

Report No. 18111

Tanzania, Agriculture, and the World Bank

An OED Review

June 30, 1998

Operations Evaluation Department



Currency Equivalents

Currency unit = Tanzania shilling
US\$1.00 = Tsh 600 (1997)

Abbreviations and Acronyms

ASMP	Agricultural Sector Management Project
CAS	Country Assistance Strategy
CCM	Party of the Revolution
FAO	Food and Agricultural Organization
FOB	Free on board
GDP	Gross domestic product
GTZ	Gesellschaft für Technische Zusammenarbeit
IDA	International Development Association
NAEPII	The National Agricultural Extension Project, Phase II
NGO	Nongovernmental organization
OED	Operations Evaluation Department
PCR	Project Completion Report
RIDEP	Kigoma Rural Integrated Development Project
TANAA	Tanzania Agricultural Adjustment Credit
UNDP	United Nations Development Program
URT	United Republic of Tanzania

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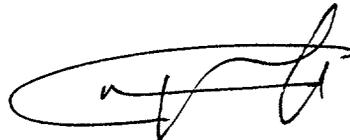
MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

SUBJECT: Tanzania, Agriculture and the World Bank

Attached is the Operations Evaluation Department report entitled *Tanzania, Agriculture and the World Bank*.

The report evaluates the performance of the Bank both in supporting projects financing investment and adjustment operations primarily targeted on the agricultural sector and in undertaking related economic and sector work.

The most telling conclusion in the report concerns the need to redevelop agricultural sector work. Today in Tanzania, private investment has to be the engine of agricultural development, but the Bank is still at an early stage in identifying both the constraints on such investment, and a strategy to deal with them. The apparently slow growth of agriculture in the decade since the reforms makes more urgent the need for the Bank to work with the government to rebuild analytic capacity and concentrate on what is needed to induce agro-investment.

A handwritten signature in black ink, consisting of a large, stylized initial 'W' followed by a series of loops and a final flourish.

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This report was prepared by Jacob Meerman, Task Manager. William Hurlbut copy edited the report. Helen Watkins provided administrative support.

Preface

This review is one of several country sector studies that have pioneered a new type of OED evaluation that moves beyond the individual project to analyze World Bank interventions for a specific sector at the country level. The review assesses the cumulative effect of Bank agricultural activities and their contribution to achieving the Bank's development mission in Tanzania. The lessons from this exercise can be used to inform the development of future Bank activities.

The government of Tanzania provided informal comments on the work during its preparation. The review will also form the centerpiece of a workshop in Dar es Salaam in the fall of 1998 to assess Bank work in agriculture in Tanzania with participants from government, the donor and NGO community, and the World Bank, as well as development analysts and practitioners. The review is also providing input for OED's forthcoming Country Assistance Review for Tanzania, and the Country Economic Memorandum now underway.

The report was reviewed at several levels: peer review within OED and outside the Bank; country team review in a meeting chaired by the country director (March 31, 1998); review by agricultural/environmental staff working on the Bank's Tanzania program, including a formal meeting on April 8, 1998; and Bank-wide one-stop management review on May 15, 1998.

The report is a condensation. The complete study is available from OED, with the supporting annexes (References; Project Notes; Commodity and Other Tables; Notes on Sample Surveys; Chronology).

The kind cooperation and valuable assistance provided by Government officers and many other citizens of Tanzania, as well as World Bank staff is gratefully acknowledged.

Executive Summary

In the countryside...growth is not reaching the poor, and the poor are not significantly contributing to growth. (Robert McNamara in his Nairobi speech, 1973)

The Arusha Declaration (1967)¹ promised Tanzania a new society. Rather than industrialization, development of agriculture through communal farming would be emphasized. Egalitarian harmony on the farm and in the workplace would eliminate exploitation of worker by employer. The World Bank was an early champion of this vision. By 1982, it had invested in 26 agricultural operations in what was then among the Bank's largest programs in Africa. In Tanzania, concentration on rural development was seen as the key to achieving the Bank's basic goal: rapid elimination of poverty, possibly before the end of the century. The outcome was tragic: arrested development in agriculture and other sectors, more poverty rather than less. Today, more than three quarters of the population is still rural. Most farmers still use traditional, hand-tool techniques and can rarely cultivate more than two hectares. Farm incomes remain very low and more than half of the rural population is poor.

Growth Performance

OED concludes that since independence, food production may have exceeded population growth somewhat. Average nutrition does not appear to have deteriorated. The urban population, now a quarter of the total, has increased from about half a million in 1961 to about 7 million. Most food for the urban population, including high-value products, is domestically produced. Compared to the mid-1970s, food imports are also lower. It follows that the amount of food for local consumption produced per farmer, and the share of that production which is marketed, have increased significantly since Independence.

The effects of the development strategy on Tanzania's export crops were devastating. Between 1966 and 1996, the total volume of agricultural exports remained largely unchanged. Because of the drop in world-market prices from their peak in 1977, stagnation in volume led to contraction in value. In addition, population nearly tripled between the early 1960s and today. As a result, agricultural exports per person fell from US\$64 (annual average of 1966-69) to US\$9 (annual average of 1992-96), a drop of over 85 percent.² Since agricultural exports accounted for more than half of total exports, the contraction in total exports was also extremely high.

The decline was stopped by economic liberalization and privatization starting in the mid-1980s (paragraphs 3.6-3.13). Since 1986, growth in the production of export crops has exceeded population growth. But from the mid-1980s growth in the production of food crops has been slow, perhaps slightly lower than the growth of population, about 3 percent annually (Table 4.2).³ Since food crops account for more than half of the value of agricultural production it is clear that, agriculture has been growing slowly in the past decade.

1. The announcement of Tanzania's commitment to "African socialism" by President Julius Nyerere.

2. Values are expressed in dollars of 1990 purchasing power.

3. In its macro-analyses, the Bank has worked with GDP data showing very respectable growth of Tanzania's economy and agriculture; the latter at 5 percent per year in the decade 1986-96. However, the reality may be stagnation since the Ministry of Agriculture and other data show production growth at 2 percent per year for the same period.

For most Tanzanian farmers, transition from long-fallow, land-extensive, low-input subsistence agriculture to high-input, market-oriented production still lies in the future. The increases in agricultural production have resulted mainly (but not entirely) from cultivating additional land in traditional ways, rather than increasing the productivity of farm labor and diversifying production (paragraph 2.18).

Slow development in agriculture is also reflected in poverty data. Because of protein-energy malnutrition, more than half of children under five were underweight in 1987, a year of record maize harvests. Another survey, published in 1987, found that 28 percent of the general population also suffered from protein-energy malnutrition (paragraph 2.7).

Bank Performance

Before the Reforms (1968–86). Before 1982, the Bank bought into the “*ujamaa*” experiment for the best of reasons: Tanzania’s charismatic leader convinced donors that he had the vision and the programs to eliminate poverty quickly and efficiently. But in endorsing the strategy, Bank management suppressed good judgment expressed by many professional staff and documented in agricultural sector reports (paragraphs 4.2 and 4.3).

Lending before the reform period (1986-93) was especially weak. Of the 22 investment projects approved before the reform period starting in 1986, and rated by OED, only 6 (27 percent) had satisfactory outcomes. The majority of projects were poorly designed, e.g. the three general regional development projects, were weak because of unfeasible technical packages. For all projects as a group, production projections greatly overestimated the amount of land that farmers *could* cultivate, given their resources and technology. *De facto* pilot projects went to the Board as proven undertakings. Early warnings of design shortcomings by Bank technical staff and by cofinanciers were ignored. Often there was little involvement of Tanzanian staff in project preparation and appraisal. Pricing issues were neglected. When administered pricing discouraged production, project pricing covenants were not enforced. The pressure on task managers for quick preparation based, *faute de mieux*, on weak underlying agronomic, research, and farmer-behavioral data, contributed to weak designs. The few successful projects (forestry and smallholder tea) were distinguished by careful preparation. (Table 3.1, Annex A and paragraph 3.3).

Had project designs been compatible with good practice, satisfactory outcomes would have been more frequent. But the institutional problems built into these projects might still have made them unsustainable. Weak management, distorted worker incentives, political interference, and in some cases corruption, characterized organizational arrangements. Frequently there was little effort to ascertain the degree of support from stakeholders. The destructive impact of economic policy was often ignored. Above all, many of the projects depended heavily on adequate performance of processing and marketing parastatals for success. Yet, nearly all parastatals incurred chronic deficits. The rate of return calculations done at completion for 18 projects found that two-thirds of them had negative rates of return; only two had returns exceeding 10 percent (paragraph 3.4).

The Reforms (1986–93). The Bank’s best performance occurred during the reform period (paragraphs 3.6-3.13). It led in conceptualizing the “paradigm shift,” including organizing and financing needed economic analysis, marshaling the support of other donors, and organizing effective technical assistance. The Bank supported the exchange rate adjustment, trade and general price liberalization, escape from parastatals, and regulatory reform that strongly contributed to arresting the alarming agricultural contraction of the late 1970s and early 1980s. The Tanzania Agricultural Adjustment Credit made a significant contribution by achieving its objectives, including liberalized and privatized marketing

and processing for export crops. The credit also helped to (i) convert grain milling and marketing from a *de jure* public monopoly to a competitive food grains sector; (ii) accelerate the withdrawal of parastatals from agricultural production; and (iii) enhance competition in the supply of seeds and fertilizer (paragraphs 3.07–13). A necessary condition for this success story was the government's commitment to carrying through the reforms, one missing ingredient of the pre-reform period. Thus, the Bank influenced government performance but did not cause it.

The Current Situation (1994–98). The first cycle of Bank thinking and lending following the reforms is still in progress. The emphasis in Bank work has swung over to capacity building, particularly in agriculture where all ongoing IDA operations aim to reduce deep-seated institutional constraints such as skill shortages, management weakness, and poor work incentives (paragraphs 3.14–3.20). Their likely efficacy and efficiency remain uncertain. But their relevance is high. Bank performance is summarized in the table below.

Bank Performance in Supporting Tanzanian Agriculture

	Pre-Reforms 1961–85		Reforms 1986–93		Post Reforms 1994–98	
	Lending	Sector Work	Lending	Sector Work	Lending	Sector Work
Relevance ^a	High	High	High	High	Substantial	Modest
Efficacy ^b	Low	Substantial	High	High		
Efficiency ^c	Low		High	High		
Sustainability	Low		High	High		
Lending (\$m.) ^d	634		314		102	

a. Degree to which goals were consistent with overall country development strategy and the Bank's country assistance strategy.

b. Degree to which project/program goals were achieved.

c. Degree to which benefits emerged commensurate with cost.

d. Millions of 1990 U.S. dollars. See Table 3.1

Bank Impact

Because of the poor quality of Tanzanian production data, of the difficulty in deciding what production would have been had the Bank never intervened (the counterfactual) and; given the difficulty of attributing new production among the various sources of investment and other support to agriculture, detailed impact analysis proved impossible. Yet two conclusions can be inferred. First, before the reforms, the impact of the World Bank was modest, because agricultural development itself has been slight (paragraphs 2.13–2.14). There is simply not much impact (growth of agricultural production per capita) to attribute or allocate among the variables usually associated with increasing production. This conclusion is supported by lending performance. Since three quarters of the IDA operations carried out before the reforms had unsatisfactory outcomes, one cannot claim significant impact from IDA lending

The second conclusion involves export production. Table 4.2 in Chapter 4 shows reversal of export-crop contraction following the reforms of the mid-1980s. Production per capita of all the traditional export crops, sisal excepted,⁴ was either maintained between 1986–87 and 1994–95 or substantially increased. This took place even though world prices were not higher in the latter two year period (1994–95) than the former (1986–87). Yet producer prices as a share of the FOB prices were unambiguously

4. Because of competing substitute production, the sisal industry has been contracting worldwide since the 1960s.

higher in the latter period, in the case of cashew nuts, dramatically so. (For price data by crop, see Annex B in the larger study.) New crop production, notably flowers, has also burgeoned since 1986 (paragraph 2.11). This recovery and expansion in the volumes of export crops was made possible by the reforms, including those of international trade, local processing and marketing. The Bank significantly contributed to the development and support of this structural adjustment. (See *The Reforms* above.)

Key Findings

The Bank's Country Assistance Strategy (1997) has several shortcomings. It sets an overall growth target of 6 percent and agricultural growth, to make it possible, of 5 percent per year but does not indicate how this is to be achieved. The CAS does not emphasize exporting. Yet for country growth at this pace and to avoid saturating the domestic market, agricultural exports (which is where Tanzania's comparative advantage still lies) need to expand very rapidly. Further, Bank-supported analytic and policy work largely ignores the potential of agricultural development as the best way to reduce poverty (paragraphs 4.5–4.8).

Before the reforms, the Bank strongly supported a parastatal-oriented agricultural development program. The strategy failed. Now a private-sector strategy needs to promote private investment as the engine of growth. But what constrains or induces agricultural investment is unconsidered in both sector work and Bank lending. Part of the problem arises because factors that determine agricultural investment and growth are often outside the sector and concerns of Bank agricultural staff: policy, export procedures, rural infrastructure, role of local authorities (paragraphs 4.24–4.29).

The bulk of agricultural development expenditure is provided by other donors and nongovernmental organizations (NGOs), rather than the Bank. The Bank is lagging in awareness of how the government and other donors deal with policy and institutional constraints on agricultural production (paragraph 3.20).

Recommendations

The overall findings lead to five recommendations:

- The borrower and the Bank should consider measures to ensure that the Bank uses meaningful agricultural production and other statistics. (paragraph 4.21).
- The Bank needs to rebuild agricultural analysis with and for the borrower. Such work would be more broadly defined than in the past to concentrate on issues that strongly affect agricultural development but are outside the agricultural purview. The first order of business is to find out what constrains additional agricultural exporting and agricultural investment. Bank agricultural economists also need to work closely with their colleagues in other sectors in taking a comprehensive approach to agricultural development. Since the Bank only accounts for a small part of total agricultural development spending, analytic work should cover programs of other donors and NGOs (paragraphs 4.26–4.32).
- Project monitoring and evaluation should be enhanced. One way to help guard against this would be to subcontract ongoing project evaluation work to an in-country organization outside the public sector (paragraph 3.17).

- Since privatization of agricultural parastatals has been slow and that of state farms has hardly begun, and since the Ministry of Agriculture has been reluctant to move out of obsolete functions, future work of the Agricultural Sector Management Project should set up divestiture targets according to expected payoffs in growth and the feasibility of implementation (paragraph 3.15).
- The approach to agricultural extension should be revised: it is time to see the national extension service as most effective insofar as it supports rural development initiatives from outside the extension service in addition to classic extension operations. This would be consistent with the new approaches that emphasize cost sharing and participation by farmers, NGOs, and donors in providing extension services. (paragraphs 3.18–19).

1. Introduction

1.1 This is a report on the Bank's role, past and current, in supporting agricultural development in Tanzania. It aims to assess and explain past performance. In reviewing current Bank performance, the objective is analysis and suggestions for improving ongoing Bank agricultural lending and non-lending services to Tanzania.

1.2 The most telling conclusion in the report concerns the need to redevelop agricultural sector work. Today in Tanzania, private investment has to be the engine of agricultural development, but the Bank is still at an early stage in identifying both the constraints on such investment, and a strategy to deal with them. The apparently slow growth of agriculture in the decade since the reforms makes more urgent the need for the Bank to work with the government to rebuild analytic capacity and concentrate on what is needed to induce agro-investment.

1.3 The analysis is in two parts; growth performance (Chapter 2) and Bank performance (Chapters 3 and 4). Bank impact on agricultural development is addressed indirectly through part one. It shows that, to the present, Tanzanian agriculture has developed little. So the impact of Bank support, as measured by changes in output, has been limited. Chapters 3 and 4 address Bank performance in lending (Chapter 3) and in non-lending services (Chapter 4).

1.4 The research method consists of synthesis of earlier evaluations, compilation and analysis of descriptive statistics, plus review of World Bank and other written materials. In addition, the task manager interviewed more than 120 officials, Bank staff, farmers, merchants, other stakeholders, and academics in 1997 and 1998. Many of these interviews involved visits to projects and other sites throughout Tanzania. The argumentation and documentation for all findings and recommendations appear in their respective chapters.

1.5 One basic assumption has been introduced into the analysis: Tanzania can best develop through export-led growth. This conclusion is derived from basic economic theory and a large body of empirical work.⁵ It is taken as given in the text. Much of the analysis builds on it.

⁵ Since the early 1970s, research on development strategies and trade regimes in developing countries has consistently found that countries that have adopted outward-oriented strategies have been more successful than countries that followed inward oriented strategies of import substitution. See, for examples, Little I.M.D., Tibor Scitovsky, and Maurice Scott, 1970, *Industry and Trade in Some Developing Countries*. London: Oxford University Press; and Krueger, Anne O., 1983, *Trade and employment in Developing Countries*, vol.3, *Synthesis*. Chicago, University of Chicago Press.

2. History and Performance

Country Setting

2.1 About three quarters of Tanzania's population of about 30 million is rural, and most of the rural population depends on agriculture for its livelihood. Most farm families use traditional, hand-tool techniques and can rarely cultivate more than two hectares. So incomes are very low and more than half of the farmers are poor. In many ways, heterogeneity is the rule. Average annual rainfall ranges from under a half meter on the large, dry, hot, and sparsely settled central plateau to well over a meter on the densely populated highland regions near the Kenyan border and on the underpopulated highlands of the southwest. Agricultural techniques also vary, from livestock herding on parts of the plateau (much of which is tsetse infected), to traditional small-scale irrigation along the well watered northern border. Ethnically the country is diverse. No single group constitutes more than 10 percent of the population. Agricultural exports, mostly produced by small farmers, constitute more than half of merchandise exports, and agricultural production accounts for more than half of GDP. Notwithstanding strong and sustained efforts to catch up since Independence in 1961, average educational achievement beyond elementary school is among the lowest in the world (enrollment in secondary school of less than 6 percent of the corresponding age group) as is life expectancy, recently estimated at 51 years for the entire country, rural and urban.⁶

A Legacy

2.2 Tanzania is similar to other countries of sub-Saharan Africa in growing rapidly in the decade before and after Independence in 1961. By 1970 the trend reversed and by the early 1980s the decline was alarming. The causes of the reversal are well known: inefficient parastatal production; non-viable import substitution; overvalued exchange rates; administrative allocation of foreign exchange and bank credit; perverse price setting; non-competitive marketing; increasing skill and management shortages.

2.3 The Arusha Declaration (1967)⁷ promised a new society. Class exploitation would be eradicated. Egalitarian harmony in the workplace of communal production would replace the exploitative employer-employee relationship. The governing elite, drawn from the party, would devote their energies entirely to promoting the general welfare. Rather than industrialization, development of communal agriculture would be emphasized. Tanzania pursued these ideals with vigor and tenacity, strongly supported by the World Bank and other donors.

2.4 The shortcomings in the strategy soon became apparent. Restrictions on the employment of hired labor imposed to stop worker exploitation undermined large-scale agriculture and slowed development of the industrial labor force. The internal "brain drain" from civil service to parastatal resulted in a decline in the former without creating capacity in the latter. Import-substitution-industrialization, intensive in its requirement of imported inputs, was inconsistent with policies that heavily penalized exporting. Private enterprise was hobbled as a necessary but transitory evil. The national indigenization policy provoked an exodus of expatriate and Asian professionals, the main source of the technicians and businessmen whose

6. *World Development Report 1997*, pp. 214 and 226.

7. The announcement of Tanzania's commitment to socialism by President Julius Nyerere.

skills and knowledge were much needed. Starved for resources, human and material, local and imported, the private sector lost momentum and contracted. The public sector could not close the gap.

2.5 Wholesale destruction of traditional rural institutions also followed the Arusha Declaration. By 1974, more than three-quarters of the population was in about 8,000 Ujaama villages with compulsory block farming. Traditional chieftainship was eradicated and traditional land tenure arrangements, accounting for more than half of arable land, were destroyed or vitiated. Most farmers were subject to the new public administration of village “crop authorities” appointed by the CCM Party that decided what to produce, the use and mix of inputs, prices, and the calendar of farm tasks. The approach was seen as necessary to increase peasant-labor for crop production and to ensure that the output mix conformed to the national plan.⁸ Those in charge frequently had little knowledge of agriculture or commerce. The independent marketing cooperatives, a grassroots peasant cooperative movement that had made impressive inroads into a largely Asian-dominated agricultural trading sector, were destroyed to be replaced by *de facto* public cooperatives that performed badly. Inefficient parastatal, single-channel marketing became the rule. Small rural shops were closed or nationalized.

2.6 Farmer experience with government (crop authorities, cooperative leaders, marketing boards, police, judiciary, land-registrars, and others) has also been negative in its impact on attitude and behavior.⁹ The destruction of traditional chieftaincy probably contributed to what Mamadou Dia calls “a vacuum of the enforceability of institutions.” In his view, contracts or property rights were frequently not honored because the legal aspects were not accepted as legitimate by those involved. In contrast, the indigenous institutions swept away were legitimate, accountable, and enforceable. They had a strong hold on people’s commitment, dedication, and sense of identity.¹⁰

2.7 Because household incomes in subsistence agriculture are so low, malnutrition has long been widespread in Tanzania, quite independently of socialist experimentation. According to a recent Bank report, *The Challenge of Reforms*, because of protein-energy malnutrition, more than half of children under five were underweight in 1987, a year of record maize harvests. Another survey, published in 1987, found that 28 percent of the general population also suffered from protein-energy malnutrition.¹¹ Most malnutrition occurs among the rural population.¹²

8. “Tanzania Agricultural Sector Report,” Report No. 4052-TA, August 19, 1983, p. 149.

9. See the Report on the Commission on Corruption of the Presidential Commission of Inquiry Against Corruption, November 1996, translated from Swahili, known informally as the Warioba Report.

10. Mamadou Dia (1996) *Africa’s Management in the 1990s and Beyond: Reconciling Indigenous and Transplanted Institutions*, pp. 1–2.

11. World Bank, Tanzania, *The Challenge of Reforms: Growth, Income and Welfare*, Report No. 14982-TA (1996), vol. I, pp. 93–94. In 1991 another survey found that 29 percent of the under-fives were more than two standard deviations below median weight for their cohort.

12. Political development may be the brightest part of the picture. In the Bank’s view, a “goal of Tanzania’s strategy was nation building. The aim was to transform disparate, scattered people of heterogeneous tribal backgrounds and different languages into citizens of a modern state, to give that state an identity internationally and regionally, to make it genuinely independent, and to remove the last vestiges of exploitation of the indigenous population.” (World Bank, Tanzania, “World Bank/Tanzania Relations, 1961–87,” Report No. 8329, 1990, vol. I, para 2.28). Today these aspirations are closer to reality than 30 years ago. Moreover, Tanzania has greater security of life and property and political stability than many countries. It has successfully carried out several national multiparty elections and is slowly institutionalizing government by competitive political parties. The press enjoys substantial liberty. Nevertheless, governance is weak. The civil service is still at the beginning of its reform. In many contexts, corruption is the norm. “Meanwhile it is worth restressing that Tanzania is far from the worst off country in tropical Africa. . . Not

Past Agricultural Growth

2.8 So what has been the Tanzanian experience with agricultural growth? To answer this it is convenient to partition production into export crops and food crops, and then consider agriculture in general.¹³

2.9 *Export Crops.* Table 2.1 provides data on export crop volumes. The data in the table are annual averages beginning with the conclusion of the rapid-growth period (1966–69). The end of the drive to socialism (1984–88) is a period where the impact of the reform program that begins in 1986 did not extend much to export crops. *De jure*, liberalization of prices and marketing for export crops did not occur before 1992. The final period (1992–96) can be considered mostly post-liberalization.

2.10 Table 2.1 permits several conclusions. Today, production of sisal, cashews, and pyrethrum are considerably below the volumes of the late 1960s. The volume of coffee and cotton production has not changed much. Tobacco and tea have substantially increased in production volume, albeit from low levels. Expressed as economic values, the story is one of wrenching contraction. In constant values (base year

Table 2.1: Traditional Exports, Volumes Per Year
(metric tons, annual average per period)

	1966–69	1984–88	1989–91	1992–96	1996, exports (US\$ million)
Cashew Nuts	84191	40521	10655	51638	68
Coffee	48756	45168	62473	47955	122
Cotton	66689	35369	46052	55469	98
Tea	6860	11416	17024	20863	19
Tobacco	4641	7175	7597	14345	37
Pyrethrum ^a	187	57	25	34	2
Sisal	203230	31226	21568	19486	na

a. crude extract in liters.

Sources: 1961–90, *Selected Statistical Series, 1951–94*, Bureau of Statistics, Planning commission, President's Office (March 1994); 1991–96, Marketing Development Bureau, Ministry of Agriculture and Cooperatives.

1990), agricultural exports drop by two-thirds from the late 1960s to the first half of the 1990s. Considering population growth, contraction in agroexports is from US\$64 per person (1966–69) to US\$9 (1992–96), a drop of over 85 percent. Performance of other exports was similar. Notwithstanding the contraction in agricultural exports, they continue to account for more than half of merchandise exports.¹⁴ From 1977 to 1992, world agricultural commodity prices fell to levels not seen since the Great Depression of the 1930s.¹⁵ Tanzania's barter terms of trade (ratio of export prices to import prices) peaked in 1977 to

only is tribalism less serious than in other countries, but there appears to the outsiders to be a greater unity, if partly of shared adversity, than is to be found in other countries." (Philip Raikes [1986] p. 139)

13. Philip Raikes (1986) provides a good analytic agricultural history of Tanzania from the 1950s to the mid-1980s.

14. In contrast to cashew nut production, cotton and coffee production received massive assistance from the European Community (coffee) and the Dutch (cotton), which succeeded in checking contraction of these two industries.

15. See OED, *Evaluation Results 1992*, pp. 112 ff. (1994).

fall to half the 1977 level in 1992.¹⁶ Applying the average terms of trade of 1966–69 to 1992–96 would increase the value of agricultural exports in the 1990s by more than half, but still far below the late 1960s.

2.11 But the official data on agroexports are somewhat underestimated. Unrecorded agricultural exports (regional cross-border trade), and unknown amounts of nontraditional exports not included in the statistics (flowers, fruits, pulses), increase the total. Various bits of information suggest a total undercount of somewhere between US\$20 million and US\$100 million, at current prices. Presumably this undercounting is more serious now than in the 1960s. Perhaps agroexports should be adjusted upward by about a third or a quarter. This still leaves an overall contraction in agroexports per person of more than 80 percent.

2.12 Two aspects of the performance merit emphasis. First, poverty alleviation was badly served by agroexport failure. Export production in Tanzania is overwhelmingly production by small farmers, the poorest group of the population. Their high rate of poverty and precarious food security (normally smallholders spend about three quarters of their income on food, most of it on basic foods such as tubers and grains¹⁷) would have been much improved had agroexport growth of the 1960s persisted. Specifically, had agricultural export growth continued at 5 percent per year over the past three decades, total agricultural exports today would be about US\$4 billion, more than 10 times their actual value in the mid-1990s. Assuming population growth at or above 3 percent annually, no decrease in the total population dependent on agriculture for livelihood (it would have considerably decreased), and that farm-gate prices would average about 50 percent of FOB prices, the resulting increase in incomes implies close to a doubling of average farmer income per head. Second, the Tanzanian economy's failure to grow during the 1970s to the mid-1980s is due, among other factors, to a critical shortage of foreign exchange, as measured by the ratio of trade to GNP.¹⁸ There is a necessary link between poor export performance in agriculture and poor growth performance in general.

2.13 *Food Crops.* Tanzania's historical food crop production statistics are unreliable. (See Chapter 4.) Reasoning from other premises shows that food crop production per farmer today is higher than 30 years ago. First, nationwide the average level of nutrition does not appear to have deteriorated from its traditional low levels. Life expectancy at birth in 1961 was estimated at 42 years, increasing to 52 by 1979, and at 51 for 1995.¹⁹ There has been substantial urbanization since Independence (1961). The World Bank asserts that today about a quarter of the population is urban compared to 5 percent in 1961. Population has also increased from about 10 million in 1961 to about 30 million today. If these data are close to correct, the urban population would have increased from about half a million to about 7 million.²⁰ Most urban food, including high-value fruit, vegetable, and livestock products, is supplied by the slowly

16. See the entire series in the annex table, Merchandise and Agricultural Trade, 1961–96.

17. Ferreira, Maria, "Tanzania, A Poverty Profile," December 1993, pp. 25–27. Within the smallholder community, as income rises, producers and consumers substitute meat, fish, and vegetables for grains and tubers.

18. In 1980 the ratio of trade (export and imports of goods and services) was 37 percent, which put Tanzania in the 14th percentile of the worldwide country distribution by the ratio of trade to GNP. Foreign aid has become Tanzania's biggest export industry, and currently the economy does not suffer from excess demand for foreign exchange, but it is badly distorted. In 1994, foreign aid equaled 29.9 percent of GNP and in 1995 net resource flows equaled 18 percent of GNP. See *World Development Report 1997*, Selected World Development Indicators, Table 3.

19. Annex tables of *Accelerated Development in Sub-Saharan Africa*, 1981 and *World Development Report*, 1997.

20. Population and urban data derived from World Bank, *Accelerated Development in Sub-Saharan Africa* (1981), annex Tables 1 and 33; *World Development Report* (1997), annex Table 9.

declining share of the farm population in the total. Compared to the mid-1970s, food imports are lower.²¹ Two conclusions follow. On average, the amount of food for local consumption produced per farmer, and the share of that production which is marketed, have increased significantly since Independence. Second, grain production, which accounts for most food consumed in Tanzania, has most probably increased more than threefold since the early 1960s. Finally, these improvements have taken place despite some decrease in soil fertility.

2.14 By 1987, food crop production and marketing were liberalized *de facto* and the crisis in the countryside had greatly subsided. The rural "goods famine" of the early 1980s, an extreme shortage of imported and local goods that made farm production for market hardly worthwhile, had ended. The attempts by the crop authorities to stipulate what was to be produced, the prices (panterritorial and pan-seasonal) it was to command, and which parastatal was to market it largely ceased by 1986. So there was a resurgence by the mid-1980s in marketed food production, but not in export crops. According to one careful and credible source, sales of locally produced food increased by 100 percent between 1983/84 and 1987/88.²² Along with resurgent local marketing, cereal imports started to decline following the drought that ended in 1984. In 1986 they were US\$51 million, and gradually declined to US\$25 million in 1990. (In volume terms the decline was smaller because of the downward trend in grain prices throughout the period.)

Agricultural Growth Since the Reforms

2.15 How has food crop production fared since 1987, that is, since the reforms? Grains account for well over half of total calories consumed in Tanzania. In Table 2.2, Food and Agricultural Organization (FAO) and official grain production data of the Ministry of Agriculture show a stagnant trend with high variance. Although outputs in 1995 and 1996 were much above trend, presumably the drought in 1997 means that food crop production for 1997 fell below trend. During the period food imports have an upward trend

Table 2.2: Grain and Livestock Production, Food and Grain Imports 1987–96
(grain production in thousands of tons; FAO data in indices;
food and grain imports in nominal US\$ millions)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
URT Grain Production	4029	3730	4419	3857	3789	3549	3839	3528	4615	4720
URT GP Index	105.4	97.6	115.6	100.9	99.1	92.8	100.4	92.3	120.7	123.5
FAO Grain Production	97.1	88.6	115.2	93.6	91.2	83.0	92.7	84.8	111.6	104.2
FAO Livestock	88.2	93.5	97.3	99.9	102.7	105.6	107.7	107.7	110.2	110.2
Food imports	80	99	57	74	98	140	154	177	194	
Grain imports	40	42	22	25	37	49	49	59	54	

Note: The grain production data for the United Republic of Tanzania (URT) are the sum of maize, paddy, wheat, sorghum, and millet production. Important food crops also include cassava, beans, and livestock products. The two FAO production series are indices of grain and livestock production (1989–91=100). See FAO Production Yearbook 1995, Tables 7 & 8. Values of food imports and grain imports in millions of U.S. dollars are from FAO Trade Yearbooks 1995 and 1991.

21. Data in *Accelerated Development* (see fn. 15) annex Tables 7 and 9 imply food imports in 1978 of nominal US\$120 million, while total annual food imports during the 1990s have been far below US\$100 million. (FAO, *Trade Yearbook*, 1995, table 147).

22. Henry Gordon, "An Overview of Basic Data on Grain Marketing in Tanzania, 1974/75 to the Present," unpublished paper for the World Bank, November 1989.

beginning in 1989. Assuming annual population growth of about 3 percent, by 1996 grain production would have had to increase from 105.4 (1987) to 137 (1996), considerably more than the estimate of 123.5. Over the period, livestock production is estimated to have increased on average 2.5 percent annually, somewhat less than population growth. Altogether, these data (if close to correct) force the conclusion that food crop production has grown less rapidly than population for the period beginning with 1987 and concluding with 1997.

2.16 The bright spot is export crops. As discussed in Chapter 4, the data indicate an unambiguous increase in agroexport production considerably in excess of population growth from the mid-1980s to 1995. (See Table 4.2.) This supply response is clearly a consequence of the trade and other reforms that the government carried out in the earlier part of the period.

2.17 In the aggregate, however, growth has been slow since the reforms got under way. According to government data, food crops account for about 55 percent of agricultural GDP; export crops add 8 percent; livestock products about another 30 percent; the remaining 7 percent distributes between hunting/gathering (6 percent) and forestry (1 percent).²³ So food crops largely “drive” agricultural production data. The official data for grains and livestock products indicate slow growth of agriculture in the past decade. This suggestion is consistent with FAO data, which estimate annual growth of aggregate agricultural output as 1 percent for the period 1986–96, and *Tanzania Agriculture, A Joint Study*, which implicitly found that agricultural production grew at 2 percent per year during 1986–91.

2.18 Some additional conclusions round out this historical picture. First, for most farmers the transition from traditional long-fallow, land-extensive, low-input subsistence agriculture to market-oriented production using substantial purchased inputs still lies in the future. The increase in agricultural production has resulted mainly (but not entirely) from cultivating additional land in traditional fashion, rather than increasing output per farmer through increased cultivation per farm, or increased yields or diversifying production.²⁴ Second, Tanzania is at an earlier stage than some African countries (Kenya, Zimbabwe) in building the institutions (markets, legal and regulatory framework, social and material infrastructure) needed to develop agriculture in a liberal, private-enterprise economy. Third, the kind of agriculture practiced in much of Tanzania has led to some land degradation, due to depletion of nutrients and organic matter plus deterioration of the physical structure of the soil. This destruction is marked in a few parts of the country; for example, the Ismani Valley in Iringa Region had been a prosperous maize-area but is now mostly “farmed out.” Similarly in part of Sukumaland, in the west, soil exhaustion is widespread because of earlier “soil-mining” by commercial farmers using tractors and oxen-traction.

23. See *Tanzania Agriculture, A Joint Study*, p. 1. The 30 percent share for livestock in 1989–91 was based on prices current at that time. In 1976 prices, “livestock was only 13 percent of agriculture GDP in 1989–91... This indicates a substantial shift in the price of livestock output relative to crops, which is hard to find evidence for.” (fn. 5)

24 Table 4.2 showing production of food crops since 1980 implies little increase in output per farmer over the period 1980-95. The amount of land cultivated per farmer has remained roughly constant since independence. See *Tanzania Agriculture, A Joint Study by the Government of Tanzania and the World Bank, 1994*, pp. 18-24.

3. Bank Lending Experience

*Deficiencies in skills and staffing have been a problem in almost every Bank project in Tanzania.*²⁵

Introduction

3.1 Projects combine capital investment, policy adjustment, and institution building. Good performance may require that all three interact successfully. But in any given project, the emphasis usually lies with one of the three. Thus, in Tanzania up to 1986, with the important exception of the area development projects, Bank projects in agriculture were investment-oriented. Although they often included substantial institution-building components, they did not stress the need to develop institutions. Capital formation was seen as the key to growth. Investment, that is capital formation, was to make possible targeted increases in production. There was little concern about the impact of the policy regime in these projects. But starting in 1986, the thrust of Bank lending changed to support policy reform. The policy operation geared directly toward agriculture was the Agricultural Sector Adjustment Operation (approved by the Board in FY90). The corresponding IDA credits for US\$227 million accounted for 22 percent of all Bank/IDA lending for Tanzanian agriculture from inception through 1997. Since FY89, all other new Bank-supported agricultural projects are best described as institution building. Both commodity-production and area-development projects have disappeared from the Bank's Tanzanian portfolio. Table 3.1 presents the basic project statistics partitioned according to this historical evolution.

Investment and Area Development Projects

3.2 By FY82, the Board had approved 24 agricultural projects. Thereafter, the Bank ceased new agricultural lending for six years, except for a small technical assistance project in FY84. In FY88 and 89, two additional investment projects were approved: a cashew and coconut project and a line of credit for investments by companies producing agricultural exports (Table 3.1). The grand total of 26 investment projects partitions into 16 commodity-specific projects,²⁶ six area-development projects (three with a single-crop concentration), three lines of credit, and a grain storage project. Most of the projects were overwhelmingly oriented to smallholders who were to expand their production of targeted crops. Because they promised to increase the incomes of smallholders, who account for about three quarters of the poor in Tanzania, they were *anti-poverty projects as well*.

25. "World Bank/Tanzania Relations" (1990), vol. I, p. 119.

26. The two forestry projects were commercial, designed to produce saw and pulp wood.

Table 3.1: World Bank Agricultural Projects 1965-97, Basic Data (values in millions of dollars)

Project Name	Subsector	L/C Number	Approval	Closing	Financing in US\$ ^a		Rating ^b
					Nominal	1990	
Investment and Area Development							
Agric. Credit	Credit/Finance	C00800	23-Nov-65	30-Jun-71	5.0	22.0	—
Livestock Dev.	Livestock	C01320	22-Oct-68	31-Dec-73	1.3	4.7	Unsat.
Flue-Cured Tobacco	Tobacco/Resettlement	C02170	06-Oct-70	30-Dec-77	9.0	26.4	Sat.
Smallholder Tea Dev.	Perennial Crops	C02870	29-Feb-72	31-Dec-80	10.8	28.4	Sat.
Second Livestock Dev.	Livestock	C03821	24-Apr-73	31-Dec-80	18.5	43.4	Unsat.
Geita Cotton	Area Development	C04540	08-Jan-74	31-Dec-82	17.5	36.2	Unsat.
Cashew Nut Dev.	Agric. Ind. & Proc.	L10140	21-May-74	31-Dec-81	21.0	43.1	Unsat.
Kigoma Rural Dev.	Area Development	C05080	06-Aug-74	31-Dec-83	10.0	19.2	Unsat.
Kilombero Sugar Dev.	Perennial Crops	C05130	05-Sep-74	31-Dec-79	18.0	34.6	Unsat.
Dairy Dev.	Livestock	C05800	01-Jul-75	30-Apr-81	10.0	15.7	Unsat.
Nat. Maize Dev.	Area Development	C06060	23-Dec-75	31-Dec-82	18.0	25.8	Unsat.
Fisheries Dev.	Fisheries	C06520	01-Jul-76	31-Dec-81	9.0	7.1	Unsat.
Forestry Dev. at Sao Hill.	Forestry	L13070	01-Jul-76	30-Jun-82	7.0	10.6	Sat.
Tobacco Processing	Agric. Ind. & Proc.	C06580	07-Sep-76	31-Dec-81	8.0	12.7	Unsat.
Tabora Rural Development.	Area Development	C07030	26-Apr-77	30-Jun-83	7.2	7.1	Unsat.
Mwanza-Shinyanga Rural Dev.	Area Development	C08030	16-May-78	31-Dec-84	12.0	13.5	Unsat.
Tobacco Handling	Agric. Ind. & Proc.	C08020	16-May-78	30-Apr-83	14.0	9.6	Unsat.
Second Cashew Nut	Perennial Crops	C08010	16-May-78	30-Jun-89	27.5	37.9	Unsat.
Tanzania Rural Dev. Bank	Credit/Finance	C09870	04-Mar-80	31-Dec-86	10.0	9.5	Unsat.
Pyrethrum	Area Development	C10070	17-Apr-80	31-Dec-85	10.0	7.2	Unsat.
Grain Storage & Milling	Agric. Ind. & Proc.	C10150	06-May-80	30-Jun-92	43.0	61.2	Unsat.
Smallholder Tea Consolidation	Perennial Crops	C10370	03-Jun-80	31-Dec-88	14.0	19.1	Sat.
Coconut Pilot	Perennial Crops	C10700	07-Oct-80	31-Mar-89	6.8	9.7	Sat.
Sao Hill Forestry	Forestry	C12290	13-Apr-82	31-Dec-90	12.0	12.7	Sat.
Agric. Exports Rehabilitation.	Agro-industry	C18910	29-Mar-88	30-Jun-96	30.0	32.4	Unsat
Cashew & Coconut Tree Crops	Perennial Crops	C20500	27-Jun-89	30-Jun-96	25.1	25.6	Sat
Financing					374.7	575.4	28% Sat.
Adjustment							
Export Rehabilitation Program	Agric. SECAL	C11330	21-Apr-81	31-Mar-83	50.00	71.7	Unsat.
Fourth Technical Assistance	Technical Assistance	C15240	16-Oct-84	30-Jun-89	10.0	12.1	Sat.
Agricultural Adjustment Credit	Agric. SECAL	C21160	29-Mar-90	30-Jun-94	200.0	200.0	Sat.
Agricultural Adjustment	Agric. SECAL	C21161	13-Dec-90	19-Dec-91	16.1	15.8	Sat.
Agricultural Adjustment	Agric. SECAL	C21162	26-Nov-91	29-Jan-93	11.3	10.9	Sat.
Financing					287.4	310.5	80% Sat.
Institutional Development							
Third Technical Assistance	Technical Assistance	C12060	02-Sep-82	30-Jun-87	12.0	16.7	Sat.
Nat. Agric. & Livestock Research	Research & Extension	C19700	13-Dec-88	31-Mar-97	8.3	8.7	—
N. Agric. & Livestock Extens. Rehab.	Research & Extension	C19940	21-Mar-89	31-Mar-97	18.4	19.3	—
Forest Resource Management.	Forestry	C23350	11-Feb-92	30-Jun-98	18.3	17.9	—
Agric. Sector Management	Technical Assistance	C25370	20-Jul-93	30-Jun-99	24.5	23.2	—
Nat'l Agric. Extension, Phase II	Research & Extension	C28990	11-Jul-96	31-Dec-01	31.1	27.6	—
River Basin Mgt. & Smallholder Irr.	Irrigation	C29000	11-Jul-96	31-Dec-02	26.3	23.3	—
Lake Victoria Environment	Environment	C29080	30-Jul-96	31-Dec-02	10.1	9.0	—
Agricultural Research Phase II	Research and Extension	C30360	29-Jan-98	30-Jun-03	21.8	19.0	—
Financing					149.0	164.7	
Total Financing					811.1	1050.6	
Bank-Supervised IFAD Projects							
Southern Highlands II	Extension/Finance						
Zanzibar Smallholder Support							
Mara Extension	Extension						

— Not applicable.

a. Financing is defined as disbursements for completed projects and commitments for ongoing projects.

b. OED rating of satisfactory or unsatisfactory outcomes for completed projects.

3.3 Of the 25 investment projects rated by OED, 7 (28 percent) had satisfactory outcomes.²⁷ Why was failure the rule? The majority of the unsatisfactory projects were poorly designed. The three general regional development projects, were weak because of unfeasible technical packages. For all projects as a group, production projections often greatly overestimated the amount of land that farmers *could* cultivate, given their resources and technology. *De facto* pilot projects went to the Board as full-fledged undertakings. Early warnings of design shortcomings by Bank technical staff and by cofinanciers were ignored. Often there was little involvement of Tanzanian staff in project preparation and appraisal. Pricing issues were often a factor. When administered pricing discouraged production, project pricing covenants were generally not enforced. The pressure on task managers for quick preparation based, *faute de mieux*, on weak underlying agronomic, research, and farmer-behavioral data also contributed to weak designs. In contrast, the few successful projects (forestry and tea) were distinguished by careful preparation.²⁸

3.4 Had project designs been compatible with good practice as then defined, satisfactory outcomes would have been more frequent. But the institutional problems built into these projects made them unsustainable. These included high complexity, weak management and worker incentives, political control, and in some cases corruption. Frequently there was little effort to ascertain the degree of support for them from stakeholders. The destructive impact of economic policy was often ignored. Above all, many of the projects depended heavily on adequate performance of processing and marketing parastatals for success. Nearly all such parastatals had chronic deficits, notwithstanding many efforts to reduce them.²⁹ The rate of return calculations done at completion for 18 projects found that two-thirds of the 18 had negative rates of return; only two had returns exceeding 10 percent.³⁰

3.5 There are some success stories. The first tea project (completed in 1979) succeeded in that smallholders planted 5,711 hectares of tea. This land has remained in production and may have led small farmers to increase tea acreage elsewhere in Tanzania. The Sao Hill Forest projects (second project completed in 1990) have created on poorly drained land with little crop potential a forest of more than 20,000 hectares that is now being exploited. Some substantial loans for tea and flower production in the line of credit of the Agricultural Exports Rehabilitation Project have been used to expand production and are being repaid.³¹

27. The first project, Agricultural Credit, was completed in 1971, before the OED existed.

28. "World Bank/Tanzania Relations" (1990), vol. II, pp. 32-44.

29. Several sources provide the evidence for these conclusions. For an excellent assessment of parastatal maladministration in the rural areas as well as the costs of other institutional weaknesses (mismanagement, political control, worker incentives) see Michael Lofchie, *The Policy Factor: Agricultural Performance in Kenya and Tanzania* (1989), chapter 5, "Tanzania: Policy-Induced Agrarian Decline." On the Bank's failure to pursue good practice (non-concern with stakeholder participation, unconcern with economic policy, etc) see "World Bank/Tanzania Relations: (1990), vol. II, pp. 27-40. For a statement concerning the risk increasing effects of complexity see *OED Evaluation Results*, (1997), vol. I, p. 43.

30. "World Bank/Tanzania Relations" (1990), vol. II, para. 8.59 and p. 32. The same study reviewed 23 of the first 25 projects and concluded that "the sustainability of almost all of these projects is either unlikely or in doubt."

31. Flue-Cured Tobacco was rated satisfactory, although it succeeded because the smallholders resettled on good land and produced maize rather than tobacco. The Cashew and Coconut Tree Crops Project was rated marginally satisfactory following an OED performance audit.

Policy Adjustment

3.6 In 1986, the formal structural adjustment program started with trade liberalization and exchange rate adjustment. But not until 1993 was the *de jure* monopoly status of the export-crop marketing boards (cotton, coffee, cashews) entirely eliminated and private traders encouraged to compete with the boards. The Bank played a key financial and advisory role in this process, along with the International Monetary Fund (IMF) and some of the bilateral donors. The Bank also led in formulating the agricultural reform program and in financing technical assistance for a large number of supporting studies.

3.7 An early attempt to support agricultural recovery failed. In lieu of a general structural adjustment operation, which the government rejected, the IDA *Export Rehabilitation Project* (US\$50 million, implementation FY81–83) aimed to reverse declining agricultural exports by financing producer goods for an input-starved agricultural sector. Bilateral donors and the government were to contribute another US\$130 million. Before credit effectiveness the government abolished taxes on coffee, sisal, and tobacco. It was also to reduce the cost of the marketing boards and take other measures to stimulate export production. OED rated the outcome unsatisfactory. Aggregate export earnings, mostly agricultural, declined from US\$563 million in 1981, to US\$413 million in 1982 and to US\$359 million in 1983. Since the project did not address fundamental policy and institutional shortcomings,³² failure was inevitable. Failure helped trigger what had been long discussed within the Bank, cessation of lending for agriculture, which continued until the adjustment program was in full swing.

3.8 The Tanzania Agricultural Adjustment Credit (TANAA), approved in FY90, was successful. Preparation was highly intensive in use of staff resources and technical assistance. Fourteen studies were undertaken while the FAO, Norway, Netherlands, United Kingdom, Germany, and Sweden financed additional technical support that supplemented the basic program of support to the ministry of agriculture's statistics and policy analysis units under the World Bank's fourth technical assistance credit.³³ In the two years before the credit became effective, four World Bank missions to Tanzania identified and finalized the policy reform package.³⁴ Five supervision missions took place between August 1990 and November 1991. Fifteen months after effectiveness, implementation delays prompted intensive supervision of the project's progress by the resident mission on nearly a weekly basis.³⁵

3.9 The Development Policy Letter integral to the credit promised to liberalize marketing and processing for export crops. In large degree these goals have been achieved. The fledgling institutions that have resulted are more effective in supporting production of these crops than

32. During the early 1980s, imported goods became very scarce in rural Tanzania, greatly reducing the value of money to farmers. Payment to farmers for export crops was often uncertain, and their prices were low compared to prices for food crops. Deteriorating roads, transport, and processing also contributed to poor performance.

33. The government's comments on the TANAA Project Completion Report (PCR) stress both the importance of the support to these functions and its unsustainability: "By the time TANAA became effective, these sections (organizational units) were already a subject of long term TA [technical assistance] international support of more than 15 years... costing over US\$20 million. The formulation of the Agricultural Sector Management Project now under implementation confirms the unsustainability of these previous institutional support programmes." See the PCR, Part II: Project Review from the Borrower's Perspective, page 17.

34. PCR, para. 5.1.

35. PCR, para. 8.1.

public monopolies. Production and exports of cotton and cashews have dramatically increased from their low points in the 1980s, while farmer-producers of both crops have received an impressively larger share of their FOB prices. The credit also helped: (i) convert the National Milling Company from a monopoly parastatal into a private company in a competitive food grains sector; (ii) start the withdrawal of parastatals from agricultural production; (iii) introduce competition in the supply of seeds and fertilizer; (iv) rationalize and substantially reduce the number of agricultural projects; and (v) provide additional support for agricultural policy analysis and project management.

3.10 Basic institutional and policy problems remain, however. Questions about whether the nation and the coffee industry are best served by requiring that all coffee be sold at the coffee auction led to a workshop in December 1997 to review the coffee marketing strategy. The implementation of the “action plan satisfactory to the Association for the utilization, rental, or sale of Tanzanian Cashew Nut Marketing Board’s cashew processing plants,” (a condition of second tranche release of TANAA)³⁶ never took place. The Letter of Development Policy foresaw that all three marketing boards (cashews, coffee, and cotton) would “stop the actual purchase of crops.”³⁷ But the legislation that eliminated the three marketing boards’ monopolies in handling export crops, also permits the boards to compete with traders.³⁸ This conflict of interest—the boards are both regulators and competitors of those that they regulate—has reduced marketing efficiency and may be a serious problem.³⁹

3.11 Experience following TANAA completion also shows that a successful structural adjustment operation may be only the first step toward efficient markets. Tanzania is still in the early stages of building agricultural commodity and input markets. For coffee, cotton, and maize the supply of inputs is not well developed. Tanzania is far from its “production frontier,” in that farmers have knowledge of productive techniques using purchased inputs but because of difficulties in dealing with risk, financing constraints, input supply, and other problems, they do not use these technologies in ongoing production. Poorly performing markets may be among the most serious constraints on agricultural growth in Tanzania today.

3.12 Performance with respect to TANAA tells a small part of the adjustment story as it affects agriculture. Exchange rate adjustment, trade and general price liberalization, escape from parastatals, public expenditure and tax reform, have all contributed to arresting the alarming agricultural contraction of the late 1970s and early 1980s. The Bank’s role in supporting this sea change was fundamental and sustained. The government has been deeply committed. (Outcomes of three of the four completed adjustment credits approved after 1985 had satisfactory outcomes.) Applying OED’s evaluation criteria (relevance, efficacy, and efficiency as measured by export performance) leads to the conclusion that the reform programs have been highly satisfactory.

3.13 We can also reach some definite conclusions about the impact (efficiency) of these programs. Table 4.2 in Chapter 4 tells a story of reversing export crop contraction following the

36. See Schedule 3 of the Credit Agreement for the Agricultural Adjustment Credit.

37. Letter of Development Policy (p. 8) as annexed to the Report of the President.

38. “Special Bill No. 2” of July 1993. See the PCR, para. 5.7.

39. Kakonen, Satu and Howard Leathers (1997) “Is There Life After Liberalization? Marketing of Maize and Cotton in Zambia and Tanzania,” preliminary draft.

reforms of the mid-1980s. All the traditional export crops, sisal excepted,⁴⁰ either maintained production in line with population growth between 1986–87 and 1994–95 or substantially increased it. This took place even though world prices were not higher in the latter two year period (1994–95) than the former (1986–87). Yet producer prices as a share of the FOB prices were unambiguously higher in the latter period, in some cases, such as cashew nuts, dramatically so. (For price data by crop, see Annex B.) This dramatic recovery and expansion in the volumes of export crops was made possible by the various reforms, with respect to both international trade and to the organization of local processing and marketing. As suggested by the material in the preceding paragraphs, the Bank significantly contributed to the development and support of these structural reforms.

Agricultural Institution-Building Projects

3.14 The six ongoing institutional development projects cover agricultural research, extension, management of the environment (river basins, forestry, conservation of Lake Victoria), and basic reform and capacity building of the central agricultural ministry. In 1997, these projects constituted the Bank's portfolio in agriculture, accounting for 11 percent of total IDA commitments to Tanzania of US\$1.3 billion in 21 projects.⁴¹ Annex A discusses several of these projects in detail. Findings are recapitulated below.

3.15 Notwithstanding the support of the *Agricultural Sector Management Project (ASMP)*, the generation of agricultural statistics and the way the Bank uses them remain an issue. (See Chapter 4.) Moreover, the government is moving slowly on phasing out ministerial functions that are best left to the private sector. In 1996, the Ministry of Agriculture still had a department to deliver curative veterinary services and another department to deliver agricultural mechanization services. Similarly, the divestiture of state farms and other agricultural parastatals has been slow, although progress here requires actions at a higher level of authority than the Ministry of Agriculture. (See Annex A, section on Institution Building Projects.) *It may make sense to do an activity analysis of the Ministry of Agriculture's divestiture portfolio (functional and parastatal) and to prioritize divestitures. Within the context of supervision of the ASMP, future work could aim to set up divestiture targets according to payoff in growth and feasibility of rapid divestiture.*

3.16 There has been substantial progress in the Forest Resources Management Project on land tenure issues and village afforestation. Although these are not immediate project objectives, destruction of forest in the project's two regions by encroaching farmers, and by saw-wood and charcoal producers continues. Similarly, collection of forest revenues in the project area is less than 10 percent of what full collection would be. One issue in this project is the degree to which these negative effects have been reduced because of the forest services that the project has helped put in place.

3.17 The impact of agricultural extension projects has been a continuing issue within the Bank, as well as within Tanzania. One big problem has been untangling the effects of extension from other effects on growth, such as the impact of policy liberalization. Strong monitoring during project implementation would reduce some of the uncertainty concerning extension impact. In the past, monitoring objectives have been inputs-oriented: number of contacts with farmers, for

40. Because of competing substitute production, the sisal industry has been contracting worldwide since the 1960s.

41. Total commitments data from *Country Portfolio Management Paper*, FY97, para 3.

example. The National Agricultural Extension Project, Phase 2 (NAEPII), in its first supervision report, provides substantial information on project inputs (for example, regularly contacted farmer groups [70,359], procurement progress, disbursement, staff training provided).⁴² *Making an organization independent of the government responsible for the evaluation foreseen under NAEPII might lead to substantial improvements.*

3.18 As foreseen in NAEPII, many extension officers are integrated into donor/NGO supported rural development projects, including those of church groups and the private sector. The rural development projects of Gesellschaft für Technische Zusammenarbeit (GTZ) usually involve extension officers who receive training financed by the organization. At its zenith, the Sasakawa Global 2000 maize development program was using hundreds of extension officers to get its message across. These officers received training and material support from Sasakawa. The Dutch Dairy Project uses extension officers to work with livestock owners in about 17 villages.⁴³ The Swedish International Development Agency runs a Land Management Program, that involves terracing and other soil conservation activity. It provides training and vehicles for extensionists who advise farmers on conservation practices. In Tabora, tobacco companies provide advice on food crops. There are also examples of supplementary payments to extension officers. In Lushoto, farmers have paid knowledgeable extension officers a cash supplement to their government salary for advice on building terraces. Similar practices occur in demonstrating fruit-tree grafting or veterinary techniques. In the Southern Highlands at least one extension officer, knowledgeable about coffee cultivation techniques, was hired by a group of farmers on condition that he keep regular hours and be available as needed for consultation.⁴⁴

3.19 In sum, donors, NGOs, and the farmers themselves combine resources to enhance extension delivery in many ways. It is not known how pervasive these practices are, including the amount spent on training, material support, and increased supervision by NGOs and donors. Nor is it known to what degree they greatly enhance the performance of the extension services. To the degree that government extension services are “activated” through complementary resources, the question of the usefulness of extension takes on a different character. Perhaps it is time to see the extension service as an instrument that becomes far more effective to the degree that it supports rural development initiatives along with classic civil service extension operations.⁴⁵ This would be consistent with the new approaches to extension that emphasize cost sharing and participation by farmers, NGOs, and presumably donors in providing extension services.⁴⁶ Tanzania’s “National Workshop on Alternative Mechanisms for Funding and Delivering Agricultural Extension Services,” (Arusha, December 10–12, 1997) made a strong pitch for such approaches. As one speaker put it, “The issue was not whether extension should be privatized but rather how other extension providers could complement government efforts in funding extension services.”⁴⁷ As discussed above, along with the question of funding, the role of the different kinds of local and

42. Supervision report, February 25, 1997, Annex 4.

43. Aide-Memoire of the IDA Review Mission of NAEPII, December 1996.

44. Various interviews in December 1996 and November-December 1997.

45. The participatory rural development initiative in Uganda, initiated in August 1997, now covers 250 communities and uses extension services to help these communities to identify their needs in agriculture, health, education, and infrastructure and makes local governments responsible for responding to these needs.

46. *Staff Appraisal Report, National Agricultural Extension Project, Phase II*, paras. 1.3 and 2.5.

47. Dr. Mattee, Lecturer at Sokoine University of Agriculture.

international NGOs in undertaking innovative partnerships with the extension services is of great interest. *An in-country discussion of extension enhancement practices appears desirable. This would include assessment of their effectiveness, the degree to which they co-opt field extension officers, and their potential. The discussion could also consider the desirability of making an inventory of such practices.*

3.20 The Bank can improve its record in assessing the experience of partnership organizations in supporting agriculture. This may be an important issue as the financial impact of other donors dwarfs that of the Bank: in 1996, the combined disbursement of all aid donors for agriculture, forestry, and area development was US\$119 million⁴⁸—more than six times Bank disbursements for the same categories. So there are probably some lessons to be learned from the experience of others that could make the Bank more effective. For example, a quarter of the production plots (mostly maize, Tanzania's basic staple, grown predominantly by women) of the Sasakawa 2000 program were reserved for women. It would be worthwhile to compare their experience with that of the male-managed plots. *More than in the past, during preparation, future Bank-financed projects could consider the experience of others who have undertaken similar activities.* It is noteworthy that the proposed rural Financial Services Project is already following this suggestion in using a highly participatory preparation approach involving more than a dozen donor agencies and investigating pertinent experiences of NGOs and others.⁴⁹

Gender Issues in IDA Supported Agricultural Projects

3.21 In principle, Tanzania's "national conventions" enacted during the 1970s and 1980s have largely redressed the unequal traditional status and position of women in Tanzania. Legislation is on the books eliminating all forms of discrimination against women; guaranteeing them equal political rights; prohibiting discrimination in education, employment, and occupation. Practice departs widely from the conventions. Most women continue to live within the traditional economic and social roles that penalize them in many ways. For example, rural women are still predominantly engaged in food crop production, but generally cannot inherit land. Although women spend many hours a week transporting head loads, "modern" means of transport such as bicycles, oxcarts, and wheelbarrows are largely viewed as the prerogative of men. Education is less accessible. Information, such as comes from the agricultural extension agents, most of whom are male, is filtered through the husband and household head.

3.22 The Bank provided major assistance in the development of Tanzania's Gender Action Plan, and is now supporting its implementation. This involves developing a gender-NGO advisory group, which has led to participation by gender specialists in supervision missions of agricultural projects. Gender concerns are also part of all Bank-supported agricultural service projects (extension, research, smallholder irrigation, afforestation). For example, extension messages are formulated that take women's concerns into account as has been done with the design of an oxen plow prototype specifically for women users. The Bank is also working on a gender profile for Tanzania which will include a chapter on gender analysis for IDA projects. The profile will attempt to gauge the impact of IDA projects on women. The agricultural service projects are expected to score highly on this scale.

48. UNDP Tanzania, 1997, *Development Cooperation Report for 1996*, Table A-1.

49. Back-to-Office Report, Thompson to Adams, October 16, 1997.

4. Bank Non-lending Services

*The 1983 Agricultural Sector Report suggested that the appropriate development strategy for Tanzania was one in which agriculture would be the leading sector with highest priority in foreign exchange and budgetary resources.*⁵⁰

4.1 This chapter addresses problems with agricultural data; the question of a strategy for agriculture that strongly responds to agriculture's prominence as the sector of the poor; and the Bank's efforts to develop agricultural lending that responds to the shift to market-centered development.

Agricultural Sector Work Past: The Big Three

4.2 By 1974, Robert McNamara's burgeoning Bank had become a champion of Tanzania's African socialism. In his Nairobi speech (1973), he declared that the "decade of rapid growth [the 1960s] has been accompanied by greater maldistribution of income in many developing countries, and the problem is most severe in the countryside. . . . The growth is not equitably reaching the poor, and the poor are not significantly contributing to growth." Thereafter, the Bank was to push lending that increased the welfare of the poorest, with special attention to subsistence agriculture.⁵¹ Meanwhile, the agricultural sector report of 1974, reacting to stagnation in marketed production, emphasized measures to increase crop prices and improved input supply. The report also proposed a "temporary halt" to villagization to reduce its negative impact on planted acreage and yields. The report ignored macroeconomic policy, but was critical of large regional, multisectoral projects such as the Kigoma Rural Integrated Development Project (RIDEP). Bank management took a different tack. The Management Review of the sector report in October 1974 reaffirmed strong support to the Kigoma project in particular and RIDEPs in general. (Later, all six Tanzanian RIDEPs had unsatisfactory outcomes. See Table 3.1) This staff/management conflict over Tanzanian agricultural strategy was to persist for a decade.

4.3 The year 1983 brought a sea change in Bank policy toward Tanzania. The new Agricultural Sector Report rejected Tanzania's *dirigiste* development strategy and the Bank's role in supporting it. Rather, it advocated improving incentives, including a large exchange rate adjustment to increase producer prices. It argued for liberalizing input and output markets. It stressed the need to adjust donor programs. The 1983 analysis was also a persuasive tool in the Bank's heated internal discussion. Selectivity rather than client-responsiveness finally carried the day. The government did not respond favorably to the proposals, and the Bank stopped agricultural lending for six years (1982–83).

4.4 In 1992, work started on the first agricultural sector analysis after the paradigm shift. The result was an impressive, encyclopedic analysis of Tanzania's agriculture. The product was both a reference book and a checklist for action based on economic diagnosis of the many economic constraints on agricultural development. It was also a collaborative undertaking, with substantial

50. "World Bank/Tanzania Relations" (1990), vol. I, para. 6.13.

51. *Op. cit.*, vol. I, pp. 40–41.

participation by academics and civil servants. There has been no follow-on agrosector work to these three reports, each in its own way a work of quality that had substantial influence on the Bank's course in Tanzania. Work to understand the basic constraints on agricultural growth in the post-reform period is only now (1998) beginning.

Agriculture in the Country Assistance Strategy

4.5 The Country Assistance Strategy of 1997 would have been better had it given priority attention to increasing exports as a key problem. First, Tanzania's economy is highly distorted. Exports (merchandise and services) cover only half of imports. Foreign aid accounts for the other half. The debt service that results from aid and slowly decreasing new aid flows could mean negative official capital flows in the near term. So the country already has a large export deficit.⁵² Second, a rapid rate of GDP growth (6 percent per year is the target in the CAS) implies a more rapid rate of export growth to finance increased consumption of import goods, plus growth of industry and other sectors that require increased flows of imported capital goods, intermediate goods, and raw materials. The primary sources of new exports are expected to be investment in mining, tourism, and agriculture. The CAS gives no indication whether likely increases in these three sectors can cover the increased foreign exchange needed if GDP grows at 6 percent, and agriculture at 5 percent annually.

4.6 Given Tanzania's surplus in arable land, its agrarian economy, and skills profile, comparative advantage still lies with agriculture. Measures that increase agroexports will have high payoff. Moreover, agriculture probably needs export as much as exports need agriculture. Even strong production response to increasing demand of the non-agricultural economy for foodstuffs including higher-value meat, fruit, vegetable, and dairy products (all with income elasticities exceeding unity) implied by the overall 6 percent growth scenario may be unlikely to lead to agricultural growth at 5 percent. Louis Putterman's "saturated domestic market," of the early 1990s⁵³ might be a consequence of attempting to achieve inward-oriented 5 percent growth in agriculture. Promoting agricultural exports would be a short-run way out of any low-growth "trap." (The CAS does not address the question of the compatibility and feasibility of say the implicit 8 percent (?) growth of the non-agricultural economy and of 5 percent growth for agriculture.)

4.7 A second reason for pushing agricultural exports is their potential for reducing poverty. This follows, first, as the CAS points out, because in Tanzania over 90 percent of the poor are rural and, as the CAS does not point out, more than half of all small farmers are poor.⁵⁴ Hence, rapid broad-based agricultural development, including that of agricultural exports (mostly produced by smallholders) is the quickest way to raise the real income of a large number of poor people. Historically the most dramatic growth of farm incomes has come from introduction of new crops, such as tree crops, that increased incomes per hectare and per farmer. More exports is

52. Exports of goods and services in 1995 are given in US dollars *per caput* in parenthesis for the countries selected: Malawi (43), Tanzania (42), Uganda (33), Kenya (111), Zambia (167), Zimbabwe (215), China (127). Source: World Bank (1997) *World Development Report 1997*, World Development Indicator tables, *passim*.

53. Putterman, Louis, 1995, "Economic Reform and Smallholder Agriculture in Tanzania: A Discussion of Recent Market Liberalization, Road Rehabilitation, and Technology Dissemination Efforts," *World Development* 23(2):321.

54. World Bank, (1996) Tanzania, *The Challenge of Reforms: Growth, Incomes and Welfare*, Report No. 14982-TA, vol. I, para. 4.

not a panacea, however. Agriculture in the arid parts of Tanzania, which are also the poorest parts of the country, is unlikely to develop rapidly.

4.8 More agroexports would be felicitous for a third reason. Rapid growth of agricultural exports would not only directly increase farm incomes, but in providing additional cash income that is somewhat independent of income from food crops, farmer income risk would be reduced and food security enhanced. The CAS does make poverty alleviation a matter of the highest priority. It should also have given agricultural development very high priority as the primary means to achieve it.

4.9 In less than a page, the CAS describes the overall government development strategy. Annual growth of 6 percent “requires” that agriculture grow at 5 percent per year. The means are “the application of yield enhancing biological inputs, together with some increase in cultivated acreage” (CAS paragraph 32). This is supplemented by the annexed “CAS Framework for the Country Program.” Agriculturally speaking, the framework consists of “farmer-driven research and extension; land policy to enhance access; road building; expansion of small and medium scale irrigation; rural electrification in areas with growth potential; expansion of agro-processing and agri-business.” “Goal-II” (anti-poverty measures) stresses “land-tenure rights for women; develop rural credit schemes; develop rural roads; address input shortage problems” by deregulation and enhanced private sector participation. There is not much on how these goals are to be achieved (what role for the public sector and how to induce the private sector to perform?) or whether they address the key agricultural growth constraints. So, the CAS does not provide a statement of what an agricultural strategy for Tanzania should entail. Instead the CAS promises a rural economy study that will address many of these issues.

The Challenge of Reforms

4.10 The Bank’s most significant recent piece of economic and sector work bearing on agriculture in Tanzania has been *The Challenge of Reforms*, published in May 1996. A general country study, with substantial government participation, it presents a good statement of recent growth performance and of current growth constraints across the major sectors. It also presents the main elements of a general development strategy, heavily but not exclusively based on two pillars: getting the macroeconomic house in order and poverty alleviation. It provides a wealth of valuable analysis concerning issues particularly pertinent to the Bank’s mission (poverty alleviation, gender equality, macroeconomic balance, safety nets) based on sample surveys and other materials.⁵⁵ Unlike the country economic memoranda of a decade ago, its focus is not growth of national production, but human welfare, although it combines the two themes.

4.11 *The Challenge of Reforms* would have been even better had the donors participated at the outset as well as during the dissemination process. A chapter on major donor-supported undertakings on the basic themes of the study (inequality and poverty, food security, gender issues, the social sectors, support of governance, regulatory reforms) would have been worthwhile. In 1996, external assistance to Tanzania came to US\$906 million, almost a quarter of GDP.⁵⁶ Of this, 80 percent was development-oriented, that is, for investments and technical

55. Although not mentioned in the report, one of the relationships falling out of the sample survey work is the extremely high income elasticity of demand for rice, and vice versa for maize. At current relative prices, rapid, broad-based growth in Tanzania will bring a massive increase in rice consumption. See vol. II, p. 16 of the report.

56. *The Challenge of Reforms* estimated GDP at US\$3,576 million for 1994.

cooperation that accounted for most of the central government's development budget. The World Bank accounted for US\$156 million, a sixth of the total.⁵⁷ Bank management, Bank staff, the donor community, the government, all audiences of such reports, could be better informed about the uses and effects of the remaining five sixths. Starting to include the "donor story" would enhance the value of general country reports that are formally joint World Bank/government products.

4.12 Chapter 4, *Food Security and Nutrition*, would have been even better had it come down in depth and clarity on the importance of poverty as the main cause of malnutrition. Chapter 3, *Incomes, Inequality and Poverty*, presents some key data that could have been used to inform Chapter 4 on this point.⁵⁸ Food security and poverty are very strongly linked: usually (not always) the best way to eliminate protein-energy malnutrition is to eliminate poverty. And in Tanzania at this stage in its development, the best way to eliminate poverty is to develop agriculture. Analysis that links malnutrition to poverty also makes poverty a more intuitive concept. What proportion of the poor, those living on less than a dollar a day, are also malnourished? Chapters 3 and 4 missed an opportunity for some synergistic integration.

Statistics: Measuring Agricultural Growth

*The development of an adequate information base is essential to any discussion of sensitive issues. The Bank simply cannot afford to let the discussion founder on disagreements over the basic data.*⁵⁹

4.13 By the end of the 1970s, Bank agricultural staff lost faith in Tanzania's development model. Implementing socialism was apparently reducing agricultural production. Yet they were hard-pressed to make a case for basic reform, because the information to quantify the decline was not there.⁶⁰ Supported by several donors, government disputed the gravity of the situation and continued committed to the socialism strategy. Reform was delayed and the advice ignored.

4.14 Poor data also slowed the Bank's decision to reverse its "pro-lending bias." With better data, the issue of continuing lending for agriculture could have been resolved sooner.⁶¹ As stated

57. UNDP, *Tanzania Development Co-operation Report for 1996*, October 1997, pp. 22 and 25.

58. Sample survey data found that in 1993, 68 percent of all household expenditure in Tanzania was for food, two thirds of it on low-cost foods such as grains, pulses, and tubers. Food expenditure by households in the poorest quintile was 27 percent of that of the highest quintile.

59. "World Bank/Tanzania Relations" (1990), vol. 1, para. 7.52.

60. Production data for maize and three other subsistence crops for the period 1965–78, as estimated by USDA, FAO, and URT, had stronger correlation with time than with each other. Lele, Uma and Wilfred Candler (1981), "Food Security: Some East African considerations," in *Food Security in Developing Countries*, Alberto Valdes, ed., Westview Press, Boulder Colorado, pp. 101–102.

61. Another factor contributing to the dispute was the poor working relationships between the Projects and Programs Divisions of the World Bank. "Macro and sector work were not integrated." "There was uncertainty within the Bank and disagreement until 1982 between Projects and Programs Division over the integrity of the data on Tanzania. . . . Information on key indicators for agricultural production and the sector's contribution to GDP was weak, with little analysis of production trends and upward adjustment of official figures accepted without question [by the Programs Division]. This lack of reliable data is noted despite considerable Bank support for the Marketing Development Bureau in the Ministry of Agriculture and for monitoring and evaluation in many Bank-supported projects." ("World Bank/Tanzania Relations" [1990], vol. II, paras. 2.44 and 2.47).

in OED's study of the Bank/Tanzania relationship, "the fragile data base on which most studies were done provided an opportunity [within the Bank] for attacking and rejecting those views and minimizing their impact on Bank strategy."⁶² Thus in the 1970s the Bank's official position was that subsistence production was growing 9 percent per year, despite protest by the agricultural projects division. Later, the Bank estimated growth of subsistence production for the period at half the presumed 9 percent annual rate.⁶³

4.15 The official agricultural statistics record a dramatic rise in per-head food crop production beginning in the 1970s up to the end of the 1980s.⁶⁴ This is explained as a response by farmers to changing relative prices of food and export crops that made food production more profitable. Some analysts have not accepted this position. In 1992, Rogier van den Brink concluded that production of food crops (grains, beans, and cassava) was overestimated for the period 1975–78. The presumed production increases were inconsistent with prices, prevalence of malnutrition, fertilizer consumption, trends in farm size, sample survey, and import data. He notes that a sample survey conducted in 1986/87 estimated maize production at 2.017 million tons, while the Ministry of Agriculture series estimated 2.359 million tons. He notes even larger discrepancies between the 86/87 survey and ministry data for other crops.⁶⁵ Van den Brink also reports on a World Bank/FAO mission in 1989 that found that the official data on food supply exceeded calorie requirements (2,300 calories per day) by 60 percent, not adjusting for the lower requirements of children. The same mission also reported that "50 percent of the children below the age of 5 years are underweight."⁶⁶ Van den Brink's conclusions were corroborated in a 1993/94 national survey for the ministry that found even greater discrepancy between official and survey data. The former gives total maize production as 2.159 million tons while the national survey comes up with 1.458 million tons.⁶⁷ (The Ministry of Agriculture has not revised its production series and still provides data that estimate *total* grain production increased on average by 6.5 percent per year from 1964–70 [average of 1.044 million tons per year] to 1987–90 (average of 4.008 million tons per year).⁶⁸

4.16 Recent aggregate series are also inconsistent.⁶⁹ Data published by the World Bank in *The Challenge of Reforms*, based on Tanzanian national accounts, estimate that agricultural GDP

62. "World Bank/Tanzania Relations" (1990), vol. I, para. 6.57.

63. "World Bank/Tanzania Relations" (1990), vol. II, para. 2.47.

64. This study does not attempt to diagnose why agricultural production statistics are weak. However, such data depend on rough, subjective estimation of acreage, yields, and production made by extension officers for their area of responsibility. The estimates that result are then forwarded to district officers who consolidate them, and forward them in turn to the regional level, where they are then forwarded to the central ministry in Dar es Salaam. According to one observer, "the District Agricultural and Development Officers usually fake data, particularly hectarages and yields." (FAO/CP report 96/87 CP-URT 27, dated July 27, 1987).

65. Van den Brink, Rogier, *A Review of Agricultural Statistics of Mainland Tanzania*, June 1992, para. 27.

66. Van den Brink, *ibid.*, para. 38–39.

67. URT, Statistics Unit, Ministry of Agriculture, National Sample Census of Agriculture 1993–94, Tanzania Mainland, vol. 3, April 1996, p. 13. Large-scale farms are excluded from the estimate, but they produced less than 50,000 tons of maize in 1993/94.

68. Timothy Banda (1998), *Tanzania Agricultural Sector Impact Study*, Special Study, Table 2.1.

69. "Tanzania Economic Report, Towards Sustainable Development in the 1990s," Report No. 9352.A, 1991, vol. II, p. 59 critiques agricultural growth for 1986 through 1988 and concludes that over the three years agriculture grew cumulatively not by 15.3 percent but by 7.1 percent.

increased cumulatively by 56 percent between 1985 and 1994, inclusive,⁷⁰ that is average growth per year over the period of 5 percent (Table 4.1). This series essentially extends that published in 1994 in *Tanzania Agriculture, A Joint Study by the Government of Tanzania and the World Bank* for the period 1985–92,⁷¹ which also averaged about 5 percent per year. But FAO tables based on production data furnished by the Ministry of Agriculture estimate the *cumulative* increase for agricultural production for the same period as only 6 percent,⁷² or almost no annual growth. The FAO data are expressed as an index and are consistent with those for grain production as estimated by the Ministry of Agriculture, which also reports stagnation in grain production since 1987. They are also compatible with the indices of grain and pulse production in *The Challenge of Reforms*, which unambiguously imply total stagnation for the combined grain/pulse series.⁷³

Table 4.1: Estimates of Agricultural Growth

	<i>Period</i>	<i>Percent cumulative</i>	<i>Percent annual average</i>
FAO Production Yearbook, agricultural production ^a	1986–96	112	1
World Bank Challenge of Reforms, agricultural GDP ^b	1987–94	148	5
Tanzania Agriculture, a Joint Study, agricultural production	1986–91		2
Tanzania Agriculture, a Joint Study, agricultural GDP	1985–92	147	5
Economic Report, Towards Sustainable Development ^c	1983–90	140	5
Two surveys compared, adjusted household incomes	1984–91	316	15
<i>Country Assistance Strategy, 1996</i> (para. 14)	1986–96		5
Population of Tanzania	1984–96		3

a. Index of agricultural production, base-year average of 1989–91.

b. Agricultural GDP at 1976 prices. Data were for the agricultural production year and were adjusted, e.g., production year 1988/89 appears as 1989 in the table. Nearly all harvest occurs in the second of the straddled production years.

c. World Bank Report, 1991, vol. 1, p. 10.

For complete references see footnotes to the text.

4.17 As also indicated in Table 4.1, none of these series is consistent with data from two surveys⁷⁴ that estimate that real rural household incomes tripled between 1983 and 1991. The 1983 Rural Household Survey covered 498 households in the rural areas of Kilimanjaro, Dodoma Iringa, and Ruvuma. Since the choice of regions in the earlier survey included the two poorest and the two wealthiest regions, the results could be close to the national averages. The 1991/92 survey covered 477 rural households throughout mainland Tanzania. Comparing the two surveys, rural adult equivalent incomes were estimated at T Sh 17,986 in 1983 (1991 prices) and T Sh 56,969 in 1991, an increase in real incomes of 317 percent.⁷⁵

70. Vol. I, p. 12, Table 1.5 and vol. II, Statistical annexes, p. 7 of *The Challenge of Reforms*.

71. Page 3.

72. *FAO Production Yearbook 1996*, vol. 50, Table 5.

73. *The Challenge of Reforms*, vol. I, Table 1.6, p. 1.6. The text of that report is not consistent with Table 1.6.

74. M. Luisa Ferreira, *Poverty and Inequality During Structural Adjustment in Rural Tanzania*, World Bank, Policy Research Working Paper 1641, August 1996, p. v and footnote 1, on p. iii.

75. In 1983 there was a general shortage of goods in the rural areas. Official exchange rate devaluation also took place during the period. Between the two surveys there may have been an extremely large shift in relative prices of both

4.18 *The Challenge of Reforms* also presents recent growth rates of agricultural production that are inconsistent. Although the report states that the growth rate was 5 percent during 1986–94,⁷⁶ examination of the crop data in the report indicates that agricultural production has been decreasing since the mid-1980s. Table 4.2, based on data from *The Challenge of Reforms*, shows a substantial decrease in production *per caput* for food crops since the mid-1980s. Rice has greatly increased in production since the mid-1980s, but its contribution to GDP is dwarfed by maize, the main food staple, whose production has stagnated since the mid-1980s. The picture for export crops is far more positive. The production of tea, cashew nuts, tobacco, and pyrethrum have all increased by more than population. Coffee and cotton (the largest exports in value terms) have increased by less than population growth. But far more than other crops, coffee and cotton maintained production in the period before the reforms, so less recovery should be expected. Sisal has the poorest response, but this is to be expected, given the long decline in the industry. These results are not the result of downward bias induced by selection of base and terminal years. The bias lies in the opposite direction, since the low production drought years of the early 1990s are left out of the comparison. Figure 4.1 presents the data for the intervening years. Since food crops account for more than six times the weight of export crops (paragraph 2.14), the general conclusion is that between 1985/86 and 1994/95, agriculture has grown at a lower rate than population.

4.19 Paradoxically, in these series recent agricultural GDP growth rates are estimated as far higher than those of agricultural production, although normally the two kinds of data correlate closely. Agricultural GDP is calculated on a value-added basis, that is, the costs of inputs (agricultural chemicals, fuel, implements) consumed in agricultural production is netted out from total value of production at the farm gate. For agricultural GDP to grow rapidly while total crop production stagnates requires high levels of agricultural input consumption and a steady decrease in those inputs. This appears improbable because input use in Tanzania is and has been very low, so it is likely that the two kinds of data (GDP and production) are inconsistent with each other.

4.20 The effort to improve agricultural statistics should involve approaches that reconcile survey, prices, and other statistical data. Rather than seeing the generation of statistics as a technical exercise that can be brought to a reasonable level of accuracy, support could also involve developing capacity to evaluate and interpret the consistency of various kinds of statistics and other data. It is not clear that the technical-exercise approach can give good results because of very limited financial resources to fund the statistical services, plus institutional problems, including lack of staff continuity and lack of good incentives.

tradables and nontradables in favor of agriculture. If the surveys had been done on an income basis as measured by farm production, and the prices of 1991 applied to both periods, results might have been radically different.

76. Vol. I, para. 1.29. The data in this paragraph refer to agricultural production rather than agricultural GDP.

Table 4.2: Main Crops, Production Indices During and After Reforms, Two Year Averages (1980/81 = 100)

	Average 85/86–86/87	Average 93/94–94/95		Percent Change
		unadjusted	per capita	
Food Crops				
Maize	133.6	128.5	106.2	-21
Paddy	132.9	191.3	158.1	19
Wheat	93.7	74.1	61.2	-35
Pulses	125.9	140.8	116.4	-8
Export Crops				
Coffee	85.9	94.5	78.1	-9
Cotton	111.7	131.9	109.0	-2
Tea	84.1	134.1	110.8	32
Cashew nuts	32.9	87.5	72.3	120
Tobacco	98.0	142.8	118.0	20
Sisal	38.2	30.5	25.2	-34
Pyrethrum	48.2	96.3	79.3	65

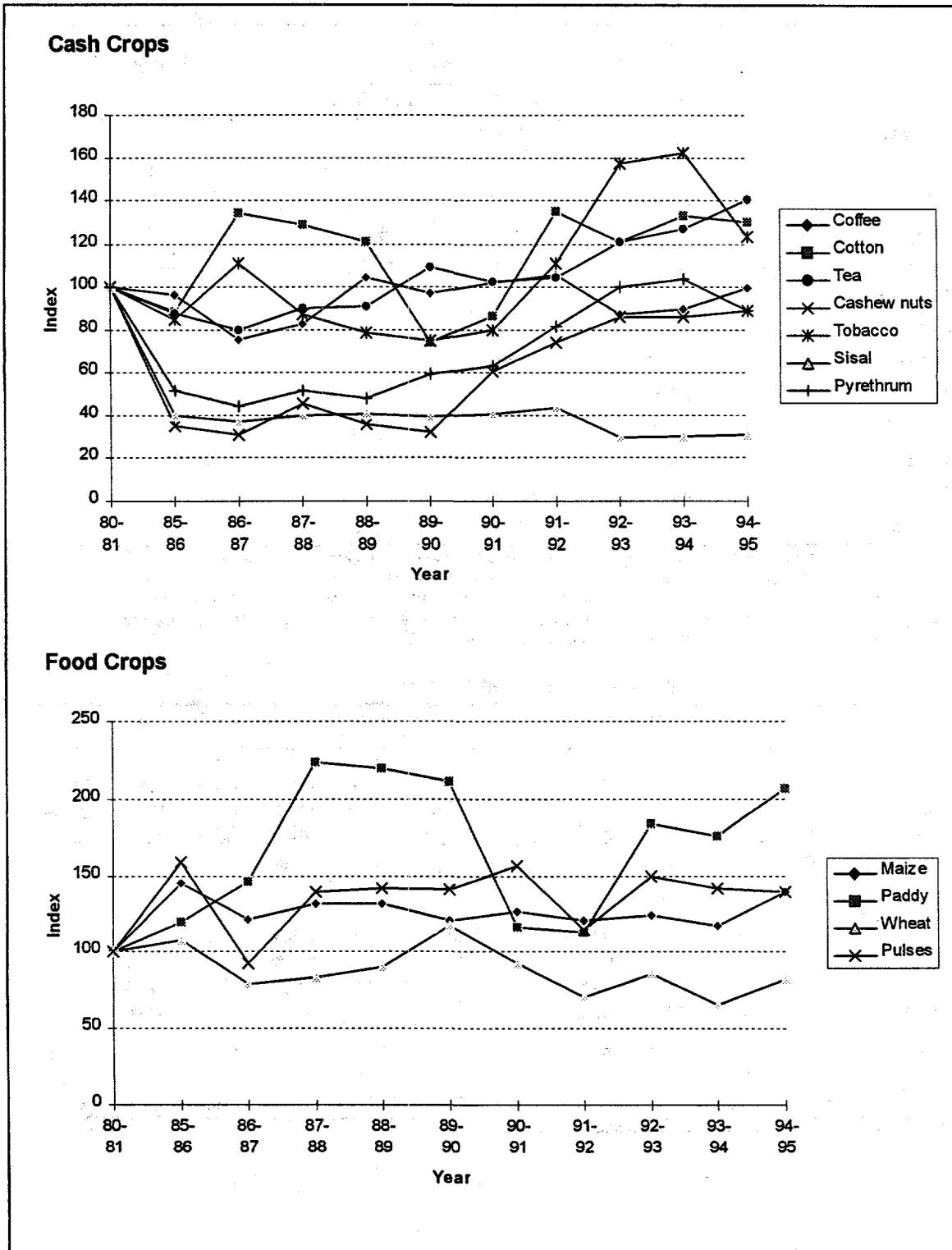
Source: Developed from data of Table 1.6 Selected Agricultural Production Indices, in World Bank (1996), *The Challenge of Reforms*, vol. I. The data are the annual averages of two two-year production periods. The "adjusted" production figure has been reduced by population growth of 21 percent over seven years, so that the comparison is on a per capita basis. Using adjusted data, the final column presents the percentage change from the first period to the second. During these two periods, weather was not a strong negative factor.

Table 4.3: Selected Crops, Production Indices, 1980/81–94/95

	1980-81	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Food Crops											
Maize	100	145.2	122.0	131.7	132.0	121.1	126.8	121.0	124.0	117.4	139.5
Paddy	100	119.5	146.2	223.8	219.5	210.6	116.1	112.7	183.4	175.7	206.9
Wheat	100	108.2	79.1	83.1	89.8	117.0	92.5	70.7	86.2	65.2	82.9
Pulses	100	159.1	92.6	139.6	141.9	141.5	156.3	114.8	149.5	142.4	139.2
Cash Crops											
Coffee	100	96.2	75.6	83.2	104.4	96.9	101.8	105.6	87.2	89.6	99.3
Cotton	100	88.7	134.6	129.3	120.8	74.3	86.4	134.9	121.3	133.2	130.5
Tea	100	88.1	80.1	90.3	90.9	109.1	102.8	104.4	121.0	127.3	140.9
Cashew nuts	100	35.2	30.6	45.2	35.7	31.7	61.1	74.4	85.7	86.1	88.9
Tobacco	100	84.5	111.5	87.2	78.4	75.0	79.7	111.1	157.4	162.0	123.6
Sisal	100	39.8	36.6	40.2	40.4	39.2	40.8	43.6	29.5	30.1	30.9
Pyrethrum	100	51.9	44.4	51.9	48.1	59.3	63.0	81.5	100.0	103.7	88.9

Source: World Bank (1996), *The Challenge of Reform*, Table 1.6, page 16

Figure 4.1: Selected Crops, Production Indices, 1980/81-94/95



Source: World Bank (1996), The Challenge of Reforms, Table 1.6, page 16

4.21 As an intense user of agricultural data, both for in-country work and for international comparisons and other quantitative work, the Bank has a strong interest in reliable statistics. Indeed, the quality and credibility of Bank advice depend on the quality of the statistical data underpinning the advice. *The Bank is highly data-dependent, perhaps more than any other participant in activities aiming at Tanzanian agricultural development. It should take the measures needed to ensure that it uses meaningful agricultural data. Preliminary to any action, it probably would be wise for the Bank to do another assessment of the agricultural data sets to reconcile them and to reach a credible conclusion on recent agricultural growth.*⁷⁷

Sector Work: Finding the Way for Agriculture in a Private Enterprise Economy

4.22 The shift to a market-central economy has left the Bank uncertain about how best to support agriculture in Tanzania. During the 1970s, it supported the strategy of public-enterprise development and public control. As this approach failed, the Bank advocated the market-centered model backed up with lending to support policy reform. Today the problems that constrain agriculture are in large part those that arise at an early stage in developing a private-enterprise, market-oriented agricultural economy, such as shortages of human and material capital. Institution building is also high on the agenda. The Bank knew how to support a parastatal-oriented agricultural development program. In contrast, an agricultural strategy oriented toward the private sector needs to promote private investment as the engine of growth. In Tanzania, the Bank has addressed this fundamental issue only indirectly: research and extension should make farmer investment more profitable by offering new technology. But to what degree will providing better technology to farmers generate investment? The Bank is still defining its approaches for supporting private sector development in agriculture.

4.23 *The Challenge of Reforms* made a good start at defining a strategy of broad-based agricultural development as central to poverty reduction. To this end it cites goals to achieve such development: increasing the land tenure security of smallholders,⁷⁸ improving farm technology through extension, developing rural financial services, improved rural education, privatizing parastatal farms, building input supply, rural road construction. Although this is a good beginning, the report does not discuss how to achieve the goals, and suggests that they be pursued through agricultural sector work.

4.24 *The Rural Development Model*. What should be covered in an agricultural strategy? Agricultural production involves a long chain of *necessary* interactions. Agronomic links include development and application of agricultural technology leading to larger yields, resistance to drought and disease, and to new crops. They also include management of natural resources (water, soils, and forests). Markets are also necessary, and the associated transport, and processing. Ideally, an array of supporting institutions facilitates functioning of the different links of the chain. The quality of marketing depends on the degree of competition, the availability of good pricing information, and good functioning contractual relations. But it also depends on transport,

77. *The Challenge of Reforms* (p. 12, Table 1.5) estimates GDP growth at 4 percent for the period 1986–94. The CAS also recognizes that “the quality of data needs to be improved... Our TA [technical assistance] and support for capacity building will help reinforce efforts that are underway to improve collection of statistics and the quality of national accounts data” (CAS, para. 52).

78. Writing 12 years ago, Philip Raikes, op. cit. p. 135, concluded that “Tanzania’s land tenure system has neither controlled land-grabs nor given security to cultivators” and “the Tanzania state seems scarcely more concerned about the long-term effects than the maximizing peasants.”

storage, credit, and legal institutions dealing with the many aspects of business relations and conflict resolution. This model suggests an approach to agricultural development that the Bank has espoused in the past: study the entire chain for important commodities, find the key problem links or constraints and deal with them. As reflected in the staff appraisal reports, many Bank commodity-development projects in Tanzania carried out before the mid-1980s took such an approach in attempting to identify the key constraints on specific kinds of production. Usually the perspective was too narrow. Many constraints outside the agricultural sector, including those of a policy and institutional nature, were ignored. The very comprehensive approach covering all links in the chain as reflected in the Bank's recent strategy statement, *Rural Development from Vision to Action*, were not yet part of the World Bank's philosophy.⁷⁹

4.25 Policies and institutions that greatly affect agriculture are often outside the agricultural sector: macroeconomic policy (monetary, fiscal, and trade), export procedures and import regulations, other aspects of the regulatory framework; behavior of the processing industries for inputs and outputs; development of rural infrastructure (transport, power, water), rural education, role of local authorities. Key issues in the chain approach are reducing the constraints on investments in agriculture and those related to agriculture, including processing, transport, and commerce.

4.26 *Current Bank Practice and Agricultural Strategy.* In contrast to this omnibus approach, Bank lending for agriculture in Tanzania concentrates on the agronomic elements in the chain: research, extension, and conservation of natural resources. Except for the Agricultural Sector Management Project, all ongoing, Bank-supported agricultural projects in Tanzania fall into these three categories. In Tanzania, most of the agricultural production chain is taken as given (not subject to deliberate improvement) in Bank operations and in recent sector work. So neither the Bank's agricultural services nor other parts of the institution are providing in-depth analysis on the causes and consequences of many problem links, such as poorly functioning agricultural product and input markets⁸⁰ or those that constrain further development of agricultural exports.⁸¹ (Rural education, health, and roads also have agricultural impact and there has been substantial work on these.) The recently initiated study of agriculture and the peri-urban economy will only close part of this gap.

4.27 The Bank may also be lagging in awareness of how the government and donors are dealing with policy and institutional constraints on agricultural production. The ASMP has financed analytic reports on important issues to which the Bank has reacted primarily at the working level. In 1996, the Ministry of Agriculture's draft *Medium Term Agricultural Development Strategy* was completed, revised, and then discussed in a two-day workshop, led by the minister of agriculture, of government and donor-community participants. The draft strategy was reviewed by Bank headquarters and in-country supervision staff. Nevertheless, the strategy

79. The Bank's recent strategy paper, *Rural Development: From Vision to Action* (1997), speaks of key subsectors as "areas of concentration," depending on the "priorities for each country." It subsumes, however, under the heading of "Strategy and Policy," marketing, agribusiness, and rural finance. The strategy that it advocates is more comprehensive than the old-fashioned vertically integrated commodity-development approach.

80. Kahkonen, Satu and Leathers, Howard, 1997, "Is There Life After Liberalization?: Marketing of Maize and Cotton in Zambia and Tanzania," preliminary draft.

81. Akiyama, Takamas, and Larson Don, 1995, Aide Memoire of Export Crop Liberalization Review Mission.

was unconsidered in the CAS. The review, dissemination, and other actions following completion of ASMP-financed studies have usually taken place in the context of project supervision.⁸²

4.28 The above diagnosis suggests that the Bank should rebuild a capacity for in-depth, strategic agricultural analysis with and for the borrower for several reasons: the Bank's comparative advantage in carrying out such work; the work continues to be needed to facilitate developing an effective CAS; to orient and inspire new lending to support agriculture; to enable the Bank to be a more effective development counselor; and to aid the Bank in working with NGOs and other donors.

4.29 Revitalizing sector work makes sense even if agricultural lending continues at a low rate. Past agricultural sector work was oriented toward the lending program in carrying out "upstream" work that promised to lead to new agricultural lending. The paradigm shift may mean a reduced role for agricultural lending but a larger role for sector analysis in moving toward an agricultural strategy that is far more private-sector dependent, and where many of the constraints are outside the sector. For example, sector work could indicate where investment is promising for agricultural development, and suggest ways to induce such investment.

4.30 *In other words, agriculture sector work should also be more broadly defined than in the past to include concentration on issues hitherto considered outside the agricultural purview.* More than in the past, Bank agricultural economists need to work closely with their colleagues in other sectors in taking a "holistic" approach to agricultural development. This will require basic change. As the CAS suggests, and *The Challenge of Reforms* reinforces, agricultural participation has been minimal in mainline economic and sector work even in those dimensions of economic work in which agricultural interest urgently predominates, that is, poverty alleviation and export promotion.

4.31 *Since the Bank accounts for but part of total agricultural development spending, additional analytic work could also cover programs of other donors and NGOs. Obviously what is to be covered will depend on what the government supports. The assumption that the government would strongly support sector work with the Bank along the lines sketched, and would guide and participate in such work, also needs to be verified.*

4.32 The CAS promises that the Bank will support a new study of the rural economy that will address at least some of the issues raised above:

What is happening to agricultural investments, the role of rural financial services, rural access to government and market services? This study will seek to explore...the push from producer services and economic infrastructure especially transport and communications. Also, how do the poor cope with shocks, such as drought and price changes that affect household incomes? (CAS, para. 52, p. 18)

82. Bank input into the various ASMP studies and their recommendations is low. The supervision budget for the task team leader of the ASMP has been (at least in 1997) eight staff-weeks per year. This is supplemented by resources from country-mission staff and consultants.

But, new work *could* also include assessment of:

- the statistical base, which will conclude with a credible description of agricultural growth by crop (production, yields, values, trade results) and an identification of the main weaknesses in the collection and dissemination of agricultural statistics, production, yields, prices, international trade, and basic inputs data. Recommendations on how to deal with these shortcomings could also be forthcoming.
- how to reduce the transport constraint, particularly as it concerns rural access roads. This would involve an assessment of the various donor and NGO initiatives on this score. It would include review of the various institutional devices at the local levels that have been tried by donors, government, and NGOs for building and maintaining access roads.
- the potential for additional agricultural exports, of the main bottlenecks to achieving the potential, and possibly a game plan for dealing with the bottlenecks.
- the specific constraints on agricultural and agribusiness investment, both local and foreign. (This would include review of the regulatory framework, role of local authorities, impact of taxation, and contract and business law.)
- the work on and new departures in building input markets.
- description and possibly assessment of the major programs financed by partner institutions, both donors and NGOs. Presumably this work could be headed by the partner institutions themselves.⁸³
- a study of food security and grain marketing that would concentrate on markets and their prices, grain storage, an assessment of the effectiveness of the strategic grain reserve and of the famine early warning system as they operate in Tanzania.
- an assessment of the early effects of “districtization,” (the proposed decentralization of agricultural services by making their funding and control a responsibility of the 111 district governments) on agricultural development with respect to extension, and work with partner institutions.

83. The Ministry of Agriculture’s new agricultural strategy did not concentrate on the work of the various donors.