000	538,000	70%
Sugar	Tonnes	115,000	176,000	60%
Cigarettes	No.	3.6 bn.	5.4 bn.	75%
Fiber goods	Tonnes	12,000	15,000	70%
Glassware	Tonnes	11,000	15,000	15%
Cement	'000 t	400	1,100	47%
Cloth (Cotton/ polyester)	Mil. sq.m.	83	174.5	50%
Shoes	Mil pairs	7	9.97	60%
Beer	Mil cases	7	7.6	80%
Bicycles	No.	n.a.	150,000	15%

Source: 1/ Draft of First Union-Fourth Tanzania Mainland Five-Year Plan 1981/82-1985/86, Ch. 3F.

2/ 1980 capacity utilization estimates are derived from Ministry of Industries data. It must be pointed out that conditions worsened dramatically with reductions in import allocations every six months between January 1981 and June 1982.

48/ Background Paper V, p. 28.

Table 6.2: Production in Selected Industries
(1970 = 100)

<u>Commodity</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Textiles	147.9	149.7	141.6	132.2	142.9	152.0	142.0	146.1
Beer	164.9	166.5	180.1	194.6	222.2	213.5	165.4	166.5
Cigarettes	178.9	135.1	139.5	156.4	156.4	166.5	182.2	148.7
Cement	167.4	150.4	138.2	139.4	153.9	163.4	161.5	144.8
Petroleum	110.1	97.8	109.1	89.2	86.3	68.6	90.2	76.2
Iron Sheets	148.7	146.5	148.4	157.3	172.7	171.5	99.1	60.8
Enamelware	25.3	48.9	40.2	64.6	49.8	39.6	16.1	6.7
Blankets	64.7	103.7	88.5	84.6	65.2	61.4	44.0	25.6
Fishnets	152.8	69.3	81.8	174.3	77.3	175.6	36.0	46.9

Source: Ministry of Industries.

6.43 The most obvious reason for the drop in production is the shortage of foreign exchange for the import of raw materials and spares. Whereas in 1978 the sector received 51% of requested raw material imports, in 1981 it received only 10%, a drop of nearly 50% at current prices.^{49/} This has been compounded by problems in support sectors, particularly frequent interruption and insufficient supplies of power and water, and scarce and increasingly high-cost transport.

6.44 As both the NESP and the SAP articulate, tackling these constraints to increased capacity utilization is a major goal of the Government during the crisis period, and increased import allocations are the foremost measure by which this is to be achieved. But ambiguities in the industrial recovery policy enter at the point where intra-sectoral priorities are set. The NESP, and to a lesser extent the SAP, aim for large increases in manufactured exports, including products, like textiles, which are in high demand among rural Tanzanians. When preparing to launch the NESP, which set export quotas for many industries of 15 to 25 percent of output, the administration made it very clear that this policy "... may lead to more shortages of essential goods at home," but argued its necessity for the sake of an improved external account.^{50/} The SAP, which promised to give priority to both domestic supply and exports, was silent on the subject of this trade-off.^{51/} Nor did it address the trade off implicit in its proposal to give parastatal employees "favoured access to durable consumer goods which would otherwise be difficult to obtain as an incentive to improved productivity."^{52/} With foreign exchange as scarce

^{49/} World Bank, Recent Developments in Manufacturing in Tanzania, pp. 9-10.

^{50/} Statement by the Minister of Economic Affairs and Planning in "Time to Bolster the Economy", Daily News, March 2, 1981; See also Statement by the Minister of Trade in "Ministry Calls for Export Increase", Daily News, July 10, 1981.

^{51/} SAP, op. cit., pp. 23-25.

^{52/} Ibid., p. 43.

as it is, there is a real danger that attempting to meet all of these priorities will result in resources for domestic supply being spread too thinly to make a difference to rural producers. And there is an even more basic question as to how many resources can be released for production of consumer goods, given the Government's already ambitious ongoing program of heavy industrial development.

F. The Limits of Commandeerism

6.45 Tanzania's rural policy since the Arusha Declaration has been characterized by three main tendencies: (i) penetration of the public sector into the economic sphere; (ii) expansion of Government-supplied social services; and (iii) concerted attempts to administratively regulate peasants' activities. The most significant moves in the first of these were to replace the cooperatives with monopoly parastatal marketing authorities (paras. 3.8-3.12); to regulate the prices of an increasing number of crops (para. 4.13); and to severely curtail the role of private retailers and transporters (para. 6.38). In the second, there have been the large programs in education, health care, and water supply. The third included the forced relocation of the majority of the country's peasants (para. 6.6-7); the restrictions on their movement away from the village nucleus (para. 6.18), the disallowance of unofficial crop sales (para. 4.28), and a host of localized production directives (paras. 6.19-21).

6.46 Contrary to their intentions, the economic instruments have, on the whole, had a negative impact on peasants' economic environment. Real prices have declined for most crops over most of the period (para. 4.14); marketing services have deteriorated considerably (paras. 5.28-5.34) and consumer goods have all but disappeared (para. 6.37-41). Meanwhile, many people have experienced tremendous hardships because of villagization (para. 6.16-17), both from the initial uprooting, and again once ecological stress has set in. Those who have the possibility to circumvent the official market are able to shelter themselves somewhat from the economic squeeze; but this often requires substantial additional work in carrying head or bicycle loads of crops by night or on hidden paths to keep out of sight of officials. And as the economic incentives to produce worsen, the production directives become firmer, causing peasants to earn lower incomes than they would by growing other crops, whether they fully comply to the regulation or play the charade of planting, but not caring for, crops which they do not want to grow. Against these economic difficulties, even the impressive strides in social services pale by comparison.

6.47 The declining trends in officially marketed crop production clearly demonstrate the reaction of a peasantry which has been economically squeezed, subjected to frequent institutional changes, and coerced into non-voluntary behavior. To prevent their further retreat from the production of export crops, and to stimulate the levels of output required for an economic recovery, it will be necessary to entice the peasants with economic incentives, rather than to use exhortation and force.

6.48 The Government has exhibited conflicting responses to this question in its recovery program. On the one hand it has acknowledged, most clearly in SAP, that there is a need for improving the economic conditions of crop production, including pricing, marketing, and consumer

goods supply. Simultaneously, however, at the core of the NESP is a system for regimenting the entire countryside into enforced production zones. According to this plan, targets are to be achieved from a combination of peasants' private production of the specified crops, and of the output from "village farms." These farms, unlike the communal plots of old, are a form of labor taxation; each adult villager is required to work a specified number of hours every week, free of charge. Output from the farms is to be sold to the official marketing bodies; proceeds accrue to the village leadership. In the elaborate network which the Party has established to monitor this system, regional and district officials are each responsible for overseeing the progress of two or three villages. Villagers' failure to comply to the "crop calendars" which have been constructed, should result in fining, and jailing for repeated offenses.

6.49 The extent to which such a program can be implemented depends upon the strength of the Party organization in the regions and districts. Field visits in Kigoma Region in late 1981 found the system well in place. Whether it is possible to make peasants produce under such conditions is entirely another question, however. The experiences of the past decade suggest that the probability of success is very low.

CHAPTER VII

THE WAY OUT OF THE CRISIS: IMPLICATIONS FOR GOVERNMENT AND DONOR POLICY

A. Introduction

7.1 The serious decline in Tanzania's agricultural sector is a principal factor explaining the current economic crisis. Agriculture has suffered from over a decade of insufficient resources, weak institutions, and inappropriate policies, and its decline threatens to continue unless there are major changes in these areas. A recovery in agriculture, which is central to a recovery of the economy as a whole, will require a sustained commitment to an agriculturally led strategy, which differs considerably from the development strategy Tanzania has pursued in the past. Institutions and policies will need to be altered on the basis of their ability to provide essential services and incentives to Tanzania's farmers; and scarce resources will need to be directed on a priority basis toward the relatively more efficient activities within agriculture and in the supporting sectors of transportation and consumer goods industries on which agriculture depends.

7.2 Government recognition of the gravity of the agricultural crisis is gradually increasing, and is evidenced in recent policy documents, most notably the SAP, and in the establishment of a high level Task Force on Agricultural Policy to examine the constraints facing the sector. Some of the macroeconomic facets of the SAP proposals--to control the Government budget and to strike a better balance between capital and recurrent expenditures--and some of its sectoral proposals--to reduce the role of NMC, introduce regional pricing, and ensure consumer goods supply in the rural areas--are encouraging, and should assist agriculture. There also needs to be a strong indication that the Government recognizes the extent of agriculture's problems (the subsequent Task Force report on agriculture begins to lay the groundwork for this) and has clearly established priorities. The SAP did not do so, in spite of the severe resource constraints facing the economy, in part because it assumed large inflows of foreign assistance. The Government had not gone far enough in assessing the relationship of agriculture's problems to Tanzania's overall development strategy, in particular the speed with which the country has tried to achieve its goals of socialism and self-reliance and the means it has employed to this end. As a result, the SAP had not yet acknowledged fully the key role of policy and institutional factors affecting the sector, which must be addressed in conjunction with resource allocations. Finally, it was over-optimistic about the time needed for an agricultural recovery, especially when considered in conjunction with the solutions proposed. Whether the recommendations in the recent Task Force report on agricultural policy are pursued and deepened, and indeed matched with concrete steps to implement a new agricultural policy effectively addressing these issues, will be the true test of Government's recognition of the deep seated nature of the agricultural malaise.

7.3 This report has made the case that enough is already known about the causes of Tanzania's poor agricultural performance in broad terms to require immediate changes in domestic policies, institutions and investment priorities in the economy as a whole. It acknowledges the external factors which undoubtedly have reinforced the present crisis, but focuses instead on the domestic factors which are directly under Tanzania's control and which it can begin to influence quickly. Without some urgent domestic policy changes, Tanzania's need for foreign assistance will reach levels which donors cannot provide. Moreover, even if assistance on such a scale were available, its efficiency would be very low with little long term effect on agricultural recovery.

7.4 Three highly interrelated problem areas have been identified for the Government and the donors to address immediately in the interest of an agricultural recovery. For the Government, they are:

- (a) the growth of the parallel market,^{1/} with loss of Government control of the economy.
- (b) the growing parastatal losses and the weak agricultural support services now provided by the parastatals; and
- (c) the inadequate resources allocated to agriculture and its supporting infrastructure and consumer goods industries.

7.5 To deal with these problems, the report recommends:

- (a) priority foreign exchange and other resource allocation to agriculture and its associated transport and consumer goods industries. This will necessitate sharp curtailment of new investments and postponement of some ongoing projects, until agriculture is revived. It would however require new investments in areas such as transport, which directly support agriculture, but which have not been forthcoming so far on the scale needed;
- (b) reducing the role of the parastatals, substantially raising agricultural producer and retail food prices and adjusting the exchange rate to reduce parastatal losses;
- (c) allowing institutional pluralism including legalization of the private sector in agricultural input and output marketing, production, agro-processing and transport.

^{1/} Meaning illegal private market other than small intra-village transactions.

7.6 Several problems the Government now faces offer scope for donor assistance. These are:

- (a) the need for an overall development strategy backed by adequate resources in priority areas;
- (b) the inadequacy of Tanzania's own recurrent financial and manpower resources; and
- (c) the speculative behavior which could occur during the period of recommended adjustment, especially in the case of food.

To this end the report recommends that donors together with the Government:

- (a) coordinate discussion and evolution of an agriculturally led strategy along the lines presented in this report;
- (b) convert more assistance to subsector, sector and program support in accordance with the agreed overall strategy, even if it means drastic reordering of past commitments; and
- (c) guarantee food aid, if necessary, of 400,000 tons of preferred grains annually for three years to avoid speculation and to protect the most vulnerable groups.

7.7 An understanding of the relationship of the recovery program proposed to the realization of Tanzania's most basic long term objectives, which its donors have endorsed, is essential if these significant policy changes are to be embraced. To this end this chapter first highlights the profound nature of the problem and the key conclusions of the previous chapters in the context of the three highest priority problem areas. It then outlines tentative solutions to those problems and presents estimates of the performance in the sector until the end of this decade with and without the recovery program. Illustrations of long term constraints including technical packages and manpower development, are provided. If the recovery program conceived largely in the short term context is to be sustained over the long run, then these longer term constraints must be addressed as soon as the priority areas are resolved.

B. The Nature of the Problem

7.8 The present crisis highlights four development dilemmas for Tanzania, namely the relationships and trade-offs between (i) growth and equity, (ii) the private and the public sector role, (iii) agriculture and industry, and (iv) the short and the long term objectives and achievements. Both the Government and the donor community will have to address these dilemmas in the context of an agricultural recovery program.

(i) The growth-equity dilemma and the private-public sector role

7.9 Many past rural policies have reflected the Government's socialist goal of equity. These include investments in poorer regions such as Kigoma, Lindi and Mtwara (paras. 2.25-2.27); opening up the previously unexploited high potential southern highlands with the introduction of

coffee and hybrid maize (paras. 1.42, 1.50), achievement of universal primary education (paras. 6.31-6.36) and attempts at similar coverage of water supply and health (paras. 6.24-6.30); pan-territorial pricing (para. 4.20); support prices for drought crops (paras. 4.28-4.29); and the more direct steps taken to prevent the emergence of a rural capitalistic class, such as the abolition of cooperatives (para. 3.09); emphasis on the village as a unit for agricultural extension (paras. 1.37; 6.09); and discouragement of hired labor (para. 1.37), private transporters (para. 5.35), private ownership of tractors (para. 1.37), large scale private cultivation (para. 1.37) and private retail shops (paras. 3.10; 6.39-6.41). By directing investments and policies towards the less privileged regions, sectors and income groups as opposed to the already more established highly productive areas (i.e. Arusha, Kilimanjaro, Kagera, Iringa, Mbeya, Mwanza), these initiatives may have reduced rural inequalities. They have been extremely important in the early post-independence period in achieving national integration, social cohesion and Africanization. However, this report has documented that these policies have been costly in terms of efficiency of resource use. Their total cost has now become unsustainable, as they have discouraged surplus generation both by a small sector of large-scale, estate producers and by the much larger and more significant group of small and medium-size market-oriented African peasants. These policies, together with a 50% decline in real official producer prices over the past decade, have increasingly led both small and larger farmers to opt out of the official economy, and to some extent out of surplus production altogether.

7.10 That market-oriented farmers are crucial to the survival of an integrated national economy is readily apparent, considering their importance in overall surplus generation, foreign exchange earnings, and contribution to the official tax base. That they need incentives to restore production is well-known and undisputed. But that providing them with incentives implies some difficult trade-offs at the expense of other groups, has not yet been fully recognized. Faced with limited resources, the Government will have to take some difficult decisions to reduce income transfers to poorer, less productive rural areas, and to politically vocal urban wage earners and consumers. The magnitude of this task, especially as concerns the urban population, should not be underestimated. Although this group has benefitted from both rapid growth of public sector employment (estimated at 10-15 percent annually) and large food subsidies, urban wages have also been halved in real terms since 1975, and there are extreme difficulties in obtaining basic foodstuffs at official prices.

7.11 Socialist goals also figure prominently in the expansion of the public sector in the economy, and the increased official exclusion of the official private sector. Domestically it is the rapidly growing unofficial, private parallel market which now leads the official economy (Chapter I, Section F). A central policy question for economic recovery therefore is not whether the public sector should have major control of the means of production, but rather how to capture the benefits of the thriving informal market for the growth and development of the national official economy. The contraction of the official economy over the last decade can no longer be ignored.

(ii) Agriculture vs Industry

7.12 The Government's choice of a rapid industrialization program in the early 1970s was premised on the goal of self-reliance, and reflected concerns about the dependency implied in an agricultural export led strategy (para. 2.09). Unfortunately, both the nature of the industrialization program and its time frame have been competitive with, not complementary, to agriculture. Rather than focussing industrial growth on the production of employment-oriented consumer goods and agro-processing, the Government has emphasized heavy industrial projects such as pulp and paper, fertilizer and cement. This program has been attempted at a pace far in excess of the economy's ability to sustain it, and consequently the industries which are needed for linkages with the agricultural economy have not been maintained. Agricultural performance has suffered, as has the basic objective of an equity-oriented growth strategy, and Tanzania's dependence on the outside has increased as its foreign earnings have stagnated.

(iii) Conflicts between the short and the long term objectives and achievements

7.13 While immediate Government decisions are needed on a variety of fronts, only some will have an impact quickly. There has been such a serious neglect of key matters affecting peasant agriculture for over a decade that any short term recovery program based on the existing levels of agricultural technology, national manpower and institutions will inevitably be weak, and could well be short lived. It will need to be followed up by a serious long term agricultural development strategy. This will have to mean emphasis on the development of agricultural technology, manpower training, and building up of the Ministry of Agriculture to provide the necessary leadership. Some major rural institutions which have been critical to agriculture such as cooperatives will also have to be restored gradually.

7.14 The pervasive weaknesses in the sector, however, leave no choices as to the means to achieve a short term recovery. The options open in the short run are not necessarily optimal in the long run, as for instance the relatively greater emphasis on tractor rehabilitation rather than ox plows, and greater emphasis on private than cooperative or communal commercial activities. Establishing priorities in favor of these should not mean neglect of the other more equity and efficiency oriented concerns in the long run, but rather should be used to generate more resources internally to support these concerns. The suggestion is not to "hold back" on oxen or cooperatives, but rather to recognize the relatively slow rate at which the trained oxen herd can be expanded, and soundly based cooperatives can be organized. In the meantime, there is a gap that needs to be filled.

C. Factors in Favor of Tanzania

7.15 There are a number of factors which Tanzania has in its favor which should assist it in finding its way out of the crisis. These include: the vitality of its agricultural population, which has demonstrated its ability to respond both to positive and negative stimuli (paras. 4.22-4.24); its very substantial physical potential (para. 1.10; para. 5.26); the range of crops it can grow (Chapter I, Section G); the

strength of the Government despite the substantial hardships now being encountered by the populace; the growing realization within the civil service of the roles of domestic policies, technical and managerial considerations and the limitations of the public sector; Tanzania's history of strong support by donors (paras. 2.22-2.31), the rapid Africanization which should make it easier now to devise and justify appropriate policies domestically; and the leadership's past record of harsh self-criticism and established commitment to equity, which would seem to give Tanzania greater leeway than several of its neighbors in moving towards growth-oriented solutions, even though they may appear to deviate temporarily from achieving equity directly.

D. The Issues of Highest Priority

(i) Capturing benefits of the parallel market for the recovery and eventual development of the economy

7.16 Informal producer prices of food, the most basic commodity, are several times above the official producer prices in many parts of the country. While the extent of the parallel market varies substantially among regions depending on the opportunities available for illegal trading, it is certainly a significant force in the economy, as the SAP pointed out (para. 4.05). Unofficial trading is both domestic and international, as a number of Tanzania's own food surplus producing areas border on neighboring countries which can be attractive markets. Food is often in high demand across the border, and the supply of consumer goods is far better in Zambia, Malawi, Kenya, Rwanda and Burundi than in Tanzania. The domestic parallel market is attractive both because of the prices it offers, and because of the unreliability of services of the official marketing channels. The poor quality of production statistics, the extent of Tanzania's borders and official unwillingness to date to deal with the parallel market's existence all contribute to the problem of lack of knowledge about the extent of this important surplus outlet (Chapter I, Sections D and F).

7.17 The private sector's ability to pay producers higher prices than parastatals, without the benefit of NBC overdrafts, can be traced to four factors:

- (i) Much higher prices charged to (paid by) consumers. Rural markets with retail prices two and three times the official price for sembe and rice are not uncommon.
- (ii) Use of low cost facilities. Grain is sold from the home, in the open, or from the minimal facilities of village and local markets.
- (iii) Low overheads. Families participating in these markets do not have the large administrative superstructure carried by parastatals or previously by many cooperatives.

- (iv) Efficient use of back-haul transport. Private traders only undertake the minimum amount of transport, at least cost, while the official system is prone to inefficient, low volume haulage because of poor management and the requirement to purchase in low surplus areas (paras. 3.27; 5.40-5.41).

7.18 Rewards in the parallel market are greater when they do materialize. But evidence around the world indicates - and Tanzania should be no exception - that costs of clandestine marketing tend to be higher and more unpredictable than those of legal private trade. The risks and uncertainties of the official marketing services have become substantial because of the breakdown of services. But because it is illegal, the parallel market is also risky. Under such circumstances producers are inhibited from making production decisions effectively.

7.19 Official purchases of maize have fluctuated over the 1970s, and have declined seriously over the past few years, while wheat and rice purchases have been declining steadily since the early 1970s (Table 1.04). This has increased Tanzania's dependence on imports of wheat, rice and maize to feed the cities (390,000 tonnes in 1980/81 and 1981/82 compared to 190,000 tonnes or less from 1975/76 to 1979/80). Even with these levels of food imports the urban population still must depend heavily on informal sector supplies (25-30 percent of urban total sales in the 1974/75 to 1979/80 period). The Government's attempts to increase official food sales through the imposition of production targets on peasants will be counterproductive in mobilizing surpluses and will not alleviate the urban food problem (paras 6.45-6.49).

7.20 Unless domestic food self-sufficiency brings down the profitability of the informal food market, production of export crops will not increase because farmers will continue to move into crops which can be disposed of in the informal market. And unless more of the agricultural transactions now taking place across the borders are brought into the banking system, the official economy will contract further even if production is maintained or increased in response to parallel market prices.

7.21 Thus, there are now compelling reasons why the acceptance and encouragement of the legalized private trade in crops has to be entertained seriously by the Government. First, because the private market is already active, the question is one of how to capture its benefits for overall national growth rather than whether to permit its existence. Second, to the extent that legalizing the informal market will revive the traditional agricultural sector by increasing foreign exchange, Government revenues and employment, it will benefit not just a selected few Europeans, Africans and Europeans, but improve the well-being of the majority of Tanzanian nationals both in the rural and the urban sector. Indeed on economic grounds, it behooves the Government to encourage the valuable resources of its domestic private sector. The poorly managed monopoly parastatals are unable to effectively provide the essential marketing services at present, and additional resources alone will not alleviate this problem.

(ii) Controlling parastatal expenditures without further deterioration of agricultural services

7.22 The arguments made in favor of facilitating the role of the private sector are reinforced by a serious look at the public sector. The financial performance of the parastatals, with accumulated losses of the 11 major agricultural parastatals at TSh 1.2 billion in 1980/81 and expected incremental losses for 1981-82 bringing the total to TSh 2.2 billion are threatening to have ravaging inflationary effects on the economy. The operational deficiencies of the parastatals pose a major bottleneck to increased agricultural production. The constraints in agricultural services can be summarized as:

- the almost complete breakdown in the timely availability of good agricultural planting material for maize, and of fertilizers, pesticides, and machinery spare parts (Chapter V, Section C);
- the frequent delays in collection and payment for crops by parastatals (Chapter V, Section E);
- the tremendous problems in transport, storage and processing experienced in the case of virtually every major export crop by parastatals whose capacity even to handle existing volumes is increasingly in question (Chapter V, Section E); and
- the breakdown of the parastatal retail distribution system (Chapter VI, Section E) aggravating the overall shortage of consumer goods in the rural areas.

7.23 The Government has taken many steps to deal with these problems (para. 3.3). But the macro policy and internal management problems plaguing the parastatals are so pervasive that these methods will not be sufficient to measurably improve their performance (paras. 3.57-3.60). Because of the political sensitivity of food, overdrafts cannot be denied for purchases by NMC, which are the biggest financial drain. Curbing overdrafts of export crop parastatals only adds to the inordinate delay in payments already being experienced by producers, thus reinforcing the disincentive of unattractive prices. While the Ministry of Agriculture's very impressive watchdog effort through PPMB has improved knowledge of mismanagement, such efforts alone are limited in solving this problem. As long as the total demand for qualified managers is far in excess of supply it is difficult to find qualified replacements in cases where managers prove unsuited to their job. Cooperatives cannot substitute for the parastatals in a recovery period, because their economic viability depends on being able to develop gradually (paras. 3.47-3.49). Breaking up of parastatals into smaller public sector operations, as was proposed for NMC, will not address their basic problems, which arise from overstaffing, poor cash control, official pricing policies and ad hoc political directives (Chapter III, Section D; paras. 3.50-3.53). It may only lead to further proliferation of inefficient monopolies.

7.24 The Tanzanian experience confirms that exploitation of producers is not limited to the private sector, but is the result of monopoly, even where this is a public sector monopoly. This means that institutional pluralism is needed in Tanzania both to increase options open to producers, and to reduce the financial drain caused by parastatals. There are positive reasons for consolidating parastatals rather than abolishing them, however, and a clear but limited role can be played by parastatals in a pluralistic institutional setting. First, more could be gained from the selective pruning of some of their activities with reform of others. Second, experience of even the more market-oriented, agriculturally successful countries indicates that an effective institutional structure in the agricultural sector requires a public sector presence to increase options open to the peasantry. When the public sector co-exists with other institutional channels, its ability to attract the market share depends on how well it performs. Third, it will take time for cooperatives and even for the private sector to emerge as effective options. During this time, abolition of parastatals could increase the crisis of rural services.

(iii) Allocation of the necessary resources to the agricultural sector

7.25 Chapter II described financial allocations to agriculture both in terms of foreign exchange, capital and recurrent expenditures. It pointed out the imbalance in agricultural resource allocation in several respects:

- (a) rapid expansion of the industrial sector, causing a strain on the economy's available physical and human resources, and preventing the sector itself from consolidating and improving performance;
- (b) too few resources going to recurrent needs of both agriculture and transport, resulting in deterioration of performance despite capital investments. Shortages of recurrent foreign exchange and skilled manpower for effective maintenance have been particularly acute;
- (c) within agriculture, too few resources going to research and extension, and too much to less efficient large scale production parastatals and ineffective crop marketing parastatals;
- (d) within research, insufficient concentration of resources on the most important crops and production areas;
- (e) imbalances in the direction of resources among crops, with too much to processing and too little to production of tobacco, pyrethrum and cashews, too little to processing in comparison with production of cotton, and too little to either production or processing of sisal.

7.26 Determining a more desirable resource allocation to agriculture would require developing an agricultural sector plan as, at present, policy or resource requirements are not matched with hopes as to what agriculture can and should deliver either in the short or the long run. There is, however, a need for decisions on immediate infusions of foreign exchange to agriculture before a serious estimation of the detailed long term resource requirements of overall agricultural rehabilitation is made.

7.27 Table 2.4 provides details on a commodity by commodity basis of the recurrent requirements of the current levels of production of the major crops and the rehabilitation requirements to restore both crop production and agricultural marketing and processing. The estimated recurrent requirements are based on a careful analysis of the individual crop industries.^{2/} The estimated rehabilitation requirements only represent orders of magnitude, as some of the detailed feasibility studies, as for cotton and sugar, are still underway and therefore have not provided firm estimates. Studies of other crops' rehabilitation needs, as for tobacco and sisal, have not yet been undertaken. The lack of a more accurate assessment of these investment requirements, the relative rates of return among them and hence the knowledge of precise priorities within agriculture are a result of a weak Ministry of Agriculture and a poor policy environment. Once decisions are made to give agriculture the priority in investments and to provide it the necessary policy and institutional support, feasibility studies for the remaining crops should be undertaken immediately to refine these estimates. Available knowledge of the foreign exchange content of Tanzania's major crops, presented in Table 2.5 (paras. 2.55-2.56) already provides insights into crops which would most earn or save foreign exchange. However rough, these data give an indication of the magnitude of resources needed almost immediately to rehabilitate the agricultural sector as a whole. Difficult decisions will have to be made concerning how much of the existing sugar industry should be restored, however, if not enough resources are available for other vital agricultural activities.

7.28 It is also important to recognize that the rehabilitation requirements are over and above the annual recurrent foreign exchange requirements of the agricultural sector. There is some overlapping between the long-term requirements of rehabilitation and the recurrent annual requirements, in that investment in new plant and machinery will reduce some of the annual recurrent expenditure at least in the short run. Similarly, the routine recurrent expenditures presented in Table 2.4 are essential to avoid the need for additional rehabilitation projects. But with all these caveats, by conservative estimates, foreign exchange of the order of US\$235 million for direct investments is needed over the next few years in the agricultural sector to restore previous peak production levels, and in some cases to expand beyond those levels, over the next six to eight years (Table 7.1). An additional \$210 million is needed for recurrent requirement on an annual basis. Additional resources will be needed to expand research and extension capabilities, and to erect storage facilities for crops and inputs. The estimates are, of course, indicative,

^{2/} Background Paper XIV, op.cit.

but to the extent the abovementioned allocations of foreign exchange cannot be attained, the urgency of more sharply establishing relative priorities (paras. 7.26-7.27) is intensified and the prospects for a broadly based agricultural recovery are weakened.

7.29 The transport network is in an extremely weak state (Chapter V, Section F) and its development has been unrelated to where agricultural surpluses already occur or are most likely to emerge. For example, transport connections to Arusha and Kilimanjaro have been permitted to deteriorate considerably, and have always been poor to most of the southern surplus areas. As in agriculture, simply providing foreign exchange to the transport sector will not be enough. Major policy and management reform is needed for improving the management of the railways and the operations of the Ministry of Transport, and for allowing the private transporters to expand their services in the sector.

7.30 Immediate rehabilitation of road and rail transport to the six major food surplus producing regions^{3/} and the seven major export crop producing regions^{4/} is essential if increased surpluses are to be handled effectively. Foreign exchange is also required for the consumer goods industry to provide incentives to increase agricultural production. Unlike in agriculture, no precise recurrent foreign exchange requirements have been estimated for transport and consumer goods. But it would not surprise experts knowledgeable of these sectors if their annual requirements amounted to at least US\$100 million and US\$50 million, respectively, for only the most directly supportive needs. For consumer goods this is on the assumption that raising capacity utilization of these industries is a cheaper option than direct import of consumer goods.

7.31 The investment and recurrent resources required in all these sectors are no doubt bloated somewhat by the capital intensive tendencies of many of Tanzania's investments and the frequent inefficiency in the management of the resources invested. These can only be reduced in the long run with greater emphasis on appropriate technology and improved economic management. From the viewpoint of both these considerations, the recommendation of increased use of the private sector in the short and medium run is pertinent, as it appears to be a more efficient user of resources in marketing, processing, retailing, transportation and large scale production. At present, however, neither in capital intensity nor in the quality of public resource management is Tanzania atypical of sub-Saharan African countries. The point to stress is that there is little disagreement among knowledgeable technicians as to the orders of magnitude of the overall resource requirements of agricultural recovery necessitated by the current pattern of ownership and management.

7.32 Four options with regard to recurrent foreign exchange allocation to agriculture seem open to the Government in the present circumstances:

^{3/} Arusha, Rukwa, Ruvuma, Dodoma, Iringa and Mbeya (Table 5.4).

^{4/} Mwanza, Shinyanga, Tanga, Tabora, Kilimanjaro, Lindi and Mtwara (Table 5.4).

- (i) To revise the planned rate of growth for agriculture down to a level consistent with the foreign exchange the Bank of Tanzania (BOT) can make available. This rate of growth will in all likelihood be negative and will exacerbate the foreign exchange crisis, as the required expansion of food and export crop production will not occur.
- (ii) To cut back on the import requirements of the more import-intensive crops, mainly large-scale, public sector produced food grains and sugar, while ensuring top priority for the import requirements of smallholder production. This alternative could help to maximize the dollar earnings and savings per dollar of foreign exchange allocated to agriculture, as smallholder production is more efficient at converting imports into foreign exchange than the parastatal estate sector (Table 2.5). However, it will not ensure meeting the urban food requirements of sugar and the preferred staples, and would increase the foreign exchange requirements for importing these commodities. Alternatively Tanzania may have to reduce consumption of some of these commodities, which may create political difficulties.
- (iii) To provide a mechanism which will automatically set aside a substantial portion (say 45%) of agricultural export earnings to pay for agricultural imports; and
- (iv) To ask donors to divert project aid to balance of payments support.

7.33 The third and fourth options listed imply hard decisions with respect to reallocation of resources from activities which are socio-economically less justified (para. 1.64) in support of an agriculturally led strategy. The diversion of aid from new projects to balance of payments support offers the opportunity to maintain some of the essential existing projects. This is a demanding option. It will be necessary for the Government to adopt a comprehensive agricultural recovery package, including institutional and policy changes, to mobilize sufficient quantities of this kind of donor support (paras. 2.63-2.65). Domestically it will also be difficult to postpone other projects, given the Government's large commitments in heavy industry and other projects such as the Dar es Salaam airport and the new capital city.

E. Implications for Government Policy

7.34 Simultaneous movement on these three problem fronts (parallel market, parastatals and additional resources) is now urgently needed to bring about an agricultural recovery. How mild or drastic actions in any one of these areas would need to be would depend on the extent to which progress is made on all fronts. It would also depend on the type of supporting actions being taken elsewhere in the sector and the economy at large. In seeking solutions to the highest priority problems, the Government's objectives are assumed to be:

- (i) to ensure national food needs;
- (ii) to avoid at all times the risk of food insecurity both in urban areas and those rural areas which are normally drought prone; and
- (iii) to increase the volume of crop exports going out of Tanzania through the banking system in order to increase official foreign exchange earnings and Government revenues.

7.35 Further assumptions are that:

- (i) any strategy to increase official traditional exports would be unacceptable to the Government and self defeating unless urban and rural food needs are ensured on a consistent basis;
- (ii) no significant effect on the realization of this objective would be noticeable in less than three years, even if actions are taken immediately; and
- (iii) the Government would wish to maintain its major role in the agricultural sector to achieve its socialist objectives in the long run, but recognizes that realization of these will depend on an economic recovery. It will, therefore, be pragmatic in taking account of the technical, managerial and financial considerations needed to ensure decision-making.

The precise agricultural action program for individual crops will vary due to the wide diversity in their growing conditions, in the role of different types of production units (Table 1.9; Chapter V, Section G), and in the policy and institutional constraints created by the Government which affect them differently (Chapter 1, Section G). Chapter II's discussion of investment requirements includes a brief outline of the nature of the actions required on a commodity by commodity basis, along the lines the Structural Adjustment Program for Tanzania envisages evolving through the Task Force on Agricultural Policy. The discussion here is concerned with issues which affect the agricultural sector as a whole, decisions on which are needed before individual commodity programs can be expected to work.

(i) Agricultural Prices, Food Security and Export Promotion

7.36 While the Government's desire to hold a food reserve is well-founded, its intentions to build a reserve consisting of maize, sorghum, millets and pulses is not practical, as there is little national demand for sorghum and millets. While it may be advantageous to shift consumer preferences away from wheat and rice through relative prices and availability, Tanzania does have substantial potential to produce wheat and rice at relatively low cost in the private sector, as the peak procurement figures for these two crops indicate (Table 7.1). To increase the official purchases of the three preferred cereals, the report recommends:

- increases in the official producer prices of maize, wheat and rice.

7.37 Raising official producer prices of food crops would lead to some substitution in production in favor of these three preferred cereals, if for no other reason than because of (i) the reduced risk in selling in the official as opposed to the illegal market, and (ii) guaranteed higher official return than previously. Therefore, to avoid sharp swings in production from export to food crops, to ensure an overall increase in production of food and export crops simultaneously and to halt past decline and stagnation, the report recommends raising real prices of all major export crops. This should result in increases in:

- coffee in Arusha and Kilimanjaro, Kagera, and the South;
- tobacco in Tabora and Iringa;
- cotton in Mwanza, Shinyanga and Kagera; and
- cashews in Lindi, Mtwara, the Coast and Dar es Salaam.

Knowledge of precise supply response is limited, especially given all other constraints facing agriculture. But there is considerable casual evidence of a supply response when the overall environment is conducive to increasing production (paras. 4.22-4.23). Therefore the report recommends initial increases in real (minimum or "floor") prices of the order of 15 to 25 percent for food crops and 30 to 50 percent for export crops. While these increases would most likely not match prices in the parallel market, together with all other reforms suggested below, they would help improve incentives. Further real price increases could be introduced in a phased program, if additional price incentives appeared necessary once the other measures began to be felt. In this interim period, excessive price increases could cause unnecessary inflation.

7.38 Even these across-the-board first round increases in official minimum producer prices of major food and export crops cannot be brought about without a further, insupportable deterioration in the financial status of the parastatals, the budgetary deficit and NBC overdrafts. To reduce NMC's financial burden and physical commitments of food distribution which arise from highly subsidized consumer prices, the report recommends (see also para. 7.40):

- raising official consumer prices of preferred food crops wheat, rice and maize. Doubling of consumer prices may be necessary for this purpose (para. 4.39).

7.39 For the export crop parastatals, a devaluation will be necessary to reduce losses. Even without price increases, a substantial exchange rate adjustment would be needed to reduce parastatal losses to manageable proportions (para 4.40); because producer price increases are needed to restore incentives devaluation becomes an absolute imperative. The precise magnitudes needed would depend on the extent to which institutional reform can reduce parastatal losses (para. 4.41).

7.40 In the food crop sector, the report recommends that the Government:

- (i) confine NMC's food purchases to areas of substantial procurement (Arusha, Rukwa, Ruvuma, Dodoma, Iringa and Mbeya);
- (ii) repeal the 30 kg limit on grain traded and shipped among regions;
- (iii) sell grain or sembe through NMC ex-depot to anyone, thus encouraging undercutting of RTC marketing margins;
- (iv) ensure that NMC holds substantial stocks of preferred cereals (maize, wheat and rice) in key urban consumption centers (Dar es Salaam, Tanga, Arusha, Mwanza, Tabora, Iringa, Mbeya), as well as in many areas normally susceptible to drought (Dodoma, Singida), thus making NMC a seller of last resort in all places at all times (para. 7.64 for discussion of food aid); and
- (v) let the informal market take care of the country's food needs in the urban and the rural areas as much as possible.

To stimulate supply and thus to ensure regional self-sufficiency in less preferred crops for which there is no national market (sorghum, millets, cassava, pulses) as well as to focus NMC's operations clearly on the preferred cereals, the report recommends:

- freeing NMC of obligation to purchase these crops and allowing all purchases to be handled through the informal market.

7.41 Subsequent iteration of these policy and institutional changes would inevitably lead to transport costs being reflected in price formulations. But this is a complex subject, highly interrelated with institutional changes proposed here. It is, therefore, not included in the first round of policy changes.

7.42 To improve NMC's operations, technical assistance has frequently been recommended, and some of the Government's unwillingness to consider using it is grounded in valid objections (paras. 3.31-3.33). Nevertheless, to meet its management and manpower requirements NMC would benefit if the Government sought management expertise on a comprehensive basis from another country which purchases grain in the public sector. Most countries outside Africa do not attempt to control trade in food grains totally as has been Tanzania's policy, but many establish floor and ceiling prices for grains and successfully handle very large quantities in the public sector. The Food Corporation of India or the Australian Wheat Board are examples. One such agency could be given a contract to provide management supervision in NMC. Such assistance would be needed for a minimum of three to five years with a recognition that even a longer term arrangement may be desirable if effective, with a substantial program of on-the-job national management training built in as part of the contract. To give such management expertise the ability to reduce costs by the amount required, the contract would need to give NMC a substantial amount of autonomy from frequent Government intervention in its operations (para. 3.27). This approach is quite different from that followed previously and should be more effective.

(ii) Distribution of Inputs and Consumer Goods

7.43 Analysis by Bank staff suggests roughly 6,000 tons of additional fertilizer could be sold to small farmers in the high potential Ruvuma and Rukwa regions almost immediately, implying an increase of 25 percent over the 24,000 tonnes sold there in 1980. There is already both a substantial demand for fertilizer on a cash basis and much agronomic evidence of high physical response to its use on maize (para. 5.08). Similarly there is evidence of demand for tractor spares and chemicals by established tractorized farmers in Arusha and Kilimanjaro to resume wheat production. Because of the favorable rainfall and growing conditions in these areas, food production can not only be increased substantially in a short period of time, but can continue to grow on a sustained basis, thus addressing the Government's legitimate food security concerns. Assuming major policy reform can be brought about with regard to transport and storage (Chapter V, Section F) which is essential to facilitate the effective disposal of food surpluses, this possibility is real. To this end, the report recommends:

- giving the highest priority to liberal distribution of inputs (fertilizers, chemicals, tractors and spare parts) in those areas where there is likely to be a strong response to their increased use; and
- complementing this with increased supply of consumer goods.

7.44 The Government's confinement policy adversely affects the quantity, the cost and the timeliness of input supply (para. 3.22). While the parastatal suppliers have been deconfined, TFA, the largest, most effective commercial supplier, has not. The Government should:

- deconfine imports of key agricultural items for TFA and other suppliers to encourage these established suppliers to resume their function.

7.45 TFA, while initially a cooperative of European estate owners, has now expanded its operations to successfully accommodate small and medium African farmers. It resembles closely the grassroot cooperative movement one should aspire to reestablish (paras. 3.47-3.49). TFA's excellent record in a limited set of regions and the promise that it holds for extending its activities gradually to Ruvuma and Rukwa should be tapped by encouraging it as much as possible. But to ensure that the farmers can exercise an effective option in their purchases of inputs, the regional distribution points of TFC and TANSEED should also be encouraged to sell a range of inputs to small customers through their existing outlets and through appointed sales agencies in villages. It is critical that there not be any pressure, either mandatory or by more subtle means, on TFA or TFC to expand their activities beyond those they feel they can handle profitably. TFA's low cost operations could set standards for other agencies to operate efficiently.

7.46 While all these steps are essential, the response needed to avert the current crisis of rural services cannot be undertaken through these means alone. Other farmer cooperatives should therefore be encouraged.

But they will take time to emerge. Their growth will also be uneven, being more rapid in regions with the greatest cooperative tradition (Kilimanjaro, Mwanza, Kagera, Arusha, and Iringa) but slower in regions with limited past experience (e.g., Ruvuma, Rukwa). Cooperatives cannot be forced to develop rapidly; this would destroy any chance of developing a truly viable grassroot cooperative movement in the long-run.

7.47 The establishment of farm service centers now under consideration in the National Food Strategy is an excellent idea in principle. Indeed the proposal's emphasis on the need to develop the Ministry of Agriculture's capacity to assess input needs and coordinate input distribution through a special Ministry unit is excellent. The Ministry must, however, move very cautiously in getting directly involved in the retailing function (para. 5.23). As the experience of the National Maize Project indicates, when operated by a ministry or a regional administration, input distribution is even more difficult to carry out under commercial principles than it is under the parastatals. Therefore, to address the immediate requirements of the crisis, it is recommended that the Government:

- allow anyone who wants to handle input and consumer goods distribution in rural areas--whether TRDB, TFA, RTC's, TANSEED, the cooperatives, or private shops--to do so;
- remove retail price controls on inputs and consumer goods; but
- give a higher priority to allocation of foreign exchange for the importation of inputs and consumer goods for rural areas. Direct imports or imported raw materials for increased domestic production, depending on which is the lower cost option, can then be purchased.

7.48 The need to tolerate institutional pluralism in Tanzania for input distribution can be appreciated only when it is recognized that high potential regions such as Rukwa do not have even a single input distribution outlet at present (Table 5.3). Opening of one or more parastatal outlets to supply inputs should be welcomed if the parastatal believes it can operate profitably, but not on an exclusive basis. TFA, village stores and individuals should also be encouraged to cater to the needs of the smallholder farmers. There would be an understandable concern that private commercial agencies will operate predominantly in areas where effective demand is large enough to make their operations profitable. In areas of low demand and small turnover, the Government may need to play an active role in creating additional demand for inputs in areas of low consumption and high potential through a selective subsidization policy. The precise need for subsidies should be assessed carefully to ensure that they do not become a substitute for inefficiencies, and they should only be established with a clear target for eventual abolition. To achieve a sustained 20 percent or so annual rate of growth of fertilizer distribution implied in the agricultural recovery program will require all possible leadership by the Ministry of Agriculture. There must also be a systematic import and stocking policy of appropriate fertilizers as distinct from pushing what is domestically produced or received as aid even if inappropriate on technical

grounds as is the current practice. Even if all possible institutional resources existing in the country are used it may still take a long time to develop an effective input distribution system, as the long but successful experience of South and East Asian countries indicates.

7.49 To increase food production, some additional steps are critical. Among these would be steps to:

- minimize the identified adverse effects of villagization (paras. 6.16-6.18), by encouraging spontaneous movement of villagers to areas of their choice at their own initiative, through a clear policy. This is most important in cashew regions and for many small and medium cotton and tobacco growing farmers in Mwanza, Shinyanga, and Tabora. Apart from localized relocations, longer distance spontaneous migration to high potential, lowly populated areas in the south would also help to ensure achievement of equity along with growth;
- allow hire of labor, and change school calendars to correspond better with the peak agricultural requirements to ensure that agriculture's needs do not conflict with goals of primary education;
- encourage private ownership and operation of tractors and tractor hire services not just for the commercial growers producing wheat and maize, but to benefit small and medium sized farmers growing cotton, tobacco, coffee, tea and pyrethrum, most of whom now rely on the hoe. This may be important in the short and medium run, given the slow introduction of oxen technology since Independence. Where oxen are used, as in Mwanza, Shinyanga and Rukwa, their further use should be encouraged;
- provide right to cultivation (not ownership) of additional unused land with perhaps a ceiling of 100 ha to 200 ha to all those who wish to cultivate larger amounts. This will encourage many nationals including many civil servants who wish to enter into farming as a business. Given that uncultivated land in Tanzania is three to four times that which is now under cultivation, increasing production in this way should be possible without jeopardizing Government's objectives of helping the poorest;
- allow liberal private ownership and operation of trucks while continuing to give loans to villagers and others who wish to own trucks cooperatively.

(iii) Export Crop Production, Processing and Marketing

7.50 For the foodgrains, the informal sector provides a measure of NMC's efficiency. No such measure is available for export crops, since:

- (i) the domestic market for these crops is limited;
- (ii) farm gate prices for export crops sold on the informal market have not been collected or analyzed; and

- (iii) where direct comparisons exist between the parastatal and non-parastatal sectors (tea, coffee, sisal estates and cotton ginneries), the necessary comparative analysis has not been done.

7.51 To reduce the marketing costs for export crops, the development of alternative channels should be encouraged where parastatals currently have a complete monopoly. Allowing alternative channels may not guarantee farmers a choice of marketing outlets, but it will improve the chance of an option. Alternative channels also provide an objective way to monitor parastatal performance. Possibilities in this area include:

- allowing individuals or groups of producers and traders to purchase export crops in the villages for sale directly to parastatal headquarters;
- where private sector production exists, as with sisal, allowing estates to negotiate their own international prices and sales,^{5/} but giving the parastatal the option of first refusal at the export price negotiated by the estate. Given the inexperience and mismanagement now prevalent in the export of Tanzania's crops, the direct involvement of private companies would lead to differential earnings with which to compare and improve parastatal performance. This would also be one important way to improve quality of export crops;
- giving major private sector companies who are already successfully operating in Tanzania management contracts to run public estates with long term management and training programs for Tanzanians in the same way as with NMC. Thus, Amboni could be expected to assist TSA and train Tanzanians, Williamsons or Brookebond could assist TTA; and Dalgetty could assist TPB. The costly, fragmentary technical assistance donors have provided to date has had limited benefits as it has not always provided the commercial, technical and managerial standards on a scale and time period needed, which experienced private companies can do. Where there is little private sector processing, as with cotton and cashews, transferring back part of the production to the private sector (e.g., certain cotton gins and cashew factories) should be considered, to provide an objective basis on which to measure the performance of the parastatal sector. Alternatively or concurrently management contracts with experienced private companies from outside should be considered.^{6/} The private sector could also negotiate its export sales on the same basis as noted above;

^{5/} As is currently done for industrial exports, with return of foreign exchange controlled by Bank of Tanzania.

^{6/} As is done in the energy sector, and has been proposed for the pulp and paper mill.

- arranging, as quickly as possible, comparative studies of private and parastatal performance where possibilities of direct comparison exist, to provide an objective standard against which to measure the costs of parastatal inefficiency and to provide a set of performance standards or norms for the parastatal sector.

7.52 In considering more extensive reliance on the private sector in marketing, distribution, and processing in Tanzanian agriculture, it must be recalled that the private sector is already active and legitimate in other parts of the economy, especially in the modern sector such as energy, where the technological and managerial requirements are clearly seen as complex and the private sector is expatriate. There has, however, been immense underestimation of the technical and managerial requirements of the agricultural sector (paras. 3.28-3.33), and also a reluctance to use the domestic private sector, in part because of the ethnic and regional differentiation that could ensue from its encouragement. But differentiation in benefits among Africans, Asians and Europeans would be smaller now than previously, because of the substantial Africanization which occurred in production, trade and services since the early 1960s (spurred by nationalization), and which has accelerated subsequently through the growth of a parallel market. Nevertheless, at least in the immediate future, the regions with a more enterprising tradition such as Kagera, Arusha, Kilimanjaro, Iringa and Mbeya would be the major beneficiaries of liberalization, and the eventual economic growth. Some disparities among regions are however inevitable if development is to occur, and their explicit toleration is now overdue, especially as inequalities are already occurring through the growth of the parallel market.

7.53 Having confronted the consequences of its current policy, the Government would then have to monitor and follow up assiduously the effects of policy changes. There would need to be capacity within the Government to carry out routine data gathering, to modify its directives pragmatically on a periodic base, and to ensure that as much of the population as possible can participate in the recovery program.

(iv) Resource Requirements of Agriculture

7.54 In considering priority to agriculture, a question is raised frequently about the international market prospects for Tanzania's traditional exports, and its implications for priorities within agriculture. While non-traditional agricultural exports such as cattle, leather, prawns and lobsters could eventually be developed, the Government should not place hopes in great increases from this source in the short run, as the NESP has done. In the short run economic recovery will largely have to come from the food and export crops grown traditionally in Tanzania.

7.55 Tanzania's diversified portfolio of export crops allows it a protection from price fluctuations which other countries dependent on single crops do not enjoy (para. 2.62). With its small share of the world market for most crops, it should be able to dispose of them relatively lucratively, even with crops like the tropical beverages which suffer from limited markets and/or quotas. In this sense Tanzania's difficulties are not comparable to those of larger exporters such as Brazil or India.

However, one of the major problems encountered by Tanzania is the rapidly deteriorating quality of its exports. This has reduced prices of Tanzanian exports by as much as 15 to 30 percent, and is greatly reducing its bargaining position in an intensely competitive market (Chapter I, Section G). Unlike other more successful primary commodity exporters, Tanzania's desire to move out of traditional exports has also led it to neglect the development of national acumen required in dealing in the sophisticated export markets.

7.56 Apart from the quality problem, there are other direct domestic policy problems for the export crops. In the case of tobacco, the natural forces of population pressure have led to a declining fuelwood supply and less frequent fallows and crop rotations than previously in the principal tobacco growing areas in central Tanzania. The adverse effects of these forces have been accentuated by villagization, which has led to even greater pressure on land, increased distances to farms, and less frequent fallows and crop rotation. Other Government directives on communal planting of village woodlots, block farming restrictions on acreages which could be planted, and hiring of labor have also hurt the crop. Improving the quality of Government services with regard to tobacco research, seed production, extension, marketing, storing, transport and processing, all of which are affecting both quantity and quality of tobacco production, is difficult enough without such policy-related constraints. In view of the fact that the decline of the tobacco industry is at a very advanced stage, there is a genuine question of whether priority allocation of foreign exchange to the production of flue-cured tobacco should even be considered without first assessing Government's flexibility with regard to villagization and other policies. The same considerations apply, albeit to a lesser degree, to pyrethrum and cotton.

7.57 For sisal, restoring capacity to maintain present levels of sisal production (80,000 tons) would seem justified from an economic point of view, if willingness of the international companies to continue to operate in Tanzania (and to expand production in the 1970s) is any indication of proven profitability. But existing private production is now in jeopardy due to a combination of Government policies towards labor hire, wages and exchange rates, inadequate foreign exchange allocations and diversion of over ten percent of gross revenue to pay the unrelated costs of TSA.

7.58 Allocation of the US\$350 million or so annually to the recurrent needs of the agricultural sector including to transportation (US\$100 million) and the consumer goods industries (US\$50 million) and additional investments in rehabilitation requirements would therefore be justified, only when the basic policy and institutional constraints facing the sector are addressed. Resource allocation will then involve major choices between an agriculturally led industrialization strategy as distinct from the rapid heavy industrialization strategy Tanzania has tried to pursue, which at best implies subsistence-oriented agriculture that is unable either to participate in or to contribute to the overall developmental process.

F. Time Scale for Recovery, and the Costs of Non-Action

7.59 Table 7.1 shows estimates made by the Bank staff of likely official crop procurement levels by the end of the decade with and without a major agricultural recovery program. These figures of course need to be interpreted with caution. While the declining trend without the recovery program is self-evident, the rate of decline is hard to predict. It would depend on:

- (i) the pace at which private estates go out of production;
- (ii) the pace at which transport, storage and processing infrastructure deteriorates further, creating additional bottlenecks both in input supply and output marketing;
- (iii) the extent to which peasant producers make further switches away from export to food and horticultural crops in response to barter trade opportunities; and
- (iv) the extent to which current foreign aid, especially to the public sector production activities, continues.

All these are inevitably imponderable factors.

7.60 By the same token Tanzania's substantial physical potential to increase smallholder production is indisputable and the rural demand for physical inputs and consumer goods is self-evident. If physical and institutional infrastructure were in place and trained manpower were liberally available, meaning that physical shortages of commodities and the lack of incentive prices were the only problems, a response could be expected in a period of 2 to 3 years. However, the loss of a decade in developing agricultural technology, and physical and institutional infrastructure, cannot be taken lightly. Similarly the loss of rural confidence resulting from the history of villagization, abolition of cooperatives and discouragement of private trade cannot be underrated. Even with a major policy change, it will take time to restore transportation, technology and institutions.

7.61 This point is illustrated by the fact that even with major changes, the estimates presented do not involve procurement levels exceeding peaks reached in the early seventies. In the early stages, policy reform could lead to increased efficiency, thereby reducing the currently estimated immense financial cost of reaching these peaks by the end of the decade. Sustained growth in production can be achieved only in the 1990s when a more conducive environment has been reestablished, and more financial and human resources can be mobilized internally from the rural sector.

G. Implications for Donors

(i) Lack of Coordination

7.62 Donor assistance to Tanzania has been characterized by one-on-one project development between Government and individual donors. While the Government has exercised a degree of coordination, there has, until

Table 7.1: Projected Crop Procurements with and without
a Recovery Program
('000 tonnes)

Crop	Peak Procurement since 1971	1981/82 Actuals (as% of peak)	Government Projections		Prospects 1988-90	
			1982/83	(as % of 1981/82)	Without Program ^{a/}	With Program
Coffee	67	63 (94%)	61	(97%)	60	90
Cotton Lint	77	44 (58%)	71	(160%)	15	70
Sisal	181	80 (44%)	108	(135%)	35 ^{b/}	85
Tobacco	19	13 (69%)	23	(174%)	0	16
Tea	19	17 (94%)	21	(121%)	6 ^{c/}	18
Cashew	143	40 (33%)	72	(150%)	35	60
Maize	220	90 (41%)	100	(111%)	50	200
Rice	63	14 (22%)	n.a.	n.a.	20	65
Wheat	57	25 (44%)	39	(156%)	25	65
Oilseeds	35 ^{d/}	25	n.a.	n.a.	15	35

- Sources:
1. Figures for peak procurement and 1981/82 estimated actuals from Statistical Appendix Tables 1.3 and 1.4.
 2. 1982/83 Government projections from Ministry of Agriculture.
 3. Prospects are World Bank staff estimates.

- Notes:
- a. This assumes that current foreign assistance projects in these crops continue until completion in the mid-1980s.
 - b. Amboni Estates may cease production.
 - c. Private estates may greatly reduce or cease production.
 - d. Estimate - no data prior to 1972/73.

recently, been a lack of explicit discussion of an overall development strategy, and new projects have been financed while existing capacity has suffered for want of manpower, and recurrent and local resources. In this sense, the donors' assistance to Tanzania is in sharp contrast to countries which have been large recipients of aid, where aid consortia have met regularly and in which an open assessment of a country's development strategy has been a prerequisite for donor commitments. Foreign assistance has encouraged activities high among the Government's priorities such as large-scale industry, agricultural parastatals village water supply and integrated rural development projects often based more on equity than on efficiency criteria (paras. 2.22-2.30). The severity of the current economic crisis and the magnitude of resources needed to bring about a recovery, make it imperative to institute better aid coordination in the future.

(ii) Program, Sector, Subsector Aid and Technical Assistance

7.63 The strategy outlined above would require program, sector and subsector aid, on the basis of the requirements of agriculture presented in Table 2.4 in addition to those of the transport sector and consumer goods industries supporting agriculture. This would clearly involve diverting donor resources away from many of their present activities, giving more stress to the rehabilitation and recurrent requirements of key sectors. Several donors have already begun to do this, in the absence of an overall recovery strategy (para. 2.31). While a great deal of technical assistance for the proposed strategy would need to come from the experienced private commercial sector, including wherever possible those who already operate in the country, there is clearly need for substantial technical assistance in support of broader Government functions in the Ministries of Agriculture, Transport and Works, in agricultural research institutions and in manpower development. The Government and donors will first have to come to broad agreement on an agriculturally led recovery strategy similar to the one proposed here before elaborating the details of assistance required. It is clear not only that substantial redirection of donor aid would be needed, but that such aid would have to fit closely into a well designed overall strategy to be useful.

(iii) Food Aid

7.64 A recovery program will take a minimum of three years to be felt, even if there is the domestic political will and the needed donor support. Political stability and welfare of the most vulnerable sections of the population is critical during this period in making such a program work, for which guaranteed availability of food is essential. The 400,000 tons or so of guaranteed food aid on an annual basis suggested here is not out of line with what donors have already been providing (Table 1.5) on an ad hoc basis in the last few years. But to date Government policies have caused an increased dependence on food aid, and donors have not been able to relate their food assistance adequately to the effectiveness of the Government's own food production strategy.

7.65 To minimize political risks, the Government's implementation of the policy changes suggested in this report needs to be supported by adequately firm arrangements for food and financial aid from external sources.

H. Unfinished Agenda

7.66 For Tanzania to achieve its goals of socialism and self-reliance, agricultural recovery is a necessary first step. This will require following up on the immediate recovery measures outlined here with long term program of agricultural development. This program will have to emphasize systematic development of trained manpower, agricultural technology and physical infrastructure, and strengthening the capacity of the Ministry of Agriculture and other related institutions to carry out planning and implementation of an effective agricultural strategy. It will have to take account of transport needs and backward and forward industrial linkages, so that the industrial strategy is much more closely tied to the processing of agricultural products, the provision of inputs, and the satisfaction of the relatively basic consumption needs of the peasant population. Unless agriculture is given top priority, however, there will not be the necessary environment to formulate and implement these long term plans.

I. Who Will Benefit?

7.67 The major beneficiaries of this suggested program will be, in the short run, agricultural producers and the ordinary Tanzanian who have to patronise the high priced magendo (parallel) economy. In the longer run, as agricultural expansion spreads through its linkages to the rest of the economy, benefits will be spread even more widely to include all but those few individuals who are making exorbitant profits from the current shortages, or have privileged access to foreign exchange and scarce goods.

7.68 The suggested opening up of additional input and output marketing channels will benefit the vast number of small producers who currently find inputs unavailable, or have their crop picked up erratically and for delayed payments. The removal of restrictions on internal trade in food grains should cut marketing margins in the informal sector and benefit smallholder grain producers and consumers without access to NMC's supplies.

7.69 The rehabilitation of cotton gins, more liberal imports of fertilizer, coffee pesticides and other chemicals, will benefit predominantly the smallholders.

7.70 Smallholders will benefit from legal access to the high grain prices on the informal market, and from the recommended higher real prices for export crops such as cotton, coffee, cashews, tobacco, and pyrethrum. Increased allocation of consumer goods to rural areas will give peasant producers the opportunity to spend their increased incomes. Higher incomes will allow them to invest in oxen and ox-drawn equipment, and access to land will allow these investments to be used productively.

7.71 Other aspects of the program will benefit large (public and private) estates, as in the rehabilitation of the sisal, tea and sugar sub-sectors, and in the provision of technical managerial assistance, and spares.

7.72 The recommended repair and rehabilitation (but not replacement) of the tractor fleet will benefit all tractor owners, villages, large farmers and estates.

7.73 The proposed large food imports will allow the strategic grain reserve to be refilled, and the food security of the urban population to be assured.

7.74 The recommended realignment of the exchange rate will put the export parastatals on a better financial footing, and reduce the scope for large (and often illegal) profits by those fortunate enough to control access to imported goods.

7.75 The higher food prices will not affect those consumers who do not have access to NMC's supplies, indeed price levels in the informal market should be expected to fall, as the cost increasing constraints on private trade are relaxed. Higher food prices will adversely affect those public sector employees for whom access to food at official prices is an increasingly important component of their real wage. Government may wish to increase the basic wage, to compensate for these higher prices.

7.76 In the longer term, revitalization of the research-extension system should make improved technology available to all producers. This, together with re-investment of their higher incomes will eventually permit graduation from hoe to oxen technology, either by ownership or on a rental basis.

7.77 As shown in Table 1.9, peasant smallholders dominate in the production of most agricultural crops. Thus, a broadly based agricultural recovery must rest on this group; and they are the major beneficiaries of the recommended policy changes.

J. Summary List of Detailed Recommendations

7.78 Given Tanzania's immense physical potential, its past rapid growth, and the determination of its leadership to achieve growth with equity, the report proposes the following strategy for self-reliance as a challenging and exciting way for Tanzania to survive the present crisis and to achieve long term economic prosperity.

7.79 The report's 39 recommendations have been made as specific as possible, to help the Government and donors focus on the concrete decisions which need to be made. This is not to imply that all of these decisions need to be made exactly as recommended, and at once. Any policy package which moves significantly in the recommended direction will be useful. However, to provide a sound basis for agricultural recovery, it will need to address simultaneously the core requirements already outlined in para. 7.05, namely:

- (i) priority foreign exchange and other resource allocation to agriculture and its associated transport and consumer goods industries, possibly necessitating sharp curtailment of other new investments and postponement of some ongoing projects, until agriculture is revived;

- (ii) reducing the role of the parastatals, substantially raising agricultural producer and retail food prices and adjusting the exchange rate to reduce parastatal losses; and
- (iii) allowing institutional pluralism including legalization of the private sector in agricultural input and output marketing, production, agro-processing and transport.

7.80 The 39 specific measures which follow are of the type which could be used to implement the abovementioned broad lines of action.

Agricultural Prices, Food Security and Export Promotion

1. Increase official minimum producer prices of maize, rice and wheat by 10 to 30 percent in real terms.
2. Increase official producer prices of all major export crops by 30 to 50 percent in real terms.
3. Approximately double official consumer prices of the preferred staples.
4. Devalue the shilling sufficiently to allow real producer price increases and a reduction in crop parastatal losses.
5. Confine NMC purchases to areas of major food crop surpluses and let the informal market compete with NMC in these areas and handle the trade in other areas.
6. Repeal the 30 kg limit on grain traded and shipped among regions.
7. Sell grain or sembe through NMC ex-depot to anyone, thus encouraging undercutting of RTC marketing margins.
8. Ensure that NMC holds substantial stocks of preferred cereals in key consumption areas.
9. Let the informal market provide as much of the country's food needs as possible, by making NMC the seller of last resort.
10. Free NMC from buying less preferred crops which have no national market.
11. Give a management and staff training contract to improve NMC's operations to an efficient public sector food trading corporation from another country.
12. Reduce the field marketing responsibilities of the export crop parastatals by allowing traders and individual or groups of producers to purchase export crops for sale directly to parastatal depots, and by allowing large private producers to arrange their export sales directly.

Distribution of Inputs and Consumer Goods

13. Develop capacity in the Ministry of Agriculture--through establishing a unit--to formulate and coordinate an input distribution policy.
14. Establish a systematic import and stocking policy for fertilizers.
15. Increase allocation of inputs and consumer goods to rural areas by increasing direct imports, or by importing raw materials for increased domestic production, depending on whichever is the lower cost option.
16. Deconfine imports of key agricultural items to encourage established suppliers to resume their function.
17. Give priority to input and consumer good distribution in areas of highest agricultural potential for food and export crops.
18. Free up retail sale of inputs and consumer goods to all existing institutions: TRDB, TFC, TFA, RTC, TANSEED, cooperatives, and private shops.
19. Remove retail price controls on inputs and consumer goods but retain them at the wholesale level.

Additional Policies in Support of Food and Export Crop Production

20. To minimize adverse effect of villagization and to achieve regional equity and growth, adopt a clear policy to encourage spontaneous movement of villagers to areas of their choice at their own initiative.
21. Allow hire of labor; change school calendar to coincide with agriculture's needs.
22. Facilitate private ownership and operation of tractors and tractor hire services.
23. Provide right of cultivation of additional land with a clearly established ceiling.
24. Allow liberal private ownership and operation of trucks while continuing to give loans to interested villages on a cooperative basis.

Estate Crop Production, Crop Processing, and Marketing

25. Arrange comparative studies of private and parastatal performance to establish measures of parastatal inefficiency and standards of performance.

26. Where private production exists, allow estates to negotiate their own international prices and sales.
27. Give major private sector companies already successfully operating in Tanzanian agri-business long term management and training contracts to run public estates and to train Tanzanian staff.
28. Alternatively or concurrently, give management and training contracts to other qualified companies not yet operating in Tanzania.

Resource Requirements of Agriculture

Recurrent Foreign Exchange Requirements

29. Provide up to US\$210 million on an annual basis to meet the recurrent foreign exchange requirements of the most efficient of the agricultural enterprises.
30. Provide similarly substantial resources to transport to meet requirement of key transport routes and railways crucial to agricultural surplus areas. (These could well involve \$100 million annually.)
31. Provide recurrent requirements of incentive goods industries. (These could well involve \$50 million annually.)

Rehabilitation Foreign Exchange Requirements

32. Provide up to US\$235 million to rehabilitate the crop research, production, processing, and marketing sectors.
33. Provide the needed (yet unestimated) rehabilitation requirements of the transport sector and consumers goods industries.

Implications for Donors

34. Agree on an agricultural recovery program, its policy, institutional and resource requirements.
35. Convert most, if not all, foreign aid to support of this strategy in the form of subsector, sector and program aid and technical assistance.
36. Provide guaranteed food aid of 400,000 tons of preferred grains annually for at least 3 years.

Unfinished Agenda for the Government for the Longer Run

37. Build the Ministry of Agriculture and Transport.
38. Develop an effective research and extension system.
39. Develop national manpower through a major manpower development program.

Statistical Appendix - Table 1.1

Tanzania Balance of Payments, 1971-81

(In Millions of Tanzanian Shillings)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980 ^{1/}	1981 ^{2/}
A. Goods and Services	-756	-492	-790	-2,389	-2,480	-645	-1,785	-5,019	-4,416	-5,660	-4,535
1. Merchandise	-965	-748	-980	-2,571	-2,946	-1,247	-1,941	-5,277	-4,722	-5,816	-4,868
Exports, f.o.b.	(1,871)	(2,258)	(2,553)	(2,851)	(2,764)	(4,108)	(4,220)	(3,571)	(4,243)	(4,187)	(4,430)
Imports, c.i.f.	(-2,836)	(-3,006)	(-3,533)	(-5,422)	(-5,710)	(-5,355)	(-6,161)	(-8,798)	(-8,965)	(-10,003)	(-9,298)
2. Services	209	256	190	182	466	602	156	208	306	156	333
Receipts	(755)	(794)	(748)	(733)	(1,297)	(1,455)	(1,009)	(1,168)	(1,246)	(1,467)	(1,373)
Payments	(-546)	(-538)	(-558)	(-551)	(-831)	(-853)	(-853)	(-960)	(-940)	(-1,311)	(1,040)
B. Unrequited Transfers (net)	41	-29	35	352	759	464	962	1,273	1,447	2,376	2,883
1. Central Government	(44)	(101)	(172)	(498)	(834)	(601)	(800)	(1,097)	(1,205)	(2,195)	(2,681)
2. Other	(-3)	(-130)	(-137)	(-146)	(-75)	(-137)	(162)	(176)	(242)	(181)	(202)
C. Balance on Current Account (A + B)	-715	-521	-755	-2,037	-1,721	-181	-823	-3,746	-2,969	-3,284	-1,652
D. Government medium- and long-term Loans	770	805	830	750	1,091	831	722	765	1,141	925	1,244 ^{3/}
Inflow	(963)	(956)	(1,084)	(830)	(1,136)	(872)	(840)	(874)	(1,212)	(1,024)	(1,314)
Outflow	(-191)	(-151)	(-254)	(-80)	(-45)	(-41)	(-118)	(-109)	(-71)	(-99)	(-70)
E. Parastatal medium- and long-term Loans	106	44	69	160	210	55	150	378	240	279	518
Inflow	-	-	(80)	(175)	(268)	(168)	(283)	(547)	(365)	(418)	(620)
Outflow	-	-	(-11)	(-15)	(-58)	(-113)	(-133)	(-169)	(-125)	(-139)	(-102)
F. Other Identified Capital Movements^{4/}	-87	45	-95	119	225	-327	40	31	765	534	547
of which : exceptional financing	-	-	21	51	265	-	-	-	-	-	-
G. Errors and Omissions	63	100	181	56	-89	-124	854	624	335	100	-452
H. Overall Balance	137	473	230	-952	-284	259	939	-1,948	-488	1,445	305
I. Monetary Movements	-137	-473	-230	952	284	-259	-939	1,948	488	1,445	-205
1. Change in net foreign assets											
(- increase)	(-137)	(-473)	(230)	(952)	(284)	(-259)	-939	(1,467)	(-312)	(245)	(-172)
2. Change in arrears	(-)	(-)	(-)	(-)	(-)	(-)	-	(481)	(800)	(1,200)	(-33)
Memorandum Item:											
Total Foreign Aid (net) ^{5/}	814	906	1,023	1,299	2,190	1,432	1,826	2,015	2,576	3,161	3,645
Foreign Aid as per cent of Imports	29	30	29	24	38	27	30	23	28	31	41

Source: International Monetary Fund staff estimates.

^{1/} Provisional.

^{2/} Staff projections.

^{3/} Includes loans in parastatals.

^{4/} Includes exceptional financing, commercial credits (mostly taken by parastatals), and IMF Trust Fund disbursement, SDR allocations and identified capital movements, including private loans.

^{5/} Includes Central Government transfers, Government medium- and long-term loans and exceptional financing.

Statistical Appendix - Table 1.2

Tanzania - Major Merchandise Export, 1971-1981
(Value in T.Sh million; Volume in metric tons)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Coffee: Volume	35,478.4	54,717.9	60,267.3	41,028.5	54,038.8	58,056.0	46,810.1	50,892.6	42,360.0	43,540.0	72,273.0
Unit Value	6,409.5	6,999.5	8,218.4	9,142.4	8,938.0	22,187.2	36,675.0	25,608.8	28,630.0	27,131.0	17,811.0
<u>Value</u>	227.4	383.0	495.3	375.1	483.0	1,288.1	1,957.2	1,303.3	1,212.9	1,181.0	1,305.0
Cotton: Volume	54,782.6	64,487.9	60,007.0	49,061.9	38,042.8	57,773.9	40,992.2	46,992.2	31,433.0	31,470.0	44,047.0
Unit Value	4,468.6	5,216.5	5,551.0	9,632.7	7,799.1	10,999.8	13,360.1	8,948.9	12,677.0	12,669.0	14,575.0
<u>Value</u>	244.8	336.4	333.1	472.6	296.7	635.5	540.5	420.3	398.6	359.0	642.0
Sisal: Volume	160,811.0	153,101.0	113,396.0	93,388.0	101,642.0	92,188.0	68,455.0	81,072.0	78,985.0	48,870.0	55,090.0
Unit Value	812.0	945.8	1,954.2	4,962.1	2,975.1	2,627.1	3,348.1	2,728.4	2,637.0	5,136.0	4,901.0
<u>Value</u>	113.0	144.8	221.6	463.3	302.4	242.0	229.2	211.3	472.0	246.0	270.0
Tobacco: Volume	4,737.1	5,575.8	6,089.1	8,777.9	6,264.5	15,762.6	11,737.1	10,960.2	7,040.0	8,508.0	10,519.0
(unmanufactured) Unit Value	9,098.4	8,788.0	9,114.6	9,991.0	13,121.6	16,615.3	17,985.7	20,209.0	21,122.0	12,106.0	13,785.0
<u>Value</u>	43.1	49.0	55.5	87.7	82.3	261.9	211.1	221.5	148.7	103.0	146.0
Tea: Volume	8,301.9	9,187.0	9,482.0	9,636.6	10,355.0	12,000.9	11,984.7	14,977.3	15,015.0	13,262.0	14,515.0
Unit Value	5,890.2	5,856.1	5,716.1	7,170.6	7,841.6	11,190.2	14,835.6	11,237.0	10,899.0	13,716.0	11,574.0
<u>Value</u>	48.9	53.8	54.2	69.1	81.2	134.4	177.8	168.3	163.5	182.0	168.0
Cashewnuts: Volume	95,973.0	112,925.0	109,915.0	113,891.0	97,328.0	67,535.0	74,759.0	44,200.0	43,312.0	9,055.0	25,144.0
(raw) Unit Value	1,245.1	1,331.0	1,284.6	1,727.7	1,815.5	1,964.9	2,510.7	3,779.1	5,054.0	6,648.0	11,359.0
<u>Value</u>	119.5	150.3	141.2	196.2	176.7	132.7	187.7	160.9	218.9	60.0	296.0
Cloves: Volume	9,034.5	11,758.1*	10,792.7	3,665.4	7,516.1	7,950.9	6,447.7	2,571.4	4,017.0	8,085.0	6,830.0
Unit Value	19,812.9	20,437.0	21,616.5	24,117.4	42,695.0	35,516.3	42,371.7	54,219.2	54,593.0	72,923.0	63,628.0
<u>Value</u>	179.0	240.3	233.3	88.4	320.9	282.6	273.2	85.2	219.3	251.0	435.0
TOTAL (Value)	966.5	1,357.6	1,534.2	1,752.4	1,743.2	2,977.2	3,476.7	2,570.8	2,833.9	2,382.1	3,252.0

Source: Bank of Tanzania; Customs and Excise, Annual Trade Reports; Bureau of Statistics, Economic Surveys.

Statistical Appendix - Table 1.3

Tanzania: Official Purchases of Export Crops 1971/72 to 1981/82
('000 t)

	<u>1971/72</u>	<u>1972/73</u>	<u>1973/74</u>	<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>1981/82</u>
Mild Coffee (clean)	38.4	34.3	27.0	38.4	41.8	35.3	37.4	34.1	30.9	52.3	n.a.
Hard Coffee (clean)	14.0	13.2	15.4	13.7	13.6	13.6	14.5	15.5	16.4	14.5	n.a.
Total Coffee (clean)	52.4	47.5	42.4	52.1	55.4	48.9	51.9	49.6	47.3	66.8	63.0
Cotton Lint	65.7	76.7	65.0	71.2	42.4	67.1	50.4	56.1	60.5	58.5	44.3
Sisal (fibre)	181.0	155.0	143.0	128.0	119.0	113.0	105.0	92.0	80.0	86.0*	80.0*
Tobacco (wet leaf)	13.1	12.7	18.3	16.1	14.2	19.1	18.4	17.3	17.0	16.2	13.2
Tea (made)	11.6	13.3	12.3	13.9	13.0	15.2	18.5	17.6	17.3	16.3	17.4
Cashewnuts (raw)	126.4	125.6	143.3	117.5	82.4	97.6	68.4	57.1	41.4	57.0*	40.0*
Pyrethrum	4.3	4.0	3.3	4.7	3.9	3.3	2.5	1.6	1.6	2.0*	2.0*
Cardamom	0.3	0.7	0.8	0.6	0.4	0.4	0.3	0.3	0.5	0.5*	1.0*
Cocoa	n/a	n/a	0.5	0.6	0.6	0.7	0.9	1.0	0.8	0.9*	1.0*

Source: Government of Tanzania, Ministry of Agriculture, Marketing Development Bureau,
Price Policy Recommendations for the 1982-83 Agricultural Price Review,
Dar es Salaam: MMB, 1981. Summary, Table 4.11. MMB estimates for last 2 years.

Note: * Provisional.

Statistical Appendix - Table 1.4

Tanzania: Official Purchases of Major Food Crops, 1970/71 - 1981/82
('000 t)

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	(Est.) ^{a/} 1981/82
<u>Preferred Staples</u>	323.0	168.3	226.3	161.3	61.0	131.7	169.4	292.0	291.3	228.6	147.0	128.0
Maize	186.4	43.0	106.4	73.8	23.9	91.1	127.5	213.2	220.4	161.5	103.8	90.0
Rice ^{b/}	62.7	45.9	49.0	39.9	15.2	12.2	14.9	35.5	34.5	30.8	13.4	14.0
Wheat	43.0	56.7	46.8	27.9	14.4	24.5	23.0	35.1	27.5	26.5	26.9	25.0
<u>Drought Staples</u>	-	-	75.2	23.0	22.2	44.7	41.2	107.2	162.3	81.7	28.3	-
Sorghum	-	-	0.6	1.7	1.9	2.9	10.1	33.6	58.6	20.7	19.3	-
Bulrush Millet	-	-)	-	-	-	6.4	14.4	16.5	1.3	0.3	-
Finger Millet	-	-)	0.3	2.4	2.5	4.5	22.3	23.4	15.5	1.2	-
Cassava	-	-	14.3	18.9	17.8	17.4	20.2	36.9	63.8	44.2	7.5	-
<u>Pulses</u>	-	-	-	-	-	-	n/a	40.3	58.3	79.4	48.6	-
Beans	-	-	-	-	-	-	11.5	30.9	27.9	34.3	16.0	-
Mbaazi	-	-	-	-	-	-	n/a	7.1	19.6	33.3	25.9	-
Kunde	-	-	-	-	-	-	n/a	2.1	8.1	6.4	3.0	-
Fiwi	-	-	-	-	-	-	n/a	0.2	2.7	5.4	3.7	-
<u>Sugar</u>	-	-	105.1	96.2	103.2	112.1	99.2	133.5	128.6	118.0 ^{c/}	122.0 ^{c/}	-

Source: (1) GOT, Ministry of Agriculture, Marketing Development Bureau, Price Policy Recommendations for the 1981/82 Agricultural Price Review, Dar es Salaam: MDB, 1981; Bank Supervision Mission Reports.

Notes: ^{a/} 1981/82 figures provisional.
^{b/} Includes paddy equivalent at 0.67 conversion rate.
^{c/} Calendar years 1980 and 1981.

Statistical Appendix - Table 1.5

Tanzania: Import/Export of Main Grains 1966/67 - 1981/82
(volume - '000 tonnes; value: US\$ million)

Year	Maize			Exports	Rice			Exports	Wheat			Exports	Net Imports			Value ^{a/}				
	Imports		Total		Imports		Total		Imports		Total		Tonnes		Total	Comm.		Total	Value ^{a/}	
	Commercial	Aid			Commercial	Aid			Commercial	Aid			Comm.	Aid						
1966/67	-	-	14.3	7.0	-	-	7.6	2.0	-	-	-	-	-	12.9	-	-	1.5			
1967/68	-	-	-	0.5	-	-	5.7	0.4	-	-	13.6	1.0	-	-	17.4	-	-	1.8		
1968/69	-	-	-	32.0	-	-	-	0.1	-	-	36.7	-	-	-	4.6	-	-	0.6		
1969/70	-	-	46.9	28.0	-	-	-	-	-	-	35.7	-	-	-	54.6	-	-	3.0		
1970/71	-	-	-	24.0	-	-	-	0.5	-	-	11.6	-	-	-	(12.9)	-	-	(0.8)		
1971/72	-	-	92.3	29.0	-	-	-	4.0	-	-	45.4	0.1	-	-	104.6	-	-	5.6		
1972/73	-	-	78.9	-	-	-	-	7.0	-	-	8.2	0.3	-	-	79.8	-	-	2.9		
1973/74	-	-	291.1	-	-	-	72.6	7.0	-	-	91.0	0.3	-	-	447.4	-	-	80.6		
1974/75	-	-	225.4	-	-	-	14.3	-	-	-	28.8	-	-	-	268.5	-	-	41.2		
1975/76	80.0	27.0	107.0	-	21.0	-	21.0	-	15.0	46.0	6.1	-	116.0	73.0	189.0	19.7	9.6	21.7		
1976/77	34.6	7.0	41.6	-	5.0	-	5.0	-	-	34.0	34.0	-	40.0	41.0	81.0	5.4	5.0	10.4		
1977/78	-	34.3	34.3	-	27.0	22.0	49.0	-	-	41.0	41.0	-	27.0	97.0	124.0	12.4	17.3	29.7		
1978/79	-	-	-	-	21.0	20.0	41.0	-	16.0	46.0	62.0	-	41.0	66.0	103.0	9.4	12.8	22.2		
1979/80	32.5	-	32.5	-	5.0	50.0	55.0	-	-	33.0	33.0	-	37.0	83.0	120.0	5.7	25.0	30.8		
1980/81	188.1	86.5	274.6	-	14.2	51.0	65.2	-	-	48.7	48.7	-	202.3	186.2	388.5	27.8	42.8	70.6		
1981/82	27.5	207.1	234.6	-	11.0	59.2	70.2	-	-	83.1	83.1	-	38.5	349.4	387.9	10.7	83.9	99.6		

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Source: Marketing Development Bureau.

Note: ^{a/} Prices used are from World Bank, Commodity and Price Trends, 1981

1981/82 Prices:

- US\$190/tonne for maize
- US\$500/tonne for rice
- US\$240/tonne for wheat

Statistical Appendix - Table 1.6

Tanzania: Percentage of Urban Food Needs Met by NMC Sales, 1974/75 - 1979/80

<u>Region</u>	<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>1974/77</u>	<u>1977/80</u>	<u>1974/80</u>
Arusha	243.9	118.9	100.0	93.9	102.7	110.0	154.3	102.2	128.2
Iringa	59.9	31.5	23.4	35.5	33.3	37.9	38.3	35.6	36.9
Kigoma	11.3	52.8	15.5	15.9	9.8	40.7	26.3	22.1	24.3
Kilimanjaro	20.3	48.6	80.9	80.1	92.4	124.0	49.9	98.8	74.4
Mara	110.9	43.6	38.3	34.9	30.3	27.2	64.3	30.8	47.5
Mbeya	1.0	12.2	6.0	18.9	27.0	16.5	6.4	20.8	13.6
Morogoro	114.6	22.8	48.7	24.8	27.9	29.1	62.0	27.2	44.6
Mwanza	62.5	50.5	54.4	24.6	37.4	16.0	55.8	26.0	40.9
Mtwara	108.8	42.0	33.4	39.7	26.0	12.5	61.4	26.0	43.7
Ruvuma	25.3	27.2	17.7	17.8	16.6	15.4	23.4	16.6	20.0
Shinyanga	41.4	84.6	42.7	26.0	25.9	51.7	56.2	34.5	45.4
Singida	147.1	31.1	63.3	20.5	20.3	20.1	80.5	20.3	50.4
Tabora	50.9	66.6	30.6	11.2	18.1	11.7	49.4	13.7	31.5
Tanga	91.1	75.9	68.6	74.8	58.8	66.7	78.5	66.8	72.6
Kagera	104.6	125.7	128.6	114.9	348.3	53.6	119.6	171.2	145.4
Dodoma	123.7	120.7	103.2	71.0	50.8	91.9	115.9	71.2	93.6
Rukwa	-	-	-	21.2	18.4	18.3	-	19.3	19.3
Lindi	-	-	-	68.4	38.2	19.2	-	41.9	41.9
Coast/Dar es Salaam	73.7	63.8	74.7	87.9	93.9	88.6	70.7	90.1	80.4
Tanzan Mainland	87.7	66.7	68.5	70.6	74.1	69.1	74.3	71.3	72.8

Source: Keeler, Andrew G. et. al., The Consumption Effects of Agricultural Policies in Tanzania, Sigma One Corporation, Raleigh, NC, 1982, Table 24.

Note: The calculation depends on three assumptions:

1. The per capita consumption of grains in urban areas is 180 kg per person per year. This is the FAO standard for a cereal-based diet. NDB has used 219 kg in past analyses; if this standard were used here, the NMC would seem even less important in meeting urban food needs.
2. The RTC's sell 80% of their grain in district and regional centers. In some years the NMC will sell more grain in rural areas due to acute food shortages. This is the explanation for statistics of over 100%. (For example, 244% in Arusha in 1974/75 reflects the fact that more than 20% of RTC sales were in rural areas, due to the severe grain shortage caused by extreme drought.) This serves to overestimate the parastatal supply of relatively inexpensive grain to urban areas, which does not change the basic point of the analysis.
3. In Dar es Salaam/Coast regions, 100% of NMC sales were in urban areas.

STATISTICAL APPENDIX: TABLE 2.1

Development Expenditure disbursed by Ministries in Tanzania
1975/76 to 1978/79 (T.Shs.m)

<u>Ministry</u>	<u>1975-6</u>	<u>1976-7</u>	<u>1977-8</u>	<u>1978-9</u>
Defence	333	397	731	817
Industries	83	377	561	746
Water Development & Energy	327	286	339	505
Communications and Transport	83	156	205	419
Agriculture and Livestock	387	344	411	418
Finance and Planning	162	197	267	406
National Education	93	165	146	212
Capital development	0	67	101	155
Works	145	250	169	156
Others	622	524	232	441
TOTAL	<u>2,234</u>	<u>2,764</u>	<u>3,163</u>	<u>4,276</u>
Total in constant 1974/75 TSh ^{a/}	1,958	2,216	2,266	2,711

Source: Schluter, "An Analysis of Budgetary Allocations", draft Background Paper VII, Appendix Table 5.

Note: a/ Deflator #4, Appendix B in source.

Statistical Appendix: Table 2.2

Total Capital Expenditure on Major Sectors in Tanzania in Annual Plans, 1975 - 1981/82* (T.Shs million)

	<u>1975/6</u>	<u>1976/7</u>	<u>1977/8</u>	<u>1978/9</u>	<u>1979/80</u>	<u>1980/1</u>	<u>1981/2</u>	<u>Total at 74/5 Constant Prices</u>	<u>%</u>
Industry	276.2	531.2	1,413.6	1,675.9	2,555.4	2,689.0	3,159.9	6,272.1	21.7
Water, Energy, Minerals	476.6	457.5	471.1	917.7	925.2	1,076.1	863.2	2,937.1	10.2
Communic./Transport	69.8	74.3	728.1	1,223.7	1,164.7	1,066.6	962.7	2,799.4	9.7
Agricult./Livestock	1,100.5	628.5	966.0	890.0	1,158.9	1,214.8	1,240.2	4,278.2	14.8
Works	216.7	192.9	190.5	224.3	674.9	669.4	788.2	1,525.8	5.3
Health	31.8	62.6	74.3	62.0	81.2	79.2	77.7	272.9	0.9
Education	163.6	217.4	192.2	197.8	292.0	254.9	301.2	944.9	3.3
Defense	374.0	390.0	497.0	504.5	553.0	402.0	349.4	1,900.1	6.6
Others	381.2	1,194.9	1,657.4	2,256.8	3,160.8	3,213.3	3,095.9	7,956.2	27.5
TOTAL	3,090.4	3,749.3	6,190.2	7,952.7	10,566.1	10,665.3	10,818.2	28,881.9	100.0
(at constant prices)	2,708.5	3,005.7	4,433.9	5,041.0	5,528.2	4,381.6	3,636.0		
<u>Percentages</u>									
Industry	8.9	14.2	22.8	21.1	24.2	25.2	29.2		
Water, Energy, Minerals	15.4	12.2	7.6	11.5	8.8	10.1	8.0		
Communic./Transport	2.3	1.9	11.8	15.4	11.0	10.0	8.9		
Agricult./Livestock	35.6	16.8	15.6	11.2	11.0	11.4	11.5		
Works	7.0	5.1	3.1	2.8	6.4	6.3	7.3		
Health	1.0	1.7	1.2	0.8	0.8	0.7	0.7		
Education	5.3	5.8	3.1	2.5	2.8	2.4	2.8		
Defense	12.1	10.4	8.0	6.3	5.2	3.8	3.2		
Others	12.3	31.9	26.8	28.4	29.9	30.1	28.6		
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Source: Annual Plans, 1975/75 - 1981/82.

*See Deflator No. 4 in Appendix B of Background Paper No. VII.

Statistical Appendix: Table 2.3
Estimates^{1/} of Ministry Recurrent Expenditure for the Government of Tanzania
1972/73 - 1981/82
(T.Shs m)

Rank in 1981/82	Ministries	1972/3	1973/4	1974/5	1975/6	1976/7	1977/8	1978/9	1979/80	1980/1	1981/2	% Increased (decrease) 1974-82 in 1974/75 TSh
1	Finance	119	155	280	294	539	510	574	323	1,527	2,249	+159
2	Defense & ^{2/} Nat. Service	239	349	549	481	611	728	778	925	1,084	1,331	-22
3	Nat. Education	192	243	349	357	386	426	462	462	588	764	-30
4	Home Affairs	159	201	267	250	288	347	411	458	447	614	-26
5	Prime Min. Off.	84	95	136	99	305	193	548	490	515	525	+24
6	Health	95	111	109	130	163	237	256	281	299	335	-1
7	Works	75	76	70	89	167	219	249	284	255	330	+51
8	Agric. & Liv. ^{3/}	89	66	80	103	122	98	99	171	158	197	-21
9	President's Off. & Cabinet Secretariat	2	46	72	69	88	75	71	100	112	158	-29
10	Foreign Affairs	33	54	57	50	72	69	96	121	102	131	-26
11	Natural Res. & Tourism	39	33	44	35	45	68	65	73	81	87	-36
12	Communication & Transport. ^{4/}	-	-	13	9	10	3	59	66	67	85	+108
13	Judiciary	23	29	34	37	42	47	50	57	63	82	-24
14	Information	17	11	15	20	20	29	35	62	64	68	+47
15	Water Devt. Energy & Min- erals ^{5/}	43	29	43	58	74	65	58	53	56	63	-53
16	Labor & Soc. Welfare	19	25	30	30	29	37	43	49	53	60	-37
17	Manpower Dev. ^{6/}	13	12	14	27	23	25	39	46	49	55	+29
18	Others	39	198	416	99	198	148	275	204	211	197	-84
	TOTAL	1,280	1,733	2,578	2,237	3,182	3,324	4,168	4,225	5,731	7,331	-08

Source: The United Republic of Tanzania, Public Expenditure: Consolidated Fund Services and Supply Votes (Ministerial), 1973/74 - 1981/82.

- ^{1/} Data for 1972/73 to 1979/80 are actual expenditure. Data for 1980/81 are revised estimates and for 1981/82 provisional estimates. Ministries are ranked by relative size in 1981/82.
- ^{2/} Defense and National Service is the total of the Ministry of Defense and the Ministry of Defense and National Service.
- ^{3/} We have removed subventions to parastatals from the "Agriculture" vote and included it under "Others".
- ^{4/} Up to 1974/75, Communications and Transport were included under Ministry of Works.
- ^{5/} Minerals had a separate vote in 1981/82, but is included with Water Development & Energy for 1981/82. Minerals was only included with Water Development and Power (Energy) in 1976/77.
- ^{6/} Up to 1975/76, Manpower Development (Vote 32) was called Central Establishments.

Statistical Appendix: Table 2.4
Regional Recurrent Expenditure for Selected Sectors in Tanzania, 1974/75 - 1981/82
(T.Shs m)

	1974/75	1975/6	1976/7	1977/8	1978/9	1979/80	1980/1	1981/2	Total at Constant Prices Over Period (Constant (1974/75 = 100)		% Increase (decrease)
									%	Prices)	
Admin. & General	269.0	194.8	171.9	168.0	204.8	270.6	316.0	326.3	1,191.4	15.0	-63%
Agriculture Devt.Serv.	20.7	35.4	49.6	56.7	51.6	67.4	68.9	78.6	250.6	3.1	+22%
Livestock Devt. Serv.	50.8	40.8	38.7	41.7	45.9	54.2	61.8	70.7	250.5	3.1	-55%
Admin & General Educa.	14.3	15.9	18.6	18.2	18.6	21.1	25.5	29.4	97.8	1.2	-34%
Primary Education	242.8	278.8	361.8	597.1	588.5	762.4	839.2	988.4	2,607.4	32.8	+31% +21%
Adult Education	33.3	20.6	29.0	77.5	60.5	67.5	67.8	77.6	253.6	3.2	-25%
Curative Services	99.2	111.5	139.2	188.4	179.7	201.4	226.0	261.8	830.1	10.4	-15%
Preventive Services	27.9	31.4	36.1	44.2	22.4	24.9	24.4	28.6	160.7	2.0	-67% +4%
Rural Health Centers	22.3	25.9	33.9	39.4	47.9	56.5	66.9	77.8	210.3	2.6	+13%
Dispensaries & Clinics	36.0	39.6	49.9	60.0	65.0	72.5	78.1	94.2	291.8	3.7	-16%
Road Services	77.2	58.7	55.9	87.1	107.2	113.8	122.1	136.5	452.5	5.7	-43%
Rural Water Supply	42.1	43.4	49.7	91.2	99.7	108.6	127.7	141.1	398.4	5.0	+8%
Fisheries Operations	29.1	8.9	11.1	10.1	10.6	10.4	12.0	14.1	74.0	1.0	-85%
Forest Management	14.1	15.3	17.8	17.2	17.4	16.9	21.7	27.0	90.5	1.0	-38%
Ujamaa & Coop.Devt.	30.7	33.7	36.6	37.1	31.5	33.5	40.9	48.9	184.1	2.3	-48%
Other	57.2	125.9	131.6	150.4	75.2	76.4	194.7	227.5	614.2	7.7	+28%
TOTAL	1,066.7	1,080.6	1,231.4	1,684.3	1,626.5	1,958.2	2,293.7	2,628.5	7,957.8	100.0	-21%
Total at 74/75 Constant Prices	1,066.7	935.7	975.1	1,190.8	1,021.5	1,006.4	915.2	846.4			

Source: Estimates of Public Expenditure Supply Votes Regional for 1974/75 to 1980/81, and the proposed (not yet approved) estimate for 1981/82.
Summarized from Appendix Tables 3-10, Background Paper VII,

Statistical Appendix Table 2.5

PROPORTION OF FUNDS FOR CAPITAL EXPENDITURE FROM VARIOUS SOURCES FOR MAJOR SECTORS OF THE ECONOMY
IN THE PERIOD 1975/6 - 1981/2 AT CONSTANT 1974/5 PRICES (T.shs. m)

	Agriculture	Livestock	Industries	Education	Works	Transport & Communicatn.	Water, Energy Minerals	All Got capital expenditure
Got funds (Devt. budget)	433.1	127.5	1127.2	180.8	406.3	482.3	564.9	3316.4
Aid	1482.2	228.9	2099.5	716.5	1087.0	1127.5	1972.3	8629.5
Sub-total	1915.0	356.4	3226.6	897.3	1493.1	1609.6	2537.0	11944.9
Special funds	88.3		116.3			114.1	16.0	334.6
Own funds	898.8	13.4	233.1	14.2	22.1	538.3	367.7	1973.0
Bank finance	445.1	65.6	1194.4	21.9	2.2	504.0	72.7	2303.3
Other	414.9	24.5	1476.5	8.7		32.4	70.0	2024.5
Sub-total	1845.3	103.5	3020.1	44.7	24.3	1188.6	526.4	6634.8
GRAND TOTAL	3760.3	459.9	6246.9	941.9	1517.5	2798.3	3063.4	18580.8
<u>Percentages</u>								
Govt funds (Devt budget)	11.5	27.7	18.0	19.2	26.8	17.2	18.4	17.8
Aid	39.4	49.8	33.6	76.1	71.6	40.3	64.4	46.4
Sub-total	50.9	77.5	51.7	95.3	98.4	57.5	82.8	64.3
Special funds	2.3		1.9			4.1	0.5	1.8
Own funds	23.9	2.9	3.7	1.5	1.5	19.2	12.0	10.6
Bank finance	11.8	14.3	19.1	2.3	0.1	18.0	2.4	12.4
Other	11.0	5.3	23.6	0.9	-	1.2	2.2	10.9
Sub-total	49.1	22.5	48.3	4.7	1.6	42.5	17.2	35.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Schluter, "An Analysis of Budgetary Allocations", Draft Background Paper VII, Table 30.

Statistical Appendix: Table 2.6
Total Aid Resources Allocated to Major Ministries 1975/76 - 1981/82 (T.Shs. million)

	<u>1975/6</u>	<u>1976/7</u>	<u>1977/8</u>	<u>1978/9</u>	<u>1979/80</u>	<u>1980/1</u>	<u>1981/2</u>	<u>Total at 74/5</u> <u>Const. Prices</u>	<u>%</u>
Industry	135.3	276.4	402.2	750.9	927.2	887.3	763.6	2,374.9	18.0
Water, Energy, Minerals	373.4	206.8	449.3	601.5	536.9	580.8	436.9	2,225.1	16.8
Communic./Transport	4.8	44.7	168.3	739.9	440.4	443.4	356.6	1,428.8	10.8
Agricult./Livestock	597.0	291.8	299.2	334.0	486.0	445.9	359.5	2,034.0	15.4
Works	115.2	220.3	117.1	175.4	510.2	509.4	539.0	1,440.3	10.9
Finance/Planning	10.4	343.2	359.8	380.5	322.6	275.0	336.4	1,372.4	10.4
Education	120.8	141.7	142.9	159.9	203.7	174.7	239.4	802.7	6.1
Nat. Resources	44.3	104.4	82.9	91.8	143.9	209.0	186.5	588.7	4.5
Lands/House/Urb.Dev.	43.8	40.6	41.1	44.2	68.0	55.7	37.3	235.2	1.8
Capital Devt.	1.9	-	-	35.1	112.1	106.8	90.5	217.3	1.6
Others	45.9	35.6	84.9	146.8	201.1	77.8	217.8	498.2	3.8
TOTAL	1,492.8	1,705.5	2,147.7	3,460.0	3,952.1	3,765.8	3,563.5	13,217.6	100.0

Percentages

Industry	9.1	12.1	18.7	21.7	23.4	23.6	21.4
Water, Energy, Minerals	25.0	12.1	20.9	17.4	13.6	15.4	12.3
Communic./Transport	0.3	2.6	7.8	21.4	11.1	11.8	10.0
Agricult./Livestock	40.0	17.1	13.9	9.7	12.3	11.8	10.1
Works	7.7	12.9	5.5	5.1	12.9	12.9	15.1
Finance/Planning	0.7	20.1	16.8	11.0	8.2	7.3	9.4
Education	8.1	8.3	6.7	4.6	5.2	4.6	6.7
Nat. Resources	3.0	6.1	3.9	2.7	3.6	5.5	5.2
Lands/House/Urb Dev.	2.9	2.4	1.9	1.3	1.7	1.5	1.0
Capital Devt.	0.1	-	-	1.0	2.8	2.8	2.5
Others	3.1	2.1	4.0	4.2	5.1	2.1	6.1
TOTAL	100.0						

Source: Schluter, "An Analysis of Budgetary Allocations, "draft Background Paper VII.

1/ Approved estimates for all years except 1981/82 which are proposed estimates.

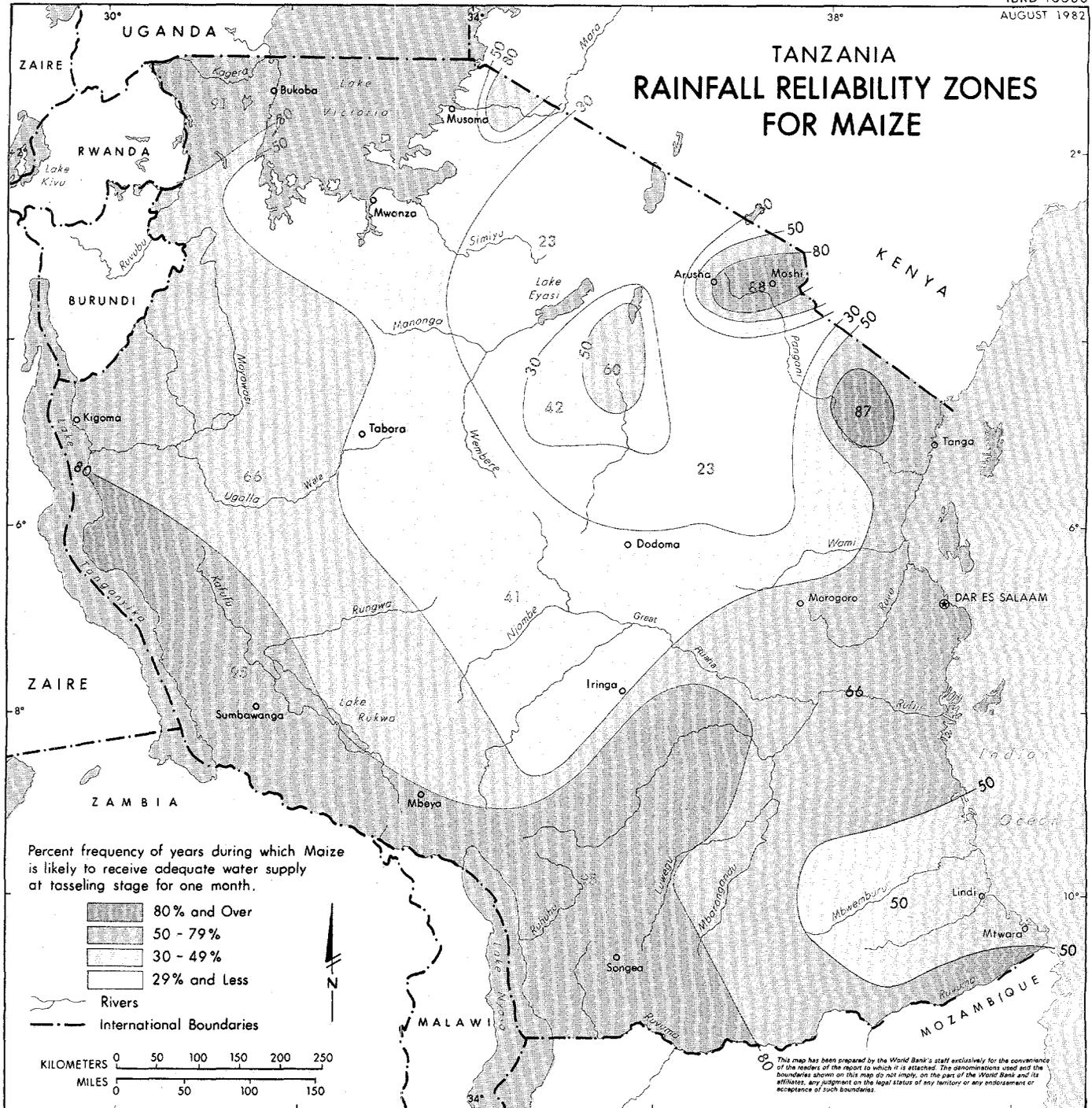
2/ Deflator shows changes in spending power within Tanzania (See Deflator 3 in Appendix A of source.)

Statistical Appendix Table 2.7: Total Capital Expenditure on Major Crops in Tanzania, 1975/76 - 1981/82
(T.Shs. m)

		<u>1975/6</u>	<u>1976/7</u>	<u>1977/8</u>	<u>1978/9</u>	<u>1979/80</u>	<u>1980/1</u>	<u>1981/2</u>	<u>Total at 74/5</u> <u>Const. Prices</u>	<u>% Share</u>
<u>Parastatal Main Crop</u>										
NMC	Cereals mkt.	-	21.8	21.5	58.1	75.7	62.2	90.9	165.5	4.9
NAFCO	Cereals prod.	47.2	38.8	55.9	68.5	168.0	114.8	139.9	338.0	10.1
GAPEX	Oilseeds	67.0	15.0	75.8	21.4	8.7	17.5	5.2	152.1	4.5
SUDECO	Sugar	241.7	190.8	151.6	215.0	218.7	195.7	139.7	851.4	25.3
Sub-Total		355.9	266.4	304.8	363.0	471.1	390.2	375.7	1,506.9	44.8
<u>Cash Crops</u>										
CATA	Cashew	126.2	56.0	94.5	36.3	70.3	79.6	27.6	325.0	9.7
CAT	Coffee	2.2	35.7	60.2	66.0	135.5	93.5	256.1	310.8	9.2
TCA	Cotton	46.6	53.6	86.6	89.8	56.3	72.0	138.5	308.4	9.2
TPB	Pyrethrum	22.3	18.0	14.0	15.3	10.4	14.0	23.4	72.7	2.2
TSA	Sisal	257.0	39.9	121.7	54.3	98.1	216.7	47.8	535.2	15.9
TTA	Tea	39.2	14.4	20.9	50.2	12.1	12.4	92.3	135.1	4.0
TAT	Tobacco	45.5	31.2	52.3	25.2	34.5	51.2	28.1	166.9	5.0
Sub-Total		539.0	248.8	450.2	337.1	417.2	539.4	613.8	1,854.2	55.2
TOTAL		894.9	515.2	755.0	700.1	888.3	929.6	989.5	3,361.3	100.0
<u>Percentages</u>										
<u>Food Crops</u>										
	NMC	-	8.1	7.1	16.0	16.0	15.9	24.2		
	NAFCO	13.2	14.6	18.3	18.8	35.7	29.4	37.2		
	GAPEX	18.8	5.6	24.9	5.9	1.8	4.5	1.3		
	SUDECO	67.7	71.6	49.7	59.2	46.4	50.2	37.2		
	Sub-Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
<u>Cash Crops</u>										
	CATA	23.4	22.5	21.0	10.8	16.9	14.8	4.5		
	CAT	0.4	14.3	13.4	19.6	32.5	17.3	41.7		
	TCA	8.6	21.5	19.2	26.6	13.5	13.3	22.6		
	TPB	4.1	7.2	3.1	4.5	2.5	2.6	3.8		
	TSA	47.7	16.0	26.9	16.0	23.5	40.2	7.8		
	TTA	7.3	5.9	4.6	14.9	2.9	2.3	15.0		
	TAT	8.4	12.5	11.6	7.5	8.3	9.5	4.8		
	Sub-Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

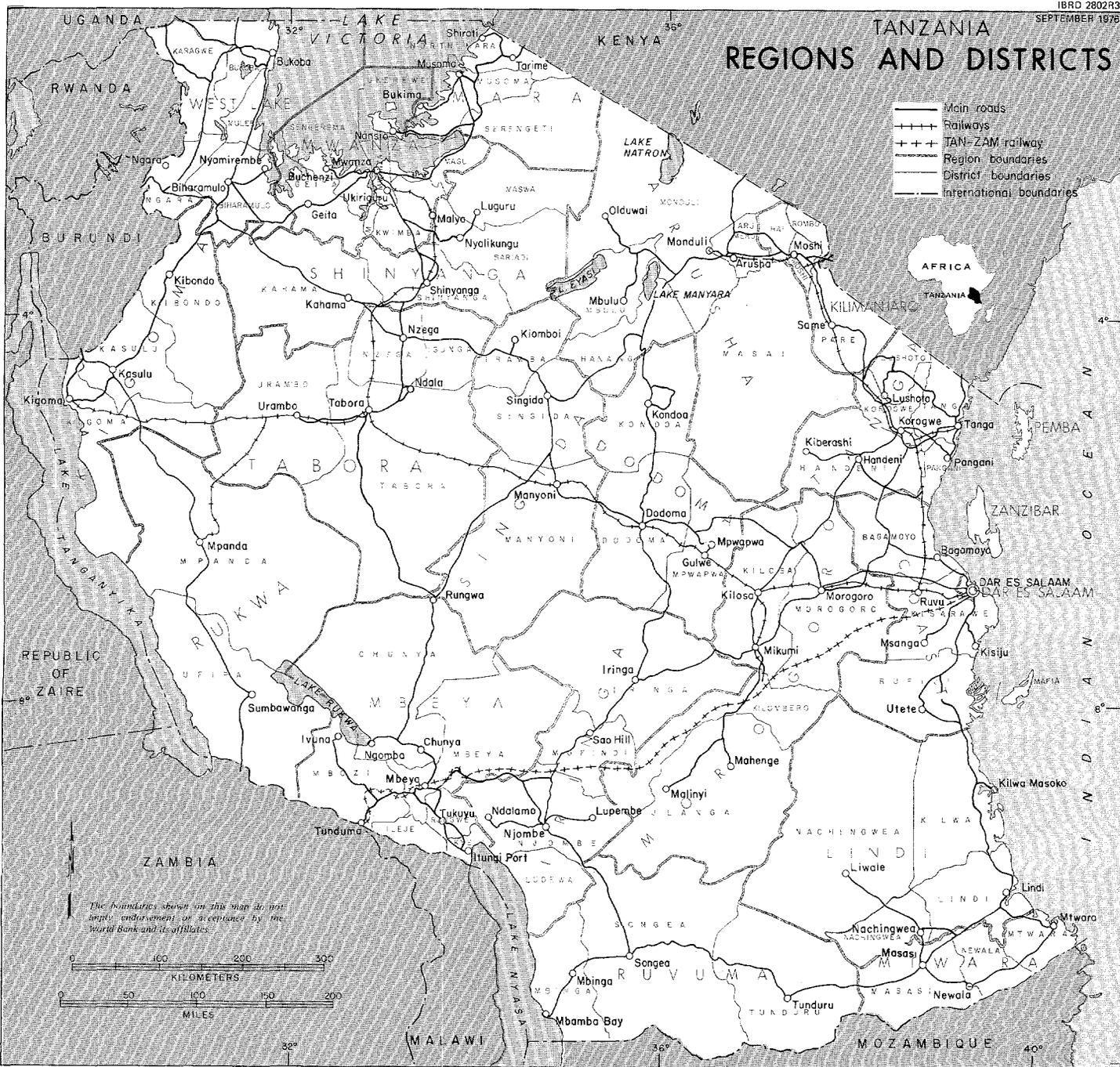
Source: Annual Plans, 1975/76 to 1981/82.

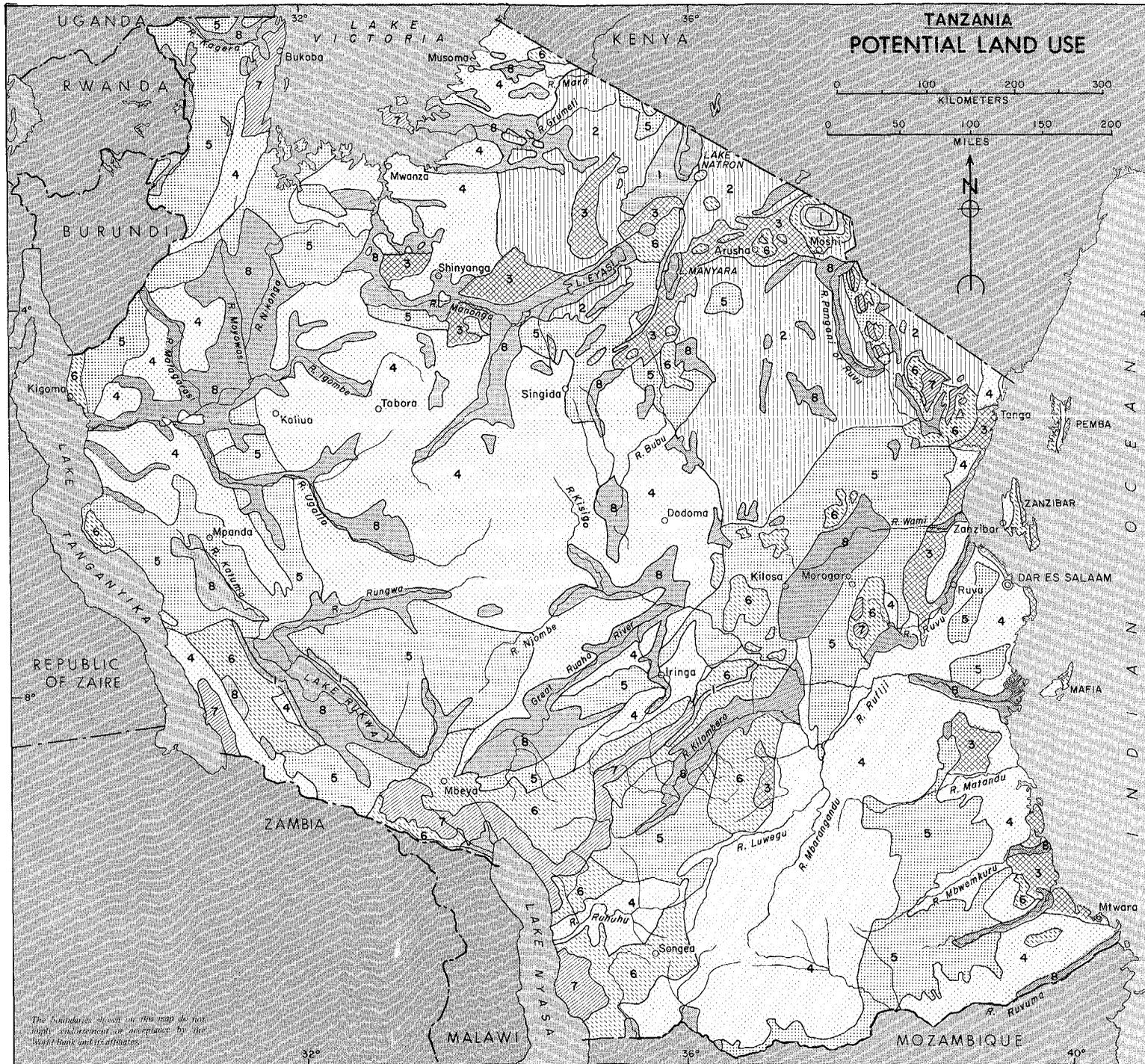
TANZANIA RAINFALL RELIABILITY ZONES FOR MAIZE



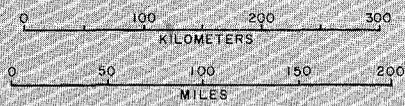
TANZANIA REGIONS AND DISTRICTS

-  Main roads
-  Railways
-  TAN-ZAM railway
-  Region boundaries
-  District boundaries
-  International boundaries





**TANZANIA
POTENTIAL LAND USE**



GROUP OF SOILS

- Soils unsuitable for cropping. (Game, limited grazing for cattle, possibly forestry in humid areas.)
- Soils where little cropping is possible. (Ranching, game, sometimes limited cropping with sorghum, millet, castor, groundnuts.)
- Fertile soils where low rainfall or shallow rooting depth limits crop yields. (Sisal, sorghum, cotton, beans with maize, wheat, pastures and sometimes irrigated coffee at high altitudes.)
- Soils of very low fertility with moderate potential. (Sorghum, cassava, cashew, castor, coconuts, simsim, tobacco, groundnuts, cotton, pastures, softwoods.)
- Soils of low to medium fertility with moderate potential. (Sisal, groundnuts, sorghum, maize, soya, cashew, castor, cotton, cassava, beans, pastures.)
- Soils of medium to high fertility with high potential. (Arabica coffee, wheat, pyrethrum, bananas, potatoes, timber, onions, vegetables, temperate fruits, grass, legum pastures at high altitudes; sisal, citrus, cocoa, robusta coffee, pastures, coconuts, spices at low altitudes.)
- Soils of low fertility in areas of high rainfall. (Tea, robusta coffee, bananas, timber.)
- Various alluvial or colluvial soils of considerable potential, but often requiring flood control, drainage or special management. (Sugarcane, castor, cashew, cotton, rice, pasture, legumes, bananas, onions.)

The boundaries shown on this map do not imply endorsement or acceptance by the World Bank and its affiliates.

