

Report No. 9352-TA

Tanzania

Economic Report

Towards Sustainable Development in the 1990s

(In Two Volumes) Volume II: Background Papers

June 11, 1991

Country Operations Division

Southern Africa Department

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Currency Unit = Shilling

**Average
Fiscal Year Exchange Rates (July/June)
(Tsh/US\$)**

<u>1965/66</u>	<u>1966/67</u>	<u>1967/68</u>	<u>1968/69</u>	<u>1969/70</u>	<u>1970/71</u>	<u>1971/72</u>
7.143	7.143	7.143	7.143	7.143	7.143	7.143
<u>1972/73</u>	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u>	<u>1976/77</u>	<u>1977/78</u>	<u>1978/79</u>
7.143	7.014	7.143	7.976	8.368	8.059	7.873
<u>1979/80</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>	<u>1983/84</u>	<u>1984/85</u>	<u>1985/86</u>
8.221	8.207	8.647	9.762	12.645	17.875	18.646
<u>1986/87</u>	<u>1987/88</u>	<u>1988/89</u>	<u>1989/90</u>	<u>1990/91</u>		
51.163	82.286	119.424	173.505	201.801		

**Average
Calendar Year Exchange Rates
(Tsh/US\$)**

<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
7.143	7.143	7.143	7.143	7.143	7.143	7.143
<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
7.021	7.135	7.367	8.377	8.289	7.712	8.217
<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
8.197	8.284	9.283	11.143	15.292	17.472	32.698
<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>June 1991</u>		
64.260	99.292	143.377	195.056	230.0		

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COUNTRY: Tanzania

TITLE: Tanzania Economic Report -- Towards Sustainable Development in the 1990s
Volume I: Main Report
Volume II: Background Papers

REGION: Africa

SECTOR: Country Economic

<u>REPORT</u>	<u>TYPE</u>	<u>CLASSIFICATION</u>	<u>LANGUAGE</u>
9352-TA	ERA	Official Use	English

DATE: June 11, 1991

ABSTRACT: This report analyzes the achievements of Tanzania's economic reform program since the mid-1980s and identifies constraints to continued economic recovery. Building on the directions set forth in the Government of Tanzania's Economic Recovery Program and Economic and Social Action Program, the report considers the key elements of a strategy for attaining sustainable economic growth and renewing social progress -- reducing poverty -- within Tanzania. Chapter 1 assesses the performance of the economy over three distinct policy regimes during the past two to three decades, thus providing a framework for evaluating, particularly, the results of change and growth over the past five years. Chapter 2 analyzes the period of reform from the perspective of the impact on and welfare gained by a range of economic agents. Chapter 3 focuses on the impact of public sector performance on macroeconomic stability and discusses the financial and public sector reforms required to achieve greater macro stability. Chapters 4 and 5 analyze the impact of recent adjustment efforts and the agenda for further reform of the agriculture and industrial sectors, respectively. The requirements of parastatal reform are discussed, as are important infrastructure / real sector linkages. Chapter 6 assesses the stalled social progress of the past decade and suggests a strategy for restoring momentum toward social goals. Chapter 7 consolidates the report's analysis and recommendations, provides a framework for projections and argues that a deepening and a hastening of the reform process is required if Tanzania is to achieve its longer term objectives for the economy.

Tanzania Economic Report
Towards Sustainable Development in the 1990s

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BIS	Basic Industrial Strategy
BOP	balance of payments
BOS	Bureau of Statistics
BOT	Bank of Tanzania
CCM	Chama Cha Mapinduzi
CDC	Commonwealth Development Corporation
CMS	Central Medical Stores
CPI	consumer price index
CRDB	Cooperative and Rural Development Bank
DRC	domestic resource cost
ERP	Economic Recovery Program
ERR	economic rate of return
ESAP	Economic and Social Action Program
FIS	formal sector industrial survey
GDP	gross domestic product
GDY	gross domestic income
ICD	Institute of Curriculum Development
IFC	International Finance Corporation
IFS	International Financial Statistics
IMF	International Monetary Fund
KILIMO	Ministry of Agriculture
MDB	Marketing Development Bureau
MOF	Ministry of Finance
NBC	National Bank of Commerce
NDC	National Development Corporation
NGO	non-governmental organization
NMC	National Milling Corporation
ODA	official development assistance
OGL	Open General License
PEM	protein energy malnutrition
PER	Public Expenditure Review
PEs	public enterprises
PSAP	Priority Social Action Program
PSM	public sector management
QRs	quantitative restrictions
SAR	Staff Appraisal Report
SDR	Special Drawing Right
SGR	strategic grain reserves
SMEs	small scale enterprise
TAC	Tanzania Audit Corporation
TANU	Tanzania African National Union
TCMB	Tanzania Coffee, Cotton or Cashew Marketing Board
TDFL	Tanzania Development Finance Co., Ltd.
TIB	Tanzania Investment Bank
TOT	terms of trade
VAT	value added tax
VCRs	value-cost ratios

THE TANZANIAN RECOVERY, 1983-1989

Tanzania Economic Report

Background Paper #1

THE TANZANIAN RECOVERY, 1983-1989

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THE TANZANIAN RECOVERY, 1983-1989

1. Money Creation and the Banking System: 1983-88

In centrally controlled economies, although financial institutions usually have the nomenclature of those found in market economies their functions can be radically different. Because of these differences, both the process of money creation and the consequences of financial liberalization are quite unlike those of a market economy. In Tanzania during the period 1983-88 there was a major reform program which ostensibly included fiscal retrenchment and financial liberalization. We argue that neither of these can be well understood without taking into account the characteristics of the centrally controlled banking system. As a result of fiscal retrenchment the cumulative domestic financing requirement over the five years was only Tsh 14.8 billion, equal to 6.8% of government expenditure. Despite this, the money supply increased by over Tsh 60 billion in the same period. This appears to imply that either "outside" money is highly geared, each shilling increasing the money supply by a factor of four, or that the money supply is scarcely related to the budget. We will argue that neither of these inferences would be correct; once allowance is made for the nature of the Tanzanian financial system there is one-to-one correspondence between the money supply and the budget.

The Tanzania financial liberalization took the form of increases in interest rates on bank deposits and loans. Such an interest rate increase is commonly seen as the essence of financial liberalization. Indeed, financial repression is commonly defined in terms of negative real interest rates which "reduce the attractiveness of holding claims on the domestic banking system" (McKinnon (1989) p.137). We will argue that given the Tanzanian financial system, raising nominal interest rates does not achieve any of the gains associated with liberalization and is indeed counterproductive. These gains can be realized only if financial liberalization is coordinated with fiscal reform.

1.1 Money Creation

For our purposes the most important aspect of a centrally controlled banking system is that lending is determined by government priorities rather than market criteria. Within such a system it is natural for the government to rank its own expenditures ahead of those of private agents. As a result, in Tanzania the commercial banks (which are publicly owned) have lent predominantly to the public sector^{1/}. Within the public sector lending has often been determined by need rather than by viability. That is, loans are made to cover the operating deficits of public agencies rather than being earmarked to asset formation. For example, around two-thirds of all bank lending outstanding at the end of 1987 was to cover the operating deficits of the crop marketing parastatals. During 1988 the government officially took over 40% of these liabilities, yet by the end of the year the indebtedness of the crop marketing parastatals to the banking system was higher than at the end of 1987^{2/}.

1/ As of the end of 1988 only 13% of the assets of the commercial banking system were claims on the "private sector", (Bank of Tanzania (1988), Table 12). But the private sector in this definition included the cooperative societies which are better regarded as public entities.

2/ Bank of Tanzania (1988), Table 14, and unpublished information from the Bank of Tanzania.

Thus, although the commercial banks take in deposits from private agents, they do not use them to finance lending to private agents. In the past, therefore, the banking system has not performed any intra-private financial intermediation function. There is no pyramid of credit and hence no banking multiplier. Because virtually all bank deposits have as their counterpart borrowing by public agencies, "outside money" has a radically different definition from that in a market economy. Instead of being only currency outside the Central Bank, outside money includes almost all bank deposits. Conversely, currency held by the commercial banks, which would normally be a liability of the government, is not part of outside money since in Tanzania the balance sheets of the commercial banks should be consolidated with that of the government. In short, there is no inside money, and outside money is constituted by private claims on the commercial banking system plus private holdings of currency. Further, a function of the Bank of Tanzania is to lend to the commercial banking system to finance that part of its expenditure function which is not covered by its debt sales function. Between the end of 1983 and the end of 1988 net lending by the Central Bank to the commercial banks was Tsh 34.5 billion^{3/} whereas lending by the commercial banks to the government and parastatals was Tsh 50.9 billion^{4/}. Hence, most of the subsidies channelled through commercial bank "lending" appear to have been financed by the Central Bank. Thus, although superficially Tanzania appears to have a conventional financial system: commercial banks regulated by a Central Bank, the system in the past often was a device by which the public sector financed expenditures by debt sales and printing money.

We now show that once the financial system is consolidated into the government accounts, there is a close correspondence between the public sector deficit and the increase in the money supply. In turn, this increase appears to be closely related to the observed rate of inflation.

3/ Bank of Tanzania (1988), Tables 11 and 12.

4/ Bank of Tanzania (1988), Table 12.

Table 1: The Budget, the Money Supply and Inflation

	1983 or 1983/4	1984 or 1984/5	1985 or 1985/6	1986 or 1986/7	1987 or 1987/8	Cumulative Total
Total Government (1) Expenditure (FY)	23.9	26.7	33.2	55.5	76.9	216.2
Commercial bank lending:						
to public administration (CY) (2)	0	0	0.1	0	0	0.1
to agricultural marketing (CY)(2)	0.8	0.9	2.2	-4.7	30.1	29.3
Total (FY)	0.8	1.6	-1.2	12.7	23.9	37.8
Commercial bank interest payments (CY)(3)	0.7	0.7	1.4	1.5	4.2	8.5
Commercial bank interest payments (FY)	0.7	1.0	1.4	2.8	4.7	10.6
Adjusted government expenditure (FY)(1)	25.4	29.3	33.4	71.0	105.5	264.6
Revenue: Total Revenue (FY)(1)	14.2	18.0	20.8	31.4	46.4	130.8
Other Items (FY)(1)	1.9	1.7	3.2	11.3	9.4	27.5
Interest on Bank lending to public administration and agricultural marketing (FY)(5)	0.1	0.3	0.6	-0.2	2.5	3.3
Financing:						
Foreign financing (FY)(1)	2.5	2.7	2.9	8.6	17.7	34.4
Non-bank borrowing (FY)(1)	0.9	1.1	1.3	2.9	2.5	8.7
Total Residual Monetary financing (FY)(6)	5.8	5.5	4.6	17.0	27.0	59.9
Actual inc. in money supply (CY)(7)	1.1	8.8	11.4	16.1	23.4	60.8

FY = Fiscal Year, CY = Calendar Year

- (1) Tanzanian Economic Trends, Vol 1(4) Table 7.
- (2) Bank of Tanzania (1988), Table 14.
- (3) Bank of Tanzania (198b), Table 15, for time and savings deposits; interest rates on savings deposits from Table 9.
- (4) Adjusted government expenditure equals total government expenditure plus commercial bank lending to public administration and agricultural marketing, plus commercial bank interest payments on time and savings deposits. Adjustments to a fiscal year basis are simple averages of calendar years.
- (5) Interest payments are calculated as the cumulative commercial bank lending to public administration and the agricultural marketing boards times the upper range short term lending rate from Table 9 of the Bank of Tanzania (1988).

- (6) Residual monetary financing is adjusted expenditure minus the three revenue items and the two financing items.
 (7) From Bank of Tanzania (1988), Table 5, the components being currency in circulation outside the banks, demand deposits, time deposits and savings deposits.

The adjustment of the government accounts through their consolidation with those of the banking system makes an enormous difference to the residual monetary financing item. Table 1 attempts this consolidation by adjusting the government accounts in three ways. First, as we have argued, commercial bank "lending" to the government and other public entities to finance recurrent expenditure should be treated as part of expenditure. Of this lending the main components can be readily identified, namely, lending to the government itself and to the agricultural marketing boards. These loans, which account for 68% of all lending to the public sector during the period, clearly financed recurrent expenditure. However, some of the remaining loans to the public sector are for asset acquisition and therefore should not be treated as a disguised item of expenditure. Since we do not have information on how much of the lending to industrial parastatals falls into this category we treat it as though it were all genuine lending. Second, commercial bank payments of interest on time and savings deposits should be regarded as domestic debt service payments and so should also be treated as part of expenditure. Third, these two adjustments double count one component of expenditure, namely, bank lending to public agencies to meet their debt servicing, for this is merely an internal bookkeeping transaction within the public sector. We have therefore added back to government revenue the debt service payments of public agencies. The details of these adjustments are set out in the notes to Table 1. Residual monetary financing is then the difference between adjusted expenditure and revenue less other means of financing (almost entirely foreign). These three adjustments substantially change the estimate of residual monetary financing: summing over the fiscal years 1983/84 to 1987/88, the residual is increased from Tsh 14.8 billion to Tsh 59.9 billion.

Monetary financing of a budget deficit leads either to a depletion of the foreign exchange reserves or to an increase in the money supply. The Government of Tanzania has been in no position to buy back its currency with foreign exchange reserves since by 1983 its reserves were largely depleted. Hence, we should expect a fairly close correspondence between monetary financing and the increase in outside money. As shown in Table 1 this is indeed the case. Over the five years the increase in the money supply is Tsh 60.8 billion compared with the Tsh 59.9 billion residual monetary financing item. The year to year correspondence is less close, presumably reflecting errors introduced by the conversion from calendar to fiscal year for some items, minor fluctuations in reserves and the incompleteness of our consolidation of the banking system into the government accounts. The increase in the money supply, which superficially appears to be so much larger than the fiscal deficit, is therefore in fact well explained by it.

Finally, we demonstrate that there is a reasonable correspondence between the money supply (defined as above) and the price level. In Table 2 we construct a measure of the transactions demand for money. If the velocity of circulation is constant then the growth rate of transactions demand follows directly from the inflation rate (i) and the growth rate of real income (g), being $(1 + i)(1 + g) - 1$. This assumption of a constant velocity appears justified. Two

factors on which the velocity of circulation normally depends are the rate of inflation and per capita real income. During the period both of these were fairly constant ^{5/}.

The exception to the constancy of velocity is 1984. However, during 1984 the relaxation of price controls substantially removed what had been acute shortages of consumer goods. As we have previously shown (Bevan, et al. (1987, 1987a, 1989 and 1990)) such shortages induce an increase in cash balances. Consequently, the return to market clearing enables agents to reduce cash balances to normal levels and during this process of adjustment the velocity of circulation rises. Table 2 shows that during 1984 there was indeed a marked increase in the velocity of circulation: the money supply grew by far less than the constant velocity prediction of transactions demand.

Thereafter, there is a close correspondence between the growth of the money supply and our constant-velocity prediction of the growth in money demand ^{6/}. Hence, if we regard real growth in the economy as independent of monetary policy, changes in the money supply in excess of this growth are associated with equal changes in the price level. This begs the question as to the direction of causality. Potentially, either inflation or the budget deficit could be exogenous. Inflationary expectations could drive up the price level; this in turn might increase the budget deficit (if revenues are less fully indexed than expenditures). This increase in the deficit might sufficiently increase the money supply to accommodate the increase in money demand. Alternatively, the budget deficit might be considered as exogenous, the resulting changes in the money supply causing changes in the price level. However, in Tanzania despite quite rapid inflation there is no indexation in the labor market, wage revisions being infrequent. Hence, government expenditure is not heavily influenced by inertial inflation. It therefore seems more plausible to regard the budget deficit as determining inflation rather than the other way around.

^{5/} Since real GDP growth was broadly in line with population growth, per capita real income was almost constant. Hence, even if the income elasticity of the demand for money is substantially different from unity, the real GDP growth during this period should be expected to raise the demand for money proportionately.

^{6/} It should be noted that no precise analysis between the money supply and prices can be done in Tanzania because of the absence of a series for GDP at market prices, the only price series being for urban consumer which is dominated by food.

**Table 2: Predicted and Actual Growth of Money Demand
(Increase during year %)**

	1984	1985	1986	1987	1988
Money Supply (1)	3.7	29.0	29.2	32.0	36.7
Predicted Money Demand (2)	40.8	36.8	36.5	35.0	33.5
Demand Deposits	-18.6	24.7	39.4	29.0	49.2
Time and savings Deposits	13.1	41.5	6.1	32.8	26.4
Currency Plus Demand Deposits	-0.1	23.0	41.7	31.6	38.9

Source: Bank of Tanzania (1988), Tables 5 and 25.

(1) Currency outside the banks plus bank deposits

(2) See text: constant velocity of circulation assumed. Inflation rates are the national consumer price index, real GDP is from unpublished Bureau of Statistics data.

2. Explaining the Performance of the Real Economy since 1983

Table 3A summarizes the performance of the real economy since 1983. It therefore covers the period of important policy changes and these changes therefore dictate the disaggregation which is appropriate. First, because there was a series of large devaluations we need to distinguish those parts of the economy which stood to benefit, namely, the sectors producing internationally tradable goods: manufacturing and agricultural export crops. Second, because there was a large trade liberalization, we need to distinguish between those tradable activities which had benefitted from protection and those which had not. The former group is broadly captured by the manufacturing sector. However, there are substantial variations between manufacturing firms which cannot be incorporated into our macroeconomic analysis. The latter group is primarily that part of agriculture which produces readily exportable products. Third, there were substantial changes in government recurrent expenditure. The sector which most closely approximates to this expenditure is public administration. Fourth, there were large changes in both public and private expenditures on investment. This we identify through purchases of capital goods, distinguishing between those which are tradable and those which are non-tradable. The latter is to a large extent captured by construction which is our proxy. The above categories leave a residual, namely, those activities which produce output (other than capital goods) which is not readily tradable internationally. Within this group we distinguish between agriculture (food) and other activities (such as transport). Food is included in this category because very high transportation costs make it difficult for Tanzania to export it. In the absence of protection or subsidies on food, Tanzania would probably be self-sufficient. In fact, at the start of our period Dar es Salaam was largely fed by food imports because domestic food prices were kept below world levels. By the end of our period Tanzania had restored self-sufficiency (indeed there were some subsidized exports). Hence, to the extent that the increase in food production displaced imports, it should be regarded as a tradable activity. However, as we show in Section 4, only a small fraction of extra food production is accounted for by this

import-displacement so it is a better approximation to regard food production as a non-tradable activity.

Table 3A: The Performance of the Economy: Output 1983-88

	1976	1983	1984	1985	1986	1987	1988
GDP (1)	108.3	100	103.4	106.1	109.3	113.5	118.2
GDP per capita	111.0	100	100.6	100.4	100.6	101.6	103.0
Exports (2)	180.3	100	104.6	106.3	101.3	105.6	104.3
Manufacturing value added (1)	133.7	100	102.7	98.7	94.7	98.7	104.0
Public administration etc. (1)	66.1	100	100.2	102.1	91.0	91.5	94.4
Capital goods: Traded (3)	103.6	100	164.3	221.0	200.0	192.9	168.9
Non-traded (4)	161.0	100	120.2	109.5	128.4	131.3	137.0
Non-tradables: agriculture (all) (1)	91.2	100	104.0	110.3	116.6	121.7	127.2
Service etc. (5)	95.0	100	103.0	104.6	112.7	116.7	121.5
GDP per capita excluding public administration (1)	119.4	100	101.2	101.3	104.0	105.3	106.9

- (1) Bureau of Statistics, unpublished data.
- (2) From Foreign Trade Statistics, 1987, Tables 28 and 29, for 1983-86. 1987 and 1988 from Unit Value Indices of Table 1 and dollar value of agricultural exports and imports (TET Vol 1 (4) Table 6).
- (3) Source National Accounts of Tanzania, 1976-87, Tables 13 and 15, "equipment".
- (4) Non-tradable capital goods is construction value added. Source as in note (1).
- (5) Source as note (1); sectors are wholesale and retail trade, restaurants and hotels; transport and communication; finance, insurance, real estate and business services. All are value added.

In addition to the above policy changes the performance of the economy was affected by four favorable external shocks, two of which were temporary and two of which are probably permanent. First, there was a temporary improvement in the terms of trade due to the

coffee boom of 1986. Second, there was a probably permanent fall in oil prices. Third, because the policy reforms restored donor confidence there was a resumption in aid flows. Finally, in response to the own-funded imports scheme there was a large repatriation of previous capital outflows. Between them, the above policy changes and external shocks must largely account for changes in economic performance. As shown by Table 3A, since 1983 there has been a modest increase in per capita GDP partially reversing the rapid decline from 1976 to 1983. There are good reasons for believing that in the absence of policy changes this decline would have continued. As argued by Bevan et al. (1987), rural shortages had led to a process of cumulative contraction: farmers reacted to shortages by reducing the production of export crops and this in turn, by reducing the amount of foreign exchange available for imports, further reduced availability of consumer goods in rural areas. Hence the counterfactual cannot be a stagnant level of output: without the policy reform the rapid decline of output would have continued. Hence, the improvement is more impressive than the aggregate GDP growth indicates.

Taking the sectors in order, the most remarkable feature about the export sector is that there appears to have been only a minor recovery in output despite the devaluations. On a per capita basis, the volume of exports has actually fallen below its 1983 level. Output in the protected tradable sector (manufacturing) declines until 1986 (as a result of the negative effect and those liberalizations as the output of protected investments) and then recovers rapidly (at 4.8% per annum). This is a major reversal of trend: in the previous decade manufacturing value-added had declined by 3.4% per annum. The public administration sector is virtually the mirror image of manufacturing: rapid decline from 1985 reversing a decade of rapid growth. The Table shows a massive increase in investment since 1983. The two components, imported and non-traded capital goods, behave very differently. There is an early surge in imports of capital goods which gradually tapers off, being replaced by growth in the construction sector. This is indeed the classic feature of an investment boom: it is much easier to increase capital goods imports quickly than it is to expand construction activities. Construction (in the Table listed as the non-traded capital goods) is the most rapidly growing sector of the economy. Finally, output in both of the non-tradable sectors (food and services) grows rapidly, indeed more rapidly than all other sectors of the economy except for construction. Having described the changes in output the task is now to explain them.

There are three possible reasons for changes in output: changes in weather conditions (about which we will have little to say), the return to market-relaxing conditions (which would affect output even if prices did not change) and relative price changes which reflect policy changes.

In Table 3B we show relative price series for the various sectors, the numeraire being the shilling cost of \$1 of imports. This is simply the shilling cost of imports in a year divided by its dollar cost. The relative price of exports fob is therefore an export unit value index. This peaks in 1986 due to the coffee boom (an effect which incidentally is not identified in the published export unit value series). After that the index declines to a level slightly below that in 1983. However, this is not the price index appropriate for producers. The producer price index shows a substantial fall (40%) during the period. Thus, much of the incentives for export production provided by the devaluations were not transmitted to producers. Since in the short term there is little scope for transferring resources from the urban economy into export agriculture, the chief potential for expansion of agricultural exports is resource transfers from the rest of the agricultural sector. However, our price series suggest that by 1988 the price of

exports had actually fallen relative to agricultural prices generally. Hence, although the fob price of exports rose by almost 50% relative to agricultural output in general, producers had an incentive to switch out of export crops into other agricultural activities. Thus the gains from devaluation have accrued not to peasants but to the marketing agencies that have benefitted from higher fob prices without having to pay higher prices themselves.

Although the devaluation has not benefitted export producers, the trade liberalization has massively eroded the profitability of the protected tradable sector. The relative price of manufactures has fallen to one-third of its 1983 level and this presumably accounts for the contraction in output between 1983 and 1986. However, the trade liberalization has facilitated the expansion of those parts of the manufacturing sector which were not net beneficiaries of the system of protection.

Table 3B: Prices Relative to the Domestic Currency Cost of \$1 of Imports

	1983	1984	1985	1986	1987	1988
Exports: FOB Price (1)	100	89.8	105.2	115.1	79.8	93.0
Producer Price (2)	100	119.4	130.4	85.7	64.3	60.6
Manufacturing value-added (3)	100	112.6	115.5	66.1	39.6	33.4
Capital Goods: Non-traded (3)	100	104.8	125.1	69.7	42.9	40.5
Non-tradables: agriculture (all) (3)	100	115.2	141.2	78.9	61.7	65.9
Services etc.(3)	100	116.0	131.2	66.5	50.6	44.8
Memorandum Item: shilling cost of \$1 (Index) (4)	100	105.3	120.1	279.3	491.9	650.1

- (1) From TET Vol. 1(4) Table 6(a) a price index for the main six agricultural exports can be derived in dollars. This has been converted into shillings at the mean export exchange rate.
- (2) From Table 4 in Section 3.2
- (3) Bureau of Statistics, implicit GDP deflators derived from unpublished National Accounts data in current and in 1976 prices. Construction is used for non-traded capital goods.
- (4) The shilling cost of \$1 of imports is derived from the Economic Survey 1988, Tables 10 and 12.

Indeed, our output series already shows rapid growth of the manufacturing sector post-1986. Even this must under-state the true recovery of manufacturing because the series misses the effects on output of the entry of new firms. Hence, the positive effects of trade liberalization on manufacturing are already outweighing its negative effects. The relative price of construction changes in a way similar to that for other non-agricultural non-tradables. For these two groups prices rise relative to manufacturing but fall relative to agriculture.

To summarize the relative price changes, the price of agriculture (both food and export crops) rises relative both to manufacturing and to non-food non-tradable. This is fully consistent with the changes in output described in Table 3A: agriculture expanded all during the period. However, our price series suggest that by 1988, the price of exports had actually fallen relative to non-tradable agriculture (food). The favorable shocks of foreign aid and own-funded imports increased income in terms of tradables and some of this was spent on non-tradables, tending to increase their relative price.

To conclude, first, the performance of the economy is explicable in terms of relative price changes induced by the policy changes made during the reform period. It is encouraging that the reforms have halted the decline, that the non-tradable sectors have expanded considerably, and that manufacturing is now growing rapidly. However, the export potential of the economy remains to be realized. We will show in Section 3 that this is substantial.

3. Peasant Supply Response, 1977-88

Since the 1984 reforms, there appears to have been a substantial increase in the volume of peasant sales of crops. This is more remarkable because it reverses the trend of the pre-reform period. Between 1977 and 1985, the volume of official sales of export crops per capita of the rural population declined at around 5% per annum whereas between 1985 and 1988 it expanded by 3% per annum. The recent growth in the volume of food sales has been far more dramatic, particularly through non-official channels: combining official and non-official channels, food sales per capita of the rural population have increased by 79% between 1983/84 and 1987/88. Overall the volume of crop sales per capita of the rural population has expanded at an annual rate of 10% during this four-year period.

This expansion is not explained by relative prices. Since the reforms, the real producer price of crops has on average declined by 20%. To understand the post-reform recovery it is necessary to understand the pre-reform decline, which, we will argue, was caused by a deterioration in the availability of consumer goods in rural areas. Because parts of the analysis are quite intricate, we begin with an overview.

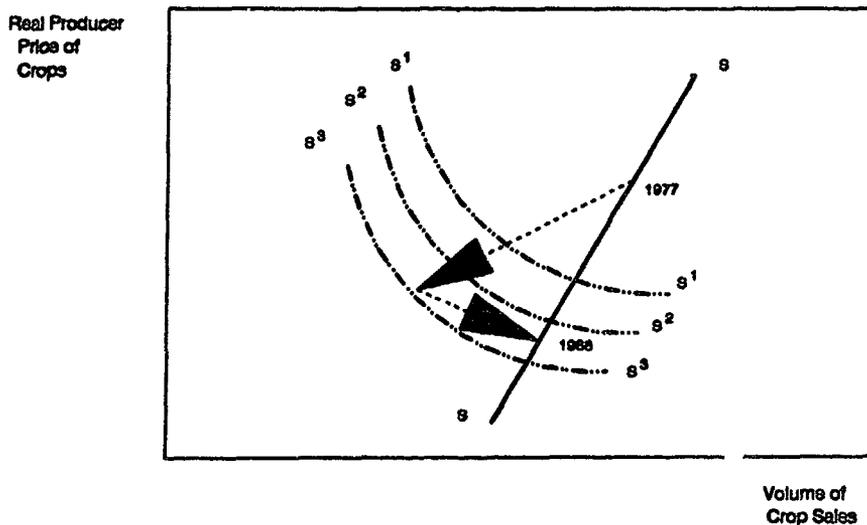


Figure 1: The Path of Crop Supply 1977-88

Our argument is summarized in Figure 1 which shows the supply curve of marketed crops. Comparing 1977 and 1988 the crop price is now lower in real terms and crop supply per

capita of the rural population is lower. Hence, in the first instance, we can think of the economy as having moved down its supply curve. There are two provisos to this. It is not safe to conclude that the economy can move back up this supply curve simply by restoring prices. During the intervening years agricultural infrastructure has deteriorated so that it would probably be unable to handle sales at their 1977 level. This has, in effect, steepened the supply curve. Further, the supply changes during the period 1977-89 have not been movements down the supply curve but rather movements off it and then back onto it as depicted by the dotted line.

There was a movement off the supply curve during the period 1979-84 because of shortages in rural markets for consumer goods. These shortages came about for three reasons. First, the national supply of consumer goods declined: the allocation of foreign exchange for consumer imports and the domestic production of manufactured consumer goods both fell severely. Second, although this decline in supply would normally have caused a large increase in the relative price of consumer goods, in Tanzania there was a cost-plus price control system already in place. Because the system was cost-plus, it did not permit prices to increase in response to shortages. The effect is depicted in Figure 2: instead of the price rising to the new market clearing level p^* , it remained at the controlled level p and shortages emerged. Thirdly, these shortages were particularly acute in rural areas. Official allocations of consumer goods came increasingly to be skewed towards the cities. For example, whereas in 1977 Dar es Salaam had been allocated only 22% of Matsushita radios by the Board of Internal Trade, in 1982, with total supply more than halved, its allocation was raised to around 40% (see Bevan et al (1989), Table 3.6). Of the goods which left Dar es Salaam, a substantial proportion leaked onto the parallel market, however, there is evidence that these supplies were also skewed towards urban centers. For example, of the supply of soap to towns other than Dar es Salaam around 40% was probably via the parallel market, compared with only around 30% in villages ^{7/}. Such a bias in the parallel market is consistent with evidence that it was easier to operate as a black marketeer in urban than in rural areas (see Bevan et al. (1989a)).

To an increasing extent then peasant farmers faced shortages in the market for consumer goods. Prior to shortages peasant sales of crops were based upon the expectation that the resulting income could all be spent on desired purchases. However, if a household is repeatedly unable to make its desired purchases due to shortages, it will revise downwards its planned cash income by choosing to sell fewer crops. Hence, in times of shortage, crop sales become determined by the availability of consumer goods instead of by the normal relationship to prices. Further, once there are shortages, the relationship between prices and supply is altered. Whereas under normal conditions of market-clearing raising crop prices (relative to goods prices) will raise supply, in conditions of shortage the opposite will happen. Faced with

7/ Bevan et al. (1989) Table 10.7 gives a breakdown of the leakage of soap supplies from the factory gate to the village shop. Of the soap sent to regional headquarters 36% leaked away between the three recorded dispatch points (factory, regional headquarters and district headquarters) and their official next destination (regional headquarters, district headquarters and village shop, respectively). Presumably, these leakages to a large extent constituted the supply to that part of the parallel market outside Dar es Salaam. Of these leakages, nearly half occurred between the factory and the regional headquarters and a further quarter between there and the district headquarters. It seems likely that, given the inadequacies of the transport system, black market supplies were sold to consumers where the leaks took place rather than being transported long distances. If this is so, then the above leakages probably supplied towns. At most, those leakages between the dispatch from district headquarters to village shops may have constituted the unofficial supply reaching the villages. This is the assumption used to convert the data of Table 10.7 to the figures cited in the text.

constrained desired expenditures and hence a limit to the amount of cash income which is likely to be useful, higher crop prices will be offset by lower sales in order to maintain income constant. This reversal of supply response to price is shown as relationship (3). This can be related to our original story as depicted in Figure 1. As shortages of consumer goods intensify the supply function gradually shifts to the left (S_1 , S_2 , S_3) and becomes negatively sloped.

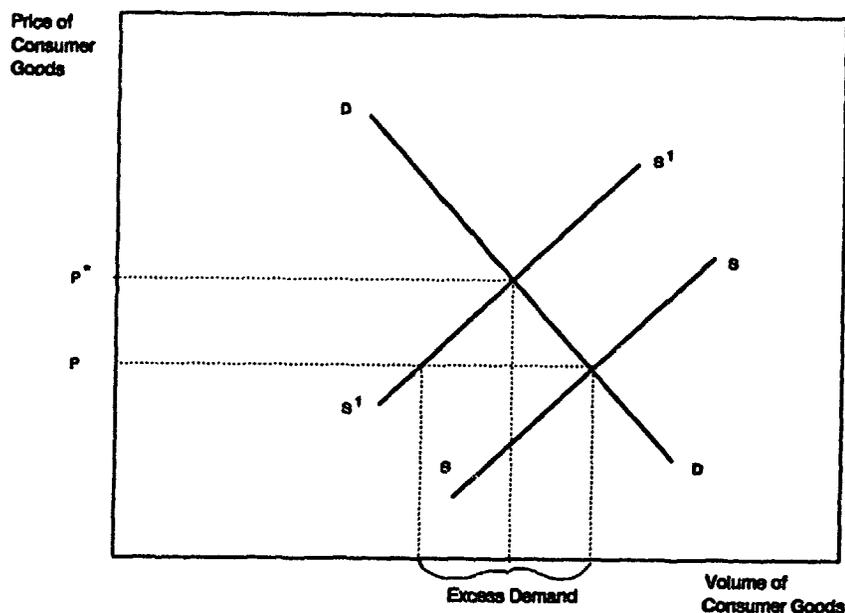


Figure 2: How a fall in the supply of Consumer Goods Combined with Price Controls Creates Shortages.

Between 1977 and 1984 the supply of export crops per capita fell by 30% and the real producer price of export crops fell by 26%. On our account, under these special circumstances without the fall in crop prices the decline in crop sales would have been even larger. Econometric tests of supply response in 17 regions during the period 1978-84 have found the volume of crop sales to be positively and significantly related to the supply of consumer goods to rural areas and negatively (though insignificantly) related to real crop prices, supporting the above account (Bevan, et al. (1989) Chapter 10).

The above influences upon crop supply operate through the peasant's need to finance expenditure. An additional motive for generating income is to add to cash balances, these being both the medium of exchange and the principal financial asset available to peasants during the period. Conversely, should desired cash balances fall, the peasant can reduce income (i.e., crop sales) and maintain expenditure while money balances are being run down. This is shown as relationship (4) in Figure 3. We distinguish between two types of change in money balances, real and nominal.

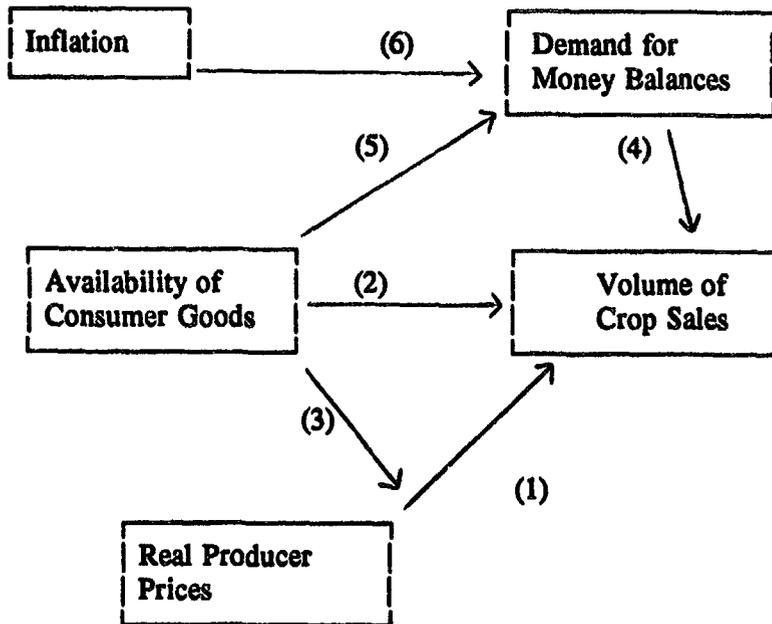


Figure 3: Influences on the Volume of Crop Sales

The demand for real money balances is normally related to real expenditure and hence to real income. Between 1977 and 1983 peasant real cash income per capita fell substantially. Using a comparison of budget surveys, Bevan et al. (1989) find a fall of 38.7%^{19/}. The expectation is therefore that real cash balances per capita would also have fallen. This would have enabled peasants temporarily to reduce their cash income by more than the fall in their expenditure. The magnitude of such an effect depends upon the size of peasant cash holdings relative to income. Peasant cash holding was around 75% of cash income^{20/}. Hence, had peasants reduced their money holdings so as to restore this ratio of money to income, the 38.75 fall in income would have permitted the equivalent of a one-year reduction in cash income of 29% (38.7% x 0.75). Had this been spread over six years, cash income would have been reduced by 5% throughout. Hence, crop sales, as an important part of cash income, would also probably have been reduced by around this amount.

^{19/} Derived from Bevan et al. (1989) Table 3:14.

^{20/} Mean cash income in 1980 per peasant household is known from a large sample rural survey (Collier, Radwan and Wangwe(1986)). Mean cash holdings from Central Bank and Census data.

and the number of households (from the Census). Since peasants make up 80% of the population, it is likely that their holdings are closely related to the Tanzanian average. Although peasants have lower cash incomes than the average household (and so would tend to hold less money on this count) they receive income much less frequently and less predictably than wage earners, the other major group in the economy. The latter effect implies that per shilling of income they would tend to hold considerably more cash than wage earners. These two differences from the average Tanzanian household are therefore qualitatively offsetting. The resulting series on real cash balances per capita is shown in Table 4.

Between 1977 and 1981 there was a 21.2% increase in mean real cash balances. If cash income did indeed decline by around 39% during this period then the velocity of circulation halved in the peasant economy. ($1.212/0.613 = 0.6$). Bevan, et al. (1989) provide an explanation for such a decline in velocity as a by-product of the shortage of consumer goods. They argue that, faced with random shortages of goods, peasants would need larger cash holdings per shilling of intended expenditure in order to avail themselves of those occasions when availability was atypically good. This relationship between expenditure and cash balances is shown in Figure 4. With the onset of shortages they show that it is quite possible for money balances to rise even though expenditure falls. However, if expenditure continues to fall, money holdings must eventually decline: in the limit, if there are no goods so that expected expenditure is zero, there is no need to hold money. Starting from market-clearing in 1977, real balances indeed rose as expenditure declined until 1981.

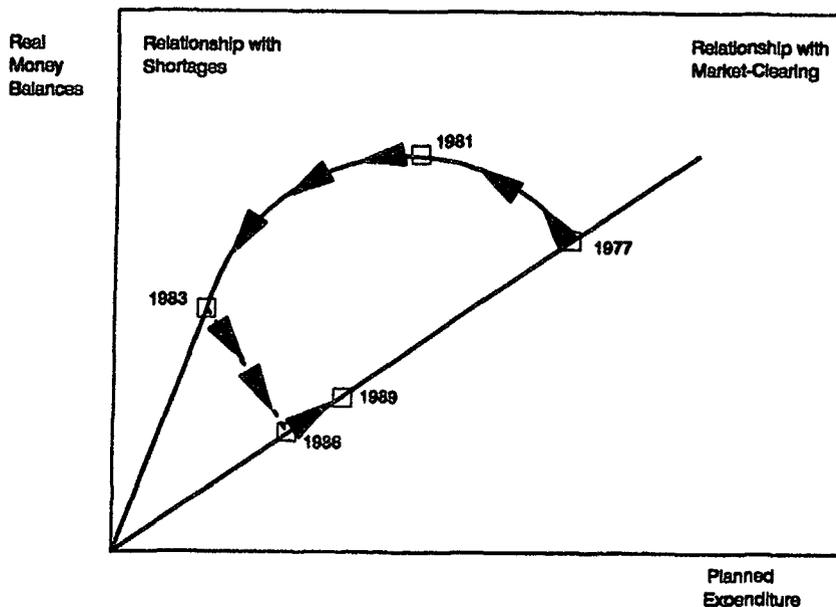


Figure 4: The Demand for Real Money Balances: 1977-89

Table 4: Changes in Real Cash Balances and the Inflation Tax

%	Cash Balances		Change in RCBpc	Inflation Tax	Total (1977 RCB = 100)	Real Cash Savings as Cash
	Nominal	Real Per Cap				
Income						
1977	100	100			11.8	5%
1978	119.0	108.6	8.6	6.2	14.8	8%
1979	156.6	123.2	14.6	12.4	27.0	16%
1980	209.0	122.8	-0.4	28.6	28.2	17%
1981	266.5	121.2	-1.6	25.1	23.5	14%
1982	328.2	112.6	-8.6	27.1	18.6	16%
1983	363.6	95.5	-17.1	24.0	6.9	6%
1984	419.5	82.0	-13.5	25.3	11.8	9%
1985	521.1	68.6	-13.4	20.5	7.1	5%
1986	697.3	65.1	-3.5	16.8	13.3	10%
1987	963.1	66.7	1.6	15.0	16.6	14%
1988	1266.0	67.1	0.4	15.9	16.3	12%
1989		67.2				

Notes to Table 4

Nominal Cash Balances from Bank of Tanzania Economic and Quarterly Bulletin December 1988 Table 5 Column 6. This gives end of year figures. Our series is for the annual average. Hence, for example, we average the end-1976 and end-1977 figures to get the average money holding in 1977. The conversion to a per capita basis uses the inter-censal population growth rate of 2.8% p.a. The conversion to constant 1977 prices uses for the period 1977-83 the National CPI, Bank of Tanzania (ibid) Table 25 (a) (i). The inflation tax is shown in constant 1977 prices. For example, the price level in 1981 was 25.7% above that in 1980. Real balances in 1980 averaged 122.8 (indexed on 1977). Inflation eroded these balances to 97.7 during 1981 (122.8/1.257). Hence, the inflation tax was 25.1. For the period 1983-89 we use the rural cost of living index constructed and described in Section 4.1. The conversion to the equivalent rate of taxation on cash income in the final column is achieved in two stages. First, cash balances are estimated to be 75% of cash income in 1980 as discussed in the text. Since in 1980 28.2 is added to balances of 122.8 (i.e., 22.9%) the equivalent tax rate is 17% (22.9 x .75). Cash incomes for the period 1977-83 relative to that in 1980 are based on per capita sales of six peasant export crops. Cash incomes for the period 1983-88 are from Table 9.

Thereafter, there was a substantial decline. By 1983 they were slightly below their 1977 level. Bevan et al. describe such a pattern of money holdings as the "honeymoon effect" of shortages: the onset of shortages is accompanied by an initial phase during which peasants are willing to sell crops to the government in order to build up money holdings. However, this phase does not last; once peasants choose to reduce their holdings the effect on crop supply is reversed. Hence, this analysis implies that whereas until 1981 crop supply was boosted by the change in real money balances, post-1981 they were reduced. This helps to

account for the severe decline in crop sales during the early 1980s. The analysis implies that this effect would have continued as goods availability deteriorated.

The effect of shortages on real money demand (shown as relationship (5) in Figure 3) poses a serious problem for the transition back to market-clearing. By 1986 goods were much more available in rural areas so that peasants could reduce money holdings per shilling of expenditure. As Table 4 shows, this they indeed did: real balances fell by around a third between 1983 and 1986 and have since been stable. The third column of Table 4 in each year between 1982 and 1985 there was a large reduction in real balances. In terms of Figure 4, the adjustment back onto the 1977 ratio of money to expenditure has been achieved partly by increased expenditure but mainly by reducing real money holdings. This rapid reduction in real money holdings implied that cash income, and hence crop supplies, would temporarily be reduced. This was, however, avoided by offsetting changes in the price level to which we now turn.

The demand for money can rise for two reasons: either the desired holdings of real balances can increase (as it did 1977-81) or, the price level can rise, requiring households to add to their money balances in order to keep them constant in real terms, an effect described as an inflation tax. This is shown as relationship (6) in Figure 3. In Tanzania the inflation tax was initially modest (see column 4 of Table 4). However, during 1980-82 it became very powerful for two reasons. The rate of inflation increased, and this interacted with the "honeymoon effect": since peasants had increased their real money balances a given rate of inflation was eroding a larger stock of money. Thereafter, as peasants started to reduce real balances, the take from the inflation tax fell despite a generally rising inflation rate.

The net effect of the inflation tax and the change in the demand for real balances is shown in the last two columns of Table 4. The first of these is simply the addition of the two effects. The last column expresses this as a percentage of cash income in each year. This is of interest since the income peasants need to devote to adding to money balances instead of to expenditure is analogous to a tax on cash income and so the column can be thought of as the implicit income tax which the government was levying on peasants, achieved by the changes in money holdings. To arrive at this percentage we need an annual series for peasant cash income 1987-88. As a proxy we use an index of crop sales per capita of the rural population.

This column reveals substantial swings in the rate of implicit taxation. At the start of the period the rate was modest: 5% in 1977 and 8% in 1978. It then rose sharply, averaging 16% in the years 1979-82. Even during this phase there was a change in the composition of the tax from the "honeymoon effect" to inflation. In 1983 and 1984 there was a large fall to an average of 7%. Finally, during 1986-88 the rate rose again to an average of 12%. That is, despite the low level of real balances during this period the inflation rate was sufficiently high to restore the implicit tax rate to close to its previous peak. These large swings must have contributed to the changes in crop supply. In particular, the sharp fall in the tax rate during 1983-84 helps to explain the severe economic collapse of those years while the restoration of tax rates by means of inflation explains why the economy was able to overcome the otherwise major transition problem posed by the run down in real balances.

To summarize, there are six relationships influencing peasant crop sales. These are in two groups, a monetary effect and a 'real' effect (availability and relative prices). During the

phase of decline in crop sales, 1977-84, the volume of crop sales per capita fell by around 30%¹⁰. The simple interpretation of this decline, namely that it was caused by the fall in the real producer price of crops, we have argued is incorrect for the special circumstances of shortages of consumer goods which prevailed during this period. Statistically, a better explanation is provided by the contraction in goods supplies. However, the value of the more complex approach to supply response really comes into its own when we turn to the recovery phase 1983/84-87/88. During this four-year period there was a spectacular recovery in the volume of crop sales per capita of the rural population of 47%. Yet the average crop price fell in real terms by 20% during the same period. (Details of both the quantity and price series are given in Section 4). Clearly, whatever, explains the remarkable growth in crop sales which reversed a long period of fairly continuous decline, it was not real producer prices. Yet returning to Figure 1, it is what would be predicted by the more complex theory. Between 1983/84 and 1987/88 the rural economy moved back to market-clearing conditions and hence reverted to something approaching the original supply curve (S-S). This was achieved partly by larger supplies of consumer goods, financed by own-funded imports and by aid, and partly by the abandonment of price controls which raised the price level. The rise in the price level eroded real money balances, as discussed above, and lowered real crop prices (despite being partly offset by nominal increases in producer prices). Note that the increase in the volume of crop sales has primarily been due to the annual crops and particularly to grains. That peasants chose this particular composition for their increased sales may reflect temporary climatic improvements which favored these crops, and/or the deterioration in marketing infrastructure for the export crops relative to that for the grains (where competition has been permitted among trading agencies), and/or the deterioration in the tree stocks of coffee, cashew and tea). Again, the relative switch towards the annual crops is not a result of relative price changes since grain prices have fallen relative to the export crops. This is not, of course, to deny that price effects are important, but rather to indicate that to date they have been swamped by other effects.

4. Trends in Peasant Living Standards, 1983-89

We now present four approaches to the measurement of trends in peasant living standards taking as our base year 1983, the first three concerning trends in real cash expenditure on urban-supplied goods. The first approach is to take cash balances as a proxy for peasant expenditure. The second is to measure peasant incomes from some large components. The third is to measure the national supply to consumers of major goods. The fourth approach focuses upon peasant consumption of food. However, we start with a discussion of the measurement of the peasant costs of living.

4.1 The Peasant Cost of Living

There is no cost of living index in Tanzania specifically for peasants, there being only the National Consumer Price Index (CPI). However, for some purposes this index is quite inappropriate for two reasons. First, although the typical peasant household has a consumption pattern similar to the national average, it has a radically different expenditure pattern because of subsistence consumption. Further, the peasant economy in aggregate has a yet more different

10/

The six major export crops only.

pattern of net purchases because most of the food which the typical peasant household buys is purchased directly or indirectly from other peasant households. Since food has a weight of 64% in the (CPI) these differences are important. The (CPI) is dominated by changes in food prices yet the peasant economy in aggregate virtually does not purchase food. This is particularly important when measuring the peasant terms of trade with the rest of the economy: the price of the goods which peasants sell to the rest of the economy should clearly be deflated by the price of the goods which they buy from it rather than by the . We have therefore constructed a peasant-specific (CPI) based on the prices of those goods which peasants purchase from the rest of the economy. From the 1977 Household Budget Survey the Bureau of Statistics provided unpublished data on the consumption pattern of rural households. From this we identified goods supplied from outside the peasant economy (such as soap and bicycles). Virtually all of these goods were included in the price gathering process for the construction of the (CPI). Hence, by going back to the underlying price data it was possible to construct a price index for rural purchases from the rest of the economy on 1977 weights. This was undertaken for the period 1983-88. The resulting index is compared with the (CPI) in Table 5. From the onset of the reforms in 1984 to 1988 prices of the goods which peasants purchase from the rest of the economy have risen by 9.8% relative to the (CPI). Hence, estimates of real producer prices which are generally based upon the (CPI) substantially overestimate prices by the end of the period.

The second reason why the (CPI) is likely to mis-state the true change in the cost of living is that it does not take into account changes in the range of choice available for the typical differentiated product. For example, even soap, a relatively standardized product, is differentiated by scent, by quality and by function (laundry or toilet). Between 1978 and 1984 the range of choice narrowed as part of the general contraction in supplies of consumer goods, whereas since 1984 it has widened again. The range of choice affects the cost of living in two ways. First, since consumers have different requirements, the wider the range of choice the closer are the types of goods available to what different people ideally want to buy. If people who want laundry soap have to make do with toilet soap the true cost of washing clothes has been increased. Second, for many differentiated products, the typical consumer wishes to buy more than one variety. People will wish to buy both laundry soap and toilet soap.

Table 5: Consumer Prices for the Peasant Economy and the National Consumer Price Index Compared

	National CPI	Price of Rural Purchases from Urban Areas
1983	100	100
1984	136.1	130.7
1985	181.5	188.9
1986	240.3	258.9
1987	312.3	339.7
1988	409.7	431.8

Source: National CPI as Table 4, Price of Rural Purchases derived from unpublished Bureau of Statistics data.

We now attempt to quantify the effects on the cost of living of the post-1984 widening of product choice. We use the theoretical framework developed by Dixit and Stiglitz (1977). They show how for a given total expenditure a consumer will get more welfare as variety is increased. An alternative way of expressing this is to say that in order to achieve a given level of welfare a consumer will need to spend less as variety is increased: widening choice lowers the cost of living. The magnitude of this effect depends upon how closely one variety of a product can substitute for another: for example, how willing the consumer is to use laundry soap instead of toilet soap. This is measured by the 'elasticity of substitution' which can range between zero and infinity. When the consumer is completely indifferent between varieties the elasticity of substitution is infinite. Clearly, in such a case greater variety would not lower the cost of living. In Table 6 we show the reduction in the cost of living implied by various increases in the number of varieties for various values of the elasticity of substitution ^{11/}.

^{11/} In their approach different varieties are modelled as CES (constant elasticity of substitution) substitutes in demand. The number of potential varieties may be very large but not all are available. If different varieties are treated symmetrically, the consumer will choose to buy the same quantity of all available varieties.

Table 6: The Reduction in the Cost of Living Resulting from Greater Variety (%)

	Elasticity of Substitution			
	1	2.5	5	10
Increase in number of Varieties				
Double	50	24	13	7
fourfold	75	42	24	13
six fold	83	51	30	17

For example, if the number of varieties doubles and the elasticity of substitution is 2.5 (the sort of magnitude that might be expected) then the implied reduction in the cost of living is 24%. Such a reduction in the cost of living would in turn imply that for the same expenditure the consumer would be 32% better off ($1/(1-0.24) = 1.32$).

To apply this theory to Tanzania we need data on the range of product choice available to the typical consumer. For this we have adapted the underlying data gathered by the Bureau of Statistics for the Consumer Price Index. Our analysis is confined to the range of choice among different varieties of soap but this is the single most important differentiated product in the expenditure pattern of peasants according to the 1977 Household Budget Survey. The Bureau samples of 16 varieties of soap in twenty urban centers each quarter. Hence, each year there are 80 shopping visits. When a particular variety is not available this is recorded by the statistical officer. Using this information, we have calculated for 1983, 1986 and 1988 the average number of varieties of soap found during these 80 visits. The results are shown in the first column of Table 7.

Table 7: Improvements in Consumer Choice, 1983-88

	Availability of Varieties (1)	Availability of Goods (2)
1983	0.563	4.8
1984	-	4.7
1985	-	6.7
1986	2.544	6.1
1987	-	7.3
1988	3.825	7.4

Notes and Sources:

1. Refers to how many varieties of soap were available on the typical shopping trip. Data for soap varieties is available only for 1983, 1986 and 1988. See note 2 for definition of shopping trip.
2. Refers to eight goods: cooking oil, margarine, toilet soap, laundry soap, matches, khanga, kerosene and cigarettes. Figure refers to how many of these eight goods were found to be available on the average "shopping trip" by an enumerator of the Bureau of Statistics. The number is the unweighted average of eighty shopping trips per year; one per quarter for each of twenty regions.

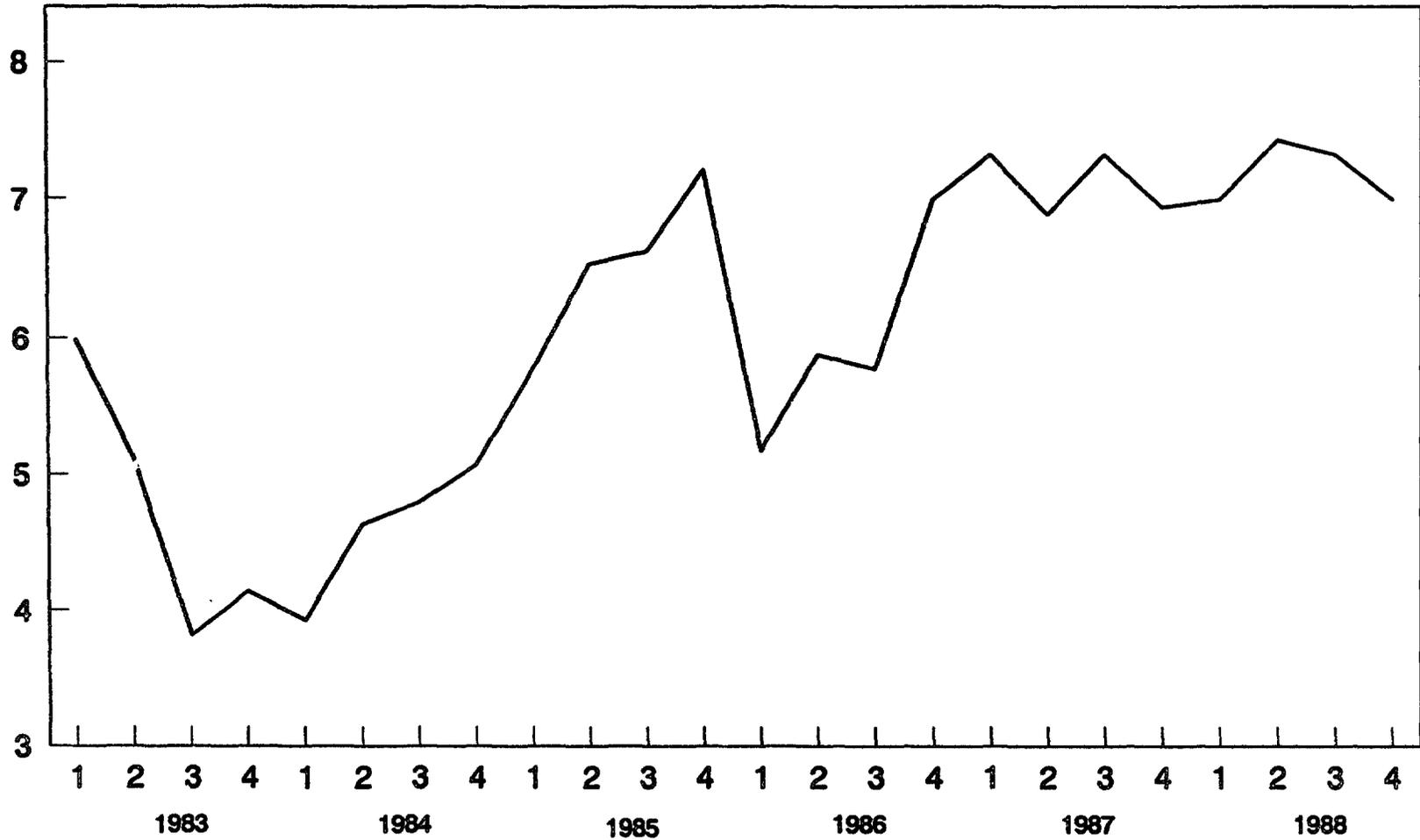
Source: Derived from unpublished data gathered by the Bureau of Statistics for the construction of CPI.

This example suggests that wider choice has substantially lowered the cost of living and hence raised living standards. If the soap data are representative (and while for other goods the increase in the number of varieties may not have been quite as dramatic, for many goods other than soap one would expect the elasticity of substitution between varieties to be lower) the change between 1983 and 1988 would have raised welfare by more than 20% even if one adopted as high a value for the substitution elasticity as 10. If the substitution elasticity has a value of 5 (still a rather high value) the improvement would be 47%. This would imply a 32% fall in the cost of living.

So far we have only considered the widening of choice through an increase in the number of varieties of a good. However, choice can be increased in two ways: not only can the number of varieties increase but so can the number of goods. In our previous example, soap was treated as a single good and we considered changes in the number of its varieties. At a higher level of aggregation we can similarly consider not how many varieties are available but how many different goods are available. In many ways this is more important because the scope for substitution say between soap and matches is much lower than that between different varieties of soap and so non-availability has more deleterious effects upon living standards.

Figure 5

Quarterly Data on the Availability of Eight Goods on the Typical Shopping Trip, 1983-1988



We attempt to quantify the widening in the choice of goods using the same Bureau of Statistics data on shopping visits. We consider eight important consumer goods (each usually represented by several varieties). A good is available if at least one of its varieties is available. The results in Table 7 reveal a marked improvement in the availability of the range of goods. For example, between 1983 and 1988 the number of different goods available increased by 54%. The quarterly data (shown in the graph) reveal an even more dramatic turn-around. Availability deteriorated sharply between the first and third quarters of 1983 (from 6.1 to 3.8) and continued at this low level until the second quarter of 1984. From then on there is a rapid and fairly continuous improvement. In the case of the increase in the number of varieties we were able to indicate the order of magnitude change in living standards and the cost of living which it implied. To do the same thing for goods rather than varieties is more problematic since there are more likely to be large differences between goods in their substitutability. Ideally, we would need to estimate a 'demand system'. Since this is not feasible on the data we can only follow the same procedure as that used for varieties. Again the magnitude of the effect is dependent upon the substitution elasticity chosen. Here we choose a value of 2.5 which is very high for this level of aggregation and so likely to understate the fall in the cost of living (welfare improvement). The improvement in availability between 1983 and 1988 (54%) would then imply a welfare improvement for given expenditure of 19%, or equivalently stated, a 16% reduction in the cost of living.

The effects which we have discussed above are cumulative. The wider choice of varieties may (using an elasticity of 5) have lowered the cost of living by 32%. The wider choice of goods may have further lowered the cost of living by 16%. Hence, together, they imply a fall in the cost of living of 43% ($1 - (1-.32)(1-.16)$) for a given level of cash expenditure this implies an increase in the welfare derived from it of 75%. This is in addition to the more conventional changes in living standards which we will be analyzing below, namely increases in cash income and increases in subsistence consumption. Clearly, the figure of 75% is little more than a numerical illustration. However, it does suggest that there have been substantial gains from wider choice, gains which are ignored in the usual statistical standard of living analysis.

4.2 Money Balances and Rural Expenditure

If the velocity of circulation is approximately constant then money balances are an indicator of expenditure. As discussed in Section 3, mean cash balances per capita of the national population constitute a reasonable proxy for mean holdings per capita of the rural population. The assumption that the velocity of circulation is constant would not, we have argued, be valid during the period of shortages (1979-84). During shortages the demand for money rises relative to expenditure. We have already noted such a rise, followed by a sharp fall following the restoration of market-clearing. Hence, the years which are candidates for the procedure are 1977-78 and 1986-89 (although 1985 was probably a year a market-clearing, it is likely still to have been part of the adjustment process to lower real balances). On the basis of real balances per capita for these years two points are worthy of note. First, we can compare real balances in 1986 with those for the period 1977-78. This provides some information upon the change in real cash income between the onset and the end of the period of shortages. This comparison implies a decline in real cash expenditure of 37.6% ($1-[65.1/104.3]$). Note that this is very similar to the estimate based upon a comparison of budget surveys discussed in Section 3 (38.7%). Second, during 1986-89 there has been no significant increase in real cash balances

per capita. This in turn would imply that real cash incomes in the peasant economy have not recovered substantially to date.

4.3 Income from Sales of Crops

In this section we attempt to estimate peasants' real income from crop sales. We distinguish three categories: sales of export crops, sales of food crops through official channels, and sales of food crops through unofficial channels. The results are set out in Tables 8 and 9. Sales through official channels are unproblematic. However, food sales through unofficial channels are estimated indirectly. Our procedure is to estimate urban food consumption using the 1977 Household Budget Survey data of urban grain consumption per capita and the intercensal growth rate for the urban population. That is, we assume constant urban per capita grain consumption during the period.

Table 8: An Estimate of Open Market Grain Sales: 1982/3 - 1987/8

	1982/3	1983/4	1984/5	1985/6	1986/7	1987/8
Urban Population	2904250	2969874	3038545	3109799	3184381	3262240
Urban Food Consumption:						
Maize '000 tonnes	487	498	509	521	533	546
Rice '000 tonnes	99	102	104	106	109	112
NMC Sales:						
Maize '000 tonnes	209	254	220	157	76	120
Rice '000 tonnes	72	79	58	28	63	62
Open Market Sales:						
Maize '000 tonnes	278	244	289	354	457	426
Rice '000 tonnes	27	23	46	78	46	50

Assumptions:

1. Urban population is estimated from the National 1988 Census figure, and respective regional growth rates applied to each urban center.
2. Assume a per capita grain consumption of 2000 cal/day. Maize volumes obtained by assuming an 89% share of grain consumption coming from maize and a maize calorie content of 3530 per kg. Rice Volumes obtained by assuming an 18% share of grain consumption coming from rice and a rice calorie content of 3450 per kg. The maize and rice share are deducted from the 1976/77 HBS which indicated 100 kg/year/pc of maize and 20 kg/year/pc of rice consumption in DSM.
3. NMC sales source: HDB 1988.
4. Open market supplies: residual of urban consumption - NMC official sales.

Table 9: Crop Sales 1982/3-1987/88

	1982/83	1983/4	1984/5	1985/6	1986/7	1987/88
Official Grain Sales:						
Maize '000 tonnes	85	71	85	178	178	229
Rice '000 tonnes	21	22	12	16	11	43
Official Price Maize	1750	2200	4000	5250	6300	8200
Official Maize Price Index	100	126	229	300	350	469
Official Price Paddy	9000	4000	5000	8000	9000	14400
Official Paddy Price Index	100	133	200	267	300	480
Open Market Grain Sales:						
Maize '000 tonnes	278	244	289	364	457	426
Rice '000 tonnes	27	23	46	78	46	50
Open Market Price Maize	4740	9530	10510	9710	10590	14960
O.M. Maize Price Index	100	201	222	205	223	316
Open Market Price Rice	13500	29400	65300	38500	37100	46900
O.M. Rice Price Index	100	218	484	265	276	347
All Grain Sales:						
Total Maize '000 tonnes	354	915	374	542	630	655
Total Rice '000 tonnes	48	45	58	94	57	93
Maize Quantity Index	100	87	109	149	179	180
Rice Quantity Index	100	92	120	195	118	191
Average Maize Price	4033	7876	9030	8245	9413	12698
Average Maize Price Index	100	195	224	204	233	312
Average Rice Price	9646	17950	53701	34063	32613	35418
Average Rice Price Index	100	186	657	353	338	367
Grain Sales Quantity Index	100	88	107	160	160	183
Grain Sales Value:						
Maize m. Tsh	1458	2477	3977	4468	5934	8258
Rice m Tsh	467	802	3115	3217	1859	3282
Total m Tsh	1933	3279	6492	7686	7793	11540
Maize Index	100	169	230	305	405	663
Rice Index	100	172	667	689	398	703
Total Index	100	170	336	398	403	597
Export Crops Sales 1/:						
Quantity Index	100.0	100.9	102.3	89.9	119.4	120.8
Price Index	100.0	131.6	174.3	254.2	325.2	415.8
Value m Tsh	1986.2	2651.8	3550.7	4580.7	7794.5	9886.3
Value Index	100	134	179	231	392	498
All Crops:						
Sales Value Index	100	152	257	314	398	547
Quantity Index	100	94	105	125	139	151
Price Index 2/:	100	162.6	207.8	237.6	283.4	376.1

/1: All traditional exports (coffee, cotton, cashew, tea, tobacco, pyrethrum, cardamon), excluding sisal.

/2: Laspeyres price index, base 1982/82=100.

Table Cont./

Table 9, Cont.

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Non Food CPI	100	130	183	239	306	373
Real Official Maize Price	1750	1690	2186	2199	2062	2197
Real Off'l Maize Price Index	100	97	125	126	118	125
Real Off'l Rice Price	3000	3072	3279	3351	2946	3858
Real Off'l Rice Price Index	100	102	109	112	98	129
Real O.M. Maize Price	4740	7819	5744	4067	9466	4008
Real O.M. Maize Price Index	100	154	121	86	73	85
Real O.M. Rice Price	13500	22578	95685	16127	12143	12567
Real O.M. Rice Price Index	100	167	264	119	90	93
Real Average Maize Price	4093	5048	4935	3454	3081	3376
Real Ave. Maize Price Index	100	150	122	86	76	84
Real Ave. Rice Price	9646	13785	29347	14268	10675	9490
Real Ave. Rice Price Index	100	143	304	148	111	98
Real Grain Sales Value:						
Maize m Tsh	1466	1902	1846	1872	1942	2213
Rice m Tsh	467	616	1702	1348	609	879
Total m Tsh	1933	2518	3548	3219	2551	3092
Maize Index	100	130	126	128	132	151
Rice Index	100	132	364	289	130	188
Total Index	100	130	184	167	132	160
Export Crops Sales:						
Real Price Index	100	101.1	95.3	105.5	106.4	111.4
Real Value Index	100	102.5	97.7	96.6	128.4	133.4
All Crops:						
Sales Value Real Term Index	100	116	141	132	130	147
Real Price Index:	100	125	114	100	93	101

Official sales are then deducted, leaving open market purchases as a residual. The details of the calculations are set out in Table 8.

If we regard the income from crop sales during the crop year 1982/83 as being spent during 1983, we can deflate the resulting sales value index ("all crops") by the peasant cost of urban purchases (Table 10).

Table 10: Peasant Real Crop Income

	Nominal Crop Sales (total)	Rural Purchases from Urban Areas Price Index	Real Income from Crop Sales p.c. ^{12/}
1983	100	100	100
1984	152	130.7	113.8
1985	257	188.9	130.3
1986	314	258.9	113.6
1987	398	339.7	107.4
1988	547	431.8	113.6

This income series again suggests that there has been little growth in real income since 1983. On a per capita basis between 1983 and 1988 real income rose at an annual rate of 2.6%.

4.4 Supplies of Consumer Goods

Our third approach to trends in living standards is to estimate changes in the supply of consumer goods. Whereas our two previous approaches applied only to rural living standards, this approach applies to the national level: we are unable to distinguish between rural and urban households. The supply of non-food consumer goods comes from two sources, domestic production and imports, and we consider these in turn.

The series on domestic production measures the volume of consumer goods output and is shown in Table 11. Note that despite the overall revival in manufacturing production post-1985 the output of the consumer industries continues to decline throughout the period. This may be illusory, because the series is confined to large firms operating at the start of the period. Many of these firms have been adversely affected by trade liberalization whereas the policy changes have assisted new and small firms which are not part of the index.

Data on the recorded volume of consumer imports are published but are subject to biases from over- and under-invoicing. We attempt to correct for this by measuring the changing incentives to mis-invoice. The details of our calculation being set out in the footnotes to Table 12. The resulting series is shown in Table 11. We construct a weighted average of these two series as an indicator of the total availability of non-food consumer goods to the economy. In per capita terms by 1988 consumption is around 21% higher than in 1983.

^{12/}

Using the rural population growth rate of 2.2% p.a.

Table 11: Supplies of Non-Food Consumer Goods

	1982/3	1983/4	1984/5	1985/6	1986/7	1987/8
Consumer Manufactures ^{13/}	100	99.0	104.8	109.0	87.9	{81.0}
Adj. Cons. Imp. ^{14/}	100	169.4	145.8	138.1	133.0	184.6
Cons. Availability ^{26/}	100	138.4	127.8	117.0	113.2	139.0
Per Capita consumpt. ^{27/}	100	134.6	120.2	107.7	101.4	121.1

4.5 Peasant Food and Consumption

In Table 13 we compare our estimate of food sales to urban areas with MDB estimates of grain production maize plus rice, thereby deriving rural consumption residually. The result implies that rural food consumption increased by half between 1983 and 1988.

^{13/} 1985 production value-weighted index of all consumer categories in the Industrial Commodities Quarterly Report for 1985-87. For 1983-85 series is as Table 3A above. The ISIC categories included are 'food, beverages and tobacco'; textiles and leather; paper and paper products. For 1987-88 the series is confined to beer, cigarettes and textiles, as in the Quantity table.

^{14/} From Table 12.

^{26/} Weighted by value. Imports valued at Tsh 188 per \$ (black market rate in 1988) domestic production valued at 3.255 times its 1985 unit value (the increase in consumer prices for domestic manufactures between 1985 and 1989(1)).

^{27/} The inter-censal population growth rate is 2.8% p.a.

Table 12: Consumer Imports Adjusted for Over and Under-Invoicing

	1982/3	1983/4	1984/5	1985/6	1986/7	1987/8
Recorded Consumer Imp. (10)	100	160.5	132.4	124.7	110.7	154.5
% own-funded	0	39.6	64.2	60.8	63.3	55.6
Net Returns per \$1 if:						
over-invoice off. imp (1) sh.	25.2	50.1	87.3	102.5	81.4	55.9
Index in real purchasing power	100	146	191	169	103	54
Under-inv. own-funded (2) sh.	3.3	4.6	5.3	9.8	19.3	29.8
Index in real p.p.	100	101	87	122	185	217
Over-invoice rate % (3)	20	29.2	38.2	33.8	20.6	10.8
Under-invoice rate % (4)	3	3	2	3	5	6
Off. funded cons. imp. (5)	100	96.9	47.4	48.9	28.5	68.6
Adjusted Off. -funded imp (6)	83.0	75.0	34.3	36.5	23.6	61.9
Own-funded imp (7)	0	63.6	85.0	75.8	82.2	85.9
Adjusted own-funded imp (8)	0	65.6	86.7	78.1	86.8	91.3
Adjusted total imports (9)	83.0	140.6	121.0	114.6	110.4	153.2
Index	100	169.4	145.8	138.1	133.0	184.6

- (1) The net incentive to over-invoice imports which are financed by official purchased foreign exchange is determined by two factors. The difference between the official and the black market exchange rate provides an incentive to over-invoice, but this is offset by having to pay a larger import duty. By over-invoicing an import costing \$100 by \$1 the net profit is given by $(1+t)e-b$, where t is the tariff rate, e the official exchange rate, and b the black market rate. The tariff rate used in the calculation is 30%. The black market series used is Tsh 39.6 per \$ in 1983, then 70, 110, 145, 165 and 185. In the next row this is deflated by the national CPI.
- (2) In the case of own-funded imports there is no incentive to over-invoice because the importer is using his own foreign exchange. However, the incentive to avoid tariffs by under-invoicing remains. Therefore the incentive to under-state the dollar cost of imports of \$100 by \$1 equals $t.e$ where the symbols are as defined in note (1). This gain is again deflated in the next row by the CPI.
- (3) We assume that the over-invoicing rate is proportional to the incentive to over-invoice. We further assume that in 1983 the over-invoicing rate on consumer imports was 20%.
- (4) We assume that the rate of under-invoicing would be the same as the rate of over-invoicing for a common value of the incentive to mis-invoice.
- (5) Total consumer imports in 1983 are set to 100. This row shows that portion which is officially funded. The proportion of consumer imports which are own-funded is derived from unpublished Bank of Tanzania data on import licenses. We assume a common utilization rate of these import licenses.
- (6) The data are adjusted by the over-invoicing rate.
- (7) As note (5).
- (8) The data are adjusted by the under-invoicing rate.
- (9) Sum of adjusted series.
- (10) For 1983-86 the volume series is from Foreign Trade Statistics, 1987, Table 27. This is extended to 1988 assuming a 3% p.a. increase in the dollar unit price.

Table 13: Food Production, Sales and Subsistence Consumption

	1983	1984	1985	1986	1987	1988
Grain production (000t) (1)	2001	2295	2520	2758	3003	3415
Total sales to urban (000t) (2)	412	360	432	636	687	748
Rural consumption (000t) (3)	1589	1935	2088	2122	2316	2667
Index per capita	100	119.2	125.8	125.1	133.6	150.4

- (1) From Marketing Development Bureau.
 (2) From Table 9.
 (3) Residual of production and urban sales.

4.6 The Approaches to Trends in Peasant Expenditure Compared

We bring together the three approaches in Table 14.

Table 14: A Comparison of Real Income Changes 1983-88

	Real Money Balances pc	National Non-Food Consumption pc	Real Income from Crop Sales p.c. (1)	
			Gross	Net of Tax
1983	-	100	100	100
1984	-	134.6	113.8	110.2
1985	-	120.2	130.3	131.7
1986	100	107.7	113.6	108.8
1987	102.5	101.4	107.4	98.3
1988	103.1	121.1	113.6	106.3
1989(1)	103.2			

The series on real balances and on real income from crop sales both refer only to peasant real cash income whereas that on non-food consumption refers to the whole population. The real crop income series should overstate the growth in peasant expenditure since from Table 4 we know that the incidence of the quasi-income tax levied through changes in the demand for money tended to rise over the period. Real income net of this tax is shown in the last

column. For example, in 1983 the tax incidence was 6% so real post tax income was $.94 \times 100$, and in 1988 the tax was 12% so real income was $.86 \times 113.6$, which indexed onto 1983 is 106.3

Our analysis has suggested that despite a large increase in peasant crop sales, peasant real expenditures on urban goods have only increased slightly. By contrast, their consumption of food has increased substantially. This implies that the pattern of peasant consumption has switched in favor of food. By contrast, our assumption in Table 7 of constant per capita urban food consumption implies that the urban consumption pattern has switched away from food. These switches are consistent with movements in relative prices. Table 15 summarizes the changes for representative peasant household. In rural areas maize became cheaper relative to urban-supplied goods because of the fall in the real producer price of maize (the relevant price for peasants). Hence we would expect substitution into food and away from supplied goods.

Table 15: Food and Urban Goods Consumed by Peasants (per capita, 1983=100)

	1983	1988
Food (Quantity)	100	150
Urban Goods (Quantity) ^{28/}	100	108
Food/Urban Goods	100	139
Price of Food/Urban Goods ^{29/}	1.0	0.72

The implied price elasticity of demand for the two groups of goods is around unity (which is credible). In urban areas, by contrast, the relative price of food has almost certainly risen due to the removal of the subsidy on sembe, which benefitted almost exclusively urban consumers. Hence, in urban areas we would expect substitution out of food into other goods. Note, however, that this does not imply an absolute fall in urban food consumption because overall expenditure has risen.

Thus, given what we know about changes in relative prices, it must be the case that the consumption of food has increased relative to other goods in rural areas and decreased in urban areas. This provides at least qualitative support for our estimates.

5. Conclusion

Our central findings are as follows. First, the rapid and continuous decline in living standards which took place between 1978 and 1983 has been arrested. Nationally, living standards have risen significantly in terms of both food and non-food consumption. Secondly,

^{28/} From peasant post-tax crop income in Table 14.

^{29/} Price of urban goods from Table 5, producer price of maize from Table 9.

in rural areas, while food consumption has increased substantially, non-food consumption has been broadly constant per capita.

These findings must be qualified, in particular because there is no direct survey evidence post-1983. Some of the data are of uncertain quality and in some cases we have had to make assumptions. However, by using three distinct approaches, income, expenditure and output, we have generated a number of opportunities for our interpretation of the evidence to conflict. The results of these various approaches appear to be consistent.

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NATIONAL INCOME ESTIMATES IN TANZANIA

Methodological and Empirical Issues

Tanzania Economic Report

Background Paper #2

National Income Estimates in Tanzania

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EXECUTIVE SUMMARY

1. The official national accounts of Tanzania reasonably reflect the economic activities that are covered by conventional means given the resource constraints and basic data problems. The main challenge of the national accounts section of the Bureau of Statistics Office (BOS) is to extend the conventional framework to include parallel market activities, while at the same time to incorporate recent work on data and methods from the ongoing work with the technical assistance of EUROSTAT.

2. In the 1970s the parallel market probably accounted for 10-15 percent of GDP. The official figures represented a fair estimate of economic activity, especially since the input/output table and the household income and expenditure survey were done in the mid-1970s. From 1980 onwards, evidence points to fairly rapid growth in the parallel economy, and even through the period of liberalization starting in 1984, the sector continued to expand and remained significant. Very little of this rapid structural change, however, has been captured in the national accounts.

3. According to the recent publication, The Second Economy in Tanzania, by Bagachwa and Maliyamkono, the official national accounts are underestimated by about 30 percent for 1986. The accuracy of these estimates cannot be confirmed by the mission, but given indirect measures such as: (i) the apparent major discrepancies at the household level between reported incomes and expenditures required for basic sustenance; (ii) partial information from surveys of the informal sector; (iii) the level of own account imports (which have a counterpart in unrecorded exports of local production); and (iv) anecdotal information on informal employment in virtually all economic sectors, this seems to be reasonable. Only since the mid-1980s, as some of the restrictions have been removed and an extended range of consumer goods has entered more freely into the domestic market, have the severe shortages common in the past disappeared, and the size of the parallel economy has remained more stable.

4. Participation in the parallel economy in Tanzania is widespread because state intervention has not allowed markets to function properly. Fixed price policies, across-the-board subsidies, and incomes policies that began in the 1970s resulted in widespread supply shortfalls and the emergence of economic agents who brought producers and consumers together informally and for the most part "illegally". Shortages resulted in rapid price increases, with inflation averaging about 30 percent per year since the early 1980s.

5. The parallel economy comprises all operations and transactions that do not come under either direct or indirect state observance or control. The informal sector forms part of this economy, often supplying many of the goods for the parallel market. Informal sector activities tend to go mostly unrecorded because they are small scale, and difficult to identify. Most activities in the parallel economy are small scale private agricultural and manufacturing activities that are genuinely productive, and trading activities that earn economic rent due to inadequacies and inefficiencies in the system form another main parallel market activity.

6. Apart from the main urban areas of the country, cross border trade is relatively common where access roads and tracks are better maintained than the internal road and communications network. There is an added incentive for cross border trade when a premium can be gained from the foreign exchange differential by selling directly or through barter trade. The customs department assumes that illegal cross border trade is substantial.

7. **Reliable data on the parallel economy are difficult to collect, so the tendency has been to produce national accounts estimate based on existing data sources and established estimation procedures. Bank mission estimates attempt to go beyond the official estimates by extending some work done by BOS in EUROSTAT projects, and by making estimates for "hidden economy" activities that are believed to be the most egregiously under-reported. Mission estimates were based on partial data in an attempt to fill in known gaps and reduce the existing bias. It is hoped that the comments and mission estimates will be a point of departure for generating better estimates through improved basic data collection and methodological refinements.**

8. **The Bank's main objective in terms of statistics development in Tanzania is to ensure that macroeconomic measures are robust enough for meaningful analysis and policy formulation. The official national accounts of Tanzania are currently only marginally sufficient for macro analysis. Some of the key components of GDP are subject to wide margins of error. For example, agriculture covers about 65 percent of GDP, but since the emphasis is on measuring export crops and a few main staples, about 40 percent of agriculture production is measured by proxy indicators such as population growth. It can be easily demonstrated that methodological choices in the agriculture sector have the effect of reducing agriculture value added levels and altering growth rates considerably. Another high priority area for improving estimation procedure is the level and change in investment. Due to the existing paucity of data on construction activity and lack of details of machinery and equipment imports, many of these numbers reflect little more than artful guesswork, given also problems with measuring appropriate deflators, official estimates of real investment should be used with caution as well.**

9. **With the participation of EUROSTAT technical assistance experts and enhancement of computer operations as well as dissemination capabilities by Statistics Sweden, considerable efforts have been made by the national accounts office to improve the present situation. However, to achieve greater progress in national accounts coverage and enhance their reliability, the Tanzanian authorities will have to:**

- **devote more resources to statistics;**
- **begin more relevant and focussed in-house training with local experts and other outside resources;**
- **devise a work program that includes surveys designed to encompass parallel economic activities;**
- **complete and incorporate all EUROSTAT projects into the national accounts;**
- **increase the range of crops covered in agriculture surveys; and improve agriculture estimates by measuring area planted and harvested (either directly or using farmer surveys);**
- **collect data on formal and informal employment, recognizing these activities may not be mutually exclusive;**
- **revise the national accounts base year to a recent year in which conditions were more normal and prices were relatively stable;**
- **incorporate estimates of Zanzibar in GDP estimates of Mainland Tanzania.**

10. **Finally, to promote the activities noted above and to determine further priorities for the national accounts work program, it has been suggested and we would endorse the idea of the**

Planning Commission and Bureau of Statistics organizing a workshop of producers and users of national accounts information. In the first instance, such a workshop should involve government officials, the academic community and other interested parties.

NATIONAL INCOME ESTIMATES IN TANZANIA

I. Introduction

1. The official national accounts of Tanzania are compiled following broadly the conventional guidelines defined according to the UN System of National Accounts. The aggregates and their component breakdowns comprise categories that are internationally recognized, although the bases of the estimates themselves may differ from those in other countries because of the different assumptions and imputations that have been made, particularly because of the predominantly rural nature of the economy. A commodity flow basis of estimation (rather than enterprise survey returns or tax records) is used as the primary method for determining gross output and value added for some sectors such as construction.

2. Compared with many African countries the official national accounts tables of Tanzania are compiled with reasonable care and attention to detail, and senior national accounts staff are competent and dedicated. In conventional terms, the coverage of reported transactions is fairly comprehensive. With closer scrutiny, of course, it is possible to incorporate quite a number of specific improvements to the estimates and to refine the existing aggregates to account for extra information about such components as recorded trade flows, intermediate consumption, etc. not previously available to the Bureau of Statistics (BOS). BOS staff have been refining the data and methods for national accounts in conjunction with EUROSTAT sponsored projects. Progress has been made in identifying areas of weakness, but there is room for improvement.

3. Although the official national accounts of Tanzania are prepared in a traditional way following accepted guidelines as a comprehensive set of economic accounts describing the size and structure of the Tanzanian economy, the existing series are limited because they do not capture all transactions. In addition, they do not value correctly some of the transactions that are recorded and included in the national accounts. This is because many of the activities which are missing are "hidden" from official enquiry, in most cases deliberately, while many others are misreported or under-recorded. The activities and associated transactions concerned belong to the "secondary economy" and take place in the parallel market. This necessarily restricts the usefulness of the present official series for development planning, policy analysis and program formulation, despite the fairly accurate reflection the national accounts provide of the official, formal economy. However, since the 'official' economy remains the dominant sector and continues to represent the principal stage on which the more important, large scale transactions (that are clearly more difficult to hide) take place, this review looks first at how well the government's data describe this part of the economy.

4. By their very nature, however, the official national income figures of Tanzania do not adequately take account of those economic activities that arise, informally, when there is, for example, significant disruptions in public services or breakdowns in the organized system of distribution, including transportation. Without a living wage from employment, people have to find alternative means of economic survival, selling the goods they produce and acquiring the food and other essential commodities they require for daily survival. They do this through the parallel market and, sometimes, illegal (in the sense of contravening state regulated activities and controlled prices) economy.

5. Agriculture is the principal sector, and while total outputs - or rather production sales - are reasonably well covered for major food crops, annual measures of intermediate consumption are not readily available and have to be assumed or approximated. Hence the gross value added figures are also affected, although less so to the extent that inputs form a relatively small percentage share of total output.

6. The same remarks can be made about the mining and manufacturing sectors. However, to the extent that recorded or reported, output sales do not reflect actual total sales (because, for example, the former are figures of sales reported by some monopsonistic national marketing board or controlling co-operative) the sector outputs will be undervalued. Such 'outputs', furthermore, may not accurately reflect the true physical production at the farm gate, mine, or factory level.

7. There are thus essentially two separate issues:-

- (a) To what extent should the existing official numbers be amended and modified to take account of new data obtained by the mission and the somewhat different approaches, for example, in assessing intermediate consumption that can be used to determine value added (and which also take account of previously unused information)?
- (b) How much do the official figures understate true sales of goods and services, and how different are these from the real current output measures?

8. Both issues draw attention to potential discrepancies in the official figures in the physical quantity estimates (and hence in the constant price output series) and to the underlying valuation (price) basis of the respective aggregates.

9. As in most developing countries, Tanzania shares in the lack of resources, wide geographic diversity and inaccessibility, the small scale of some economic activities, etc., and difficulties arise in collecting, compiling, and analyzing the national accounts. The issues associated with compiling national accounts are usually known best by the national accountants in the country, and Bank missions rely on their experience to formulate suggestions and adjustments that enhances the accuracy or overall coverage of the accounts. The mission review and subsequent adjustments to the national accounts were done with the hope that an exchange of information and ideas would benefit both the Bank and the Tanzanian authorities.

10. Part II of this chapter briefly reviews the current practices in compiling the national accounts of Tanzania, and discusses strengths and weaknesses of the official estimates. Details of output and expenditure accounts are in Sub-Annex 1. Part III summarizes how the official numbers can be improved using a more refined estimation procedure, re-doing the calculations at the more detailed commodity level in many instances, and applying new knowledge that has become available, e.g., as a result of the recent Eurostat consultancy arrangements on the national accounts, since the last official estimates were drawn up. This represents a disaggregated, sector focussed review of the data which emphasizes the significance of the micro data sets. Details of methodological adjustments are in Sub-Annex 2; "hidden economy" adjustments are noted in Sub-Annex 3.

11. Part IV takes a broader perspective by including estimates of the "hidden economy". The aggregates are refined and corrected as far as the information allows in order to properly reflect the reality of economic activity and the scope of transactions regularly occurring.

12. In both instances, care must be taken not to incorporate unwittingly the assumptions that have been adopted in deriving new estimates, especially where they rest on only the shakiest quantitative foundation and by their nature rely little on supporting hard empirical evidence. This applies not only in trying to determine more appropriate benchmark figures, but also in attempting to monitor more realistically the changes occurring from year to year since in the past fixed parameters have been applied to derive estimates, and such measures are clearly inappropriate in a country like Tanzania with its path of development over the past decade and a half.

13. Part V gives an overview of the institutional requirements and changes needed to improve the coverage and quality of national accounts in Tanzania.

14. The report also discusses in greater depth the methodological and data adjustments to the official national accounts, and details of a future work program in the annexes. Also attached are statistical tables that show all mission estimates.

II. Review of National Accounts Methodology

15. The national accounts office in the Bureau of Statistics (BOS) has recently written informative notes on the sources and methods of the latest GDP series. This note and the Eurostat consultant's reports have provided a point of departure for the mission's review and adjustments of the national accounts. Eurostat's national accounts project (begun in 1986) has been based on a program of improving the national accounts by using existing basic data. A brief description and status of these projects is in Sub-Annex 4.

16. Only selected partial information from these projects have been incorporated into the official national accounts series. It is important to note that these revised national accounts will only marginally improve the reliability of the national accounts since the basic data upon which they are estimated are weak in some areas. The BOS note on sources and methods acknowledges this shortcoming, and the mission agrees that it is important to develop improved basic data from surveys, especially in sectors in which the informal economy is large.

17. A review of some of Tanzania's key strength and weakness in national accounts data and methodology in the existing national accounts are given below.

18. The key weaknesses of data inputs into the national accounts include:

- uncertain estimates of agriculture output for many crops;
- under-recording of informal economic activities;
- lack of actual construction data;
- reliance on official prices rather than transaction or market prices;
- trade data

- lack of recent HBS data.
19. Key data strengths of the national accounts include:
- availability of data from public sectors such as government services, utilities and public transportation and communication;
 - availability of data from large scale manufacturing;
 - new agriculture survey data available.
20. Key methodological weaknesses include:
- outdated base year (1976);
 - outdated input/output relationships (1976)
 - weak estimation procedures for private and rural construction;
 - inconsistencies between current and constant price estimation methods.
21. Key methodological strength include:
- UN SNA concepts and definitions followed reasonably well;
 - Some improvements implemented recently.
22. Price deflators are implicit deflators for most sectors since constant price estimates are calculated on the basis of physical indicators. This results in some deflators that change dramatically, and are inconsistent with other price changes in the economy. For example, the implicit utilities deflator increased by .8% in 1983, and by 85% in 1984 (overall inflation was about 20-30 for those two years). Since the estimation of current and constant prices used different methods (current price estimated by income method; constant price estimated by physical indicators) that may not have been internally consistent, the deflators are odd looking. In this case, it might have been best to use the physical indicator such as kilowatt hours and gallons of water produced for the constant price series, and then inflate by the average cost per unit to obtain the current price estimates. The deflator would be reasonable, and the nominal series would be consistent with production estimates.
23. In developing countries, price collection is weak, so using physical indicators to estimate constant price series is a common practice. The choice is between using physical indicators of the output series or the input series. Where the ratio of output/input is high, as in agriculture and manufacturing, it is best to use output as the physical indicator. If output is homogeneous, such as in the electricity sector, the output indicator is also good to use. Where output is difficult to identify, as in construction, transport, and services, inputs serve as the best physical indicator for the constant price series. However, when inconsistencies arise between current and constant price series, it may be necessary to review the data in both series to determine which gives the best estimates. This is an area that deserves special attention in the Tanzanian accounts.
24. Valuation of national accounts should be at prices at which economic transactions take place, but in Tanzania, price controls at one time were widespread and transactions or "market" prices often differed from official prices. The national accounts of Tanzania have been based

largely on the official prices because other prevailing prices were often unknown, or illegal and not officially recognized.

25. The Harrison Report (June 1988) looked into this problem for some sectors, and in agriculture, calculated that the official price may be reasonable to use for the bulk of the main cash crops. In some cases the market price is below the official price because official purchasing agencies could not make purchases for financial or logistics reasons, and farmers were forced to sell at a lower price. However, since smuggling occurs in many regions, the prices must have been higher than those offered by the official buyer. Moreover, the existence of a parallel market implies that goods are selling at higher prices. Much of the "rents" associated with the parallel market, however, could be attributed to the commerce sector, leaving the productive sectors reasonably well estimated in terms of prices.

III. Methodological Adjustments to the National Accounts

26. The estimates provided by the Bank mission, especially the agriculture value added series, gives an important illustration of how the newly developed series on gross output can be used and integrated into the national accounts. Crop-by-crop intermediate consumption estimates were applied to the gross output series, and the results show a somewhat different picture of the level and growth of the sector in the national accounts. It is important to produce these data and analyze the results to find out if they make economic sense. Various data and methodological issues may only arise once the figures are compiled, thus speeding the process of revision and final integration into the main national accounts.

27. Other Bank estimates of the "hidden economy" based on fragmentary data (such as the trophy hunting or unrecorded rental income based on the Bagachwa study) can be used as a point of departure for refinement by researching alternative/improved data sources and better methodologies. It may be possible to establish or to improve communications with other government agencies in order to develop information for where it is known to be weak. It is especially worthwhile to check into alternative sources and methods in areas for which published official data are not available, such as special University studies or surveys.

28. Methodological adjustments in the industrial origin accounts have been made to agriculture, construction, and other services (subsector of public administration and services).

29. In current prices value added, the adjustments give a slightly lower GDP at factor cost than the official figures. This is mainly due to agriculture value added estimates that are about 5-10 percent lower in the adjusted figures.

30. Mission estimates of construction value added is about 10-20 percent higher for most years than the official estimates. Public administration and services value added have been increased by about 5 percent in the adjusted series.

31. In constant prices value added, the adjusted series overall growth in GDP at factor cost is slightly lower than the official accounts; this is driven by the adjusted agriculture series which shows substantially lower growth rates than the official series during 1986-88. Earlier years show similar trends in the official and the adjusted series (official GDP (at factor cost) growth

from 1980-88 is 1.8%, MA series is 1.4%). Sector by sector methodological adjustments by the mission are discussed in Sub-Annex 2. The statistical appendix includes both official and mission estimates of the GDP by industrial origin and by expenditure.

IV. The Parallel Economy in Tanzania

32. **Characteristics.** The parallel economy in Tanzania is a part of the official economy and inter-related with it. Like the official economy it is also integrated into the international economy, perhaps more realistically and more successfully, since this component of the parallel economy has been growing whereas the official economy declined for a significant period. The parallel economy is now estimated to have reached 30 percent of GDP (Bagachwa). These activities form no part of the presently calculated GDP, even though most parallel market transactions are for cash. Thus, the official national accounts data do not describe the underlying economic reality of the country. The official figures do not capture all transactions and they do not value certain transactions which are included in GDP appropriately. Many of the activities of small producers, especially those involving cash food crops remain "hidden". Furthermore, the official data on prices for most consumer goods explain less than half of the actual prices paid (Bagachwa). Policy analysis based on such data must necessarily be incomplete and unsatisfactory.

33. **Origins.** The government's earlier response to external economic problems which it could not resolve was to increase the range of protective domestic economic policies and to impose more internal controls. Given already low levels of subsistence, most people were forced into the second economy simply to make ends meet and to preserve their families from the risks of further declining living standards. Transactions on the parallel market, though mostly small scale and in commonly required goods, became pervasive. The effective controls and regulations of the market, however, took several explicit and implicit forms:

(i) **Official Controls and Interventions;** These were introduced to support newly established institutions to regulate production, and introduce a more equitable distribution of output, through an extensive system of licensing, and in an attempt to control economic "sabotage" by statute.

(ii) **Official marketing Arrangements.** The establishment of artificial markets for a number of crops, the payment of low official producer prices and the setting of a wide range of administered prices (for goods which rapidly became unobtainable through official channels) provided a strong incentive for producers to seek alternative and more profitable outlets for their (mainly agricultural) output.

(iii) **Deterioration of Economic and Social Infrastructure.** The failure of the government to provide satisfactory marketing arrangements combined with its inability, through lack of resources, to maintain the nation's infrastructure and transportation networks imposed distributional constraints on producers that encouraged them to resort to their own devices in marketing output, especially where such items were perishable or deteriorated rapidly with time and storage.

(iv) **Shortages of basic goods and services.** Basic necessities are required on a regular basis by households to fulfill basic human needs; when unavailable through the usual formal channels,

people acquire them by various means "under the counter". The government's response to the growing recognition of its inability to effectively manage the economy was to extend the number of controls, increase the degree of prohibition and the severity of punishment for offenders, and raise the level of taxes. At the same time, inflation remained high. In effect, this only provided a further incentive to the growth of the parallel economy. But these actions have also had the additional undesirable effect of placing more (unofficial) power in the hands of those controlling and policing the system who stood to gain greater rents from exploiting their position through basically unproductive activities.

34. In Tanzania, the formal official economy has not completely satisfied the needs of the population, and many of the participants in the parallel economy bypass expensive, unnecessarily complex and time-consuming licensing, purchasing and production regulations simply to survive.

35. It was essentially the failure of the public sector in general to provide the normally expected range of public services and communal goods, and to adopt a supportive rather than regulatory role (including nationalization) with respect to the private sector that led to the establishment and entrenchment of the parallel economy in Tanzania. Over time, much of what has gone on in the parallel market has been institutionalized.

36. Participation in the parallel economy is widespread and pervasive over a wide range of activities, although, in general, according to well informed observers, the transactions are for the most part small scale and involve independent operators.

37. Parallel markets, including the so called "black market", occur when significant parts of the economy are controlled goods and services can no longer be freely produced and sold, or offered for sale (and thus purchased), within the existing national institutional economic framework. Such a situation arises in part because economies are not sufficiently efficient nor developed enough to permit certain types of production and trade to take place in open markets in the formal, monetized sector. These economies usually devote a significant share of output to non-monetary rural household production for own consumption, and to small scale informal production and service operations. Parallel markets also occur when, through the impact of state intervention markets are not allowed to function properly, if at all. Supply shortfalls appear and economic agents emerge to bring producers and consumers together at a different equilibrium level within a differentiated but not completely separated market.

38. Parallel markets and associated unreported informal activities therefore develop when a gap between effective demand and potential supply in the controlled formal economy is artificially introduced by policy. Whilst unintentional, such a situation was created in the 1970's by the Tanzania government, paradoxically, by deliberate official action to redress what it saw were growing inequalities in society. These were reflected in the increasing differential between incomes observed in the urban wage sector and in the village economy and this policymakers believed would undermine the main principles of African Socialism. The unexpected, and therefore unplanned for, repercussions of fixed price policies, across the board subsidies, and incomes policies led to widespread shortages, and an associated rapid increase in prices in the uncontrolled market, including the prices of those goods which were officially fixed. These economic difficulties were compounded by serious cash flow problems and the lack of adequate "cash cover" in parastatal organizations and the government. In practice, this meant that

suppliers and employees could not be paid, nor - in the case of the marketing boards - goods acquired by parastatal organizations. The problems were aggravated by distributional bottlenecks and domestic transportation difficulties.

39. The distinction between the official economy and the parallel economy are reflected in differences in the types of labor used, the growth of self employment and differences between capital technology and its utilization. This also leads to differences in the relative factor shares of capital and labor. These differences are manifested in Tanzania's case in the contrast between, on the one hand, a small number of fairly large state controlled production operations and, on the other, a large number of small, privately operated establishments. Each type of activity, for the market it attempts to serve, operates below optimum capacity and is usually established on a scale that can be either above or below what is technically optimum. There is a notable lack of intermediate medium scale operations to bridge the traverse between the two groups.

40. A variety of factors have led to the development of the parallel economy and the informal sector in Tanzania. The parallel economy as it has emerged in Tanzania can be defined as comprising all operations and transactions that do not come under either direct or indirect state observance and control. The informal sector necessarily forms part of this economy, often supplying many of the goods for the parallel market, though it is not synonymous with it. Informal sector activities go mostly unrecorded, not necessarily because they are illegal or contravene some local statute or by-law, but because they are usually small scale, difficult to identify and often family (kinship related) businesses. Other operations may be more truly "parallel", having been set up to by-pass cumbersome and frequently counter-productive registration and licensing regulations.

41. There are probably several categories of activity belonging in the parallel economy:

- (a) Those like small scale private agricultural and manufacturing activities that are genuinely productive, and contribute to an increase in the total output of goods and services.
- (b) Quite a few productive activities that may not get recorded (because they go through unofficial channels) which are relatively large.
- (c) Activities that merely facilitate or transfer output, but which earn an economic rent on account of the inadequacies and inefficiencies of the system. These activities, which are in some sense "productive trading" exploit difficulties in the distribution process by shifting goods from one market to another to bring buyers and sellers together at a price above that fixed by administrative fiat.
- (d) Those that are illegal in that they by-pass trading, finance and other exchange restrictions. Some may involve both production and sales and include transactions that deal in contraband or prohibited items.

42. Informal sector operations in Tanzania fall mainly in the first category. Parallel market transactions cut across all levels of enterprise activity, freeing up goods and resources bound in by artificial controls.

43. In the past, in many African economies, these parallel markets were regarded initially as representing a minor, temporary pathological and essentially parasitical growth on the formal monetary economy. But increasingly, as the state lost control of the economy, these markets developed in response to people's basic needs and the failure of the formal official system to deliver the goods and services required. They grew to become areas where important, permanent (and in some countries, dominant) submodes of production take place and, for the majority of households, the parallel market is now where most real economic activity occurs.

44. Before liberalization in Tanzania, an important share of the country's GDP and a large part of household income was generated in the parallel market. This sector achieved an effective dominance over many activities, particularly in agriculture and small scale mining but also including domestic transport and distribution activities. It hence exercised considerable control over both internal output and external trade flows. Measures were taken at that time with the objective to restrict these parallel activities - rather than to free up operations in the state controlled economy. These exacerbated the problem and further undermined the recognized 'legal' economy. Paradoxically, they only helped to strengthen the parallel market.

Estimated Magnitude of Tanzania's Hidden Economy

45. The characteristics of the parallel economy make it difficult to acquire reliable evidence concerning its scale of operations and to accumulate hard data on the various transactions involved. Information on this sector is thus fragmentary and incomplete. It is rarely garnered from official sources.

46. The thesis put forward here is that in the mid and late 1970s the parallel market was not very large and that it probably accounted for no more than 10 percent of GDP (Green, 1981). It was concentrated mainly in the area of food production and distribution. At that time, the official national accounts probably represented fairly faithfully the magnitude of economic activity in the country. From 1980 onwards, however, there is much clearer evidence that the size of the parallel market grew rapidly and that, even through the period of liberalization, this sector has remained significant and still continues to expand. Only in mid to late 1980s, as an extended range of consumer goods has entered more freely into the domestic market and the severe shortages common in the past have disappeared, has the size of the parallel economy remained more stable. It continues to represent, nevertheless, an important part of the domestic economy, not least because the new institutions and channels of commerce developed during this period are proving more difficult to dismantle.

47. Table A below gives some estimates in US dollars of the probably current magnitude of parallel market operations in goods, excluding commerce (distribution) and related transport and storage activities in 1988.

48. Assuming a conservative 30% distribution and transport margin, the total value of unreported trade transactions could have been high as around \$380 million or 37,500 million Tanzanian shillings at average 1988 exchange rates. The intermediate consumption element of this gross output is unlikely to be very significant for the commodities in question. Given that most of the expatriate component is more in the nature of a transfer which therefore contributes mainly to disposable income rather than to GNP, the contribution of the parallel economy in the

early 1980s to the overall real economy on the most conservative estimate is in the region of \$325 million or about 32,000 million Tanzanian shillings, i.e. around only 11 percent of an enlarged real GDP, which represents respectively 12% and 13% of the official GDP. Over time the share has probably fluctuated but only slightly, around a steadily rising trend until it was believed to have been around 30% of GDP at factor cost in 1988.

Table A: TANZANIA ADDITIONAL COMPONENTS VALUE ADDED 1985-8

1.0	<u>Goods:</u>	<u>Agriculture</u>
1.1	<u>Cardamon</u>	90% outside 'official' market. (10% - 760 tons) (\$4 million '85; \$2 million '86; \$7 million '87)
1.2	<u>Crops</u>	Non-traditional crops, mostly food 1987 = \$10 million
2.0	<u>Hunting</u>	
	<u>Trophies (ivory/hides)</u>	Ivory \$135 million - 1988 Rhino \$ 13 million - 1988 (Official sales \$3 million)
3.0	<u>Mining</u>	
	<u>Gold</u>	\$14 million; other minerals - \$10 million
4.0	<u>Manufacturing</u>	
	<u>Handicrafts</u>	Wood, shell, painting, ornaments (sold through Kenya) 1987 = \$9 million (for 5 million peak) - say \$15 million.
5.0	<u>Services</u>	
5.1	<u>Housing</u>	Rent \$800 - 2,000 p.m. per housing unit. \$35 million 1988 Total 'Black Market' Rent \$32 million 1987 \$26 million 1986
5.2	<u>Tourism</u>	Parallel market from tourism = \$70 million 1988 Av. daily exp. = \$82-85 (50% = of which lodging)

Footnote:

- 1) Net Under invoicing imports
1985 Under = \$177 million
1986 Over = \$65 million (This seems odd unless it was to facilitate capital flight).
- 2) Net Under invoicing of exports
1986 = \$49 million
- 3) Own funded imports
1984 = \$252 million
1988 = \$638 million

Source: Bagachwa.

49. These calculations, however, do not take into account unreported transactions in the services sector (apart from the transport and distribution component mentioned above). In addition, therefore, it would be necessary to include the transportation of people (in dala dala and other private trucks and buses), informal banking and credit services, including those serving the tourist industry. In terms of value added these possibly account for further \$50 million plus, giving a 4 to 5% addition to the total parallel market share of GDP.

V. Institutional Action Program for Statistics

50. Considerable efforts have been expended by the European Communities (EC) and Statistics Sweden to strengthen the capacity of the Tanzanian Statistics office. The former has focussed primarily on the improvement of the national accounts, while the latter has paid more attention to the enhancement of computer operations and dissemination capabilities.

51. The EC, through a series of more than a half a dozen successive consultancies, has laid the foundation for reconciling the production and expenditure estimates in the official set of national accounts. These relate to the formal, official economy. Apart from some still outstanding problems concerned with balancing the public sector accounts, this work is more or less complete. It provided the main foundation on which the Bank recently made its own adjustments to the official series. The statistics office in Dar-es-Salaam, with whom the EC consultants worked closely, has no dispute about these numbers, but little has been done with in the adjustments by the planners and policy makers in Tanzania. Furthermore, data improvements and enhanced statistical capability need to be institutionalized and broaden within the BOS, with emphasis given to devoting more resources to improving statistics and the national accounts in particular. The problem is that there is much economic activity going on which is not captured by the official statistics and, apart from the need to broaden the comprehension of national accounts statistics - the foundation of which is now reasonably well developed - there should be some consideration of how the conventional framework ought to be extended to incorporate unreported parallel market activities and under-recorded informal sector transactions.

52. Finally, to promote the activities noted above and to determine further priorities for the national accounts work program, it has been suggested and we would endorse the idea of the Planning Commission and Bureau of Statistics organizing a workshop of producers and users of national accounts information. In the first instance, such a workshop should involve government officials, the academic community and other interested parties.

Present Practice of Compiling National Accounts in Tanzania

1. **Agriculture** is the main sector in Tanzania (about 60 percent of GDP), and production data is estimated for six major food crops (maize, paddy, wheat, sorghum and millet, cassava, and beans), which are obtained from the Marketing Development Bureau (MDB). Data on official sales of export crops are obtained from the Annual Economic Surveys (AES), and producer prices are from MDB reports. Data for about 25 other crops (accounting for about 40 percent of agriculture crop output) are extrapolated by rural population growth from the 1976 Household Budget Survey (HBS). The sector also includes estimates of livestock, hunting, fishing, and forestry. Constant prices are estimated by valuing quantities of production at 1976 producer prices.

2. The major shortcomings of measurement in agriculture value added are: (a) MDB crop production estimates are not based on actual measurements, (b) export crops sales only include official sales, not production (unofficial sales, own use, etc. are not included), (c) prices for most crops are official prices, (d) no reliable production data are available on the minor crops which comprise about 40 percent of crop output, and (e) intermediate consumption (seeds, fertilizers, fuel, etc.) of 10 percent is assumed to be the same for all crops instead of using crop by crop ratios.

3. **Mining** includes stone quarrying, salt mining, and diamond and other (gold, gemstones, tin, mica, etc). Constant prices are estimated by applying 1976 sale prices to quantities of mineral output. The Eurostat project has identified some problems with the estimates of stone quarrying (input/output data for 1976 differs substantially from the national accounts estimates); revisions in the national accounts are planned. Estimates of other minerals are from reported sales. For some minerals, such as gold, the official price is far below the international price and partial evidence suggests that much production is sold through unofficial channels, and is therefore not captured in the national accounts. Constant prices are estimated by valuing quantities produced at 1976 prices.

4. **Manufacturing** data are derived from the annual survey of industrial production of manufacturing establishments employing ten or more persons. Estimates of gross output for establishments employing five to nine persons are based on a 1978 survey, and are unadjusted for subsequent years. Partial evidence suggests that between 1978-1986, small-scale manufacturing (1-9 employees) declined significantly from 1986-1989, small-scale production increased dramatically. Estimates of output for firms employing less than five employees are based on the 1976 input/output studies, and are assumed to be one third of the total value added of all manufacturing establishments. Constant prices are extrapolated from the base year via physical indicators of the volume of production. National accounts estimates of this sector are weak since the informal economy is thought to be quite large in small scale manufacturing.

5. **Electricity and water** data are collected by the Tanzania Electric Supply Corporation (TANESCO) and the National Water Authority. Constant prices are derived by

applying physical measures of energy and water production to the base year estimate. The data used in the national accounts are derived from the accounts of these entities.

6. Construction estimates include private and public construction projects. Data on construction for central and local governments are derived from their accounts, and for parastatals information is obtained from questionnaires. Information on private construction is derived from extrapolating the 1976 benchmark figure by the increase in cement consumption. Although using other proxy indicators would be desirable, it is difficult to obtain consistent series on specific material inputs into construction. Concrete products account for about 25 percent of material inputs. Other inputs include wood (13 percent), paint (12 percent), and hardware and windows (8 percent). If domestic production and imports can be established for the 1976-88 period for these inputs, this method of estimation can be refined. In the case of rural own account construction, rural population growth is used to extrapolate the benchmark year estimate. Since an important direct source of information for private construction has not been available since 1972, estimates are weak, and are probably understated.

7. Commerce covers wholesale and retail trade, and restaurants and hotels. Estimates of gross output and intermediate consumption are available from the 1976 input/output survey, and subsequent years have been extrapolated on the basis of current price gross output in the goods producing sectors of the economy (agriculture, mining, and manufacturing). Constant price estimates use the 1976 price series of gross output of the producing sectors to extrapolate subsequent years. Data on hotels and restaurants are derived from accounts of the Tanzania Tourist Corporation (TTC). Estimating the gross output of the commerce sector is difficult given the absence of systematic data sources, especially since informal activities such as street vending and small scale food caterers are included. The Eurostat report makes some specific recommendations on possible methodological changes (for example, trade margins on imported goods can be separately calculated and added to the domestic goods margins), but the results are similar to current methodology. This sector is underestimated to the extent that the productive sectors and imports are underestimated, and to the extent that other small scale informal catering activities exist.

8. Transport, storage, and communications data for state owned enterprises such as Air Tanzania (ATC), Tanzania Railway Corporation (TRC), Tanzania Harbors Authority (THA), Tanzania Zambia Railway (TAZARA) and Tanzania Posts and Telecommunications (TPTC) have been compiled from their annual accounts. The constant price series is extrapolated from the base year by the number of passengers and freight transport, and with a combined index of letters carried, telephone lines in use, and telegrams and telexes. For other parastatal and private enterprises, the benchmark 1976 input/output estimates have been extrapolated on the basis of diesel consumption (constant price estimates) and inflated by the cost of living index for transport for the current prices. Use of a fixed input/output coefficient in the transportation sector would produce reasonable value added estimates during the period of stable oil prices (1976-79) but would have over-estimated value added when oil prices increased during 1980-1986.

9. Finance, insurance, real estate, and business services includes financial institutions, insurance carriers, real estate and owner-occupied dwellings, legal services, accounting, and data processing. Current price estimates of public finance institutions are

calculated by the income approach; constant prices are extrapolated by the number of persons employed each year. The 1976 benchmark of imputed rental value of owner-occupied dwellings has been estimated from the 1976 HBS based on per capita rent and population estimates for Tanzania. The constant price series uses population growth to extrapolate from the base year estimates. Current price estimates inflate the constant price series by an index of rent quotations in urban areas. Eurostat has recommended that this sub-sector be revised to take the 1988 census into account, and to substitute the urban price index for one that is more appropriate for rural properties. Cross-checking the data with rural own account construction is also recommended. Business services are probably underestimated since the employment surveys do not include self-employed persons, and many small new businesses are probably missed. Employment data are only available through 1985.

10. Public administration and other services includes the various organizations engaged in the administration of central, regional, and local government activities. Data are obtained from budget documents and wage bills from the agencies. The 1976 price series are based on quantitative indicators such as number of students enrolled, number of patients treated in hospitals, and the number employed in various agencies.

11. GDP by expenditure accounts are compiled only in current prices. GDP estimates from the industrial origin accounts are used in the expenditure accounts; this is the usual practice in most developing countries. Private consumption is calculated as a residual. This is also quite common, but since the GDP by origin in recent years may be underestimated by as much as 30 percent (see Maliyamkono and Bagachwa, 1989) private consumption as a residual is also underestimated.

12. General government consumption data are from the budget, and export and imports of goods and non-factor services are from the Balance of Payments compiled by the Bank of Tanzania. Exports and imports are converted from US\$ by the official exchange rate. There is a substantial amount of unrecorded external trade in Tanzania, thus distorting the share of trade in GDP. To the extent that both exports and imports are unrecorded or under-reported by the same order of magnitude, the net effect may not alter the overall resource balance, but the shares of trade in GDP and the relative openness of the economy would be underestimated.

13. Gross domestic investment includes construction and machinery and equipment which are broken down into private (residual) and public investment. Data on public investment in machinery and equipment are from accounts of the central government, parastatal enterprises, and non-profit making institutions. Private investment is a residual between the total and public investment. Official data for total investment in machinery and equipment is estimated by adjusting imports of machinery and equipment by trade and transport margins (25 percent). The official estimates do not include domestically produced machinery and equipment, and it is likely that under-reporting of imported capital goods occurs, affecting estimates of gross domestic investment. Estimates of capital formation in construction are noted in the previous section.

14. Exports and imports of goods and non-factor services are derived from the Bank of Tanzania's balance of payments data. Data are converted from US\$ to shillings with the official annual average exchange rate.

15. Constant price estimates of GDP by expenditure are not calculated by the national accounts office in Tanzania.

Methodological Adjustments to the National Accounts

1. Because of the many economic changes occurring in Tanzania, the mission placed a great deal of emphasis on the data side. It is always important to know how the data are collected and compiled, to know the limitations for analysis and to help explain possible anomalies in economic measures. New economic models developed by the Bank require both greater detail and a broader range of measures than before, and understanding relationships between socio-economic sectors and agents requires accurate data.
2. Before mission estimates were made, official source data and notes were reviewed to understand what the accounts represent in terms of coverage and methodology. Adjustments are based on information collected during the mission and are undertaken to take into other account available official information not yet incorporated into the national accounts, and some estimates based on a review of other studies related to the national accounts.
3. Since the mission estimates are based on information gathered during a relatively short mission, they are based on fragmentary data, and should be reviewed by national authorities with their special insights. Mission estimates may illuminate some areas that had not been previously covered due to lack of official statistics, and serve to stimulate thinking about how important unrecorded or under-recorded sectors can be better covered.

Agriculture

4. Gross output estimates from the Bureau of Statistics' EUROSTAT project provided the basic data for the adjusted series from 1976-85. Data from Bureau of Statistics worksheets were used for the 1986-88 series for all food crops except for 1986-88 for some Household Budget Survey (HBS) crops. For these years, quantities have been adjusted by using population growth, as was the case for the pre-1985 series.
5. The methodological adjustments to the official series were: (i) value added/gross output series based on MDB estimates were used to go from gross output to value added instead of using an overall ratio of .90 as in the official series; (ii) the extra 10 percent adjustment in the official series for undercounting has been eliminated, as per the Harrison 1988 suggestion; (iii) cassava production is based on new MDB estimates; and (iv) as noted above, some HBS crops quantity measures have been adjusted.
6. The major weakness of the agriculture estimates (both official and the adjusted series) is that 40 percent or more of production (barley and other cereals, sweet potatoes, yam and cocoyam, potatoes, cooking bananas, other starches, dry peas, lentils and other pulses, shelled groundnuts, vegetables and fruits) is not measured by MDB, and is estimated by the Bureau of Statistics from benchmark figures extrapolated by population growth. Also, oilseeds estimates, like export crop figures, are based on official sales, not on production. These crops may be underestimated by a factor of four or more. There are some new estimates for some of these

crops done by the agriculture statistics section, but they do not cover all the crops. Moreover, the BOS survey does not cover cash crops, and although the sample is representative of agricultural zones in the country, it does not represent the farming population. Agriculture surveys to improve these estimates should be done along with the other crops monitored by MDB. Even the "best" MDB agriculture estimates used in the national accounts are not based on actual measurements of area planted and harvested, and export crops estimates are based on sales to official agencies, rather than on production. MDB estimates are from the Early Warning unit in Tanzania. The data are derived from a model that takes into account estimates of production by extension workers, the weather, and fertilizer availability. Crops covered include: maize, millet, paddy, beans, wheat, bananas, cassava, and sweet potatoes.

7. A comparison of the official and adjusted series for agriculture value added shows that, for most years in current prices, the official series is about 5-10 percent higher than the adjusted series. The real growth of agriculture value added in the adjusted series is lower for 1986, 1987, and 1988 (2.3 percent, 3.8 percent and .9 percent) than the official series (5.7 percent, 4.4 percent and 4.5 percent). The differences between the official accounts and the adjusted series for agriculture value added can be explained by reviewing the performance of crop by crop growth rates. As the table below shows, in 1986, many crops such as seed cotton, sugar cane, cashewnuts, wheat and legumes performed poorly. In 1988, declines in coffee, tobacco, cashewnuts, other cereals, and legumes resulted in the low overall growth.

Agriculture Value Added in 1976 Prices - (Percentage Change)
Mission Adjustments

	1986	1988
Seed cotton	-34.3	20.2
Sisal fibre	-6.5	0.3
Tea leaf	-7.5	-1.6
Coffee	12.8	-14.8
Sugar cane	-11.6	14.7
Tobacco	4.5	-239
Cashewnuts	-32.4	-40.3
Pyrethrum	-12.1	14.7
Maize	2.9	6.3
Wheat	-14.5	-6.9
Paddy	16.7	9.8
Other cereals	7.3	-21.7
Legumes	-16.6	-4.5
Oil seeds	-6.2	3.9
Plantains	2.8	2.8
Other hor. crops	3.1	2.8
Coconuts	-9.9	2.8
Other crops	4.6	2.3
of which cassava	6.7	1.6
Crops total	0.6	-0.2
Livestock	2.8	5.5
Forestry	9.4	2.0
Fishing	16.7	1.6
Hunting	52.0	35.7
Total Adjusted Agriculture	2.3	0.9
Total Official Agriculture	5.7	4.5

Construction

8. **Construction value added** in the official accounts is estimated from buildings (residential, rural/own account, and non-residential) and other works (land and roads, water and other). Adjustments to the accounts were made first on the constant price series, and then inflated with either the official deflator if it was appropriate, or by a newly developed deflator as noted below.

9. Official estimates of residential construction are based on the 1976 figure and extrapolated by the increase in cement consumption. The real change, however, does not correspond with the figures on cement production; sometimes they move in opposite direction. This subsector was re-estimated using cement production figures (TET No. 2, p. 42).

10. Official rural own account construction in the official account has been estimated by applying the rural population growth to the 1976 output figure. The special notes in TET No. 2 advise that this method may not adequately measure rural construction because it does not take into account the improvement in quality of rural housing. Rural housing is improving (more metal roofs, burnt bricks and cement rather than traditional methods and materials are being used). Rural housing has been re-estimated by (1) using new census rural population growth (about 2.4 percent instead of 2.8 percent), and (2) building in a "quality improvement" factor by adding .1% per year to the population growth.

11. Non-residential construction is estimated from the accounts of the central government and parastatal enterprises, so the official accounts are well covered.

12. Much of the investment activity of the peasant farmer's labor to improve future productivity through land improvement, storage construction, and development of tree crops is not included in land improvement in the official accounts. Therefore the land component has been re-estimated by taking 15 percent of the gross output of tea, coffee, and cashew nuts and adding this to the official estimates of capital formation of the subsector land.

13. Other capital formation was adjusted to take into account community based construction of schools and community centers that are not included elsewhere. Ten percent was added to the roads, water, and other subsectors.

14. The current price adjusted series for construction was estimated by developing a construction deflator for residential and nonresidential construction, and using the official deflators for "other works". The building deflators are from the Building Research Unit estimates of building costs indices. These deflators were similar to the official series for most years.

15. Value added for construction in both the official and adjusted accounts is estimated by applying the ratios of value added to gross output developed by the 1976 I/O. Rural own account construction value added/gross output ratio is .43; all other construction is .33.

16. A comparison between the official value added in construction with the adjusted value added shows that the adjusted series is about 10-30% higher for most years. The major increases are in 1986-89; this is consistent with the belief that the construction sector has been underestimated, especially in the past few years. The adjusted constant price series generally moves in the same direction as the official series; however, the 1988-89 adjusted series resulted in higher growth than presented in the official accounts.

Construction Value Added (1976 prices)

<u>Annual Growth</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Adjusted Accounts			
Construction	17.3	2.3	5.0
Residential	-42.0	22.4	118.3
Rural own account	2.6	2.5	2.5
Other	27.6	-21.1	59.9
Official Accounts			
Construction	21.9	5.0	12.2
Residential	15.7	14.6	18.6
Rural own account	3.7	3.9	4.1
Other	25.9	-18.5	50.1

17. The main difference is in private residential construction. Mission estimates of residential construction are based on the TET Vol. 1, No. 2, July 1988, which also states that the considerable expansion and high levels of cement supply suggest that both the growth and level of construction are underestimated.

GDP by Expenditure Accounts

18. The GDP by expenditure accounts have been adjusted only for gross domestic investment. Although some adjustments may be necessary in the external accounts (to account for own account import funds) these adjustments have not been made in the accounts because the data are not available before 1984 and a substantial break in comparability with previous years would affect other components such as private consumption. Further work needs to be done to develop a consistent series of the external transactions.

19. Capital formation, or gross domestic investment in the expenditure accounts includes buildings, other works, and machinery and equipment. Adjustments to the buildings and other works are described above in the construction section. The adjustments noted here pertain to the machinery and equipment category.

20. The adjusted series of machinery and equipment also uses imports of machinery and equipment (marked up 25% for trade and transport margins), and adds to this gross output of domestically produced machinery and equipment. These data for 1976-85 are from the exercise of gross output estimates (part of the EUROSTAT program); 1986-88 are estimated to increase at the same rate as manufacturing value added. Refinement of the 1986-88 estimates could be done by substituting machinery and equipment production for overall manufacturing if the data were to become available. Constant prices of imports are derived by deflating the current price US\$ series by the MUV index (adjusted for the exchange rate).

21. A comparison of the official and adjusted series shows that the levels of machinery and equipment are substantially different; the official series are generally lower than the adjusted series by 15-30 percent for most years except for 1988 in which the official series is higher by about 30 percent. The adjusted series is higher because of the inclusion of domestically produced machinery and equipment. Deflators are similar from 1976-83, but the adjusted series (based on the MUV index) is higher after 1984. By 1988, the official series is at 1,107, while the adjusted series is 1,494 (1976=100).

22. As is the case in any country with high inflation, there is difficulty in deflating the current price series of investment goods. For machinery and equipment, the official accounts were deflated by the exchange rate index for 1986-88 since specific deflators were not available. This is the major contributor of price changes in shillings (depreciation of the shilling was about 90 percent for 1986, 100 percent for 1987 and 50 percent for 1988). However, the MUV index in US\$ increased by 18 percent in 1986, and about 10 percent in 1987 and another 8 percent in 1988. Since this wasn't included in the official deflation method, the official series deflator for 1988 is about 25 percent lower than mission estimates.

23. The current price series is similar for these years, so differences in deflators result in differences in the constant price series for machinery and transport equipment.

Capital Formation -- Selected Components (1976 prices)

<u>Annual Growth</u>	<u>1984</u>	<u>1985</u>
Adjusted Series		
Mach. & equipment	1.7	17.6
Transport equip.	8.2	3.9
GDI	3.7	6.4
Official Series		
Mach. & equipment	64.3	34.5
Transport equip.	38.2	34.5
GDI	36.7	20.7

24. For GDI overall, the official and adjusted series levels are quite similar; the official series is about 10% higher for most years, with only 1988 being about 10% higher in the official series. The two series shows very different growth rates for some years.

25. The adjusted series deflators for imports (based on the MUV, adjusted for the exchange rate) and for domestic series (from the BOS worksheet on gross output) increase at a higher rate than the official series for these two years, making the real increases smaller. The overall official equipment deflator increase is about 12% for 1985, whereas the adjusted series is about 15% for the imported component, and 21% for domestic machinery and equipment and

an additional 100% for domestic transport equipment. The domestic component's increase is what pushes up the overall deflator in the adjusted series.

26. The constant price expenditure accounts have been estimated by using the GDP from the adjusted industrial origin series (adjusted to include net indirect taxes) and deflating the general government consumption, exports of goods and nonfactor services, imports of goods and nonfactor services, and gross domestic investment with private consumption as a residual. The deflator for general government consumption should be used with caution since it has been derived by using the implicit deflator for public administration. The physical indicator used to estimate the constant price series of public administration value added is number employed. With problems of absenteeism and curtailed working hours, real labor input is likely to be much less than the present physical indicator suggests. The external trade deflator is based on the Bank's trade deflators unit values for 1976-88. The gross domestic investment deflator has been developed from mission estimates of domestic deflators for capital formation in buildings and domestic machinery and equipment and imported machinery and equipment.

"Hidden Economy" Adjustments to the National Accounts

1. "Hidden Economy" (HE) adjustments were made to the following sectors: (a) agriculture, (b) mining, (c) manufacturing, (d) trade, hotels and restaurants, and (e) finance, real estate, and owner occupied dwellings. Table 2 shows estimates of "HE" adjustments. See below for brief descriptions of the adjustments.

Agriculture

2. Adjustments were made for oil seeds, cardamon, other food crops, and trophy hunting based on the Bagachwa study. (See Tables 5, 6, and 7).

Mining

3. Gold is one important component that is believed to be underestimated. Customs realizes that there is much gold smuggling out of Tanzania since the official price of gold is one fourth to one half the international price. Newspaper articles quote officials of Dar Tardine Tanzania (DTT) that they will be purchasing 50 to 100 kilograms of gold per month, compared to the official purchase of 1.8 kilograms during 1988. Using estimates from the Bagachwa study, value added for gold and diamonds and gemstones have been adjusted (HE) for 1976-88. Gross output is estimated by assuming the price is about 70 percent of the international price, and value added/gross output is .95 (from BOS) estimates. (See Table 10).

Manufacturing

4. Estimates for handicrafts items have been incorporated into the HE adjusted series. These estimates are based on the Bagachwa study. Other adjustments to include unrecorded small scale metal working, etc. enterprises should be made if appropriate data become available. (See Table 11).

Trade, Hotels and Restaurants

5. Estimates for tourism and distribution have been added to the HE adjusted series. The Bagachwa study shows that only about 25% of tourist expenditure is officially recorded. Based on this assumption, and applying the "hidden" expenditures to the number of visitors and length of stay, a revised series was estimated. (See Table 13).

Finance, real estate, owner occupied dwelling

6. Estimates for unrecorded rental housing (mostly to expatriates) have been made in the HE adjusted series. The Bagachwa study estimates that unrecorded rents were about \$25 million in 1988, \$22 million in 1987, and \$18 million in 1986. Assuming that previous

years were about \$2 million less each year down to a minimum of \$6 million per year, estimates of the series from 1976-88 were made. (See Table 12).

Components of Eurostat's National Accounts Project

1. Since 1986, the national accounts office has benefitted from support from Eurostat to improve the national accounts. Given the limited resources in the national accounts office, the project has focussed on using existing data sources and improvements in the methodology. The sub-projects include (1) compilation of output and intermediate consumption of all industries based on the 1976 I/O, (2) calculation of value added at market prices, (3) implementation of double deflation method, (4) improved deflation method for activities of general government, (5) new method of compiling consumption of fixed capital at replacement costs, (6) evaluate compilation methods for insurance, financial institutions, etc., (7) direct computation of private final consumption based on commodity flow method, (8) compilation of fixed capital formation by the commodity flow method, (9) computation of private final consumption at constant prices, (10) compilation of gross output by sector in current and constant prices, and (11) computation of the increase in stocks at annual average value and at constant prices.

2. The reports from the Eurostat missions have been thorough in providing information and adjustments to the consistency of the 1976 I/O and the national accounts, as well as documenting methodological and data inconsistencies in the national accounts. The national accounts office should strive to complete as many of the projects as soon as possible and incorporate the results into the national accounts. The mission recognizes that the projects listed above are quite ambitious given the available resources. In order to complete the projects within a reasonable time, it might be best to decide which projects will deliver the highest benefits that can be accomplished within the given time frame. These could then be integrated into the national accounts rather than awaiting the results of all sub-projects. Other sub-projects could be incorporated at a later stage without posing serious problems of revision. The information in the various sub-projects is interesting and useful only insofar as they represent the most meaningful picture of recent economic performance that can be analyzed and digested by policymakers.

3. The specific EUROSTAT projects include the following:

Koszerek Project: Derivation of price indices for exports and imports. Scheduled to have been completed by April 1989 but not yet submitted to SOEC.

Revised Munnsad Project: Measurement of output at constant prices. Submitted in time series to SOEC; updated version to have been submitted in August, 1989, with versions in gross output data in current prices.

Harrison Project (1988): Collection of gross output at current prices in time series format. Time series revision carried out during Mr. Staglin's visit.

Harrison Project (1989/I): Calculation of sales by industry and domestic supply at current prices in time series format. Completed in August, 1989.

Harrison Project (1989/II): Derivation of estimates of household consumption in time series format. Scheduled for completion in September, 1989.

Staglin Project: Estimation of fixed capital formation by the commodity flow-method for 1976 and 1985; completed in September, 1989.

Future Work Program

1. The special funding for this national accounts project with Eurostat ends shortly, so it is incumbent upon the Tanzanian authorities in the Bureau of Statistics' national accounts office to plan for the next phase of improvements in the national accounts.

2. As mentioned above, the current project to improve national accounts is generally limited to using existing data sources and improvements in methodology. There are, however, gaps in the existing basic data sources, so it will be necessary to develop new sources of basic data. This was well understood and articulated by BOS officials, and is mentioned in the note on sources and methods on the national accounts. New sources of basic data can be developed through greater use of administrative data (BOS may offer technical assistance to other ministries in the collection of these data), censuses and periodic surveys. There are already some surveys in the pipeline such as the industrial census and labor force survey which are presently ongoing and the Household Budget Survey which is tentatively scheduled for 1991/92, so other projects to improve the basic data will have to be coordinated with planned projects.

3. Improvements in basic data collection, compilation, and analysis are needed in several areas. Priority areas can be identified both by data producers and users to ensure that social and economic policies are based on timely and relevant data. This is especially the case during transitions and adjustment, and is made more difficult since the link between social and economic data becomes more crucial.

4. Some important areas for future work include:

agriculture--(a) improved crop coverage and data based on actual area planted and harvested, (b) estimates of marketed and non-marketed production, (c) estimates of other agriculture income, (d) breakdown by sex of ownership, hours worked, etc. for women in development focus. The new agriculture surveys being undertaken by the Bureau of Statistics agriculture section could be coordinated with survey work of other agriculture agencies to agree methods of collection and analysis and to avoid duplication and the proliferation of agriculture output estimates. Given agriculture's importance in the Tanzanian economy, and the difficulty in collecting accurate data, this sector deserves special attention. In this context we understand the BOS will carry out an agricultural census after the completion of the household budget survey. This will up date the previous 1971/72 census.

informal/hidden/unrecorded/parallel economy--difficult to define and to measure, but important to quantify to fully understand the economy and its changing structure. Various studies have described the multi-faceted informal economy, but due to the lack of good benchmark data and frequent surveys, little has been done to quantify it. Specially designed surveys are needed to begin including estimates in the national accounts. Coverage of commerce and other services sectors will be improved as a result of work in this area.

construction and capital formation--estimates are important since they play a key role in economic growth. As administrative information on private construction becomes more

readily available, collection and compilation systems need to be developed to process information. Data on other agriculture construction and improvements may be picked up from agriculture surveys.

employment data—covers only the "formal" sector, or only about 6% of the working age population (15-64 years), and the data are available after a lag of about 4-5 years. Since the informal economy is quite diverse, it is important to collect and analyze data on all persons in the labor force in a timely manner for improved social and economic policy formulation.

GDP by expenditure in constant prices—are not officially calculated by the national accounts office. Mission estimates are made since analysis is done on real variables. Private consumption is still a residual, but the national accounts office is working towards developing an independent estimate of private consumption in current prices, and deflator for this component may be developed for the constant price series.

Base year revision—the current base year of 1976 is out of date by more than 10 years. If the weights are fixed from a distant past as the economy evolves, real changes in the economy are not well represented.

5. Finally, it will be important to gain as wide a perspective on the future work program as possible. In this context we would endorse the idea to hold a workshop at which both producers and users of Tanzanian National accounts information could discuss priority areas for data collection and dissemination. Certainly it would be important that the primary participants be staff of BOS, the Planning Commission and other government ministries and bodies (e.g. MDB) as well as other users of national accounts data such as professors and others at the university, the local consultant community, etc. At that workshop it could be discussed whether to plan further such seminars, perhaps with the participation of representatives of organizations and universities outside of Tanzania. Such a meeting should be chaired by the Planning Commission.

Table 1: GDP BY INDUSTRIAL ORIGIN: MISSION ADJUSTMENTS

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GDP by Industrial Origin (millions current Tsh)													
Agriculture, etc.	9,149	16,575	12,872	14,733	17,288	25,539	25,387	33,932	49,008	65,298	88,465	114,931	172,795
Mining	246	271	258	332	413	364	324	327	431	335	657	1,088	1,339
Manufacturing	2,971	3,474	4,879	4,888	4,331	4,758	4,618	5,147	6,278	7,845	9,888	9,943	11,032
Elec. & water	219	254	251	275	424	423	421	514	551	1,071	1,488	2,899	4,632
Construction	978	1,251	1,182	1,391	1,604	1,778	2,119	1,539	2,653	2,591	3,999	4,655	6,439
Trade/hotels/rest.	3,233	3,978	4,428	4,979	5,477	6,235	7,576	9,164	11,009	15,619	21,089	28,045	47,611
Transport/commun.	1,655	1,798	1,917	2,113	3,019	3,133	3,965	3,587	4,789	7,821	7,797	14,124	18,257
Finance, etc.	2,651	2,434	2,728	3,022	3,788	4,557	4,975	5,372	6,221	6,911	8,657	12,333	15,171
Pub admin, etc	2,469	2,731	3,031	3,594	4,187	4,938	5,749	7,789	9,687	11,157	19,594	13,394	16,616
of which: oth ser.	331	378	444	621	638	731	825	942	1,101	1,182	1,271	1,392	1,494
Imputed bank chg.	(424)	(543)	(969)	(944)	(935)	(1,120)	(1,399)	(1,292)	(1,511)	(1,895)	(2,544)	(9,444)	(12,939)
GDP fc (Bank Field est)/1	22,598	29,239	29,585	33,053	39,621	45,871	54,167	65,939	89,177	116,237	141,789	194,658	289,435
Official GDP fc	21,652	25,698	26,582	32,817	37,454	43,908	52,546	62,939	78,143	109,693	146,798	192,989	271,716
Second economy est. (MB)/2	644	0	1,789	6,842	9,232	12,309	15,494	13,354	19,389	28,212	41,187	NA	NA
GDP fc (off-M & B)/3	22,236	25,698	31,382	39,159	46,716	59,214	68,039	75,982	97,132	136,255	181,989	239,528	306,817
GDP fc (MB)-GDP fc(BFE)/4	(392)	(541)	1,797	5,628	7,355	16,544	13,922	18,324	16,958	28,658	49,239	68,463	88,392
Comparison of GDP fc levels													
M & B estimates/Official	103.8	103.8	103.7	121.2	124.7	128.8	129.5	121.3	124.3	123.1	129.3	135.8	135.8
M & B est./Bank Field est.	98.7	97.9	103.1	116.4	117.9	123.1	125.7	115.7	121.1	123.6	128.4	134.2	139.8
GDP BY Industrial Origin (millions of 1978 Tsh)1a/													
Agriculture, etc.	9,149	9,173	9,121	9,439	9,795	9,933	9,855	9,999	10,225	10,949	11,699	11,538	12,649
Mining	246	258	289	222	239	213	213	194	228	198	172	167	155
Manufacturing	2,971	2,792	2,888	2,932	2,838	2,518	2,435	2,223	2,282	2,193	2,194	2,193	2,312
Elec. & water	219	244	238	318	439	417	439	413	439	461	482	522	537
Construction	978	1,032	894	1,021	1,034	1,014	1,044	659	757	719	877	929	1,033
Trade/hotels/rest.	2,948	2,989	2,889	2,948	2,944	2,811	2,731	2,685	2,688	2,711	3,059	3,299	3,438
Transport/commun.	1,655	1,652	1,699	1,634	1,618	1,652	1,694	1,473	1,482	1,529	1,594	1,551	1,652
Finance, etc.	2,651	2,128	2,244	2,377	2,514	2,584	2,759	2,883	3,032	3,162	3,517	3,828	4,225
Pub admin, etc	2,469	2,632	3,159	3,399	3,359	3,789	3,697	3,688	3,712	3,825	3,418	3,437	3,637
of which: oth ser.	331	378	429	493	479	412	395	403	457	538	541	543	543
Imputed bank chg.	(424)	(462)	(485)	(501)	(531)	(549)	(667)	(716)	(755)	(797)	(898)	(932)	(920)
GDP fc (Bank Field est)/1	22,313	22,328	22,673	23,810	24,318	24,272	24,174	23,447	24,126	24,916	25,337	26,592	28,118
Official GDP fc	21,652	21,739	22,222	22,949	23,419	23,391	23,439	22,682	23,658	24,278	25,028	25,972	27,039
Second economy est. (MB)/5	644	0	2,159	4,837	5,791	6,532	6,927	4,881	5,748	6,337	7,316	NA	NA
GDP fc (off-M & B)/6	22,296	21,739	24,831	27,686	29,210	29,933	30,346	27,763	29,404	30,615	32,324	35,032	38,598
GDP fc (MB)-GDP fc(BFE)/4	-17.3	-636.5	1488.57	3676.99	4862.27	5561.23	6172.68	4315.57	8278.18	5798.99	6998.872	8498.8	8364.55
Comparison of GDP fc growth rates													
Official GDP fc		0.4	2.1	2.9	2.5	-0.5	0.6	-2.4	3.4	2.6	3.8	3.9	4.1
GDP fc (Bank Field est)		0.1	2.4	4.1	2.1	-0.2	-0.4	-3.0	2.9	2.9	2.1	5.0	5.7
GDP fc (off-M & B)		-2.5	12.1	13.6	5.5	2.1	1.7	-8.5	5.9	4.1	5.6	8.5	4.1

Sources and notes:

- /1 Bank mission estimates by sector including methodological and second economy adjustments. Bank field estimates include methodological and second economy estimates for: agriculture, mining, handicrafts, construction, and tourism. Adjustments based on "A Study on non-traditional exports" by M.S.D. Bagachwa, N.E. Luvanga, and G.D. Mjema, September, 1989 (draft)
- /1a Bank mission estimates by sector including methodological and second economy estimates.
- /2 "The Second Economy in Tanzania", Mallyankono & Bagachwa, 1989, Table 2.3. Estimates for 1976-88; 1987-88 assumed to have increased to 135% of official estimates
- /3 Official GDP f.c. plus Mallyankono and Bagachwa
- /4 Amount not accounted for by sector in Bank Field estimates. The difference between Bank field estimates and the Mallyankono and Bagachwa estimates should be included in sectors not estimated by Bank field estimates: small scale manufacturing, commerce, and other services.
- /5 Second economy current prices deflated by GDP f.c. deflator

Table 2: GDP BY INDUSTRIAL ORIGIN: OFFICIAL AND MISSION ADJUSTMENTS
(millions of current Tah)

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	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Official Accounts													
Agriculture, etc.	9,645	11,131	12,588	14,728	16,038	20,338	25,440	32,787	41,295	51,231	64,153	120,941	178,253
Mining	214	243	228	294	329	299	295	240	337	251	474	645	722
Manufacturing	2,811	3,287	3,859	3,898	4,897	4,581	4,351	4,899	5,932	6,055	8,551	9,487	11,033
Elec. & water	219	254	251	275	424	423	421	514	551	1,071	1,498	2,939	4,032
Construction	894	1,111	1,052	1,229	1,498	1,614	1,958	1,252	1,651	2,051	3,131	3,467	4,589
Trade/hotels/rest.	2,889	3,487	3,859	4,344	4,713	5,479	6,814	8,148	10,447	14,195	19,478	23,951	38,724
Transport/commun.	1,695	1,798	1,917	2,113	3,019	3,133	3,305	3,527	4,789	7,021	7,797	14,124	18,287
Finance, etc.	2,888	2,419	2,688	2,978	3,744	4,587	4,851	5,252	6,028	6,059	8,127	11,051	12,937
Pub admin, etc	2,342	2,598	2,873	3,342	3,959	4,732	5,448	7,572	8,614	10,735	10,140	12,938	16,933
of which: oth ser	213	243	238	309	416	457	531	628	703	789	817	876	954
Imputed bank chg.	(424)	(543)	(690)	(844)	(965)	(1,120)	(1,300)	(1,292)	(1,511)	(1,825)	(2,544)	(3,444)	(12,888)
GDP at f.c.	21,652	25,059	28,582	32,317	37,454	43,925	52,545	62,028	78,143	108,033	140,738	182,939	271,718

Mission Estimates (Including Methodology Adjustments [M])2/

Agriculture, etc.	9,545	9,913	11,428	13,021	15,851	19,141	24,851	31,408	38,078	57,422	78,999	105,894	159,143
Mining	214	243	228	294	329	299	295	240	337	251	474	645	722
Manufacturing	2,811	3,287	3,859	3,898	4,897	4,581	4,351	4,899	5,932	6,055	8,551	9,487	11,033
Elec. & water	219	254	251	275	424	423	421	514	551	1,071	1,498	2,939	4,032
Construction	977.8	1255.5	1181.6	1308.7	1693.7	1775.5	2118.9	1529.7	2053.2	2591	3326.8	4935.2	6430.3
Trade/hotels/rest.	2,889	3,487	3,859	4,344	4,713	5,479	6,814	8,148	10,447	14,195	19,478	23,951	38,724
Transport/commun.	1,695	1,798	1,917	2,113	3,019	3,133	3,305	3,527	4,789	7,021	7,797	14,124	18,287
Finance, etc.	2,888	2,419	2,688	2,978	3,744	4,587	4,851	5,252	6,028	6,059	8,127	11,051	12,937
Pub admin, etc	2,488	2,731	3,031	3,534	4,187	4,936	5,748	7,708	9,027	11,157	10,594	13,394	16,616
of which: oth ser	331	378	444	621	638	731	825	942	1,101	1,182	1,271	1,382	1,494
Imputed bank chg.	(424)	(543)	(690)	(844)	(965)	(1,120)	(1,300)	(1,292)	(1,511)	(1,825)	(2,544)	(3,444)	(12,888)
GDP at f.c.	21,383	24,755	27,792	31,574	37,033	43,135	51,439	61,951	75,703	105,205	134,851	182,023	255,016

Mission Estimate (Including Hidden Economy [H-E])3/

Agriculture, etc.	9,149	10,575	12,372	14,733	17,293	20,539	26,397	33,692	40,698	60,298	80,455	114,031	172,795
Mining	245	271	258	322	413	394	324	327	431	335	657	1,068	1,399
Manufacturing	2,971	3,474	4,079	4,098	4,331	4,768	4,618	5,147	6,278	7,045	9,038	9,943	11,692
Elec. & water	219	254	251	275	424	423	421	514	551	1,071	1,498	2,939	4,032
Construction	978	1,251	1,182	1,391	1,684	1,776	2,119	1,530	2,053	2,591	3,329	4,935	6,430
Trade/hotels/rest.	3,233	3,878	4,423	4,979	5,477	6,238	7,578	9,164	11,699	15,619	21,633	28,945	47,011
Transport/commun.	1,695	1,798	1,917	2,113	3,019	3,133	3,305	3,527	4,789	7,021	7,797	14,124	18,287
Finance, etc.	2,881	2,484	2,728	3,022	3,788	4,587	4,975	5,372	6,221	6,911	8,657	12,333	15,171
Pub admin, etc	2,488	2,731	3,031	3,534	4,187	4,936	5,748	7,708	9,027	11,157	10,594	13,394	16,616
of which: oth ser	331	378	444	621	638	731	825	942	1,101	1,182	1,271	1,382	1,494
Imputed bank chg.	(424)	(543)	(690)	(844)	(965)	(1,120)	(1,300)	(1,292)	(1,511)	(1,825)	(2,544)	(3,444)	(12,888)
GDP at f.c.	22,559	28,229	29,805	33,653	39,021	45,671	54,107	65,639	80,177	110,237	141,780	194,058	280,435

Official: Percentage Share

Agriculture, etc.	41.9	43.3	43.8	45.6	44.4	45.3	50.3	52.3	52.8	53.7	59.8	62.7	65.6
Mining	1.0	0.9	0.8	0.9	0.9	0.7	0.5	0.4	0.4	0.2	0.3	0.3	0.3
Manufacturing	13.0	12.8	13.5	12.0	10.9	10.3	8.3	7.9	7.6	6.2	6.1	4.9	4.1
Elec. & water	1.0	1.0	0.9	0.9	1.1	1.0	0.8	0.8	0.7	1.0	1.1	1.5	1.5
Construction	4.1	4.3	3.7	3.9	4.0	3.7	3.5	2.0	2.1	1.9	2.2	1.8	1.7
Trade/hotels/rest.	13.1	13.3	13.6	13.4	12.6	12.5	13.0	13.0	13.4	13.1	13.8	12.4	14.8
Transport/commun.	7.8	7.0	6.7	6.5	8.1	7.1	6.5	6.6	6.1	6.5	5.5	7.3	6.7
Finance, etc.	9.4	9.4	9.4	9.2	10.0	10.3	9.3	6.4	7.7	6.2	5.9	5.7	4.8
Pub admin, etc	10.8	10.1	10.1	10.3	10.6	10.8	10.4	11.0	11.0	9.9	7.2	6.7	5.9
of which: oth ser	1.0	0.9	1.0	1.2	1.1	1.1	1.0	1.0	0.9	0.7	0.6	0.5	0.4
Imputed bank chg.	-2.0	-2.1	-2.4	-2.6	-2.6	-2.6	-2.6	-2.1	-1.9	-1.7	-1.9	-3.3	-4.7
GDP at f.c.	100	100	100	100	100	100	100	100	100	100	100	100	100.0

Percentage Share (Mission Estimates [H-E])

Agriculture, etc.	40.0	40.0	41.1	43.1	42.9	44.4	48.3	50.3	50.3	54.6	57.1	59.6	62.4
Mining	1.0	1.0	0.8	0.9	0.9	0.7	0.5	0.4	0.4	0.2	0.4	0.4	0.3
Manufacturing	13.2	13.3	13.9	12.3	11.1	10.4	8.5	7.9	7.8	6.3	6.3	5.2	4.3
Elec. & water	1.0	1.0	0.9	0.9	1.1	1.0	0.8	0.8	0.7	1.0	1.1	1.6	1.6
Construction	4.6	5.1	4.3	4.4	4.5	4.1	4.1	2.5	2.7	2.5	2.9	2.6	2.5
Trade/hotels/rest.	13.3	13.8	14.0	13.8	12.7	12.7	13.2	13.2	13.8	13.5	14.4	13.1	15.2

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Transport/commun.	7.9	7.2	6.9	6.7	8.1	7.8	6.6	5.7	6.3	6.7	5.8	7.7	7.2
Finance, etc.	9.5	9.8	9.7	9.4	10.1	10.4	9.5	8.5	8.0	6.8	6.6	6.1	6.1
Pub admin, etc	11.5	11.0	10.9	11.3	11.3	11.6	11.1	12.4	11.0	10.6	7.9	7.3	6.5
of which: oth ser	1.5	1.5	1.6	2.0	1.7	1.7	1.6	1.5	1.5	1.1	0.9	0.7	0.6
Imputed bank chg.	-2.0	-2.2	-2.5	-2.7	-2.6	-2.6	-2.6	-2.1	-2.0	-1.7	-1.9	-3.5	-5.1
GP at f.c.	100	100	100	100	100	100	100	100	100	100	100	100	100
Percentage Share (Mission Estimates [F-E])													
Agriculture, etc.	46.5	46.7	41.8	43.8	43.6	45.6	48.6	51.3	50.7	54.7	55.8	53.8	61.6
Mining	1.1	1.6	0.9	1.0	1.0	0.8	0.6	0.5	0.5	0.3	0.5	0.6	0.5
Manufacturing	13.1	13.2	13.0	12.1	10.9	10.4	8.5	7.8	7.8	6.4	6.4	5.1	4.2
Elec. & water	1.0	1.0	0.9	0.8	1.1	0.9	0.8	0.8	0.7	1.0	1.0	1.5	1.4
Construction	4.3	4.8	4.6	4.1	4.2	3.9	3.9	2.8	2.8	2.4	2.8	2.4	2.8
Trade/hotels/rest.	14.3	14.7	15.0	14.8	13.8	13.7	14.8	14.8	14.8	14.2	15.3	14.5	15.8
Transport/commun.	7.5	6.8	6.5	6.3	7.6	6.9	6.3	5.3	6.0	6.4	5.5	7.3	6.5
Finance, etc.	9.2	9.4	9.2	9.0	9.0	10.0	9.2	8.2	7.8	6.8	6.1	6.4	5.4
Pub admin, etc	10.9	10.4	10.3	10.6	10.6	10.9	10.6	11.7	11.2	10.1	7.5	6.9	5.9
of which: oth ser	1.5	1.4	1.5	1.8	1.6	1.6	1.5	1.4	1.4	1.1	0.9	0.7	0.5
Imputed bank chg.	-1.9	-2.1	-2.3	-2.5	-2.4	-2.5	-2.5	-2.0	-1.9	-1.6	-1.8	-3.3	-4.6
GP at f.c.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

GP by Industrial Original (millions of 1976 Tah)

Agriculture, etc.	9,646	9,158	8,908	9,088	9,418	9,511	9,639	9,914	10,312	10,981	11,557	12,058	12,629
Mining	214	231	189	205	189	198	198	174	188	174	154	149	139
Manufacturing	2,811	2,641	2,739	2,621	2,683	2,882	2,884	2,188	2,159	2,075	1,991	2,075	2,167
Elec. & water	219	244	236	318	400	417	429	413	439	461	482	522	537
Construction	884	915	783	879	682	808	908	549	688	681	785	721	757
Trade/hotels/rest.	2,836	2,782	2,797	2,839	2,899	2,725	2,898	2,612	2,648	2,692	2,938	3,112	3,233
Transport/commun.	1,665	1,652	1,669	1,634	1,818	1,652	1,694	1,473	1,482	1,589	1,584	1,551	1,652
Finance, etc.	2,036	2,039	2,208	2,338	2,483	2,529	2,782	2,817	2,984	3,046	3,318	3,365	3,529
Pub admin, etc	2,342	2,407	2,997	3,255	3,188	3,551	3,553	3,543	3,549	3,618	3,225	3,243	3,343
of which: oth ser	213	243	276	259	308	253	254	257	294	377	346	349	249
Imputed bank chg.	(424)	(482)	(485)	(501)	(531)	(549)	(667)	(716)	(755)	(797)	(885)	(932)	(928)
GP at f.c.	21,662	21,739	22,222	22,949	23,419	23,321	23,439	22,882	23,055	24,278	25,628	25,972	27,069

Mission Estimates (Including Methodology Adjustment [F-E])2/

Agriculture, etc.	8,545	8,529	8,465	8,700	8,984	9,238	9,238	9,388	9,589	10,164	10,451	10,833	10,918
Mining	214	231	189	205	189	198	198	174	188	174	154	149	139
Manufacturing	2,811	2,641	2,739	2,621	2,683	2,882	2,884	2,188	2,159	2,075	1,991	2,075	2,167
Elec. & water	219	244	236	318	400	417	429	413	439	461	482	522	537
Construction	878	1,032	894	1,021	1,034	1,014	1,044	659	757	719	877	920	1,033
Trade/hotels/rest.	2,839	2,782	2,797	2,839	2,899	2,725	2,898	2,612	2,648	2,692	2,938	3,112	3,233
Transport/commun.	1,665	1,652	1,669	1,634	1,818	1,652	1,694	1,473	1,482	1,589	1,584	1,551	1,652
Finance, etc.	2,036	2,039	2,208	2,338	2,483	2,529	2,782	2,817	2,984	3,046	3,318	3,365	3,529
Pub admin, etc	2,409	2,632	3,159	3,369	3,369	3,729	3,667	3,666	3,712	3,825	3,418	3,437	3,637
of which: oth ser	331	378	429	423	479	412	365	403	457	586	541	543	543
Imputed bank chg.	(424)	(482)	(485)	(501)	(531)	(549)	(667)	(716)	(755)	(797)	(885)	(932)	(928)
GP at f.c.	21,383	21,378	21,953	22,829	23,298	23,329	23,325	22,559	23,173	23,639	24,237	25,132	25,918

Mission Estimates (Including Hidden Economy Adjustment [F-E])3/

Agriculture, etc.	9,149	9,173	9,101	9,439	9,765	9,988	9,988	9,988	10,228	10,948	11,609	11,538	12,049
Mining	246	258	209	222	209	213	213	194	206	198	172	167	155
Manufacturing	2,971	2,732	2,898	2,682	2,636	2,518	2,436	2,223	2,282	2,198	2,104	2,193	2,312
Elec. & water	219	244	236	318	400	417	429	413	439	461	482	522	537
Construction	878	1,032	894	1,021	1,034	1,014	1,044	659	757	719	877	920	1,033
Trade/hotels/rest.	2,948	2,889	2,899	2,949	2,944	2,811	2,731	2,695	2,698	2,711	3,058	3,239	3,438
Transport/commun.	1,665	1,652	1,669	1,634	1,818	1,652	1,694	1,473	1,482	1,589	1,584	1,551	1,652
Finance, etc.	2,081	2,128	2,244	2,377	2,514	2,584	2,758	2,883	3,022	3,182	3,517	3,828	4,225
Pub admin, etc	2,489	2,632	3,159	3,369	3,369	3,729	3,667	3,666	3,712	3,825	3,418	3,437	3,637
of which: oth ser	331	378	429	423	479	412	365	403	457	586	541	543	543
Imputed bank chg.	(424)	(482)	(485)	(501)	(531)	(549)	(667)	(716)	(755)	(797)	(885)	(932)	(928)
GP at f.c.	22,313	22,328	22,873	23,816	24,318	24,272	24,174	23,447	24,125	24,816	25,337	25,532	26,118

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
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GDP BY INDUSTRIAL ORIGIN GROWTH RATES

Official Accounts

Agriculture, etc.	1.1	-1.7	0.0	3.9	1.0	1.3	2.9	4.0	0.0	5.7	4.4	4.5
Mining	7.9	-10.2	5.0	-5.5	2.1	0.0	-0.0	0.9	-0.5	-11.5	-3.2	-7.4
Manufacturing	-0.0	3.4	3.3	-4.9	-11.2	-3.3	-0.7	2.7	-3.9	-4.0	4.2	5.4
Elec. & water	11.4	17.2	11.2	25.0	4.3	0.7	-1.7	0.3	5.0	4.0	0.3	2.9
Construction	3.5	-14.4	12.3	0.0	-4.5	4.5	-41.0	20.2	-0.9	17.3	2.3	5.0
Trade/hotels/rest.	-2.0	0.5	1.5	0.0	-1.0	-2.1	-2.1	1.1	0.0	11.1	5.2	4.0
Transport/commun.	-2.0	2.0	-3.0	11.3	-0.1	2.5	-13.0	0.0	1.0	-0.3	3.1	0.5
Finance, etc.	2.0	5.7	5.9	0.2	1.9	0.0	4.3	5.9	2.1	0.9	2.3	3.1
Pub admin, etc	0.0	20.0	0.0	-2.1	11.4	0.1	-0.4	0.2	1.9	-10.0	0.0	3.1
of which: oth ser.	14.1	13.0	-0.2	10.9	-14.0	-3.4	1.2	14.4	20.2	-7.7	0.3	-20.7
Imputed bank chg.												
GDP at f.c.	0.4	2.1	2.9	2.5	-0.5	0.0	-2.4	3.4	2.0	3.0	3.9	4.1

Mission Estimates (Including Methodology Adjustment [M1])2/

Agriculture, etc.	-0.2	-0.5	3.2	2.3	3.1	0.1	1.0	2.5	0.2	2.0	3.7	0.0
Mining	7.9	-10.2	5.0	-5.5	2.1	0.0	-0.0	0.9	-0.5	-11.5	-3.2	-7.4
Manufacturing	-0.0	3.4	3.3	-4.9	-11.2	-3.3	-0.7	2.7	-3.9	-4.0	4.2	5.4
Elec. & water	11.4	17.2	11.2	25.0	4.3	0.7	-1.7	0.3	5.0	4.0	0.3	2.9
Construction	5.5	-13.4	11.9	0.3	-4.7	3.0	-30.9	14.9	-5.0	21.9	4.9	12.3
Trade/hotels/rest.	-2.0	0.5	1.5	0.0	-4.0	-2.1	-2.1	1.1	0.0	11.1	5.2	4.0
Transport/commun.	-2.0	2.0	-3.0	11.3	-0.1	2.5	-13.0	0.0	1.0	-0.3	3.1	0.5
Finance, etc.	2.0	5.7	5.9	0.2	1.9	0.0	4.3	5.9	2.1	0.9	2.3	3.1
Pub admin, etc	7.0	19.7	7.9	-1.2	10.1	-0.1	-0.3	0.7	3.0	-10.0	0.5	5.0
of which: oth ser.	-4.2	13.4	-5.9	10.9	-14.1	-4.2	1.3	14.4	20.2	-7.7	0.2	0.0
Imputed bank chg.												
GDP at f.c.	0.0	2.7	3.9	2.0	0.1	0.0	-3.2	2.7	2.9	1.0	3.0	3.1

Mission Estimates (Including Hidden Economy Adjustment [H1])3/

Agriculture, etc.	0.3	-0.0	3.7	2.0	2.3	-0.0	1.1	2.0	0.0	2.4	4.0	4.4
Mining	4.0	-10.3	5.0	-5.7	2.1	0.0	-0.1	0.2	-0.5	-10.7	-2.0	-7.3
Manufacturing	-0.0	3.4	3.3	-4.9	-11.2	-3.3	-0.7	2.7	-3.9	-4.1	4.2	5.4
Elec. & water	11.4	17.2	11.2	25.0	4.3	0.7	-1.7	0.3	5.0	4.0	0.3	2.9
Construction	5.5	-13.4	11.9	0.3	-4.7	3.0	-30.9	14.9	-5.0	21.9	4.9	12.3
Trade/hotels/rest.	-2.3	0.3	1.0	0.1	-4.5	-2.0	-2.4	1.2	0.0	12.5	0.2	4.2
Transport/commun.	-2.0	2.0	-3.0	11.3	-0.1	2.5	-13.0	0.0	1.0	-0.3	3.1	0.5
Finance, etc.	2.3	5.4	5.9	0.0	2.0	7.3	4.0	0.9	2.0	11.2	0.0	10.4
Pub admin, etc	7.0	19.7	7.9	-1.2	10.1	-0.1	-0.3	0.7	3.0	-10.0	0.5	5.0
of which: oth ser.	14.2	13.4	-5.9	10.9	-14.1	-4.2	1.3	14.4	20.2	-7.7	0.2	0.0
Imputed bank chg.	0.0	0.0	0.0	0.0	0.4	21.5	7.3	5.4	5.0	11.2	-2.7	0.7
GDP at f.c.	0.1	2.4	4.1	2.1	-0.2	-0.4	-3.0	2.9	2.9	2.1	5.0	5.7

DEFLATORS

Official Accounts

Agriculture, etc.	100	122	130	102	177	214	274	330	400	500	720	1022	1414
Mining	100	105	121	142	174	155	120	140	181	144	300	493	523
Manufacturing	100	124	141	137	153	100	100	222	275	321	420	453	504
Elec. & water	100	104	01	00	100	101	100	124	120	232	300	555	761
Construction	100	121	134	140	151	101	200	220	252	343	444	481	601
Trade/hotels/rest.	100	122	130	153	100	201	255	312	300	533	600	770	1197
Transport/commun.	100	100	110	120	100	100	200	220	320	400	510	011	1100
Finance, etc.	100	110	122	127	151	170	101	100	202	210	245	320	370
Pub admin, etc	100	104	00	100	124	133	150	200	240	297	314	300	401
of which: oth ser	100	100	104	104	100	170	200	200	241	202	235	251	300
Imputed bank chg.	100	110	142	100	102	204	204	100	200	227	207	740	1401
GDP at f.c.	100	110	120	141	100	100	224	274	330	445	500	740	1000

Mission Estimates (Including Methodology Adjustment [M1])2/

Agriculture, etc.	100	110	105	100	177	207	200	337	300	500	707	1000	1400
Mining	100	105	121	142	174	155	120	140	181	144	300	493	523
Manufacturing	100	124	141	137	153	100	100	222	275	321	420	453	504
Elec. & water	100	104	01	00	100	101	100	124	120	232	300	555	761
Construction	100	121	132	130	150	170	200	222	271	300	440	507	622
Trade/hotels/rest.	100	122	130	153	100	201	255	312	300	533	600	770	1197

- /1 Figures for 1987 and 1988 are subject to revision.
- /2 Methodological adjustments for: agriculture, construction, other services
See additional worksheets
- /3 "Hidden economy" adjustments for: oil seeds, cardamom, other food crops,
trophy hunting, gold & others, handicrafts, tourism, distribution, and rental housing.
Does not include unreported transactions in transportation of people
in matatu and other private trucks and buses, informal banking services.
Adjustments based on "A Study on non-traditional exports" by
M.S.D. Bagachwa, N.E. Luvera, and G.D. Mjema, September, 1989
See additional worksheets

Table 3: GDP BY EXPENDITURE: OFFICIAL AND MISSION ADJUSTMENTS

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
OFFICIAL ESTIMATES													
GDP BY EXPENDITURE (MILLIONS OF CURRENT TSH.)													
Private consumption	15377	17979	23363	25497	32488	37036	42281	55128	68862	93130	127307	180806	266620
Gov't. cons.	3989	4303	5585	5588	5494	6105	8046	9443	13844	18555	23821	29327	37887
Exports grfs	5297	5827	4892	5131	5540	5904	4546	5111	6321	7453	14589	25623	49069
Imports grfs	5941	6570	9695	9769	11087	10162	8932	8761	13543	17480	37028	75632	129811
Gross dom. inv.	5597	7524	8994	9459	9666	10130	12236	9699	13518	18883	31166	49973	65923
Gross fixed inv.	5159	6993	7339	8592	8630	8932	10825	7762	11973	16872	28579	49288	61821
Increase in stocks	438	661	764	666	1055	1498	1410	1836	1645	2001	2487	3685	4122
GDP at mp.	24419	28999	32169	38283	42118	48182	59226	76509	89992	120821	158848	219236	311478
Net factor income	-100	-98	-45	-71	-112	-178	-231	-211	-173	-784	-8281	-11637	-18542
GDP at np	24319	28780	32124	38212	42008	48008	57995	76298	89719	119017	158367	207999	292936
NFY (MF)	-153.0	-172.0	-44.0	-71.0	-112.0	-178.0	-231.0	-184.0	-489.0	-1711.0	-3289.0	-13295.0	-20822.0
GDP (BANK EST)	24266	28698	32126	38212	42008	48008	57995	76298	89498	118910	158398	20741	292936
SHARES OF GDP—OFFICIAL													
Private consumption	63.0	62.3	72.6	70.3	77.1	76.4	72.6	78.2	77.2	77.2	79.7	88.7	92.6
Gov't. cons.	16.3	14.9	17.4	16.4	13.0	12.4	13.8	13.4	15.6	15.4	14.8	13.4	12.2
Exports grfs	21.7	19.5	14.6	14.1	13.2	12.2	7.8	7.2	7.1	6.2	9.1	13.5	15.9
Imports grfs	23.9	22.9	29.7	28.9	26.3	20.7	15.2	12.4	15.2	14.5	23.2	36.3	41.7
Gross dom. inv.	22.9	26.1	25.2	25.1	23.0	20.6	21.0	13.6	15.3	15.7	19.5	22.8	21.2
Gross fixed inv.	21.1	23.1	22.8	23.7	20.5	17.8	19.6	11.0	13.5	14.0	18.0	21.1	19.8
Increase in stocks	1.8	3.0	2.4	2.4	2.5	3.1	2.4	2.6	1.9	1.7	1.6	1.7	1.3
GDP at mp.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Net factor income	-0.4	-0.3	-0.1	-0.2	-0.3	-0.4	-0.4	-0.3	-0.2	-0.6	-2.1	-5.0	-6.0
GDP at np	99.6	99.7	99.9	99.8	99.7	99.6	99.6	99.7	99.8	99.4	97.9	95.0	94.0
MISSION ESTIMATES CURRENT PRICES													
Private consumption	14611.0	16408.0	20559.0	22695.0	30218.0	33369.0	39912.0	52898.0	65769.0	86699.0	118782.0	168378.0	282896.0
Gov't. cons.	3989.0	4303.0	5585.0	5588.0	5494.0	6105.0	8046.0	9443.0	13844.0	18555.0	23821.0	29327.0	37887.0
Exports grfs	5297.0	5827.0	4892.0	5131.0	5540.0	5904.0	4546.0	5111.0	6321.0	7453.0	14589.0	25623.0	49069.0
Imports grfs	5941.0	6570.0	9695.0	9769.0	11087.0	10162.0	8932.0	8761.0	13543.0	17480.0	37028.0	75632.0	129811.0
Gross dom. inv.	6020.0	8142.0	9734.0	11701.0	11671.0	13109.0	13512.0	11288.0	14195.0	19894.0	34011.0	60303.0	55820.0
Gross fixed inv.	5582.0	7281.0	8970.0	10635.0	10616.0	11611.0	12282.0	9430.0	12550.0	17273.0	31524.0	59918.0	51898.0
Increase in stocks	438.0	661.0	764.0	666.0	1055.0	1498.0	1410.0	1836.0	1645.0	2001.0	2487.0	3685.0	4122.0
GDP at mp.	24058.0	27815.0	31404.0	35595.0	41836.0	48415.0	57254.0	69662.0	86887.0	117861.0	153998.0	208239.0	295984.0
Net factor income	-153.0	-172.0	-44.0	-71.0	-112.0	-178.0	-231.0	-184.0	-489.0	-1711.0	-3289.0	-13295.0	-20822.0
GDP at np	23905.0	27743.0	31360.0	35524.0	41724.0	48239.0	57023.0	69788.0	86788.0	116150.0	152709.0	195944.0	274842.0
SHARES OF GDP CURRENT PRICES—MISSION ESTIMATES													
Private consumption	60.7	58.8	66.7	63.4	72.2	68.9	69.7	75.6	78.0	78.3	77.1	89.9	95.7
Gov't. cons.	16.6	15.4	17.8	16.7	13.1	12.6	14.1	13.5	15.6	15.7	15.3	14.0	12.6
Exports grfs	22.0	20.2	14.9	14.4	13.2	12.4	7.9	7.3	6.3	6.8	9.5	14.1	16.6
Imports grfs	24.3	23.5	30.5	27.4	26.5	21.0	15.5	12.5	15.8	14.8	24.0	38.0	43.9
Gross dom. inv.	24.9	29.2	31.0	32.9	27.9	27.1	23.8	16.1	16.4	16.4	22.1	29.0	18.9
Gross fixed inv.	23.1	25.1	28.6	30.4	25.4	24.0	21.3	13.5	14.5	14.7	20.5	27.2	17.5
Increase in stocks	1.8	3.1	2.4	2.4	2.5	3.1	2.5	2.6	1.9	1.8	1.6	1.8	1.4
GDP at mp.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Net factor income	-0.6	-0.6	-0.1	-0.2	-0.3	-0.4	-0.4	-0.3	-0.6	-1.5	-2.1	-6.4	-7.0
GDP at np	99.4	99.4	99.9	99.8	99.7	99.6	99.6	99.7	99.4	98.5	97.9	93.6	93.0
GDP BY EXPENDITURE (MILLIONS OF CONSTANT 1976 TSH)													
OFFICIAL													
Private consumption	15377.0	18239.7	17209.0	16215.4	18484.7	16161.1	15298.5	17912.5	18344.2	17391.3	17729.2	19444.2	19702.7
Gov't. cons.	3989.0	4024.5	5136.0	5977.8	4124.0	4639.1	5477.2	4180.2	5188.1	5597.8	7947.0	7311.0	7639.0
Exports grfs	5297.0	4581.0	4426.5	3973.5	4088.4	4970.3	3458.1	3245.5	2917.2	3129.2	2828.5	3154.2	3139.3
Imports grfs	5941.0	5949.1	8176.9	8998.9	6481.5	5973.1	4711.5	4010.3	4598.0	5289.5	5931.7	6019.9	6212.0
Gross dom. inv.	5597.0	6543.5	6414.8	6583.3	6139.0	5951.2	6480.4	4441.7	5190.6	5937.0	5746.2	5592.0	6731.9
Gross fixed inv.	5159.0	5928.8	5894.9	6121.6	5617.2	6317.2	5942.8	3826.4	4740.1	5218.2	5390.0	5169.2	6324.1
Increase in stocks	438.0	785.8	529.9	461.8	521.8	644.0	537.6	636.4	450.5	418.9	396.2	421.0	407.9
GDP at mp.	24419.0	24429.6	24988.3	25853.1	26335.3	26968.5	26372.7	25769.7	29910.0	27094.3	28357.1	29480.4	30995.0
Net factor income	-100.0	-74.4	-35.0	-50.2	-70.0	-88.4	-108.0	-77.1	-52.4	-159.1	-52.8	-148.5	-1845.2
GDP at np	24319.0	24345.2	24953.4	25802.9	26265.2	26880.1	26264.6	25692.5	29857.6	26935.2	27774.3	27931.9	29150.0

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
NFY (IMF)	-153	-145.60	-34.178	-50.198	-70.030	-68.468	-103.04	-67.248	-148.03	-384.331	-582.021	-1789.39	-2072.03
GNP (BANK EST)	24288	24276.1	24954.1	25822.9	25265.2	25865.1	25889.8	25722.4	25761.9	25710.00	27774.43	27891.00	28323.76

MISSION ESTIMATES

Private consumption	14611.0	14428.8	15724.0	14886.2	17284.5	14477.3	14463.4	16821.3	17666.7	17477.6	16624.3	17520.2	19702.1
Gen'l gov't. cons.	3680.0	4024.5	5138.0	5377.8	4124.6	4639.1	5477.2	4180.2	5158.1	5597.3	7947.8	7311.6	7633.9
Exports grfs	5297.0	4581.0	4403.5	3873.5	4688.4	4070.3	3458.1	3245.5	2817.2	3129.2	2826.5	3154.2	3139.3
Imports grfs	5941.0	5948.1	8179.9	6888.9	6461.5	5573.1	4711.5	4810.3	4588.0	5288.5	5861.7	6019.9	6212.0
Gross dom. inv.	6020.0	7081.0	7714.5	8144.6	7867.9	7714.3	7280.7	8219.1	5410.6	5766.2	6270.7	6779.4	5720.2
Gross fixed inv.	5582.0	6347.0	7221.5	7719.6	6909.9	7152.3	8008.7	4629.1	4908.6	5342.2	5880.7	6365.4	5290.2
Increase in stocks	438.0	734.0	513.0	425.0	488.0	582.0	511.0	590.0	442.0	414.0	380.0	423.0	410.0
GNP at mp.	24268.0	24127.2	24803.0	25865.2	25213.9	25127.8	25897.0	25465.8	25482.5	26000.8	27677.7	28725.5	29883.5
Net factor income	-153.0	-148.7	-34.8	-51.3	-70.2	-65.0	-104.5	-67.0	-149.6	-387.6	-599.6	-1825.2	-2110.2
GNP at mp	23923.0	23978.5	24768.3	25843.9	25143.7	25832.8	25792.5	25388.9	25332.1	25312.2	27088.0	26900.3	27863.3

GROWTH OF GDP BY EXPENDITURE

BASED ON OFFICIAL CURRENT PRICES

Private consumption	-0.9	12.9	-5.8	13.9	-12.5	-5.5	17.3	2.4	-1.9	-1.5	9.7	1.3
Gen'l gov't. cons.	0.4	28.3	10.5	-27.4	12.5	18.1	-23.7	23.3	8.6	42.0	-8.0	4.4
Exports grfs	-13.5	-3.8	-12.1	5.5	21.6	-30.4	-6.1	-13.2	11.1	-0.7	11.6	-0.5
Imports grfs	1.8	37.5	-18.1	-3.2	-12.5	-17.0	-14.9	14.7	14.4	12.0	2.2	3.2
Gross dom. inv.	16.9	-2.0	2.6	-6.7	-2.9	9.7	-31.5	16.9	8.6	1.9	-2.7	20.4
Gross fixed inv.	12.6	1.3	4.0	-8.2	-5.3	11.8	-35.0	24.6	10.1	2.5	-3.4	22.3
Increase in stocks	67.9	-27.9	-12.9	13.0	23.4	-16.5	18.4	-29.2	-7.0	-5.4	6.3	-3.1
GNP at mp.	0.0	2.3	2.7	2.7	-1.1	-0.3	-0.8	4.4	0.7	4.7	4.0	5.1
Net factor income	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GNP at mp	0.1	2.5	2.6	2.6	-1.1	-0.4	-0.7	4.5	0.3	3.1	0.8	4.1

MISSION ESTIMATES

Private consumption	-1.4	9.1	-6.5	18.3	-15.3	-0.1	16.3	5.2	-1.2	-5.5	5.9	12.6
Gen'l gov't. cons.	0.4	28.3	10.5	-27.4	12.5	18.1	-23.7	23.3	8.6	42.0	-8.0	4.4
Exports grfs	-13.5	-3.8	-12.1	5.5	21.6	-30.4	-6.1	-13.2	11.1	-0.7	11.6	-0.5
Imports grfs	1.8	37.5	-18.1	-3.2	-12.5	-17.0	-14.9	14.7	14.4	12.0	2.2	3.2
Gross dom. inv.	18.0	8.9	5.6	-9.2	4.3	-6.5	-27.6	3.7	6.4	8.9	8.1	-15.9
Gross fixed inv.	14.1	13.5	7.2	-10.5	3.5	-6.3	-30.9	7.3	7.5	10.1	8.1	-16.8
Increase in stocks	67.8	-30.1	-17.2	14.8	15.2	-0.1	15.5	-25.1	-6.3	-5.8	8.5	-3.1
GNP at mp.	0.3	2.8	3.6	2.0	-0.3	-0.9	-1.7	4.0	0.8	3.7	3.8	4.3
Net factor income	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GNP at mp	0.3	3.3	3.5	1.9	-0.4	-0.9	-1.6	3.7	-0.1	2.9	-0.7	3.5

MEMO ITEM:

MISSION ESTIMATES—DEFLATORS

Private consumption	100.0	113.9	133.3	153.5	178.9	230.5	276.0	314.4	371.5	514.8	718.8	957.9	1435.4
Gen'l gov't. cons.	100.0	107.6	108.7	104.9	133.2	131.6	148.9	225.9	288.5	331.5	297.2	401.1	498.3
Exports grfs	100.0	122.8	105.5	122.5	135.5	129.6	131.5	157.5	224.4	238.2	515.8	895.0	1552.7
Imports grfs	100.0	110.5	116.9	145.7	171.1	179.1	198.1	218.5	294.5	332.3	628.4	1322.2	2061.3
Gross dom. inv.	100.0	115.0	128.2	143.7	157.8	180.9	198.8	215.9	292.4	339.4	542.4	863.9	979.3
Gross fixed inv.	100.0	114.7	124.6	140.4	153.6	162.3	182.2	203.7	252.6	323.3	538.1	866.4	977.2
Increase in stocks													
GNP at mp.	100.0	115.7	128.6	138.5	159.6	185.3	221.1	274.8	326.9	441.4	558.3	728.4	988.7
Net factor income	100.0	115.7	128.6	138.5	159.6	185.3	221.1	274.8	326.9	441.4	558.3	728.4	988.7

MEMO ITEMS:

Official deflator													
GNP at f.c.	100.00	118.21	128.74	141.44	159.93	188.43	224.18	273.61	330.33	445.19	582.99	742.99	1024.90

NOTES:

Current price GNP by expenditure shows the official and adjusted series. Adjusted data are for: gross domestic investment and private consumption (residual). Net factor income adjusted to be consistent with BOP (IEC/OUTBOP 1976-87; BOT 1988). Constant price series deflated by: general government (public administration value added deflator), exports GFS (IECSE XPI 1976-88), imports GFS (IECSE MPI for 1976-88, [World Tables 1989-90]), GDI and GDFI deflators from mission estimates worksheets. GNP and NFY from GNP f.c. deflator from adjusted industrial origin estimates. See other tables for details.

Table 4: AGRICULTURE

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	ratio of
GROSS OUTPUT CP (BOS)														
Seed cotton	239	372	370	383	510	545	480	594	634	1320	1325	3501	4098	0.522
Sisal fibre	285	273	235	207	270	277	229	222	245	232	405	645	784	0.658 /1
Tea leaf	60	68	133	126	125	118	112	237	204	315	390	462	630	0.872
Coffee	758	643	507	550	448	711	624	747	1050	1250	2175	2553	2835	0.958
Sugar Cane	92	121	103	131	141	111	104	295	395	495	390	462	731	0.658 /1
Tobacco	84	107	127	121	141	159	185	219	195	310	450	783	771	0.388
Cashewnuts	95	91	84	84	114	194	189	245	338	271	254	527	538	0.932
Pyrethrum	28	20	17	10	9	18	17	14	18	27	29	38	50	0.958
Maize	1159	1331	1245	1482	1725	1830	2481	2890	4288	6298	11157	13980	19180	0.787
Wheat	69	77	69	88	117	149	209	145	222	373	428	518	608	0.658 /1
Paddy	348	314	484	314	437	350	735	1050	1424	2550	3008	5040	8858	0.658
Other cereals	528	685	988	1320	1029	941	1290	1871	2350	3100	4334	5410	5329	0.658 /1
Legumes	682	708	1038	1212	1633	1538	1842	1871	2317	4492	5136.376	7411.942	10345.24	0.850
Oil Seeds /6	608	781	982	1085	1377	1408	1498	2368	2712	3192	3008	4000	6443	0.922 /1
Plantains	483	630	768	948	1112	1237	1980	2188	2134	2812	3402	6304	10005	0.920 /1
Other hor. crops	740	904	1058	1400	1717	2458	3404	4221	4554	5474	5800	14722	18473	0.920 /1
Coconuts	59	124	100	150	190	211	361	547	581	730	750	822	1000	0.788
Other crops	1281	1572	2028	2522	2748	3798	4974	6450	7681	10067	14000	20000	28004	0.658 /2
of wch:casava	473	674	761	917	785	1019	1492	1770	2278	3046	6158	6152	7812	0.958 /2
TOTAL CROPS	7545	8804	10382	11911	13849	18051	20885	25855	31487	45818	59654	92257	128984	
GROSS OUTPUT CP (BOS)														
SHARES OF TOTAL														
Seed cotton	3	4	4	3	4	3	2	2	3	3	2	4	4	
Sisal fibre	4	3	2	2	2	2	1	1	1	1	1	1	1	
Tea leaf	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Coffee	10	7	5	3	3	4	3	3	3	3	4	3	2	
Sugar cane	1	1	1	1	1	1	1	1	1	1	1	1	1	
Tobacco	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cashewnuts	1	1	1	1	1	1	1	1	1	1	0	1	0	
Pyrethrum	0	0	0	0	0	0	0	0	0	0	0	0	0	
Maize	15	15	12	12	12	11	12	11	14	18	19	15	15	
Wheat	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Paddy	5	4	4	3	3	2	4	4	5	6	7	6	7	
Other cereals	7	7	9	11	7	6	6	6	7	7	7	6	4	
Legumes	9	8	11	10	12	10	9	7	7	10	9	8	8	
Oil Seeds /6	8	9	9	9	10	9	7	9	9	7	6	5	5	
Plantains	6	7	8	8	8	8	9	8	7	6	6	9	13	
Other hor. crops	10	10	10	12	12	15	17	16	14	12	10	16	15	
Coconuts	1	1	1	1	1	1	2	2	2	2	2	1	1	
Other crops	17	19	19	21	20	24	24	25	24	23	25	22	23	
of wch:casava	6	8	7	8	6	6	7	7	7	8	10	7	6	
TOTAL CROPS	100	100	100	100	100	100	100	100	100	100	100	100	100	
GROSS OUTPUT KP (BOS)														
Seed cotton	239	372	321	318	343	341	280	253	277	300	228	425	511	
Sisal fibre	285	293	238	204	215	184	152	116	98	81	76	63	63	
Tea leaf	60	68	71	67	67	63	60	67	59	62	57	52	51	
Coffee	758	655	714	653	625	922	682	723	670	684	749	770	638	
Sugar cane	92	98	82	90	101	78	97	87	111	91	80	77	80	
Tobacco	84	107	108	102	97	95	94	74	64	77	80	102	78	
Cashewnuts	95	86	85	81	81	82	40	42	42	27	18	31	18	
Pyrethrum	28	20	17	10	11	13	12	10	9	10	9	8	9	
Maize	1159	1331	1172	1378	1361	1471	1323	1321	1551	1854	1702	1760	1871	
Wheat	69	64	55	70	87	90	95	59	74	83	71	72	67	
Paddy	348	314	387	282	391	200	320	350	350	425	438	530	615	
Other cereals	528	571	740	932	750	690	682	743	1010	804	683	692	636	
Legumes	682	594	622	685	828	772	822	832	815	1082	922.13	1042.07	994.95	
Oil Seeds /6	608	638	668	713	798	733	645	701	655	750	704	758	758	
Plantains	483	498	510	525	540	555	571	629	604	707	727	747	768	
Other hor. crops	740	753	768	780	797	812	827	687	815	947	976	1008	1031	
Coconuts	59	61	61	62	63	65	67	68	62	78	68	64	65	
Other crops	1281	1352	1380	1425	1395	1491	1590	1822	1732	1900	1991	1574	1917	
of wch:casava	473	530	521	584	493	582	693	787	759	780	821	694	694	
TOTAL CROPS (G.O.)	7545	7820	7824	8383	8388	8694	8527	8783	9244	9751	9772	10319	10310	

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	ratio of
GROSS OUTPUT KP (BOS)														
GROWTH RATES														
Seed cotton	55.4	-13.5	-1.1	7.7	-0.5	-23.8	-2.8	9.7	11.7	-34.3	109.1	20.2		
Sisal fibre	-7.9	-9.5	-14.3	5.7	-14.2	-17.8	-23.8	-17.2	-15.7	-6.5	10.0	0.3		
Tea leaf	16.6	21.2	-4.8	-1.3	-5.7	-4.9	13.1	-13.4	5.8	-7.5	-0.5	-1.6		
Coffee	-13.3	8.9	-8.6	-4.4	47.6	-28.0	6.0	-7.3	-0.9	12.8	2.8	-14.8		
Sugar cane	1.7	-12.7	21.5	1.8	-24.7	27.8	-10.1	27.4	-18.3	-11.6	-4.0	14.7		
Tobacco	28.7	-0.9	-4.1	-4.6	-1.8	-1.4	-21.0	-18.1	19.1	4.5	27.2	-23.9		
Cashewnuts	-0.7	-24.5	-21.1	-0.1	8.0	-23.0	5.3	-0.4	-36.6	-32.4	69.1	-40.3		
Pyrethrum	-21.1	-17.8	-37.3	1.9	22.8	-5.4	-15.4	-9.6	6.4	-12.1	-9.0	14.7		
Maize	14.8	-12.0	17.4	0.3	0.5	-10.1	-0.2	17.4	6.6	2.9	3.4	6.3		
Wheat	-7.2	-14.1	27.3	24.3	3.4	5.6	-38.9	27.6	12.2	-14.5	1.4	-6.9		
Paddy	-0.2	23.2	-32.3	11.1	-31.3	60.0	9.4	1.7	19.4	16.7	12.9	9.8		
Other cereals	12.4	29.7	34.0	-22.9	-13.7	30.7	-13.8	35.9	-20.4	7.3	3.4	-21.7		
Legumes	-14.1	4.7	6.9	24.1	-6.5	6.5	1.2	-2.0	32.0	-16.6	15.5	-4.5		
Oil Seeds	5.9	3.1	8.4	7.7	-4.8	-12.0	8.7	-0.9	8.0	-6.2	7.6	3.9		
Plantains	2.8	2.8	2.8	2.9	2.8	2.8	10.3	-4.0	17.0	2.8	2.8	2.8		
Other hor. crops	1.9	1.9	2.8	0.9	1.9	1.9	7.2	-6.0	18.2	3.1	2.8	2.8		
Coconuts	2.7	0.2	0.8	2.8	2.8	2.8	1.0	-7.7	21.7	-0.9	-6.0	2.8		
Other crops	7.2	-0.9	6.4	-4.2	9.2	7.3	14.0	-4.9	9.9	4.6	-5.9	2.3		
of wh:casava	14.0	-7.1	12.7	14.5	20.6	13.9	18.6	-3.7	1.5	6.7	-18.7	1.6		
TOTAL CROPS (G.O.)	3.8	1.2	5.8	0.1	2.4	-0.8	3.0	3.0	7.8	0.2	5.6	-0.1		
DEFLATORS (GROSS OUTPUT)														
Seed cotton	100	100.0	115.0	120.3	148.9	159.8	184.7	235.2	301.2	420.4	652.1	845.0	972.1	
Sisal fibre	100	103.8	98.9	101.7	125.3	149.9	151.3	191.9	258.5	287.8	643.9	778.8	942.1	
Tea leaf	100	112.5	187.6	187.4	187.4	187.6	187.6	361.5	349.7	511.3	612.5	949.9	1237.4	
Coffee	100	98.2	71.1	53.5	71.8	77.1	91.6	103.3	158.6	191.1	230.3	331.6	432.2	
Sugar cane	100	129.3	132.6	132.7	139.6	146.5	169.4	234.5	323.2	446.0	495.9	638.6	827.6	
Tobacco	100	100.0	120.3	118.7	145.6	167.6	195.8	265.7	267.4	404.2	535.5	788.7	904.0	
Cashewnuts	100	105.4	130.9	164.5	223.5	371.1	460.4	555.1	794.3	1010.1	1397.5	1661.0	3119.8	
Pyrethrum	100	100.0	100.0	100.0	84.0	100.0	139.2	138.5	192.6	270.0	324.6	453.9	544.4	
Maize	100	100.0	106.2	108.3	125.0	125.0	187.5	218.7	275.0	500.0	658.3	787.5	1025.0	
Wheat	100	120.0	125.1	125.0	134.9	165.0	220.0	250.0	300.0	449.4	600.0	720.0	900.0	
Paddy	100	100.0	120.0	120.0	150.0	175.0	230.0	300.0	400.0	600.0	800.0	900.0	1440.0	
Other cereals	100	116.5	130.8	133.1	134.6	142.6	149.8	224.8	233.5	385.4	502.2	628.5	793.5	
Legumes	100	118.8	175.7	182.1	197.8	199.1	224.0	224.9	284.1	415.3	539.4	711.3	1039.8	
Oil Seeds	100	122.4	149.3	152.1	179.2	192.2	232.3	342.0	390.5	425.5	625.0	647.9	818.1	
Plantains	100	128.8	154.5	180.3	208.0	223.0	347.1	347.6	353.3	411.9	498.1	1123.5	2087.8	
Other hor. crops	100	120.0	137.6	177.4	215.8	302.6	422.6	476.1	558.5	578.0	694.4	1487.8	1791.8	
Coconuts	100	203.3	178.9	243.9	315.2	325.2	540.4	810.7	932.3	983.1	1097.5	1280.5	2544.7	
Other crops	100	123.7	149.3	177.1	201.3	254.7	311.1	363.7	443.4	522.1	738.3	1070.9	1493.3	
of wh:casava	100	125.0	150.0	162.5	162.5	175.0	225.0	225.0	300.0	500.0	750.0	900.0	1125.0	
VALUE ADDED CP														
Seed cotton	125	194	193	200	296	284	250	310	435	679	692	1875	2533	
Sisal fibre	242	232	200	178	229	235	195	188	208	197	413	549	686	
Tea leaf	44	57	116	110	109	103	67	207	178	278	305	429	549	
Coffee	694	515	403	280	359	599	500	598	840	1015	1740	2042	2288	
Sugar cane	78	103	92	112	120	95	158	174	310	344	332	418	622	
Tobacco	25	32	38	36	42	48	55	68	58	93	141	235	231	
Cashewnuts	68	85	79	78	103	181	178	224	313	253	238	472	529	
Pyrethrum	25	19	18	10	9	12	16	14	17	28	27	35	48	
Maize	912	1048	980	1151	1358	1447	1853	2274	3357	6507	6768	10308	15256	
Wheat	59	65	63	74	100	128	178	123	169	317	392	441	513	
Paddy	308	279	413	260	368	312	655	935	1267	2270	3532	4488	7682	
Other cereals	482	595	823	1122	875	799	1096	1420	2305	2935	3894	4539	4530	
Legumes	609	621	682	1006	1437	1852	1621	1648	2039	3953	4520	6523	9104	
Oil Seeds /0	543	708	884	977	1299	1267	1348	2158	2441	2873	3327	4418	5769	
Plantains	435	575	710	651	1020	1113	1782	1989	1921	2821	3062	7555	14432	
Other hor. crops	685	818	950	1280	1545	2211	3145	3799	4099	4927	5309	13260	16828	
Coconuts	42	87	77	108	141	149	255	388	410	515	529	580	1188	
Other crops	1188	1538	1826	2368	2809	3826	4725	6174	7297	10182	13364	19288	27250	
of wh:casava	449	640	714	871	745	988	1418	1682	2159	3654	5848	5845	7421	
TOTAL CROPS	6483	7532	8622	10285	11931	13910	18224	22983	27382	33661	52662	77679	106621	

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 ratio of
LIVESTOCK	1437	1551	1945	2655	3419	4699	6135	7784	9210	13094	20948	30277	43194
FORESTRY	357	420	414	398	529	548	552	513	529	601	639	765	1005
FISHING	757	985	901	685	1049	1041	1038	2338	3238	6468	8138	8784	8819
HUNTING	29	29	32	38	36	44	49	74	77	85	74	80	80
TOTAL AGRICULTURE	9,413	10,527	12,194	14,441	18,928	20,242	25,028	33,359	40,285	59,397	79,872	112,765	152,959
VALUE ADDED OF SHARES OF TOTAL CROPS													
Seed cotton	2	2	2	2	2	2	1	1	2	2	1	1	2
Sisal fibre	4	3	2	2	2	2	1	1	1	0	1	1	1
Tea leaf	1	1	1	1	1	1	1	1	1	1	1	1	0
Coffee	9	7	5	3	3	4	3	3	3	3	3	3	2
Sugar cane	1	1	1	1	1	1	1	1	1	1	1	1	1
Tobacco	0	0	0	0	0	0	0	0	0	0	0	0	0
Cashewnuts	1	1	1	1	1	1	1	1	1	1	0	1	0
Pyrethrum	0	0	0	0	0	0	0	0	0	0	0	0	0
Maize	14	14	11	11	11	10	11	10	12	16	17	14	14
Wheat	1	1	1	1	1	1	1	1	1	1	1	1	0
Paddy	5	4	5	3	3	2	4	4	5	6	7	6	7
Other cereals	7	7	9	11	10	7	6	6	7	7	7	6	4
Legumes	9	8	11	10	12	10	9	7	7	10	9	8	8
Oil Seeds	8	9	10	9	9	8	8	10	7	7	7	6	5
Plantains	7	8	8	8	8	8	9	9	7	7	6	10	13
Other hor. crops	10	11	11	12	13	16	17	17	15	12	10	17	15
Coconuts	1	1	1	1	1	1	1	2	1	1	1	1	1
Other crops	19	21	21	23	22	23	23	27	27	28	27	24	25
of wh:casava	7	8	8	8	6	7	8	7	8	9	11	8	7
TOTAL CROPS	100	100	100	100	100	100	100	100	100	100	100	100	100
(% OF TOTAL AGRICULTURE)													
LIVESTOCK	16	15	16	20	20	23	24	23	22	22	25	27	28
FORESTRY	4	4	3	3	3	3	2	2	1	1	1	1	1
FISHING	8	9	7	6	6	5	4	7	8	11	10	8	5
HUNTING	0	0	0	0	0	0	0	0	0	0	0	0	0
VALUE ADDED (NP)													
Seed cotton	125	194	168	168	179	178	198	182	145	161	168	222	287
Sisal fibre	242	223	202	173	183	157	129	98	81	69	64	70	71
Tea leaf	44	51	62	59	55	52	52	59	51	54	50	45	44
Coffee	694	524	571	523	520	739	548	578	536	531	539	616	525
Sugar cane	78	79	69	84	66	65	62	74	94	77	68	68	75
Tobacco	25	25	32	30	29	29	29	22	19	23	24	31	23
Cashewnuts	68	60	60	47	47	49	39	40	39	25	17	28	17
Pyrethrum	25	19	18	18	19	12	12	10	9	10	8	6	9
Maize	912	1438	922	1053	1037	1153	1041	1039	1221	1201	1339	1385	1478
Wheat	59	54	47	60	74	77	61	49	63	71	60	61	57
Paddy	308	271	344	233	259	178	255	312	317	378	441	498	547
Other cereals	482	481	629	843	659	681	783	632	669	684	784	789	683
Legumes	609	521	548	535	728	679	724	732	718	652	704	817	678
Oil Seeds /6	543	575	592	642	691	689	631	625	675	676	634	682	769
Plantains	435	447	459	472	488	489	514	538	544	638	654	672	681
Other hor. crops	683	678	661	710	717	731	744	768	734	862	878	928	928
Coconuts	42	43	43	43	45	46	47	49	44	54	43	45	47
Other crops	1198	1284	1272	1863	1298	1416	1519	1731	1045	1808	1881	1780	1821
of wh:casava	449	512	478	536	459	553	630	747	720	731	780	649	689
CROPS TOTAL (NP)	6433	6819	6727	7118	7122	7265	7230	7651	7744	8381	9411	8788	8772
LIVESTOCK	1437	1283	1280	1284	1388	1469	1462	1460	1473	1890	1429	1474	1555
FORESTRY	357	311	320	285	298	278	150	236	236	254	278	199	233
FISHING	757	789	761	623	715	738	927	607	640	734	645	928	885
HUNTING	29	29	20	26	32	40	28	23	23	25	38	42	57
TOTAL AGRICULTURE	9,013	9,041	9,998	9,316	9,583	9,810	9,757	9,877	10,116	10,764	11,021	11,423	11,522

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 ratio of
VALUE ADDED (KƑ)													
GROWTH RATES													
Seed cotton	65.4	-13.6	-1.1	7.7	-0.5	-23.8	-2.8	9.7	11.7	-34.3	100.1	28.2	
Sisal fibre	-7.9	-0.5	-14.8	5.7	-14.2	-17.8	-23.8	-17.2	-15.7	-6.5	10.0	0.3	
Tea leaf	18.6	21.2	-4.8	-1.3	-5.7	-4.9	13.1	-13.4	5.8	-7.5	-0.5	-1.6	
Coffee	-13.3	8.9	-0.5	-4.4	47.3	-28.0	6.0	-7.3	-0.9	12.8	2.8	-14.8	
Sugar cane	1.7	-12.7	21.5	1.8	-24.7	27.8	-10.1	27.4	-18.3	-11.6	-4.0	14.7	
Tobacco	28.7	-0.9	-4.1	-4.6	-1.8	-1.4	-21.0	-13.1	19.1	4.5	27.2	-23.9	
Cashewnuts	-0.7	-24.5	-21.1	-0.1	3.0	-23.0	5.3	-0.4	-35.8	-32.4	68.1	-40.3	
Pyrethrum	-21.1	-17.8	-37.3	1.9	22.6	-5.4	-15.4	-0.6	6.4	-12.1	-0.0	14.7	
Maize	14.8	-12.0	17.4	0.3	6.5	-10.1	-0.2	17.4	6.8	2.9	8.4	6.8	
Wheat	-7.2	-14.1	27.3	24.3	3.4	5.6	-38.9	27.6	12.2	-14.5	1.4	-6.9	
Paddy	-0.2	23.2	-32.3	11.1	-31.3	60.0	9.4	1.7	19.4	16.7	12.9	9.8	
Other cereals	12.4	29.7	34.0	-22.9	-13.7	30.7	-13.8	35.9	-28.4	7.3	3.4	-21.7	
Legumes	-14.1	4.7	6.9	24.1	-6.5	6.5	1.2	-2.0	32.6	-16.6	15.5	-4.5	
Oil Seeds	5.9	3.1	8.4	7.7	-4.6	-12.0	8.7	-0.9	8.0	-6.2	7.6	3.9	
Plantains	2.8	2.8	2.8	2.9	2.8	2.8	10.3	-4.0	17.0	2.8	2.8	2.8	
Other hor. crops	1.9	1.9	2.8	0.9	1.9	1.9	7.2	-8.0	18.2	3.1	2.8	2.8	
Coconuts	2.7	0.2	0.8	2.8	2.8	2.8	1.0	-7.7	21.7	-0.9	-0.0	2.8	
Other crops of wh:cassava	7.2	-0.9	6.4	-4.2	9.2	7.3	14.0	-4.9	9.9	4.6	-5.9	2.3	
	14.0	-7.1	12.7	-14.5	20.6	13.9	18.6	-3.7	1.5	6.7	-18.7	1.6	
CROPS TOTAL (KƑ)	2.9	1.6	5.9	0.1	2.3	0.1	3.6	2.6	8.0	0.6	4.5	-6.2	
LIVESTOCK	-10.7	-1.8	2.7	7.9	5.2	-0.5	-0.1	0.9	-5.6	2.8	3.1	5.5	
FORESTRY	-12.9	-6.8	-12.1	16.9	-6.7	-46.0	57.3	0.0	7.6	9.4	-29.4	2.0	
FISHING	5.5	-12.3	-11.1	14.8	3.2	12.1	-26.6	5.4	13.1	16.7	6.9	1.6	
HUNTING	0.0	-31.0	30.0	23.1	25.0	-30.0	-17.9	0.0	8.7	52.0	10.5	35.7	
TOTAL AGRICULTURE KƑ	0.3	-0.5	3.5	2.7	2.6	-0.5	1.2	2.4	6.3	2.3	3.8	0.9	
COMPARISON OF OFFICIAL AND ADJUSTED AGRICULTURE VALUE ADDED SERIES													
CURRENT PRICES													
OFFICIAL	9,046	11,131	12,528	14,728	16,638	20,338	28,449	32,737	41,295	61,231	84,153	120,941	178,253
ADJUSTED	9,013	10,527	12,194	14,441	16,928	20,242	28,026	33,360	40,208	59,907	79,872	112,705	162,530
OFFICIAL/ADJUSTE	100	105	103	102	98	100	102	98	103	102	105	107	109
CONSTANT PRICES													
OFFICIAL	9,046	9,159	9,968	9,088	9,418	9,511	9,639	9,914	10,312	10,521	11,557	12,088	12,809
ADJUSTED	9,013	9,041	8,968	9,316	9,563	9,810	9,757	9,877	10,116	10,754	11,021	11,423	11,522
GROWTH RATES													
OFFICIAL		1.1	-1.7	0.8	3.9	1.0	1.3	2.9	4.0	6.0	5.7	4.4	4.5
ADJUSTED		0.3	-0.5	3.5	2.7	2.6	-0.5	1.2	2.4	6.3	2.3	3.8	0.9
DEFLATORS													
OFFICIAL	100	122	139	162	177	214	274	330	400	500	728	1022	1414
ADJUSTED	100	116	136	155	177	208	237	338	397	557	728	987	1414

/1 ESTIMATED

/2 CASSAVA VA/G.O. RATIO.

/3 FOOD CROPS FROM BOS GROSS OUTPUT SERIES; LIVESTOCK, FORESTRY, HUNTING & FISHING V.A. FROM OFFICIAL ACCOUNTS

/4 V.A. CP DEFLATED BY G.O. DEFLATOR TO OBTAIN KƑ SERIES

/5 SEE C:\TZA\DTAQ10 18 FOR ADJUSTMENTS TO BOS DATA FOR LEGUMES, OTH.HORT CROPS
OTHER CEREALS, AND OTHER CROPS.

/6 SEE C:\TZA\OSEED4_5 FOR ADJUSTMENTS TO OILSEEDS

SOURCE: BUREAU OF STATISTICS WORKSHEETS; HARRISON 1988 REPORT; OFFICIAL TABLES

Table 6: INFORMAL FOOD CROPS

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
VALUE ADDED MILLIONS CURRENT TSH. (BASED ON OFFICIAL GROSS OUTPUT)													
Other cereals	432	585	823	1122	875	799	1098	1420	2005	2835	3684	4599	4530
Legumes	609	621	982	1086	1437	1352	1621	1646	2039	3053	4520	6523	8104
Plantains	435	575	710	651	1000	1113	1782	1989	1921	2821	3082	7555	14432
Other hor. crops	666	813	950	1200	1545	2211	3145	3799	4099	4927	5309	13250	16626
Coconuts	42	87	77	108	141	149	255	388	410	515	529	580	1188
TOTAL	2182	2882	3522	4408	4998	5625	7899	9220	10474	14851	17104	32508	45877
VALUE ADDED MILLIONS 1976 TSH. (BASED ON OFFICIAL GROSS OUTPUT)													
Other cereals	432	485	629	843	650	581	738	632	859	684	734	758	593
Legumes	609	523	548	585	728	679	724	732	718	952	794	917	876
Plantains	435	447	459	472	488	499	514	588	544	636	654	672	691
Other hor. crops	666	678	691	710	717	731	744	798	734	852	878	903	928
Coconuts	42	43	43	43	45	48	47	48	44	54	48	45	47
TOTAL	2182	2178	2370	2654	2623	2516	2761	2776	2898	3178	3108	3298	3135
VALUE ADDED (ADJUSTED)													
CURRENT	2210	2895	3508	4461	5000	5695	7998	9338	10605	14834	17318	32912	48450
1976 PRICES	2210	2203	2399	2688	2656	2547	2796	2811	2934	3217	3147	3337	3174
DIFFERENCE													
CURRENT	27	33	44	55	62	70	99	115	131	183	214	408	578
1976 PRICES	27	27	30	33	33	31	35	35	36	40	39	41	39

NOTES:

/1 NON TRADITIONAL FOOD CROPS ADJUSTMENT OF \$10 MILLION IN 1987;
THIS PERCENTAGE (ABOUT 1.26%) ADDED TO OFFICIAL ESTIMATES OF OTHER CEREALS,
LEGUMES, PLANTAINS, OTHER HORT. CROPS, COCONUTS. OIL SEEDS ADJUSTED
SEPARATELY; OTHER CROPS ALREADY INCLUDE A 10% ADDITION FOR UNDERCOUNTING.
FROM BAGACHWA ESTIMATES

Table 6: CARDAMON

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
QUANTITY (MT)													
OFFICIAL /1	433	423	351	451	630	463	828.3	821.1	424.1	127.1	211	295.9	320
BANK ESTIMATE /2	4330	4030	3510	4510	6300	4630	8283	8211	4241	1271	2110	2959	3200
PRICE (TSH/MT)	12000	15200	25000	45000	45000	45000	45000	45000	63000	63000	98000	155000	186000
GROSS OUTPUT CP													
OFFICIAL	5.2	6.0	8.8	20.3	28.6	20.8	14.7	14.4	26.7	10.2	29.3	45.0	55.5
BANK ESTIMATE	52.0	60.5	87.8	203.0	287.6	208.4	146.8	144.5	267.2	101.7	292.6	450.2	555.0
GROSS OUTPUT KP													
OFFICIAL	5.2	4.8	4.2	5.4	7.7	5.0	3.9	3.9	5.1	1.5	2.5	3.0	3.0
BANK ESTIMATE	52.0	48.4	42.1	54.1	76.7	55.6	39.2	39.5	50.9	15.3	25.3	35.8	35.0
VALUE ADDED CP /3													
OFFICIAL	4.9	5.7	8.3	19.3	27.3	19.8	13.9	13.7	25.4	9.7	19.2	43.7	52.7
BANK ESTIMATE	49.4	57.4	83.4	192.8	273.2	197.9	139.5	137.3	253.8	96.6	192.4	437.2	527.3
VALUE ADDED KP													
OFFICIAL	4.9	4.6	4.0	5.1	7.3	5.3	3.7	3.7	4.8	1.4	2.4	3.4	3.4
BANK ESTIMATE	49.4	45.9	40.0	51.4	72.8	52.8	37.2	36.6	49.3	14.5	24.1	33.8	34.2
VALUE ADDED DIFFERENCE													
CP	44.4	51.7	75.0	173.5	245.9	178.1	125.5	123.5	228.4	66.9	173.2	393.5	474.6
KP	44.4	41.3	36.0	46.3	65.6	47.5	33.5	32.9	43.5	13.0	21.6	30.5	30.8

/1 BOS ESTIMATES

/2 ESTIMATE THAT 80% OF PRODUCTION IS OUT OF OFFICIAL MARKET

/3 VALUE ADDED/GROSS OUTPUT ASSUMED TO BE .95

Table 7: OILSEEDS

BOS Estimates and Adjustments in Quantity and Gross Output for National Accounts Revisions

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Official BOS Estimates (MT)													
Sunflower	6994	6987	7168	12289	19328	16798	9423	9404	4440	7728	16518	22834	22651.6
Sesame	6391	7539	6939	6574	4318	7628	4188	4228	6221	3153	2872	4939	6283
Groundnuts	511	412	1459	2519	5882	1728	294	238	945	575	739	488	639
Shelled Groundnuts	24354	26942	25749	28477	27225	27904	23785	31759	30477	36339	32178	33241	31888
Soybeans	311	853	699	1957	839	1859	198	439	329	553	842	1249	1549
Cotton Seed	2194	1887	2227	1859	1292	627	659	699	239	572	719	579	595.2
Adjusted Estimates (MT)													
Sunflower	39957	31843	38124	64249	102789	57431	59118	59495	23999	41193	55915	117191	128478
Sesame	51847	65318	57288	58985	37418	66282	39278	38519	53985	27847	24938	42979	45778
Groundnuts	4139	3339	11729	21169	47393	13957	2375	1924	6939	4648	5973	3257	4957
Shelled Groundnuts	199954	232415	238139	214814	229939	229276	232579	255799	246345	288241	269939	244439	251295
Soybeans	1784	4812	3349	5994	4579	6922	1164	2442	1673	3139	4095	6994	8537
Cotton Seed	15139	13929	15398	11447	8793	4325	4547	4823	1649	3047	4939	3995	4187
Prices (Tah/MT)													
Sunflower	989	1099	1599	1999	1599	1099	1899	2999	3599	6299	7499	8999	11999
Sesame	2999	2599	3099	2299	3599	4999	4599	5799	7999	16999	14799	17999	22199
Groundnuts	2999	2599	4999	4999	4999	4299	4999	5999	6999	12999	17999	21599	29999
Shelled Groundnuts	2299	2799	3299	3599	4999	4299	5299	7919	8999	9999	16599	12999	16999
Soybeans	2999	2299	2299	2299	2299	2299	3999	3999	4999	6799	9499	11399	14149
Cotton Seed	799	799	1999	1999	1999	1299	1799	1799	2999	3999	4999	5999	7499
Gross Output (millions Tah/CP)													
Sunflower	33.9	31.9	57.2	99.4	154.2	91.9	99.2	131.3	82.9	215.9	413.9	1643.9	1395.4
Sesame	192.1	193.3	171.8	125.3	131.6	299.9	193.2	299.7	377.3	297.1	395.8	799.6	1011.7
Groundnuts	8.3	8.3	46.9	84.7	189.5	58.7	11.4	11.2	69.1	59.5	109.9	79.9	117.2
Shelled Groundnuts	437.9	559.6	676.4	749.9	899.2	978.7	1221.5	2099.6	2189.2	2594.2	2731.9	2993.3	3799.3
Soybeans	3.5	19.9	7.5	13.3	19.5	13.5	3.3	7.3	7.5	21.2	44.1	78.7	122.1
Cotton Seed	11.4	9.9	15.4	11.4	9.7	5.2	7.7	8.2	3.3	13.9	24.9	23.9	39.4
Copra	7.9	9.5	7.3	5.1	2.4	7.1	9.9	9.3	9.9	9.5	19.9	1.9	9.9
Total Oilseeds (CP)	693.9	791.2	992.4	1995.2	1376.5	1499.9	1499.9	2397.6	2712.9	3192.1	3998.2	4999.1	6442.9
Gross Output (millions Tah 1976 CP)													
Sunflower	33.9	29.7	34.3	57.9	92.5	51.7	45.1	45.4	21.3	37.9	59.3	195.5	199.4
Sesame	192.1	199.8	114.5	113.9	74.9	199.5	72.5	73.2	197.9	54.7	49.9	99.9	91.9
Groundnuts	8.3	6.7	23.4	42.3	94.9	27.9	4.9	3.9	13.7	9.3	11.9	6.5	8.7
Shelled Groundnuts	437.9	449.4	482.9	475.1	499.5	592.3	518.5	599.9	549.9	639.9	577.4	542.7	557.9
Soybeans	3.5	9.9	6.7	11.9	9.4	12.9	2.2	4.9	3.3	6.3	9.4	13.9	17.3
Cotton Seed	11.4	9.9	11.5	9.9	6.5	9.2	3.4	3.6	1.2	3.9	3.7	3.9	3.1
Copra	7.9	3.7	5.4	3.9	1.9	4.9	9.3	9.1	9.2	9.1	1.4	9.2	9.9
Total Oilseeds (CP)	693.9	639.4	659.9	713.4	799.3	732.6	644.9	791.1	694.5	799.2	794.9	757.7	797.5
Memo													
Oilseeds Estimates - Based on Kilimo Production Figures /1													
(Kilimo estimates 1983/84 - 1985/86 (MT))													
Sunflower	49225												
Sesame	36399												
Groundnuts	135423												
Soybeans	3187												
Cotton Seed /2	99727												
BOS Worksheet Estimate 1983/84 - 1985/86 (MT)													
Sunflower	7693												
Sesame	4993												
Groundnuts	16754												
Soybeans	599												
Cotton Seed /2	579												
Ratio Kilimo/BOS													
Sunflower	5.3												
Sesame	9.7												
Groundnuts	9.1												
Soybeans	5.6												
Cotton Seed /3	167.1												

Notes:

- /1 BOS estimates are based on official purchases by marketing boards; KILIMO estimates are production figures and therefore represent more realistic output figures for the National Accounts. No adjustment for copra.
- /2 1989/91 estimates.

Table 8: CONSTRUCTION

1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988

OFFICIAL ACCOUNTS—GROSS DOMESTIC INVESTMENT												
CURRENT PRICES (BILL. \$)												
BUILDINGS	RESIDENTIAL	RURAL OWN ACCOUNT	NON-RESIDENTIAL	OTHER WORKS	LAND	ROADS, WATER, OTHERS						
1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
968	1321	1295	1835	2447	2416	1947	2510	3059	4309	6279	7693	7693
216	199	183	232	427	388	185	552	859	1116	1377	1599	1838
277	315	358	439	468	574	657	764	932	1116	1377	1599	1838
453	645	749	943	1125	1446	1878	2565	3498	4115	5082	6034	6984
1617	1928	1755	2391	2534	2239	1987	2365	2792	3398	4055	4834	5634
149	136	82	119	168	146	69	163	154	153	153	98	178
1477	1427	1287	1812	1495	1884	1390	1741	2092	2223	2932	3398	3988
1765	1648	1894	2359	1872	2922	1529	1983	2223	2792	3398	3988	4634
1477	1755	1648	1894	2359	1872	1529	1983	2223	2792	3398	3988	4634
149	136	82	119	168	146	69	163	154	153	153	98	178
1617	1928	1755	2391	2534	2239	1987	2365	2792	3398	4055	4834	5634
453	645	749	943	1125	1446	1878	2565	3498	4115	5082	6034	6984
277	315	358	439	468	574	657	764	932	1116	1377	1599	1838
216	199	183	232	427	388	185	552	859	1116	1377	1599	1838
968	1321	1295	1835	2447	2416	1947	2510	3059	4309	6279	7693	7693
CONSTANT 1976 PRICES												
BUILDINGS	RESIDENTIAL	RURAL OWN ACCOUNT	NON-RESIDENTIAL	OTHER WORKS	LAND	ROADS, WATER, OTHERS						
1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
1976	1182	975	1119	1359	1359	1158	1383	1594	1985	1986	1987	1988
216	136	134	144	132	132	81	136	169	98	120	232	232
277	291	239	327	315	323	331	349	349	353	367	378	378
453	639	676	799	799	823	834	849	849	853	867	878	878
1617	1593	1299	1491	1599	1232	1485	1493	1493	1493	1493	1493	1493
149	136	82	119	168	146	69	163	154	153	153	98	178
1477	1427	1287	1812	1495	1884	1390	1741	2092	2223	2932	3398	3988
1765	1648	1894	2359	1872	2922	1529	1983	2223	2792	3398	3988	4634
1477	1755	1648	1894	2359	1872	1529	1983	2223	2792	3398	3988	4634
149	136	82	119	168	146	69	163	154	153	153	98	178
1617	1593	1299	1491	1599	1232	1485	1493	1493	1493	1493	1493	1493
453	639	676	799	799	823	834	849	849	853	867	878	878
277	291	239	327	315	323	331	349	349	353	367	378	378
216	136	134	144	132	132	81	136	169	98	120	232	232
968	1321	1295	1835	2447	2416	1947	2510	3059	4309	6279	7693	7693
BUILDING COST INDICES (MARCH 1977=100)												
(BUILDING RES. UNIT)	ADJUST TO MIDDLE OF YEAR											
1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
100.0	112.2	125.9	159.3	211.0	267.1	327.2	382.0	450.0	555.0	632.0	727.0	845.08
99.67	112.2	125.9	159.3	211.0	267.1	327.2	382.0	450.0	555.0	632.0	727.0	845.08
99.54	111.6	129	147.2	192.5	242.9	290.5	335.0	398.0	465.0	528	627.0	815.08
98.19	111.2	129	149.6	192.9	240.9	290.8	340.0	370.0	451.0	539	639.9	791.57
ADJUST TO 1976=100												
LOW COST HOUSE	MEDIUM COST HOUSE	MULTISTORY										
100.0	119.8	119.8	137.2	149.6	159.8	213.0	244.1	256.1	299.8	341.8	399.8	459.8
100.0	119.8	119.8	137.2	149.6	159.8	213.0	244.1	256.1	299.8	341.8	399.8	459.8
100.0	119.8	119.8	137.2	149.6	159.8	213.0	244.1	256.1	299.8	341.8	399.8	459.8
DELAYS FOR CONSTRUCTION/BUILDING COST FORMATION												
AVG. COST RESIDENTIAL	MULTISTORY (NON-RES)	AVG. COST PRODUCTION (TEL. 2)										
100.0	119.8	119.8	124.4	130.7	146.2	159.8	221.0	250.1	341.8	354.4	444.4	539.8
100.0	119.8	119.8	124.4	130.7	146.2	159.8	221.0	250.1	341.8	354.4	444.4	539.8
100.0	119.8	119.8	124.4	130.7	146.2	159.8	221.0	250.1	341.8	354.4	444.4	539.8
ADJUSTED RURAL POP. GROWTH 1.004												
(1988 IN)												
1.025	1.025	1.025	1.027	1.028	1.029	1.029	1.031	1.033	1.035	1.037	1.039	1.041

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GROSS OUTPUT (1976 PRICES)													
TEA LEAF	58	58	71	67	67	68	68	67	58	62	57	52	51
COFFEE	788	655	714	658	625	922	662	728	678	664	749	778	658
CASHENUTS	95	85	65	51	51	52	48	42	42	27	18	21	11
15% FOR ADJUSTMENT TO LAND CLEARING, CROP DEVELOPMENT, ETC.													
TEA LEAF	7.5	8.8	10.6	10.1	10.6	9.4	8.9	10.1	8.8	9.3	8.6	7.8	7.6
COFFEE	113.3	98.3	107.1	98.0	98.7	139.3	102.3	108.4	109.5	99.6	112.4	115.5	98.4
CASHENUTS	14.2	12.8	9.7	7.6	7.6	7.9	6.6	6.4	6.3	4.6	2.7	3.2	1.6
TOTAL	135.64	119.87	127.36	115.75	111.27	155.54	117.27	124.89	115.02	112.92	123.65	125.43	107.66
ADJUSTED CONSTRUCTION (C) CURRENT PRICES (MILL. TSH)													
BUILDINGS	958	1415.0	1954.7	1759.9	1981.9	2485.0	2578.9	2228.9	3157.8	3904.2	5341.8	6331.5	9251.7
RESIDENTIAL /1	216	247.53	281.16	353.52	373.55	534.45	608.69	510.71	924.22	1299.2	1467.6	2151.5	3076.4
RURAL OWN ACCOUNT /2	277	321.54	344.89	416.99	432.42	585.65	694.21	828.21	1024.5	1397.0	1594.2	2054.9	2573.2
NON-RESIDENTIAL /3	463	846	749	943	1128	1446	1373	698	1219	1398	2580	4115	3622
OTHER WORKS	1928	2246.5	2998.2	2346.8	2998.1	2999.4	3499.5	2125.8	2999.3	3379.5	5331.8	5979.4	9928.9
LAND /4	275.64	316.68	295.98	329.44	343.25	639.24	528.34	443.99	573.98	684.23	1395.6	1442.8	1498.9
ROADS, WATER, OTHERS	1624.7	1929.5	1927.3	2017.4	2594.9	2359.2	2061.2	1661.9	2126.3	2445.3	4325.2	3536.6	7810
TOTAL CONSTRUCTION (C) (P)	2655.7	3931.8	3448.0	4058.7	4878.1	5184.5	6169.4	4354.8	5857.1	7373.8	11273.1	13410.1	18628.1
CONSTANT 1976 PRICES													
BUILDINGS	958	1169.4	1263.0	1243.1	1278.6	1451.1	1384.6	948.97	1149.9	1099.6	1329.1	1659.8	1498.9
RESIDENTIAL /5	216.0	218.0	221.7	265.0	271.1	345.7	295.7	218.9	326.8	339.3	395.6	441.7	524.0
RURAL OWN ACCOUNT /6	277.0	283.9	291.3	299.2	307.5	318.5	328.0	335.1	347.2	359.3	372.6	387.1	403.0
NON-RESIDENTIAL	463	668	669	676	700	790	663	394	457	397	651	831	570
OTHER WORKS	1899.7	1825.5	1537.0	1577.9	1828.8	1499.9	1738.1	931.99	1033.7	905.42	1215.5	991.13	1467.9
LAND /7	276.0	255.9	269.4	234.8	214.3	353.5	293.3	198.9	218.6	296.9	281.7	224.4	265.7
ROADS, WATER, OTHERS /8	1624.7	1570	1328	1443	1513	1137	1473	738	815	609	934	757	1282
TOT. CONSTR (1976 PRICES)	2655.7	3016.0	2928.0	2818.1	3105.5	2952.1	3040.8	1990.9	2174.7	2055.0	2524.7	2651.0	2984.9
ADJUSTED DEFLATORS													
BUILDINGS	100	118.88	127.44	137.67	151.69	170.14	204.72	224.87	277.63	306.57	430.95	601.93	618.83
RESIDENTIAL	100	113.25	117.69	134.54	137.78	154.57	204.18	233.99	282.78	302.99	398.42	489.82	557.16
RURAL OWN ACCOUNT	100	113.25	118.29	137.17	149.99	159.78	212.97	244.85	295.13	308.99	427.89	539.82	639.52
NON-RESIDENTIAL	100	122.98	136.18	139.49	169.95	199.97	261.62	227.91	281.62	349.92	482.79	495.18	631.92
OTHER WORKS	100	123.83	136.18	139.89	169.82	199.99	229.10	281.13	309.95	483.81	512.49	625.61	
LAND	100	123.62	136.69	149.93	169.19	199.69	239.68	229.98	282.13	359	493.92	642.65	624.71
ROADS, WATER, OTHERS	100	122.98	136.12	139.78	169.91	181.84	201.84	227.66	289.98	369.67	463.13	474.31	649.68
TOTAL CONSTRUCTION (C) (P)	100	121.48	132.61	139.61	165.62	175.61	202.59	231.52	299.79	359.61	446.53	505.88	621.81
ESTIMATES OF CONSTRUCTION VALUE ADDED /9													
CONSTRUCTION VALUE ADDED (MILL. TSH)													
BUILDINGS	845.2	822.4	464.6	609.2	665.3	876.9	956.8	621.8	1154.3	1465.6	2033.4	2973.7	3330.4
RESIDENTIAL	71.9	82.4	87.0	119.7	124.4	178.0	201.0	179.1	307.8	422.7	499.7	719.0	1024.5
RURAL OWN ACCOUNT	119.1	138.8	149.2	176.5	185.9	217.4	298.5	352.7	440.6	609.7	656.5	933.0	1126.5
NON-RESIDENTIAL	154.2	281.7	249.4	314.0	375.0	481.5	457.2	290.0	405.9	492.2	849.2	1379.3	1199.5
OTHER WORKS	632.6	748.1	697.1	781.5	978.4	898.6	1162.0	787.9	698.9	1125.4	1875.4	1691.4	3000.9
LAND	81.6	105.3	95.2	109.7	114.3	212.9	175.9	147.9	199.8	311.1	435.1	499.5	499.1
ROADS, WATER, OTHERS	541.0	642.9	601.8	671.8	864.1	685.7	986.1	639.1	708.1	814.3	1440.3	1211.9	2501.7
TOT CONSTRUCTION (MILL. TSH)	977.8	1259.5	1181.6	1389.7	1663.7	1775.5	2118.8	1529.7	2653.2	2591.0	3929.0	4695.2	6430.8
CONSTRUCTION VALUE ADDED (MILL. 1976 TSH)													
BUILDINGS	845.2	424.0	382.2	442.0	455.6	517.3	496.1	948.6	419.6	397.7	472.1	599.3	537.6
RESIDENTIAL	71.9	72.8	73.8	88.2	98.3	115.1	98.5	72.9	109.8	111.0	128.4	147.1	174.5
RURAL OWN ACCOUNT	119.1	122.1	125.8	129.5	132.2	136.1	140.2	144.5	149.3	154.5	169.2	186.5	173.3
NON-RESIDENTIAL	154.2	229.1	183.2	225.1	233.1	295.1	227.4	181.2	155.5	132.2	183.5	276.7	189.8
OTHER WORKS	632.6	697.9	511.8	659.8	628.3	495.5	578.1	310.4	344.2	321.5	404.8	339.0	456.5
LAND	81.6	85.2	69.7	78.2	71.4	117.7	87.7	64.6	72.8	88.9	98.8	74.7	95.1
ROADS, WATER, OTHERS	541.0	522.7	442.1	489.8	537.0	378.0	490.5	245.8	271.4	232.6	311.0	255.3	420.4
TOT. CONSTR. MILL. 1976 TSH	977.8	1031.9	694.1	1029.8	1064.0	1013.8	1044.2	659.0	757.9	719.2	876.9	920.3	1033.1

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GROWTH RATES													
BUILDINGS		22.0	-0.8	15.6	8.1	13.5	-0.9	-25.2	18.6	-8.0	18.7	25.0	-8.9
RESIDENTIAL		1.2	1.4	19.5	2.8	27.5	-14.5	-25.0	49.3	2.0	15.7	14.6	18.6
RURAL OWN ACCOUNT		2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.3	3.5	3.7	3.9	4.1
NON-RESIDENTIAL		48.6	-20.1	22.9	3.6	14.1	-14.5	-42.3	18.5	-15.0	88.8	68.8	-31.4
OTHER WORKS		-3.9	-15.8	9.2	8.9	-18.4	18.4	-46.3	10.9	-6.6	25.9	-18.5	50.1
LAND		-7.0	-18.2	12.1	-8.7	65.0	-25.5	-26.4	12.8	22.1	5.5	-20.3	27.3
ROADS, WATER, OTHERS		-3.4	-15.4	8.7	11.7	-29.5	29.5	-49.9	10.4	-14.3	83.7	-17.9	68.6
TOTAL CONSTRUCTION V.A. GROWTH		5.5	-13.4	11.9	6.3	-4.7	3.0	-36.9	15.0	-6.1	21.9	5.0	12.2
COMPARISON OF OFFICIAL AND ADJUSTED CONSTRUCTION VALUE ADDED													
OFF. CONSTRUCT (MILL TS-)	894.0	1111.0	1052.0	1229.0	1498.0	1614.0	1833.0	1252.0	1661.0	2081.0	3131.0	3467.0	4550.0
ADJ. CONSTRUCT (MILL TS-)	977.8	1259.5	1181.6	1300.7	1633.7	1775.5	2118.8	1529.7	2053.2	2591.0	3928.8	4665.2	6430.3
OFFICIAL/ADJUSTED	90	89	89	93	90	91	88	82	81	114	80	74	71
OFF. CONS (MILL 1978 TS-)	894.0	915.0	783.0	979.0	982.0	808.0	980.0	549.0	690.0	621.0	725.0	721.0	757.0
ADJ. CONS (MILL 1978 TS-)	977.8	1081.9	894.1	1020.8	1034.0	1013.8	1044.2	659.0	757.0	719.2	876.9	920.3	1033.1
OFFICIAL GROWTH RATE		3.5	-14.4	25.0	-4.8	-4.5	4.5	-41.0	20.2	-0.9	17.8	2.3	5.0
ADJUSTED GROWTH RATE		5.5	-13.4	11.9	6.3	-4.7	3.0	-36.9	15.0	-6.1	21.9	5.0	12.2

NOTES:

- /1 Inflated from 1978 prices with average residential deflator
- /2 Inflated from 1978 prices with low cost housing deflator
- /3 Inflated from 1978 prices with multistorey deflator
- /4 Official deflator used to inflate 1976 prices
- /5 Cement production used to extrapolate 1976 to 1988 (Cement & blocks account for about 25% of materials)
- /6 From 1978-83, rural population growth (about 2.4%) plus .1% for improved quality housing; from 1983-88 increase rural population growth by .2% for improved quality (see TET 2, p. 50)
- /7 Since small holder farm investment such as land improvement, construction of storage, development of tree crops is not included, 15% of constant price gross output of tea, coffee, and cashew nuts is added.
- /8 Official accounts do not include estimates for community based construction for schools, community centers; 10% per year added.
- /9 Rural own account construction ratio of value added to gross output is 43%; for all other it is 83.3% (1/0 of 1978)

Table 9: HUNTING

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
OFFICIAL HUNTING V.A. (MILLIONS TSH)													
CURRENT PRICES	29	29	32	38	38	44	49	74	77	85	74	80	80
1976 PRICES	29	29	20	28	32	40	28	23	23	25	38	42	57
DEFLATOR /1	1.00	1.00	1.60	1.46	1.18	1.10	1.75	3.22	3.35	3.40	6.36	12.51	19.32
BAGACHWA ESTIMATES TROPHY HUNTING (US\$ MILLION) /2													
IVORY	5.8	5.8	5.8	5.8	8	8	8	4	4	4	5	6.65	135
RHINO	7	7	7	7	7	7	7	7	7	7	7	7	13
TOTAL	12.8	12.8	12.8	12.8	10	10	10	11	11	11	12	13.65	148
EXCHANGE RATE	8.39	8.29	7.71	8.22	8.20	8.28	9.28	11.14	15.29	17.47	82.70	64.28	99.29
RETAIL VALUE OF ILLEGAL TROPHY HUNTING													
TROPHIES TSH CURR.	107.3	108.1	98.7	105.2	82.0	82.8	92.8	122.5	168.2	192.2	392.4	677.1	14895.2
TROPHIES 1976 TSH.	107.3	108.1	61.7	72.0	72.9	75.3	53.0	38.1	50.2	58.5	61.7	70.1	768.5
VALUE ADDED /3													
TROPHIES TSH CURR.	64.4	63.7	59.2	63.1	49.2	49.7	55.7	73.5	100.9	115.3	235.4	526.3	9917.1
TROPHIES 1976 TSH.	64.4	63.7	37.0	43.2	43.7	45.2	31.8	22.9	30.1	33.9	37.0	42.1	456.3

NOTES:

- /1 1988-89 DEFLATOR ESTIMATED BY RATE OF DEVALUATION. NATIONAL ACCOUNTS DEFLATOR FOR HUNTING IS DECREASING IN TSH TERMS.
- /2 ESTIMATES OF IVORY SEIZURES GIVEN FOR VARIOUS YEARS; ESTIMATES OF OTHER YEARS USE SIMILAR FIGURES. RHINO HORNS ESTIMATED BY USING BAGACHWA ESTIMATE OF DECLINE OF RHINO POPULATION BETWEEN 1980-88 OF 3,000, OR 375/YEAR. VALUED AT 1986 PRICE OF \$10,750 EACH.
- /3 ESTIMATED TO BE 60% OF RETAIL PRICE

Table 10: MINING

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GOLD—MISSION ESTIMATES OF PRODUCTION /1													
GOLD (TROY OZ.) /1	32026	32026	32026	32026	32026	32026	32026	32026	32026	32026	32026	32026	32026
GOLD VALUE													
GOLD US\$ (MILLIONS)	4.08	4.73	6.19	9.82	19.47	14.72	12.04	13.53	11.54	10.16	11.78	14.30	14.00
GOLD (TSH MILLIONS)	33.5	23.5	28.6	48.4	95.7	73.2	67.8	90.5	105.9	108.5	231.0	551.4	634.1
GROSS OUTPUT /2													
GOLD (TSH MILLIONS)	23.4	16.5	20.0	33.9	67.0	51.2	46.9	63.3	74.1	74.5	161.7	383.0	583.8
VALUE ADDED /3													
CURRENT PRICES	22.3	15.6	19.0	32.2	63.7	48.7	44.6	60.2	70.4	70.8	153.6	366.7	554.7
1976 PRICES	22.3	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
DIAMONDS AND GEMSTONES													
OFFICIAL ESTIMATES													
GROSS OUTPUT (MILLIONS TSH)													
DIAMOND /A	183.7	188.6	170.3	245	305.4	239.9	214.4	180.6	355.6	222	622.3	823.3	857.6
GEMSTONES /B	0.3	0.3	0.5	2.4	1.3	5.2	0.0223	46.5	4.3	2.419	4.328	29.38	35.18
GROSS OUTPUT (MILLIONS 1976 TSH)													
DIAMOND /A	183.7	185.5	167.2	124.2	98.4	103.3	107.9	77.9	103.4	78.8	69	55	37
GEMSTONES /B	0.3	0.102	0.034	1.1	1.132	1.328	0.033	11.025	0.423	0.238	0.328	10.45	9.94
MISSION ESTIMATES /4													
(ILLEGAL SALES)													
GROSS OUTPUT (MILLIONS TSH)													
DIAMOND	23.5	28.3	25.5	36.8	45.8	35.1	32.2	27.1	53.3	30.3	90.3	120.9	133.1
GEMSTONES	0.0	0.0	0.1	0.4	0.2	0.8	0.0	6.1	0.6	0.4	0.6	4.4	5.4
GROSS OUTPUT (MILLIONS 1976 TSH)													
DIAMOND	23.5	27.8	16.1	19.6	14.0	15.5	16.2	11.7	15.1	11.8	10.4	8.3	5.6
GEMSTONES	0.0	0.0	0.0	0.2	0.2	0.2	0.0	1.7	0.1	0.0	0.0	1.6	1.5
VALUE ADDED (MILLIONS TSH) /5													
DIAMOND	10.1	12.2	11.0	15.8	19.7	15.1	13.8	11.6	22.9	13.0	38.8	52.0	57.3
GEMSTONES	0.0	0.0	0.1	0.3	0.2	0.7	0.0	5.7	0.6	0.3	0.6	4.1	5.1
VALUE ADDED (MILLIONS 1976 TSH)													
DIAMOND	10.1	12.0	6.9	8.0	6.3	6.7	7.0	5.0	6.5	5.1	4.5	3.5	2.4
GEMSTONES	0.0	0.0	0.0	0.2	0.2	0.2	0.0	1.6	0.1	0.0	0.0	1.5	1.4
TOTAL MILLIONS TSH													
TOTAL MILL. 1976 TSH	10.1	12.2	11.1	16.1	19.9	15.8	13.8	17.4	23.5	13.4	39.5	53.1	62.4
TOTAL MILL. 1976 TSH	10.1	12.0	6.9	8.2	6.5	6.8	7.0	6.6	6.5	5.1	4.5	5.0	3.8
MISSION ADJUSTMENT (NET) TO MINING													
MILLIONS TSH	32.4	27.9	30.1	48.3	83.6	64.5	59.4	77.5	94.0	94.2	193.1	422.6	617.0
MILLIONS 1976 TSH	32.4	25.3	20.3	21.5	19.9	20.2	20.3	19.9	19.9	19.5	17.9	18.4	17.1

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MEMO:													
EXCHANGE RATE (TSH/USD)	8.377	8.289	7.712	8.217	8.197	8.284	8.283	11.143	15.292	17.472	22.663	64.28	99.292
LONDON GOLD PR/TROY OZ	124.82	147.72	193.24	309.67	607.87	460.76	376.8	422.47	380.38	317.18	357.68	448.62	437.15
GOLD PRICE (TSH)	1045.61	1224.46	1493.28	2519.90	4982.71	3828.669	3488.651	4787.683	5516.62	5541.76	12822.4	28003.3	43405.49
GOLD PR. INDEX	1.00	1.17	1.43	2.41	4.77	3.64	3.84	4.60	5.27	5.80	11.60	27.44	41.61
VALUE ADDED/GROSS OUTPUT RATIOS FROM BOS													
DIAMONDS	0.43												
SALT	0.60												
GEMSTONES	0.94												
GOLD	0.95												
OTHER	0.60												

NOTES:

- /1 BAGACHWA ESTIMATE OF \$14 MILLION IN ILLEGAL GOLD PRODUCTION DIVIDED BY 1988 LONDON PRICE EQUALS TROY OZ. FOR 1988. PREVIOUS YEARS ASSUMED TO BE SAME PRODUCTION.
- /2 GROSS OUTPUT AT FC ESTIMATED TO BE 70% OF ESTIMATED RETAIL VALUE
- /3 VALUE ADDED/GROSS OUTPUT ESTIMATED TO BE .95
- /4 BAGACHWA ESTIMATE OF 15% OF DIAMONDS STOLEN FROM WILLIAMSON DIAMOND MINES EACH YEAR; THIS RATE APPLIED TO DIAMONDS AND GEMSTONES
- /5 VALUE ADDED/GROSS OUTPUT RATIO FOR DIAMONDS—.43; GEMSTONES—.94
- /A 1976-85 FROM BOS GROSS OUTPUT TABLE; 1986-88 ESTIMATED FROM 1988 ECON. SURVEY, T. 47-48
- /B GROSS OUTPUT MP ESTIMATED BY APPLYING PRODUCTION VOLUME TO 1976 GROSS OUTPUT

Table 11: HANDICRAFTS

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
OFFICIAL ESTIMATE VALUE ADDED													
MANUF. (MILL TSH)	2,811	3,287	3,856	3,886	4,087	4,501	4,301	4,889	5,362	6,685	8,551	9,467	11,053
MANUF. (MILL 1976 TSH)	2,811	2,641	2,799	2,821	2,688	2,382	2,304	2,103	2,159	2,075	1,991	2,075	2,187
MISSION ESTIMATE HANDICRAFTS VALUE ADDED/1													
HANDCRAFT (MILL TSH)	169	187	229	229	284	257	249	276	338	389	487	596	629
HANDCRAFT (MILL 1976 TSH)	169	151	156	161	153	136	131	129	123	118	113	118	125

NOTES:

/1 BAOCHWA ESTIMATES THAT ABOUT US\$ 9 MILLION OF HANDICRAFTS WERE PRODUCED IN 1987, OR ABOUT 600 MILLION TSH. IF VALUE ADDED IS 90% OF GROSS OUTPUT, THEN VALUE ADDED IN 1987 IS ABOUT 540 MILLION TSH, OR ABOUT 5.7% OF OFFICIAL ESTIMATES. THIS PERCENTAGE IS ASSUMED TO BE THE SAME FOR OTHER YEARS.

Table 12: HOUSING

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
GROSS OUTPUT US\$ (MILLIONS) /1													
EX-PAT HOUSING	0	0	0	0	0	0	10	12	14	16	18	22	25
GROSS OUTPUT TSH (MILLIONS)													
	50.20	49.74	46.20	49.82	49.2	60.24	92.0	133.00	214.00	270.52	500.0	1413.72	2492.3
VALUE ADDED TSH (MILLIONS) /2													
CURRENT PRICES	45.3	44.0	41.0	44.4	44.8	59.0	83.5	120.3	192.7	251.0	529.7	1272.3	2234.1
1976 PRICES /3	45.3	39.3	35.0	36.5	36.7	34.5	48.3	60.0	97.0	116.1	190.2	432.5	725.0
EXCHANGE RATE	0.30	0.29	7.71	0.22	0.20	0.20	0.20	11.14	15.29	17.47	32.70	64.20	99.29
REAL EST. DEFL. (NAT. ACCTS.)	1.00	1.14	1.10	1.15	1.44	1.73	1.73	1.82	1.97	2.17	2.60	2.94	3.00

NOTES:

- /1 BAGACHWA ESTIMATES THAT UNOFFICIAL PAYMENT OF RENT FOR 1980-88 IS: 20.0, 32.0, AND 35.0 MILLION US\$. ASSUMING THAT THE NATIONAL ACCOUNTS CAPTURES 80% IN VALUE OF RENTAL HOUSING, WE ARE LEFT WITH: 1980--\$10 MILLION, 1987--\$22 MILLION, 1988--\$25 MILLION. ASSUME ABOUT \$2 MILLION LESS EACH YEAR BEFORE 1980 TO A MINIMUM OF \$5 MILLION.
- /2 VALUE ADDED TO GROSS OUTPUT RATIO ASSUMED TO BE .0
- /3 CURRENT PRICES DEFLATED BY REAL ESTATE/OWNER OCCUPIED DWELLINGS FROM NATIONAL ACCOUNTS

Table 13: TOURISM

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
No Visitors	71216	72000	72000	72000	73000	83600	70000	52000	64000	63000	67872	94000	96000
Length of Stay	7.5	7.5	7.5	7.5	7.6	6.5	6.5	7.7	6.2	6.5	6.3	5	5
Visitor Days	534075	540000	540000	540000	554800	539500	455000	400400	396800	409500	427593	470000	480000
Avg. Expenditure Per Day /1	39	43	50	56	62	62	61	60	59	59	70	77	82
Total Tourist Expenditure (US\$m)	21.0	23.4	26.9	30.5	34.3	33.6	27.9	25.9	23.3	24.3	30.0	36.2	39.4
Oth Bagwacha Est /2 (US\$m)	37	41	47	53	60	59	49	42	41	43	53	63	69
Mission Est (US\$m) (Avg. of Both Est)	28.9	32.2	37.0	42.0	47.3	46.2	38.4	32.9	32.0	33.4	41.3	49.8	54.2
Adj. for NA Est. /3	21.7	24.1	27.7	31.5	35.4	34.6	29.0	24.7	24.0	25.1	31.0	37.4	40.6
Gross Output													
Mission Et. (Tsh)	182	200	214	259	291	287	267	275	367	438	1012	2402	4035
V.A. (Mil. Tsh) /4	109	120	128	155	174	172	160	165	220	263	607	1441	2421
V.A. (Mil. 1976 Tsh)	109	98	92	101	105	88	63	53	56	49	92	187	202
Memo:													
Trade/hotels/rest.	100	122	139	153	166	201	255	312	396	533	658	770	1197
MUV US\$ (1980=100)	63.6	69.9	80.4	91.2	100.0	100.5	99.1	96.5	94.8	95.8	113.3	124.5	132.5
MUV US\$ (1976=100)	1.00	1.10	1.26	1.43	1.57	1.58	1.56	1.52	1.49	1.51	1.78	1.96	2.08
Exchange Rate	8.38	8.29	7.71	8.22	8.20	8.28	9.28	11.14	15.29	17.47	32.70	64.26	99.29

Notes:

- /1 Bagwacha estimates of \$82 in 1988. Previous years adjusted by change in MUV index (1976 = 100).
- /2 Estimate of \$69 million in 1988, or 1.75 times the estimate derived from the figures of tourists, no. of days, et
- /3 National accounts for about 20 percent; 75 percent left unrecorded.
- /4 Value added/gross output estimated to be .6.
- /5 Current price deflated by wholesale, retail trade, hotels and restaurants deflator.

Table 14: GROSS DOMESTIC INVESTMENT

Page 1 of 3

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
OFFICIAL ACCOUNTS													
CURRENT PRICES (MILL. T\$)													
BUILDINGS	968	1321	1295	1535	1835	2447	2418	1847	2518	3058	4339	6279	7658
RESIDENTIAL	216	189	183	222	213	427	395	195	359	592	462	595	1653
RURAL OWN ACCOUNT	277	315	353	428	498	574	657	784	992	1118	1337	1599	1838
NON-RESIDENTIAL	463	843	749	943	1128	1446	1873	898	1219	1398	2559	4115	3922
OTHER WORKS	1617	1923	1755	2021	2524	2239	2985	1687	2288	2762	4005	3998	8984
LAND	149	198	112	167	165	358	258	158	278	539	733	639	984
ROADS, WATER, OTHERS	1477	1755	1643	1834	2359	1872	2627	1529	1993	2223	3262	3358	7100
EQUIPMENT	2598	3419	4289	5226	4271	3655	5424	4218	7239	11814	19576	30873	46574
TRANSPORT	782	978	1140	2591	1158	1518	1278	975	4988	7586	13331	13897	31528
OTHER	1824	2441	3149	2435	3121	2439	4146	3243	2274	3448	6344	22176	15146
GDFI	5159	6933	7339	8692	8939	8932	10825	7752	11973	16672	29579	49298	61881
CHANGE IN STOCKS	439	851	784	895	1055	1458	1418	1838	1845	2961	2487	3955	4122
GDI TOTAL	5597	7824	8094	9458	9995	10130	12235	9598	13818	19633	31108	49973	66623
CONSTANT 1976 PRICES													
BUILDINGS	968	1182	975	1119	1139	1369	1198	898	945	915	1097	1318	1298
RESIDENTIAL	216	139	134	144	132	235	192	61	139	169	98	129	282
RURAL OWN ACCOUNT	277	284	291	299	297	315	323	331	349	349	368	367	378
NON-RESIDENTIAL	463	698	559	676	709	799	663	394	457	397	551	831	579
OTHER WORKS	1617	1553	1289	1431	1599	1232	1485	749	944	789	1097	795	1271
LAND	149	138	82	119	108	198	146	69	198	154	158	98	179
ROADS, WATER, OTHERS	1477	1427	1207	1312	1498	1284	1339	671	741	635	949	697	1093
EQUIPMENT	2598	3055	3445	3659	2997	3224	3399	2498	4192	5517	4998	4814	4215
TRANSPORT	782	874	918	1995	783	988	794	577	2817	3789	3429	3325	2955
OTHER	1824	2181	2528	1895	2124	2236	2575	1919	1285	1728	1564	1589	1329
GDFI	5159	5729	5718	6403	5815	5928	6952	4942	5961	7221	7837	8627	8994
CHANGE IN STOCKS	439	734	513	425	488	592	511	599	442	414	399	423	419
GDI TOTAL	5597	6454	6223	6825	6188	6998	6593	4632	6333	7635	7997	7859	7184
IMPLICIT DEFATORS													
BUILDINGS	100.0	119.9	132.6	139.9	161.1	181.3	201.7	229.2	295.6	336.4	439.9	476.4	587.2
RESIDENTIAL	100.0	123.1	138.6	149.3	161.4	189.9	201.8	226.4	299.1	369.3	461.2	495.8	639.9
RURAL OWN ACCOUNT	100.0	119.9	124.7	149.5	161.6	182.2	209.4	239.8	274.1	319.8	373.5	427.5	499.8
NON-RESIDENTIAL	100.0	123.8	136.2	139.5	160.9	181.8	201.8	227.9	261.8	349.6	462.8	495.2	631.9
OTHER WORKS	100.0	123.8	136.2	139.8	169.9	181.8	201.8	228.8	261.8	369.1	463.3	495.1	632.1
LAND	100.0	123.5	136.6	149.3	169.2	189.8	209.7	229.8	282.1	369.8	469.9	442.9	524.7
ROADS, WATER, OTHERS	100.0	123.8	136.1	139.8	169.9	181.8	201.8	227.9	269.9	359.1	463.1	474.8	649.6
EQUIPMENT	100.0	111.9	124.2	139.5	149.9	122.7	161.8	169.8	177.3	199.6	304.1	749.3	1197.3
TRANSPORT	100.0	111.9	124.2	139.5	149.9	153.8	161.8	169.8	177.8	199.7	308.8	429.4	1099.1
OTHER	100.0	111.9	124.2	139.6	149.9	169.9	161.8	169.8	177.8	199.5	425.6	1478.6	1147.4
GDFI	100.0	118.5	128.4	134.3	159.7	149.7	178.9	191.8	208.2	239.7	409.3	698.2	923.2
CHANGE IN STOCKS	100.0	117.3	149.9	208.8	216.2	299.5	275.9	311.2	372.2	595.1	637.7	871.2	1095.4
GDI TOTAL	100.0	118.6	130.1	138.6	159.7	159.1	188.4	207.8	215.8	248.4	421.3	679.9	928.8
REAL GROWTH													
BUILDINGS	15.3	-11.5	14.8	1.8	19.5	-11.8	-32.7	17.2	-3.2	10.1	39.9	-8.3	
RESIDENTIAL	-39.8	3.1	7.5	-8.3	78.8	-18.6	-57.8	78.4	22.5	-42.8	22.4	118.3	
RURAL OWN ACCOUNT	2.5	2.5	2.7	2.7	2.6	2.5	2.5	2.7	2.6	2.6	2.5	2.5	
NON-RESIDENTIAL	48.6	-28.1	22.9	3.8	14.1	-14.5	-42.3	19.5	-15.9	39.8	59.8	-31.4	
OTHER WORKS	-3.3	-17.6	11.8	9.6	-21.5	29.5	-59.2	14.1	-6.5	27.6	-21.1	59.9	
LAND	-2.9	-39.7	45.1	-13.4	92.2	-28.3	-52.7	49.3	49.5	2.6	-39.8	81.6	
ROADS, WATER, OTHERS	-3.4	-15.4	8.7	11.7	-29.5	29.5	-49.9	18.4	-14.3	33.7	-17.9	58.8	
EQUIPMENT	18.1	12.8	11.7	-24.5	18.9	4.5	-25.9	64.3	34.5	-9.5	-3.6	-12.4	
TRANSPORT	14.7	5.8	118.2	-28.8	25.9	-19.5	-27.3	398.2	34.5	-9.5	-3.6	-12.4	
OTHER	19.6	15.9	-28.2	13.9	5.4	15.1	-25.5	-33.8	34.5	-9.5	-3.6	-12.5	
GDFI	18.9	-8.2	12.1	-12.3	3.4	4.2	-33.2	45.7	22.6	-3.8	-1.1	-3.4	
CHANGE IN STOCKS	67.6	-30.1	-17.2	14.8	15.2	-8.1	15.5	-25.1	-6.3	-5.8	8.5	-3.1	
GDI TOTAL	15.3	-3.6	9.7	-10.6	4.3	3.1	-29.4	38.7	28.6	-3.1	-8.6	-3.3	
MEMO ITEMS FOR ADJUSTMENT TO GDI													
DEFATORS													
MVA IN TSH (1988=100)	65.8	79.7	75.6	91.4	109.8	101.5	112.2	131.1	178.8	234.1	451.8	975.7	1694.4
MVA IN TSH (1976=100)	100.0	109.7	116.3	149.7	159.9	159.1	172.6	201.7	272.8	314.8	665.1	1521.1	2498.5

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DOM MACH & EQUIP (1976=100)	100.0	97.5	125.9	98.4	81.1	82.8	79.9	108.2	133.7	159.0	200.6	211.6	235.5
DOM TRANS EQUIP (1976=100)	100.0	117.7	147.8	190.5	194.6	199.7	219.7	284.3	232.7	470.0	628.5	653.1	737.9
IMPORTED TRANS & MACH. *													
CAPITAL GOODS													
TRANSPORT (B)	40.0	79.0	128.0	224.0	181.5	136.9	82.8	64.3	87.7	109.4	123.7	185.0	81.3
MACHINERY (B)	142.6	189.7	332.5	232.8	281.2	330.9	305.9	182.1	170.8	230.7	251.6	294.2	138.9
+ MARGIN (25%)	101.6	259.7	458.5	517.7	412.7	475.8	389.7	246.4	259.5	339.1	385.3	430.0	220.2
TRANSPORT (B)	61.3	99.0	157.5	281.1	184.4	171.1	108.6	89.3	100.7	126.5	154.6	232.3	101.0
MACHINERY (B)	178.3	237.1	415.6	305.6	351.5	423.7	382.4	227.6	213.5	289.4	327.0	357.8	173.6
EXCHANGE RATE	8.38	8.29	7.71	8.22	8.28	8.28	9.28	11.14	15.29	17.47	32.70	64.29	90.29
TRANSPORT (MILL. TS\$)	518	819	1214	2311	1948	1416	938	805	1577	2357	3055	14924	10591
MACHINERY (MILL. TS\$)	1404	195.8	3284	3889	2888	3588	3548	2535	3234	5089	10598	23632	17248
DOMESTIC TRANS & EQUIP													
TRANS & MCH DOM (MILL. TS\$)/1	589	698	982	1188	1218	1382	1229	1315	1394	1935	3081	3081	4048
MACH & EQUIP	288	275	388	413	378	338	291	445	575	782	882	978	1138
TRANS	300	398	588	784	835	872	936	870	819	1238	2719	2931	3088
(GROSS OUTPUT FROM B03)													
+TRADE & TRANS MARG (25%)													
MACH & EQUIP INCL MARG (DOM)	313	344	475	517	473	412	368	557	719	878	1168	1213	1422
TRANS INCL. MARG (DOM)	387	491	628	943	1043	1098	1178	1698	1824	1516	3360	3739	4385
DOMESTIC AND IMPORTS CAPITAL GOODS CP (TS\$)													
TOTAL TRANSPORT (MILL. TS\$)	988	1316	1942	3254	2391	2387	2138	1983	2701	3688	6455	18933	14478
TOTAL MACHINERY (MILL. TS\$)	1889	2318	3988	3625	3355	3628	3612	3068	3683	5916	11795	24844	19932
DOMESTIC AND IMPORTS CAPITAL GOODS MILL. 1976 TS\$													
TOTAL TRANSPORT (MILL. 1976)	688	1178	1489	2138	1412	1488	1089	978	1057	1698	1288	1858	1038
IMPORTED	518	753	1044	1643	878	987	557	444	617	784	727	994	489
DOMESTIC	387	418	425	465	538	549	532	532	440	844	541	584	594
TOTAL MACHINERY (MILL. TS\$)	1889	2161	3133	2684	2392	2744	2589	1772	1738	2198	2688	2147	1392
IMPORTED	1404	1889	2785	2139	1874	2247	2698	1257	1289	1895	1538	1574	688
DOMESTIC	313	352	377	525	519	497	513	515	539	595	589	573	694
ADJUSTED GROSS DOMESTIC INVESTMENT													
CURRENT PRICES (MILL. TS\$)													
BUILDINGS	958	1415	1365	1718	1982	2488	2571	2229	3188	3004	5342	6332	9252
RESIDENTIAL	216	248	251	357	374	534	694	511	824	1299	1488	2182	3876
RURAL OWN ACCOUNT	277	322	345	418	432	528	694	829	1025	1897	1594	2855	2573
NON-RESIDENTIAL	463	645	749	943	1125	1448	1373	898	1219	1388	2558	4115	3892
OTHER WORKS	1929	2247	2988	2847	2988	2988	3438	2128	2989	3398	5532	6279	9899
LAND	275	318	288	329	343	539	529	444	573	984	1387	1443	1499
ROADS, WATER, OTHERS	1625	1981	1987	2817	2585	2959	2931	1982	2128	2445	4325	3837	7818
EQUIPMENT	2788	3819	5522	6779	5746	6427	6842	5976	6884	6888	28258	43587	33137
TRANSPORT	988	1316	1942	3254	2391	2387	2138	1983	2701	3688	6455	18933	14478
OTHER	1829	2318	3588	3525	3355	3628	3612	3068	3683	5916	11795	24844	19932
GDFI	5592	7281	8978	10835	10311	11611	12292	9439	12551	17274	31524	59918	51698
CHANGE IN STOCKS	498	851	784	698	1055	1498	1418	1838	1645	2891	2487	3085	4122
GDI TOTAL CP	6028	8142	9784	11781	11672	13109	13612	11298	14198	19865	34011	63998	55820
1976 PRICES													
BUILDINGS	688	1188	1033	1348	1279	1461	1395	949	1141	1928	1399	1988	1437
RESIDENTIAL	216	219	222	295	271	345	298	219	327	333	368	442	524
RURAL OWN ACCOUNT	277	294	291	299	308	318	328	338	347	359	373	387	403
NON-RESIDENTIAL	463	688	588	878	785	789	688	394	487	367	551	831	578
OTHER WORKS	1929	1828	1537	1578	1827	1491	1788	982	1034	995	1218	991	1489
LAND	275	258	289	235	214	354	253	194	219	287	282	224	288
ROADS, WATER, OTHERS	1625	1570	1328	1443	1513	1137	1473	738	815	699	934	767	1202
EQUIPMENT	2788	3331	4822	4822	3885	4228	3858	2748	2794	3287	3368	3785	2385
TRANSPORT	988	1178	1489	2138	1412	1488	1089	978	1057	1698	1288	1558	1028
OTHER	1829	2161	3133	2684	2392	2744	2589	1772	1738	2198	2388	2147	1392
GDFI	5592	6347	7222	7728	6918	7152	6699	4629	4999	5342	5881	6388	5298
CHANGE IN STOCKS	498	784	513	425	488	582	511	589	442	414	389	423	418
GDI TOTAL IP	6028	7081	7715	8145	7988	7714	7218	5219	5411	5783	6271	6779	5788

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
ADJUSTED DEFLATORS													
BUILDINGS	100	116.0	127.4	137.8	151.0	170.1	204.7	234.8	277.8	306.5	400.9	501.06	619.08
RESIDENTIAL	100	113.2	117.8	134.6	137.7	154.5	204.1	233.3	282.7	302.8	388.4	489.82	587.18
RURAL OWN ACCOUNT	100	113.2	119.2	137.1	140.0	159.7	212.9	244.0	295.1	309.0	427.8	530.02	630.52
NON-RESIDENTIAL	100	122.9	136.1	139.4	169.8	189.9	261.0	227.9	261.0	349.0	432.7	465.18	631.92
OTHER WORKS	100	123.0	136.1	139.8	168.0	189.0	268.9	238.1	261.1	350.0	433.3	512.48	625.61
LAND	100	123.5	136.5	140.3	169.1	189.8	269.0	228.9	262.1	350.0	433.9	512.85	624.71
ROADS, WATER, OTHERS	100	122.9	136.1	139.7	168.9	181.0	261.0	227.8	260.8	350.0	433.1	474.81	640.58
EQUIPMENT	100	109.0	120.0	141.1	151.0	153.0	165.1	184.0	230.1	261.1	308.4	1174.1	1437.4
TRANSPORT	100	111.0	125.4	152.1	160.8	172.1	195.5	208.1	255.8	262.0	300.7	1197.8	1448.1
OTHER	100	106.8	117.4	132.3	149.2	142.8	152.2	174.5	229.2	278.1	304.9	1157.0	1439.0
CDI	100	114.7	124.5	140.8	153.0	162.3	182.1	208.7	252.5	323.3	536.0	805.44	977.23
CHANGE IN STOCKS	100	117.3	148.9	200.7	216.1	209.5	276.9	311.1	372.1	505.0	637.0	871.15	1005.3
CDI TOTAL	100	114.9	126.1	143.6	157.7	169.9	188.8	215.8	282.3	336.4	542.3	808.98	979.28

COMPARISON OF OFFICIAL AND ADJUSTED INVESTMENT SERIES

CURRENT PRICES

MACHINERY AND EQUIPMENT	2588	3419	4288	5028	4271	3055	5424	4218	7288	11014	19575	30873	40574
TRANSPORT (OFFICIAL)	782	978	1140	2501	1150	1518	1278	975	4088	7688	13331	18807	31529
OTHER (OFFICIAL)	1824	2441	3148	2495	3121	2490	4140	3243	2274	3400	6344	22176	15146
MACHINERY AND EQUIPMENT	2708	3619	5522	6770	5740	6427	6842	8076	6094	9000	20250	43567	33137
TRANSPORT (ADJUSTED)	900	1810	1942	3254	2301	2587	2130	1988	2701	3088	9455	18003	14476
OTHER (ADJUSTED)	1808	2310	3080	3525	3439	3840	3612	3088	3000	5916	11795	24944	18662
OFFICIAL/ADJUSTED M & E	98	94	78	74	74	62	98	68	160	111	97	63	141
CDI (OFFICIAL)	5159	6003	7830	8502	6030	6032	10525	7762	11978	16972	29379	46289	61801
CHANGE IN STOCKS (OFF)	438	661	784	663	1055	1408	1410	1838	1645	2861	2487	3065	4122
CDI TOTAL (OFFICIAL)	5597	7624	8604	9468	6985	10130	12235	9598	13618	19833	31166	49373	65923
CDI (ADJUSTED)	5582	7281	9970	10835	10817	11611	12202	9430	12551	17274	31524	50018	51698
CHANGE IN STOCKS (OFF)	438	661	784	663	1055	1408	1410	1838	1645	2861	2487	3065	4122
CDI TOTAL (ADJUSTED)	6020	8142	9734	11701	11672	13109	13612	11268	14196	19865	34011	60008	55820
OFFICIAL/ADJUSTED CDI	98	92	83	81	83	77	98	85	98	98	92	82	118
CONSTANT PRICES													
MACHINERY AND EQUIPMENT	2588	3055	3448	3660	2907	3224	3300	2405	4102	5517	4908	4814	4215
TRANSPORT (OFFICIAL)	782	874	918	1905	783	936	794	577	2817	3789	3429	3305	2955
OTHER (OFFICIAL)	1824	2181	2528	1855	2124	2230	2575	1919	1285	1728	1484	1509	1260
MACHINERY AND EQUIPMENT	2708	3331	4032	4832	3825	4200	3958	2748	2794	3287	3358	3705	2205
TRANSPORT (ADJUSTED)	900	1170	1409	2130	1412	1468	1090	978	1057	1090	1200	1558	1033
OTHER (ADJUSTED)	1808	2161	3133	2694	2392	2744	2868	1772	1738	2198	2068	2147	1202
CDI (OFFICIAL)	5159	5720	5710	6400	5515	5888	6062	4042	5801	7221	7007	6027	6094
CHANGE IN STOCKS (OFF)	438	784	518	425	488	582	511	500	442	414	300	423	410
CDI TOTAL (OFFICIAL)	5597	6454	6228	6825	6103	6388	6583	4582	6333	7635	7307	7350	7104
CDI (ADJUSTED)	5582	6347	7202	7720	6010	7152	6900	4029	4900	5342	5881	6365	5200
CHANGE IN STOCKS (OFF)	438	734	518	425	488	582	511	500	442	414	300	423	410
CDI TOTAL (ADJUSTED)	6020	7081	7715	8145	7068	7714	7210	5219	5411	5765	6271	6779	5700
CDI (OFFICIAL) GROWTH RATE		15.3	-3.6	9.7	-10.6	4.3	3.1	-29.4	36.7	20.6	-3.1	-0.6	-3.3
CDI (ADJUSTED) GROWTH RATE		18.0	9.0	5.6	-9.2	4.3	-6.5	-27.6	3.7	0.4	0.9	8.1	-15.9
DEFLATORS													
MACHINERY AND EQUIPMENT	100	112	124	131	147	123	161	160	177	200	304	749	1107
TRANSPORT (OFFICIAL)	100	112	124	131	147	154	161	160	177	200	300	420	1050
OTHER (OFFICIAL)	100	112	124	131	147	160	161	160	177	200	405	1471	1147
MACHINERY AND EQUIPMENT	100	109	120	141	151	153	168	185	242	302	610	1190	1494
TRANSPORT (ADJUSTED)	100	112	125	151	160	171	194	203	257	300	600	1219	1491
OTHER (ADJUSTED)	100	107	117	133	141	144	154	177	232	274	576	1195	1496
CDI (OFFICIAL)	100	116	128	134	154	149	179	192	208	234	400	600	923
CHANGE IN STOCKS (OFF)	100	117	149	204	210	207	278	311	372	505	638	871	1005
CDI TOTAL (OFFICIAL)	100	117	130	130	150	150	185	207	215	248	421	690	928
CDI (ADJUSTED)	100	114	124	140	154	162	182	204	253	323	543	923	1014
CHANGE IN STOCKS (OFF)	100	117	149	204	210	207	278	311	372	505	638	871	1005
CDI TOTAL (ADJUSTED)	100	115	125	144	158	160	188	215	259	335	549	920	1013

NOTES:

/1 NEGLIGIBLE EXPORTS OF DOMESTIC PRODUCTION OF TRANS & MACH

/2 ASSUMED TO INCREASE AT SAME RATE AS MANUFACTURING VALUE ADDED, 1986-88

/3 ASSUMED TO BE SAME GROWTH AS MANUFACTURING V.A. NOMINAL GROWTH FOR 1988

/4 SEE C:\TZA\CONSTRUCTION FOR OFFICIAL AND ADJUSTED SERIES FOR CONSTRUCTION DETAILS

PRIVATE SECTOR DEVELOPMENT IN TANZANIA: OBSTACLES AND OPPORTUNITIES

Tanzania Economic Report

Background Paper #3

Private Sector Development in Tanzania: Obstacles and Opportunities

1. **Introduction.** This Annex evaluates empirically the potential of Tanzania's private sector and the obstacles it confronts. In particular, it assesses rigorously the view that the supply of indigenous entrepreneurs is severely limited. The focus on this section is on the small scale private sector, comprising manufacturing as well as construction and agro-processing activities.

2. **Background.** In spite of the often hostile or ambiguous attitude of the government towards the private sector through much of the 1970s and early 1980s, Tanzania today has a cadre of experienced entrepreneurs of Indian origin. Additionally, in the wake of economic crisis of the early 1980s, and the subsequent liberalization, myriads of micro-entrepreneurial activities have mushroomed along almost every street in Dar Es Salaam, and throughout Tanzania. In Dar es Salaam alone, the number of micro enterprises are estimated to be at least three times the level of the mid-1980s (Chapter 2).

3. **Prima facie,** the pervasiveness of micro-entrepreneurial activity suggests that there is no shortfall in Tanzania of individuals with the initiative and discipline to engage in business activities. However, many micro-enterprises were born of the need to survive in a harsh economic climate, and many micro-entrepreneurs may have no purpose other than to endure from one day to another. Under such circumstances, the potential for indigenous-driven private sector development would be more limited. Evaluation of the quality of entrepreneurship and the associated potential for sustained indigenous private sector development thus requires moving beyond aggregate estimates to a firm-level analysis of the various strategies of expansion and survival adopted by entrepreneurs, as a way of learning what proportion of these entrepreneurs may be committed to progressively expanding their business ventures, and what are the obstacles they confront. Such detailed analysis was conducted during this report's preparation in 1989 through an entrepreneurship survey. Three subsectors of the Tanzanian economy were covered: i) furniture; ii) construction; and iii) horticulture, where more limited information was gathered. In these subsectors, entry was possible at the smallest scale, and where enterprises had the potential to expand incrementally to quite large size.

4. **A Framework for Analysis.** Rather than viewing entrepreneurship as an attribute of personality that is either present or absent in a single individual, we take the bundle of entrepreneurial functions that must be performed in a successful enterprise as its standing point.^{1/} This bundle of functions includes:

- (a) the initiative to identify and respond to opportunities for profit;
- (b) the discipline and skill to manage an enterprise so as to maximize revenues and minimize costs;

^{1/} This functional approach has been broadly accepted in research on entrepreneurship in developing countries; see, for example, Leibenstein (1963, 1968), Kilby (1971), and Jones and Sakong (1980).

- (c) the ability to gain access to finance;
- (d) the ability to gain access to other inputs -- labor, raw materials, equipment -- required for production;
- (e) the ability to market the goods and services produced by the enterprise;
- (f) the ability progressively to improve the technical capabilities of the enterprise; and
- (g) the ability to manage relations with the government bureaucracy.

Viewed from this broader perspective, there exist three potential sets of obstacles to private sector development in Tanzania:

1. shortfalls in the supply of individuals with the attributes of entrepreneurs [(a) and (b)];
2. weaknesses in the external economic environment within which enterprises operate and associated high costs of gaining access to resources and markets [(b) - (f)]; and
3. a regulatory environment which makes enormously burdensome relations with the government bureaucracy [(g)].

What type of interventions and policies will be required to support private sector development in Tanzania depends crucially on the relative importance of these three sets of obstacles.

5. The entrepreneurship survey was carried out in three potentially efficient subsectors of the Tanzanian economy in order to evaluate these obstacles. As presented below, the results indicate that there is not a serious shortfall in the supply of indigenous entrepreneurs. Then, we summarize the findings of the survey concerning the magnitude of obstacles confronting enterprises in the regulatory and external economic environment. It is suggested that, although the regulatory environment is exceedingly restrictive and forces entrepreneurs to devote a significant fraction of their time to managing their relations with public officials, regulatory obstacles do not now appear to be the dominant binding constraint on indigenous businesses. Rather, weaknesses in the external economic environment -- especially in the financial sector with associated difficulties for enterprises in gaining access to finance -- appear to represent the single greatest obstacle to dynamism on the part of indigenous small and medium enterprises.

Entrepreneurship in the Furniture Industry

6. Interviews were conducted with (a quasi-random sample of) 24 furniture firms based in Dar Es Salaam, of which three were medium-to-large sized enterprises whose owners were of Indian origin and the remainder were indigenously-owned small and medium enterprises. Grouping these enterprises according to their year of entry, number of employees, and the year in which their number of employees reached a peak, five distinct segments are evident:

- (a) Three medium-to-large enterprises, all of which were established more than fifteen years ago, employing an average of 150 people each;

- (b) **Three stagnant medium-sized enterprises employing an average of 35 people each, were established prior to 1979 and have failed to grow over the past two (or more) years. The objective of two of the firms was simply to survive at more or less the present level of operations.**
- (c) **Four expanding medium-sized enterprises employing an average of about 50 each and which have continued to expand into 1988/89; all four enterprises were committed to continued expansion. The oldest enterprise in this group was established in 1979, and the others in the 1980s. All but one employed fewer than five people at entry, and subsequently expanded incrementally to reach their present sizes. The exception was established in 1987 as a co-operative of 25 carpenters.**
- (d) **Nine small enterprises, four of which entered the furniture industry in 1988/89, averaging 6 employees with the remaining five entering earlier and expanding in 1988/89. These enterprises, recent entry the industry appears to have been facilitated by the renewed availability of woodworking tools in the Tanzanian marketplace subsequent to liberalization. All nine enterprises sought to expand further: six reported in interviews an ambition to more than double the size of their enterprise in the future, while the remaining three aimed for a 50 percent expansion.**
- (e) **Five stagnant small enterprises with an average of 5 employees each. One enterprise has been declining since 1967, three started small and appear satisfied to remain so, and one has had more ambitious, yet unrealized goals.**

Systematic patterns are evident among the five segments according to: i) the markets they serve; ii) their processes of production; iii) their sources of finance, and, iv) the levels of education of the entrepreneurs.

7. **Markets. The submarkets served by Tanzania's furniture enterprises range from the completion of large-volume orders for government agencies and the export of processed wood products at the top end of the market, to roadside sales of household furniture to consumers at the bottom-end. Between these extremes firms produced furniture for sale in retail showrooms, supplied high-quality custom designed furniture for higher-income consumers, and produced household furniture on tender to government agencies including parastatals. While the majority of medium and larger enterprises make the largest proportion of their sales to government agencies, only a minority of small enterprises have won orders through government tenders (see Table 1 below). Overall, the small enterprises made the majority of their sales directly from their workshops, although they are not excluded from other niches of the furniture market including sales to government.**

8. **Paralleling the movement of smaller enterprises into the mid-range of the market, the three larger enterprises in the sample are in the process of moving from the mid-range to the top end of the market. One enterprise has recently abandoned furniture manufacture to devote itself to the production for export of parquet flooring and other components of wood; a second enterprise has reduced the share of wood furniture in total sales from 50 percent to 10 percent, shifting instead into the production of metal office furniture for the domestic market and the export of parquet flooring and other wood components; the third enterprise, although adjusting**

more slowly, also has made tentative moves to explore export markets. An important implication of these moves up-market by larger enterprises is that, rather than being "crowded out", new market opportunities are likely continually to emerge for small enterprises seeking to expand.

9. **Production processes.** Table 1 highlights a significant differences in the production processes of small firms and their larger counterparts: while all of the larger enterprises operate with electrical equipment, only four of the small ventures. Furniture firms with only hand tools are not necessarily inefficient, however, equipment sharing arrangements were not uncommon, with enterprises that owned electrical woodworking equipment providing access to that equipment for a fee to enterprises that were not so endowed. The combination of hand-tool production, access for a fee to electrical equipment, and the prevalence of payment by piece work (one which reduces substantially the task of monitoring worker effort) appears to be a highly efficient way of organizing production to meet the demands of a roadside consumer market for household furniture.

Table 1: Characteristics of Five Segments of Tanzania's Furniture Industry (1989)

Number of Enterprises with					
	Tenders from Parastatals	Tenders 50% or more of Sales	Electrical Equipment	Loans from Formal Financial Institution*	Average Number of Years of Education of Entrepreneur
Med/Large Enterprise	2/3	2/3	3/3	3/3	-
Stagnant Medium	2/3	2/3	3/3	3/3	10.5
Expanding Medium	3/4	3/4	4/4	2/4	8.7
Small with Potential	4/9	1/9	2/9	3/9	9.4
Stagnant Small	2/5	1/5	2/5	1/5	9.0
Total	13/245	9/24	14/24	12/24	9.4

* includes financial support from the Small Industries Development Organization (SIDO).

10. What the above description implies, however, is that significant new technical and managerial demands are associated with the move from a small workshop (with craftsmen producing using hand tools for payment by the piece), to a medium enterprise (which produces on a relatively large volume with electrical equipment). Indeed, as will be explored further below, this transition appears to have been difficult for a number of medium enterprises in the sample.

11. **Finance.** A third systematic difference among the enterprise segments is in their sources of finance. As Table 1 reveals, all the firms in the medium-to-large and stagnant-medium segments received loans from formal financial markets; further, all three firms in the latter group were afforded access to finance relatively early in the life of their enterprise. By contrast, formal sector loans have been forthcoming for only one-third of firms in the remaining three segments; in recent years, even enterprises with strong track records of expansion have encountered difficulty in borrowing from the commercial banking sector. As will be elaborated further, difficulties in gaining access to finance emerged in the course of interviews as the greatest obstacle confronting Tanzanian furniture and other enterprises that seek to expand.

12. **Entrepreneurs' education.** The most striking feature on the educational background of entrepreneurs are the similarities (Table 1). Only in four indigenous enterprises -- distributed across the enterprise segments -- did entrepreneurs have more than a high school education, although many had secondary education -- also distributed across segments. Further, about 60 percent of the indigenous entrepreneurs sampled have been engaged their entire working lives in private sector activities.

Entrepreneurship in the Tanzanian Construction Industry

13. Tanzania's National Board of Architects classifies building contractors by class on the basis of equipment owned and the number and skills of each contractor's permanent employees; the best endowed contractors are classified as Class I and the least endowed as Class VII^{2/}. In practice, all the Class I contractors are international construction and engineering enterprises, most of the Class II and III contractors enterprises with proprietors of Indian origin, Class IV a mix of Indian and indigenous contractors, and Classes V-VII entirely indigenous operations (Table 2).

14. As indicated by the data, with 1,076 registered contracting companies as of the end of 1989 (and 862 of them in Class V or below) there is no shortfall in indigenous entrepreneurs active in Tanzania's construction industry. Second, there has been a steady flow of new entrants into the industry -- somewhat over 100 each year -- since the late 1970s. Third, there has been some shift in the composition of new entrants, with a progressive decline in Class V and subsequently Class VI participants, and a corresponding sustained increase in the number of Class VII entrants. Likely reasons for this change include a shift in demand towards household construction and an associated increase in the supply of entrepreneurs willing to start-up activities with low levels of initial investment. Fourth, not all enterprises active in the construction industry are included in the table: along with registered operations, there exist also 'hundreds' of unregistered enterprises^{3/} that operate as subcontractors to their registered counterparts.

2/ Tanzania's National Board of Architects, Quantity Surveyors and Building Contractors is responsible for the classification of individual enterprises. The classifications have a regulatory function: there is a ceiling on the value of a construction contract for which each class is permitted to bid.

3/ The estimates of two interviewees closely involved in the construction industry. Construction operators are able to evade Tanzania's otherwise comprehensive regulatory net by virtue of their ability to operate without any fixed business premises.

Table 2: REGISTRATION OF NEW BUILDING CONTRACTORS 1977-89

NEW REGISTRANTS					
	1977-80	1981-83	1984-86	1987-89	Total Registrants 1989 ^{1/}
Class I	21	8	6	8	41
Class II	8	4	11	1	20
Class III	24	22	15	3	59
Class IV	44	29	44	9	94
Class V	100	5	48	22	137
Class VI	72	72	70	25	152
Class VIII	87	157	214	239	573
Total	356	327	408	307	1,076

Source: National Board of Architects, Quantity Surveyors and Building Contractors.

Notes: ^{1/} Note that these totals do not equal the sum of new registrants, 1977-1989; they include contractors that registered prior to 1977, and exclude contractors that, although entering between 1977-1989, have subsequently withdrawn from the contracting industry.

15. To complement the aggregate data, interviews were conducted with 14 construction contractors, as a way of learning about their strategies of survival and expansion, and about the obstacles they confront. ^{4/}

16. As with interviewees from the furniture industry, there was a striking similarity in the educational backgrounds of the construction contractors, although here the: all entrepreneurs had completed secondary education; and most of them had a university qualification, mostly in engineering. Again unlike furniture, most of the entrepreneurs had worked for some years in the government or parastatal sector prior to starting up their own operation.

17. Turning to strategies, as building contractors do the world over, they all organized themselves to respond flexibly to a wide diversity of demands in a very cyclical activity: they maintain a relatively small number of permanent employees, drawing instead a short-term labor as needed; they also keep in-house only a fraction of the equipment they used, renting (in what apparently is a quite well-developed leasing market) the remainder as needed. Further most of

4/

Six of the fourteen interviewees were Class II-IV contractors, three class V-VI, and five Class VII or unregistered. All 6 of the Class II-IV contractors -- along with 2 others in the sample -- began their operations prior to 1980, 5 began between 1980 and 1985, and only 1 subsequently. These contractors were identified non-randomly: while an effort was made to cover a broad range of classes, to ensure that information was provided freely most interviewees were contacted via introductions from acquaintances of the interviewer.

them used subcontractors (which accounted for an estimated 30 percent of labor costs of an average job) to complete specialized tasks which the primary contractor was not organized to undertake directly. The prevalence of short-term labor, of equipment leasing, and of subcontracting signal that building contractors are embedded in a quite well-developed network of market relations.

18. Given the centrality of flexibility and market contracting, it is not as straightforward for construction as for furniture to distinguish among enterprises according to their commitments to, and strategies for, expansion. Even so, three distinct strategic orientations were evident in the sample. At one extreme were four highly conservative enterprises: they contracted only for private clients, had not increased their number of permanent employees or their class of registration since entry, and expressed no interest in expanding the scale of their operations; there were no common patterns among these four enterprises in their class of registration. At the other extreme were three highly aggressive enterprises, all of which contracted extensively with government, and all of which were committed to expansion and were investing in skills in-house to bid for road construction and maintenance contracts; two of the three had upgraded their class of registration, while the third had been Class III since entry; all three -- and only these three of the entire sample -- had borrowed from commercial banks. While none of the three enterprises in the third group, which had grown incrementally over the years, explicitly had growth as a long-term objective, they had progressively increased their number of permanent employees. Further, they maintained a relatively equal balance of public and private clients.

19. Overall, a majority of the contractors sampled appeared to have significantly enhanced their construction capabilities through participation in the industry, and to be on a trajectory of ongoing expansion. However, as will be examined below, they faced substantial constraints to ongoing expansion, with the character of the constraints varying with a contractor's strategic orientation.

Entrepreneurship in the Export of Horticultural Products

20. With the depreciation in Tanzania's real exchange rate, the liberalization of restrictions on import and the liberalization of agricultural marketing for non-traditional agricultural exports, new opportunities for export of nontraditional agricultural products have begun to emerge. Horticultural crops which have export potential include pineapples, chilies, okra beans and other tropical fruits. Exports of these crops from Tanzania are in their infancy: but they have grown rapidly from a small initial base since the ERP was adopted. Interest in horticultural export prospects appears to be widespread -- 68 entrepreneurs responded to an effort to recruit members to help start up a Tanzanian Horticultural Producers and Exporters Association.

21. On the basis of surveying a dozen horticultural entrepreneurs (of which all but one were indigenous) ambitious export plans were identified: by 1992, ten of twelve interviewees planned for exports to exceed local sales, and six interviewees had the goal of earning more than \$500,000 in export revenue, with three of these targeting revenues in excess of \$1 million. Most of them had already made trial shipments to export markets, one had already made a substantial investment in a large-scale pineapple export facility, while 5 others planned to invest in irrigation facilities on their land in the relatively near future or were in various stages of preparing feasibility studies and applying for financing from banking institutions.

22. Regarding the strategies and prospects for success of these infant horticultural ventures, two patterns emerge relatively clearly. First, as with construction, the horticultural entrepreneurs surveyed were a well-educated, experienced group: all but one of the respondents had finished high school, while six had completed also a university degree. Of the eleven who provided information, four had been employed in the public sector prior to embarking on their horticultural venture, and seven in the private sector; interestingly, five of the latter group continued to work on other private ventures alongside their horticultural efforts.

23. The second pattern concerns the sourcing of horticultural products. In principle, horticultural exporters can either sell produce from their own farms or they can operate as intermediaries and thereby provide a vehicle for small farmers to take advantage of export opportunities. In practice, the survey respondents give disproportionate emphasis to own production an apparent response to the need of conforming to requisite size and quality standards for exports, and the weakness of appropriate public extension support for small farmers.^{5/} The consequent likely exclusion of smallholders from participation in horticultural exports represents a foregone opportunity for moving along a relatively egalitarian path of private sector development.

Entrepreneurial Supply: Some Implications

24. The available aggregate data and the results of entrepreneurial surveys in the furniture, construction and horticulture sectors all point towards a similar conclusion, namely that there exists in Tanzania an abundant supply of indigenous entrepreneurs with the initiative and commitment to sustain a development strategy which gives a central role to efficient private enterprises. These indigenous entrepreneurs appear to be a highly diverse group when viewed from the perspective of education and prior employment experience. Further, a substantial fraction of the entrepreneurs of all backgrounds appear committed to increasing substantially the size of their enterprises, and – most clearly in the furniture and horticulture sectors – the opportunities for growth are abundant. Whether this potential can be realized depends importantly on the character of the environment for entrepreneurship in Tanzania.

Obstacles to Entrepreneurship in Tanzania

25. Over the past twenty or so years the environment for private enterprise has been less-than-hospitable in Tanzania, although the situation has improved since 1986. If the supply potential of the private sector is to be tapped effectively, there is thus an urgent need to identify and ease those particular obstacles to entry and expansion that most constrain private firms at present.

26. The entrepreneurship surveys for the furniture and construction industries explored the relative magnitude of obstacles faced at the time of entry and inhibiting their efforts to expand. An initial set of interviews yielded a list of twelve potential obstacles to entry and expansion for furniture firms, and a related list of ten obstacles for construction enterprises. The obstacles included difficulties associated with government regulatory and licensing policies (including difficulties faced by furniture firms in gaining access to land zoned as an industrial site, and

^{5/} Insofar as they cannot control to whom small private producers will sell their output, private traders have little incentive to invest themselves in the requisite support services.

difficulties for construction firms associated with the public tendering process), difficulties in identifying target markets, difficulties in gaining access to requisite inputs (finance, competent workers, equipment, intermediate inputs and technological know-how), and difficulties associated with the high cost of inputs.

27. For each sector, entrepreneurs were presented with the relevant list and asked to rank each obstacle on a scale of 1 to 5 according to its degree of severity. Table 3 summarizes the results obtained after normalizing the results along a scale of zero (least severe) to one (most severe). ^{6/} As the table reveals, for firms in both sectors the most severe obstacle was a lack of access to finance, while the least severe obstacles were shortfalls in demand, a scarcity of competent workers, and a lack of technical skills. In between were difficulties associated with government regulatory, tendering and licensing policies, difficulties associated with the high cost of inputs, and, for construction contractors in particular, difficulties associated with access to equipment and materials. The reasons for these patterns will now be explored in some detail.

^{6/} Normalization is necessary since there is no basis for comparing the assessments of entrepreneurs as to the absolute magnitudes of severity of the various obstacles. For example, one entrepreneur might choose to rank the entire set of obstacles within the 1 to 3 range, while another -- with identical perceptions of the relative severity of the obstacles -- might scale his ranking in the 3 to 5 range. While the similarities between the two entrepreneurs in the relative ranking of obstacles represents important information for policy, nothing of general usefulness for policy can be learned from evidence of differences among entrepreneurs in their subjective perceptions of the absolute magnitude of challenge posed by the obstacles. Calibration of each firm's assessment of the severity of the obstacles on a scale of 0 to 1 yields a common cardinal scale of the relative severity of various obstacles which controls for differences among entrepreneurs in their subjective perceptions of the absolute level of difficulty posed by the obstacles they confront.

Table 3: ASSESSMENTS BY A SAMPLE OF FURNITURE AND CONSTRUCTION ENTERPRISES OF THE RELATIVE MAGNITUDE OF 14 OBSTACLES TO ENTRY AND EXPANSION

NORMALIZED SCORES				
	FURNITURE		CONSTRUCTION	
OBSTACLES	Obstacles to Expansion, 1989	Obstacles to Entry	Obstacles to Expansion, 1989	Obstacles to Entry
Lack of access to Finance	0.97 (19)	0.90 (14)	0.80 (14)	0.81 (13)
Cost of Finance	0.72 (10)	0.54 (9)	0.75 (4)	
Lack of Access to Tenders	-	-	0.70 (13)	0.42 (11)
Government Bureaucracy (Excluding Tender Procedures and Industrial Sites)	0.67 (17)	0.48 (14)	0.63 (14)	0.44 (13)
Lack of Access to Industrial Sites	0.64 (12)	0.84 (11)	-	-
Price of Wood	0.63 (14)	0.39 (9)	-	-
Cost of Equipment	0.58 (13)	0.58 (9)	0.70 (5)	-
Lack of Access to Building Materials	-	-	0.51 (13)	0.86 (10)
Lack of Access to Spare Parts	0.38 (11)	0.49 (11)	-	-
Lack of Clients/Limited Market Size	0.28 (19)	0.24 (14)	0.31 (13)	0.29 (13)
Lack of Access to Equipment	0.26 (14)	0.45 (11)	0.71 (14)	0.94 (12)
Lack of Access to Wood	0.16 (19)	0.16 (14)	-	-
Scarcity of Competent Workers	0.14 (19)	0.07 (13)	0.18 (14)	0.04 (13)
Lack of Technical Skills	0.11 (19)	0.07 (14)	0.08 (14)	0.19 (13)

Number of Respondents in brackets.

Access to Finance by Private Enterprises in Tanzania.

28. A lack of access to finance was identified as the most severe constraint on expansion by eighteen of nineteen respondent furniture firms and eleven of fourteen construction contractors, accounting for the scores of 0.97 and 0.80 accorded the constraint in Table 3. This striking result signals the presence of some critical bottlenecks in Tanzania's financial system.

29. It is helpful to preface analysis of these bottlenecks by summarizing briefly what is known internationally as to the financing of small and medium enterprises. The evidence is persuasive^{7/} that the incentives are weak for formal financial institutions to target funding towards SMEs: loan sizes are small, so the costs of processing tend to be high relative to loan amounts; the track record and reputation of a SME borrower is likely to be limited (as is the system of financial accounting), adding further to the costs of loan processing; the probability of failure is high even of well-conceived new ventures. Unsurprisingly in the light of these incentive patterns, SMEs worldwide tend to finance the start-up of their operations with savings from the enterprise proprietor, support from family members, short-term credit provided by suppliers, advances offered by buyers, or (somewhat less frequently) loans from informal, community-based financial intermediaries who are able to draw on local knowledge as to the reliability of a putative borrower, and on the community sanction of reputation to ensure loan repayment. In general, only once an SME has demonstrated some record of success is it able to tap into the resources of the formal financial system.

30. The results of the survey indicate that the mechanisms of financing of Tanzanian SMEs exhibit some similarities to -- but some important differences from -- the stylized general pattern. The strongest similarity is in the importance of own savings and of related sources: all 34 indigenous SMEs in furniture and construction for which data were available drew on the savings of the proprietor, on retained earnings, on support from family members or from partners to finance their ventures. The most striking differences are in the role of informal financial markets and of trade credits. Only one of the 34 indigenous firms surveyed raised any finance at all from informal market sources; by contrast, non-indigenous entrepreneurs active in Tanzania apparently have access to well-developed informal mechanisms of financial intermediation. Further, not one of the surveyed furniture enterprises have access to suppliers credits or buyers advances. Nor can any contractors procure construction materials on credit from suppliers.

31. The virtual breakdown of the checking system in Tanzania in the face of both pervasive banking inefficiencies (on which more below) and a legal system which affords only protracted and uncertain recourse accounts in part for the absence of trade credits; legally-binding post-dated checks are commonly used as credit and payment mechanisms in countries where firms make extensive use of trade credit. As for the absence of other informal lending mechanisms for indigenous enterprises, here the Tanzanian pattern appears illustrative of a lacuna that is evident throughout East Africa.

7/ I.M.D Little, Dipak Mazumdar and John M. Page Jr., Small Manufacturing Enterprises (Oxford University Press for the World Bank, 1987) pp. 279-287 provide a useful summary of available evidence on SME financing.

32. In the absence of an informal financial market, the role of the formal financial system is crucial in channelling finance to SMEs. In Tanzania, a number of financial institutions (all state-owned, as are all financial institutions in the country) have the responsibility in principle for providing financial support to SMEs: a small enterprise lending unit has been operating in the National Bank of Commerce since 1982; since 1974 the Small Industries Development Organization (SIDO) has provided financing for the purchase of new equipment; in principle the Co-operative and Rural Development Bank also lends to SMEs. In practice, however, these institutions have not lent resources to a large number of smaller enterprises.^{8/} In fact, only about one third of the indigenous firms interviewed obtained finance from formal financial institutions, and they are largely of medium size. Less than 10 percent of the sample had ever received support from SIDO (and when received, it was prior to 1982).

33. The evidence suggests the difficult relationship between private indigenous firms and formal financial institutions: only one of the 33 firms in furniture and construction had an ongoing loan which was characterized by a "satisfactory" relationship, while 10 had a "difficult" relationship. The other 22 had no loans. One problem lies in the exceedingly burdensome conditions that SMEs must meet if they are to qualify for loans. Loan applicants are required to provide fixed property as collateral; since the banks refuse to recognize leasehold land title (the only form of land title permitted in Tanzania) as collateral, only individuals with the resources to erect physical structures on their land can borrow, and only to the value of these physical structures. Further, along with collateral, applicants are required to provide detailed feasibility studies of their projected investments (even though commercial bank loans take the form of overdraft facilities, typically used for working capital), as well as detailed financial statements. Even with collateral, feasibility studies, and financial statements in hand, firms reported that the processing of loan applications takes an average of six months, and may still require side payments as a precondition for processing.

34. Given the hurdles associated with applying for loans it is hardly surprising that seven firms in the sample were discouraged even from embarking on the loan application procedure, while six other applicants either were denied loans or find themselves still awaiting the results of their applications after an inordinately long period. It is telling that five of the six discouraged furniture firms already had some track record of success and exhibited significant potential for growth – precisely the classes of enterprises that should be able straightforwardly to graduate to formal institutions in a well-functioning financial system.

35. Nor do firms dealing with formal financial institutions confront obstacles only during the process of applying for loans. As state above, virtually all enterprises with bank loans reported that their relationship with their banker continued to be difficult. For three of the furniture firms (all in the medium-stagnant category) these difficulties appear to be related to the precarious financial condition of the enterprises themselves. But of the remaining seven (healthy) firms, two reported that the bank imposed its own arbitrary loan ceiling thereby disrupting the enterprise's business plan even though all prerequisites for a larger loan had been fulfilled, and two others reported that their banker temporarily shut down their overdraft facilities over disputes that were peripheral to the lending relationship itself.

8/

For details on the relevant financial sector aspects of the SME development, see Chapter 3, Volume I.

36. In all, the conclusion that emerges from the interviews is that Tanzania's banks do not view their lending to indigenous SMEs in developmental terms, with a goal of identifying and supporting enterprises that have real potential to succeed commercially, and a mutual interest on the part of both the bank and the enterprise in a venture's success. Rather, as indigenous enterprises see it, the banks perceive them to be unwelcome supplicants, to be dealt with only so long as stringent conditions are met and, even then, only so long as the enterprise respects without question the omniscient authority of the lending agency.

Regulatory Obstacles to Private Enterprises in Tanzania

37. As the scores in Table 3 revealed, regulatory difficulties, difficulties in gaining access to an industrial site, and difficulties winning tenders ranked high among the obstacles to entry and expansion identified by sample firms. This subsection details the character and economic consequences of these regulatory obstacles. Rather than analyzing comprehensively the full spectrum of laws and regulations affecting private enterprises in Tanzania, the focus here is on the impact of the regulatory regime as it is experienced by interviewees.

38. Four groups of difficulties associated with regulation were identified by firms. Two of these -- problems associated with the licensing of enterprises to operate, and problems associated with the assessment and collection of taxes -- were shared in common by both furniture and construction enterprises. An additional group of problems for furniture enterprises involved gaining access to industrial sites, while an additional group of problems for construction contractors involved regulatory hurdles specific to the construction industry.^{9/}

39. **Enterprise licensing.** The system of commercial licensing in Tanzania is exceedingly comprehensive, with local authorities empowered to require licenses from, and issue licenses to, all commercial ventures irrespective of their size. Enterprises with fewer than ten employees are required to obtain a trading license; enterprises with more than ten employees and enterprises that sell to government agencies are required to obtain a business license. Licenses are renewable annually, for a modest fee.

40. Unlike other countries, where small enterprises often fall outside the regulatory net (and hence sometimes are described as 'informal'), as of 1989 enforcement of Tanzania's licensing requirements appeared quite thorough: all but two^{10/} of the 38 interviewees had been licensed to operate by the Dar es Salaam City Council. There was no evidence that license requirements were used in any sustained way to inhibit entry by new firms. Even so, interviewees reported that -- along with the fee itself -- compliance with the requirements entailed significant costs.

41. These costs can be traced to the requirement that licenses be renewed annually. This renewal is not automatic, but depends on prior clearance from various tax authorities. In the best of circumstances, obtaining these clearances and thereafter the license renewal imposes a

9/ A fifth group of problems -- those associated with the provision of telephone services, electricity and water to enterprises -- also emerged repeatedly in interviews. While many of these problems appear to be at least as much administrative as they are technical, in-depth analysis was beyond the scope of the present effort.

10/ Both of these were unlicensed construction subcontractors, able to evade the regulatory net by virtue of their ability to operate without any fixed business premises.

significant burden on the scarce time of the enterprise proprietor. In circumstances where not all the necessary clearances have been obtained, the proprietor is at the mercy of the licensing official. In practice, incomplete compliance does not appear to have led to the shutting down of enterprises, but instead functions as a vehicle for officials to extract side payments. Hence the report of about half the interviewees that 'lubrication' is an integral part of the completion each year of license formalities.

42. **Tax collection and assessment.** Tanzania's construction contractors are liable for payments of income taxes, its furniture enterprises for payments of both sales and income taxes. Sales tax for sales of furniture, payable by manufacturers (and again by retailers if they operate independently of the producers), is formally set at a rate equal to 25 percent of sales revenue; income taxes are set at 50 percent of enterprise profits.

43. The enterprise survey uncovered three noteworthy features of the way in which tax laws are implemented in practice. First, corresponding to the evidence on licensing requirements, even the smallest furniture enterprises in the sample confirmed that they were regularly held liable for both sales and income tax payment; there appears to be no lower bound on the size of firms that fall within the tax net.

44. Second, only one-fifth of the interviewees were willing to characterize the system of tax collection as 'legitimate'; the remaining firms confirmed instead that 'lubrication' was pervasive in their dealings with the tax authorities. Underlying these data there is the broad perception that tax requirements impose an unmanageable burden on enterprises. This perception (together with the low salaries paid to government employees) legitimizes for both owners and tax collectors a process whereby the tax obligations on enterprises are renegotiated (via downward estimates of sales revenue and profits), with associated side payments to the tax assessors themselves. Sometimes the process of renegotiation can be quite antagonistic: one four-person furniture enterprise described how an initial reluctance to 'lubricate' resulted in a sales tax assessment so high that it stood to bankrupt the venture; at that point, the owner had no alternative but to plead with the assessor to accept lubrication in return for scaling down the tax bill. More generally, the combination of unrealistic obligations and the expectation of renegotiation implies that even entrepreneurs who might otherwise prefer to adhere to what is legally required have no alternative but to 'lubricate' the system if they are to survive in a highly competitive environment.

45. The third feature of the implementation of tax laws was the frequency with which even the smallest firms are harassed by tax officials. With sales tax legally payable on a monthly basis, tax officials have the opportunity to visit individual enterprises and 'negotiate' their tax burden twelve times annually. In practice, the number of negotiations is somewhat fewer -- averaging 5 per annum -- but the burden on enterprises is hardly trivial: all the furniture firms that provided a ranking highlighted the burden of dealing with sales tax officials as the most severe of the regulatory obstacles which they confronted. Income tax is payable annually, so in principle the number of legally mandated visits is fewer. However, individual tax assessors have the right to re-examine the accounts of any enterprise at any time on the grounds that inaccurate information has been filed; thus, over one-half of the enterprises reported receiving more than one visit per annum from income tax officials.

46. **Access to industrial sites.** Only 5 of 15 firms who provided relevant information in the enterprise survey had their premises on land allocated for industrial purposes. This scarcity of

industrial sites in Dar Es Salaam appears to inhibit both the entry of new enterprises and the expansion of existing firms.

47. The high score of 0.84 in Table 3 accorded to lack of access to an industrial site as an obstacle to entry for furniture firms (almost as high as the score for the leading obstacle to entry - lack of access to finance) signals how severe is the difficulty of identifying a piece of land that can serve as premises for a new enterprise. As for already-established firms on land that is not zoned for industrial use, one potential problem -- albeit one which was not supported by survey evidence -- is the vulnerability to harassment created by their extra-legal status. A second problem is the disincentive to expansion that follows from an ambiguous land tenure status. With their rights uncertain (and perhaps their existing site inadequate) firms tend to be reluctant to invest in a permanent structure or to acquire equipment that requires the shelter and facilities of a permanent structure. The survey evidence indicated the importance of this problem: four of the ten enterprises without sites volunteered directly that they would expand if they had access to such a site. ^{11/}

48. Construction regulatory and tendering procedures. The combination of: i) safety issues; ii) the inevitable unforeseeable problems inherent in any construction project; and, iii) complications associated with the sequencing of construction work and payment together imply that the construction industry the world over is beset by complex regulatory requirements, often enforced in quite dubious ways. In any country, the best to be hoped for is that the vast majority of construction contracts and associated regulatory enforcement proceed honestly, with instances of corrupt practices the exception. As the interviews with construction contractors reveal, Tanzania falls well short of this desired state of affairs.

49. Two different sets of regulatory problems specific to the construction industry emerged in the course of interviews. The first set, relevant equally to contractors who serve private and public clients, concerns the bureaucratic steps associated with a construction operation: contractors need to certify the drawings on the basis of which they plan to proceed, to obtain a building permit, to obtain certification of work completed prior to payment at each phase of a contract and, upon completion, to obtain a certification of readiness for occupation. At each step, the individuals responsible for providing the requisite certification are in a position to extract side payments from contractors: all 11 contractors willing to provide information reported the need for lubrication to secure certifications of work completed, 10 reported that lubrication was required to secure issuance of a building permit, 9 reported a need for lubrication to secure certification of occupancy, and 5 a need for lubrication to secure certification of drawings.

50. The second set of regulatory problems are relevant to construction contracts with government agencies, specifically government tendering, contract renegotiation, and payment practices. To begin with tendering practices, the assessment of the extent to which tendering procedures represent an obstacle to expansion was particularly severe for the firms who currently

^{11/} In fact, a recalculation of the score in Table 3 to include only those enterprises for whom lack of access to an industrial site could plausibly serve as an obstacle to expansion suggest that for them the scarcity of properly allocated land (for industrial use) represents almost as substantial an obstacle to expansion as does lack of access to finance.

contract exclusively with private clients. As was explicitly suggested by some firms, this result could reflect lesser likelihood of access to nepotistic contacts among these firms. ^{12/}

51. While the average delay reported by interviewees between completion of work and certification of due payment is almost two months for government contracts versus two and three weeks for contracts with private clients, and the delay in payment subsequent to certification averages 5 months (versus 7 days), none of the enterprises expressed any desire to reduce their involvement in government contracts, suggesting that renegotiation rarely leaves firms disadvantaged. In fact, numerous industry observers indicated that delay and renegotiation -- while leaving unfinished many public construction projects -- often can serve well the pecuniary interests of both contractors and their client counterparts.

52. Overall impact of regulatory obstacles. Three major conclusions emerge from this review of the impact on enterprises of Tanzania's regulatory regime.

53. First, although many of the regulatory requirements for enterprises are exceedingly burdensome, in practice many firms are able to mitigate these costs. Other than the problems associated with the lack of access to industrial sites (for the furniture industry) and the potentially distorting influence of corrupt tendering and renegotiation practices on the behavior of enterprises (for the construction industry), their negative impact is less than might appear from the formal requirements as they appear on paper: pervasive lubrication reduces the impact to firms of egregiously unrealistic and arbitrary policies. Obviously, unrealistic policies offset by pervasive lubrication is hardly desirable: corruption is wrong and its existence gives an incentive to engage in unproductive rent-seeking activity; it gives arbitrary advantages to firms that are more successful in cultivating co-operative relations with public officials; and it undermines the capability of the public administration to perform those functions where their contribution is necessary.

54. Second, notwithstanding the above, the overall costs to enterprises of the prevailing regulatory environment are substantial. The official payments, side payments, and time spent navigating the bureaucratic morass can be interpreted as entry-detering fixed costs, and expansion-detering variable costs on enterprises. Nor should these costs be viewed only in financial terms: their most important component is the opportunity cost associated with the diversion of scarce entrepreneurial time and effort away from socially efficient wealth-generating activities.

55. Third, the relative burden of the prevailing regulatory environment is significantly greater for the smaller, indigenous enterprises than it is for large, often non-indigenous, ventures. When firms are large enough they can 'grow out' of the costs imposed by an obstructionist bureaucracy: senior executives can delegate the management of relations with the bureaucracy to employees; they can use the influence afforded by their economic power to shield themselves against egregious examples of harassment; and, where necessary, they can cover whatever side payments are required without reducing substantially the working capital available for their business enterprises. In sum, Tanzania's regulatory environment has the paradoxical (and presumably

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None of the contractors with government clients identified government tendering procedures as their greatest obstacle to expansion.

unintended) consequence of strengthening the competitive position of large enterprises in relation to indigenous SMEs.

Other Obstacles to Private Enterprises in Tanzania

56. The remaining obstacles identified in Table 3 can be grouped into three categories: obstacles associated with access to inputs other than finance; obstacles associated with the high price of inputs; and obstacles associated with a scarcity of technical and marketing skills.

57. **Access to nonfinancial inputs.** The obstacles to expansion of furniture enterprises associated with lack of access to equipment, spare parts and wood are all ranked low, signifying the existence of well-functioning input markets in these areas at present, which appear to be associated with the recent internal and external trade liberalization. In the market for wood, large numbers of indigenous entrepreneurs have specialized at a range of levels, with some procuring wood from local forests via their own agents and then retailing in small lots to urban users, and others coming direct from the countryside and wholesaling lots directly to larger urban users. As for equipment and spare parts, these are purchased from traders who in turn import their wares for abroad.

58. Lack of access to equipment and materials were ranked notably higher as an obstacle by construction than by furniture firms. But what is noteworthy for both furniture and construction is the decline between the time of entry and 1989 in the scores for obstacles associated with access to equipment, materials and spare parts, suggesting the importance of the liberalization program (particularly own-funded imports, OGL and deconfinement) in increasing the availability of inputs for SMEs.

59. **The cost of inputs.** In terms of perceived "obstacles" firms ranked relatively highly the price of inputs, in contrast to the lower ranking of their access to inputs. Both findings, are, in fact, consistent with the improved functioning of the market mechanism.

60. While the presence of obstacles involving limitations in access by enterprises to requisite inputs would have signaled a failure in the functioning of the market mechanism, no such implication follows from the presence of obstacles associated with high input prices. On the contrary, reports by enterprises of high input prices can be interpreted as a signal of significant competitive pressure and an associated squeeze on profits. Thus the high scores for obstacles associated with the cost of inputs – coupled with evidence that, with the exception of finance, markets for furniture inputs function relatively efficiently – can be viewed as evidence that competition in the unregulated Tanzanian wood and furniture markets sets a ceiling on profits which serves well the interests of consumers.^{13/}

61. **Scarce technical and marketing skills.** The low ranking for obstacles associated with a lack of technical skills, a scarcity of competent workers, and the limited size of the market are

13/ Note also the possibility that obstacles associated with high input costs might signal leads and lags in the transmission of macroeconomic policy changes to firms, with the price of some inputs rising rapidly in response to changes in macro variables (the nominal exchange rate, or the rate of inflation to cite two examples) while output prices adjust more slowly.

consistent with the earlier proposition that barriers to entry into both construction and furniture manufacture are low. It is important, however, not to misinterpret these results: most of the firms in the sample evaluated the obstacles in relation to the clientele they were serving at the time, and a production quality that sufficed to meet the needs of domestic consumers. Independent evidence for the furniture industry in particular suggests, however, that the magnitude of the obstacles are very different for enterprises with more ambitious goals.

62. On the technical front, only one of the indigenous enterprises interviewed had organized its workshop on a quasi-assembly line basis consistent with the fulfillment of orders for high volume, and even this enterprise ran into major technical difficulties as it attempted to upgrade the sophistication of its equipment. On the marketing front, only two of the indigenous enterprises expressed any interest in producing furniture for export; only one of these was aware that sophisticated wood-curing techniques (not now used in Tanzania) were a prerequisite for the penetration of export markets; and neither enterprise had any clear sense of how they might proceed to learn in more detail about export possibilities.

63. As increasing numbers of progressive indigenous furniture enterprises follow the lead of large firms and endeavor to move into new, more demanding markets, they are likely to learn that technical and marketing obstacles are substantially more formidable than they now perceive them to be. Whether they will be able to overcome these obstacles will depend crucially on the quality of the (private and public) technical and marketing support services to which they might then have access.

ENHANCING AID EFFECTIVENESS IN TANZANIA

Tanzania Economic Report

Background Paper #4

ENHANCING AID EFFECTIVENESS IN TANZANIA

A. THE CHANGING POLICY AGENDA

Development assistance in support of ERP has concentrated on balance of payments support to enhance the country's import capacity and on the process of policy reform. This contrasts with earlier concentration on project assistance. As a result, the focus of discussions of aid policies has shifted from issues of project design and implementation to the macroeconomic policy environment and policy conditionality. But as economic activity has been revived in the productive sectors in response to the more favorable policy environment and increased import capacity, weaknesses in the public provision of infrastructure increasingly constrain economic performance.

The government and the donor community also share a concern that during the years of economic decline and during the initial years of the ERP there has been an erosion in the delivery capacity of social services which now needs to be redressed under the ESAP. As a result, the balance of attention has begun to shift back partially to earlier aid concerns; issues related to public sector infrastructure and social service projects must be addressed and public sector institutional constraints resolved. Lessons can be learnt from the earlier experience by donors and Tanzania on project aid. This paper therefore addresses both macro aspects of the aid relationship and project level issues. The historical record of aid performance that provides the context for this discussion is far from positive.

B. THE LOW PRODUCTIVITY OF PAST ASSISTANCE

The period 1973-81 saw a remarkable build-up of external assistance to Tanzania. The aid effort was unsuccessful, however, as at the end of the period the economy entered a period of economic decline, in which not only per capita output declined but earlier achievements in the provision of social services were eroded.

How far can the absence of positive macroeconomic effects be taken as evidence of inherent flaws in the aid program of the 1970s? In part, failure resulted from exogenous shocks and from domestic policy weaknesses, both of which can be readily documented. However, although some exogenous factors were inherently unpredictable, one lesson of the 1970s is that insufficient attention was given to the impact of public policies in aid design and appraisal.

The policy regime cannot be treated as a factor entirely exogenous to the aid program. In practice, policies were sustained by continuing external support and might have been reformed earlier if that support had not been forthcoming. Moreover, such a large part of the government's development program was externally financed that important elements of the institutional and policy structure were directly influenced by aid.

While the course of the economic crisis of 1979-84 can be charted in terms of severe macroeconomic disequilibrium, accentuated by an inadequate macroeconomic policy response, very low returns to investments made in the previous decade contributed to the underlying weaknesses in real economy. In addition to exogenous shocks and macroeconomic policy weakness, failures at the project level in relation to identification, design and implementation, and in the balance of public investment program contributed to the negative outcome. Aid projects

tied up scarce local resources, including administrative capacity. The net impact of the many projects which failed was negative.

The sobering reflections on the results achieved by the large inflow of aid in the 1970s is that Tanzania's growth would probably have been higher with a much more modest program, if that program had been designed with greater care and implemented with more caution.

Ultimately, however, responsibility for the effectiveness of an aid program lies with the recipient. The decision whether or not to accept aid rests with the government, and consequences of success and failure are felt more acutely in the recipient country. In the case of loans, moreover, it is the recipient country which ultimately pays. Even with grants there are always local costs, either explicit pecuniary costs or implicit opportunity costs.

The system of aid coordination, appraisal and control has never been sufficiently effective on the part of the Tanzanian government. During the past decade a number of initiatives have been launched to improve aid coordination, but these have been insufficient to establish quality control. In fact, the existing system cannot be expected to prevent the government from making the mistakes which resulted in such low returns to aided projects in the past. Consequently, strengthening the system of aid coordination and control should be a government priority.

C. CURRENT MACROECONOMIC ISSUES

1. Aid and the Balance of Payments

Since 1982 total aid flows net of technical cooperation grants have exceeded recorded export earnings. With the shift in the composition of aid towards import support, begun in 1982/83 and accelerated under the ERP, disbursements have become important not only for investment funding but also for the finance of intermediate and consumer goods imports.

Initially, import support was begun by a number of bilateral donors as a crisis response to the constraints facing all sectors as a result of the severe decline in import capacity. With the implementation of the ERP, import support has become a systematic feature of the aid program, running currently at around US\$ 380 million per annum. It accounts for about one-third of official estimates of total imports (which equalled US\$ 1,150 million in 1987 and US\$ 1,185 million in 1988). The growth of such a large balance of payments support program poses two sets of related questions concerning: (i) allocative efficiency, and (b) longer term sustainability.

(a) Allocative Efficiency

The growing role of import support and the importance of "own account" (or "own funds") imports are features of a complex foreign exchange market which has emerged, involving at least six different types of foreign exchange transactions: (i) allocation by the Bank of Tanzania using resources generated by trade and service transactions flowing through official channels; (ii) transactions using foreign exchange retained by importers under export promotion retention schemes; (iii) "own account" transactions funded through the parallel market; (iv) goods imported as a component of aided projects; (v) transactions funded under import support schemes, allocated between firms and/or commodities under agreement between the donor in question and

government; and (vi) transactions funded from the OGL scheme, providing for automatic allocation of foreign exchange for imports included in the OGL scheme.

The uses of imports supplied under aid are to varying degrees insulated from market pressures reflecting real foreign exchange costs. Project aid only reflects real foreign exchange costs in so far as they are effectively accounted for in appraisal. The implicit exchange rate in the different segments of the market varies not only because the actual rate of exchange varies (notably between transactions at the official and the parallel rates), but also because financing facilities vary. For example the OGL system has required shilling cover at the time of issue of a letter of credit whereas bilateral import support in practice has sometimes involved generous interest free credit, payment being made after delivery of the commodity.

Given the segmented structure of the foreign exchange market in effect involving multiple exchange rates, transactions at the official exchange rate and under the liberal financing conditions applicable in practice to some import support programs generate rents. However, these rents are now much less than under the scarcity conditions of the early 1980s, when there was a much greater gap between the official and parallel exchange rates, and firms favored by access to import support were at an enormous advantage. As exchange rate adjustment reduces the gap between official and parallel exchange rates, and a shift to the OGL system increases the availability of foreign exchange for trade transactions at the official rate, the system is moving towards an increasing degree of equilibrium, at least in relation to the trade account.

However, both on the part of some donors and the government there has been some resistance to extending the liberalization of the foreign exchange allocation system. On both sides it apparently reflects a measure of skepticism regarding the virtues of market allocation as compared to bureaucratic control. On the donor side this in part reflects the need to demonstrate that resources have been used for purposes which are seen as desirable in terms of the donor's aid philosophy.

The generation of rents by aid programs carries with it serious dangers. At a time when the government has registered great concern about the spread of corruption in the public service, it should be recognized that the existence of opportunities to make gains from rents through aid allocation and procurement could become a potent source of malpractice. Systems of aid allocation which minimize the possibility of windfall gain by particular individuals or firms would also minimize the incentive for corrupt practice.

(b) Long Term Sustainability

The degree of dependence on external assistance to sustain the inflow of imports poses thorny questions regarding the sustainability of recovery. How long will donors be willing to maintain high levels of import support? Recovery should be expected to be a transitional, finite process. At the same time, there is a need to restore public investment, as infrastructural weaknesses constrain performance. Will sufficient foreign exchange be generated both to fund necessary recurrent imports and expand public investment?

How much foreign exchange is required to sustain economic recovery is difficult to judge. In the early 1980s the economy was suffering from a virtual goods famine. There were

minimal stocks both of consumer goods and inputs required at all stages of the production process. Part of the import demand of the ERP period has been to restore levels of stocks and catch up with replacement (e.g. of the vehicle fleet). With goods more readily available and the exchange rate no longer as overvalued as in the early 1980s, the demand for foreign exchange seems to have stabilized. Traders now claim to be constrained by the availability of shillings and demand for bilateral import support funds and for "own account" import licenses are both steady. If there is less pent up demand for imports, and recurrent import requirements can be expected to grow in line with growth in domestic income and product – and imports are efficiently allocated – the task of increasing the proportion of recurrent import requirement funded by Tanzania's own foreign exchange earnings appears more manageable.

2. Fiscal Dependence

In the past, aid was mainly directed to the development budget, recurrent spending being funded from local resources. This was never an entirely satisfactory distinction. Most development spending is only productive if recurrent resources are available to utilize the resulting additional capacity. Compartmentalizing development spending, and neglecting its recurrent implications, can result in the creation of capacity which was unsustainable, as was the case in Tanzania by 1980. Moreover the distinction between investment and recurrent spending is often arbitrary. Maintenance activities and investment are direct substitutes, as demonstrated by the need for rehabilitation after many years of inadequate maintenance. Some recurrent expenditures contribute more directly to expansion in productive capacity than the related "investments" (e.g. in education). There is therefore a good case for modifying earlier doctrines which concentrated development assistance on development budget activities, to extend the scope of development assistance to activities which are close substitutes for investment or are developmental in their impact even if they are categorized as "recurrent" in conventional public accounting terms.

However, with the growth of import support funding, Official Development Assistance (ODA) has taken on a much broader function, supporting the recurrent budget in a general way. With the expansion of import funding, domestic financial adjustment was necessary to accommodate the counterpart funds (unless the funded imports were simply transferred as a gift to the users). Import support could be accommodated either by: (i) a transfer of the counterpart funds to the government budget; or (ii) the sterilization of the counterpart funds by the central bank. The mechanism adopted has been the first. The consequences of transferring counterpart funds to the government's revenue account depends on the effect on government behavior. If government spending and revenue collection are assumed to be unaffected by access to counterpart funds, their utilization as recurrent revenue would keep the national debt below what it would otherwise have been, providing a less inflationary method of funding the deficit than alternatives.

In practice, however, budgetary use of counterpart funds is likely to increase the real level of government recurrent spending. Given the problems faced by the government because of the constraints on the recurrent budget, the cushioning of downward pressure can be seen as desirable in the short term. However, it is doubtful whether import support counterpart funding at a level more than one third of the recurrent budget will be sustainable in the longer term. There is a danger that ready access to counterpart funds could postpone necessary fiscal reform.

3. Development Assistance and Domestic Savings

Aid should supplement domestic savings, not substitute for it. There are circumstances in which it is appropriate to support consumption activities as was the case in the early 1980s when the extreme shortage of consumption goods, and resulting repression of consumption levels had a depressive effect on production. However, over the long-term aid should increase the growth in capacity to produce through increased levels and efficiency of savings and investments.

Taking the long view, and even abstracting from the special circumstances of the crisis of the early 1980s, the past evidence in Tanzania is consistent with the view of those critics of aid who have argued that aid tends to substitute for, rather than add to the domestic effort. In the 1960s capital formation was built up largely on the basis of a domestic savings effort. By 1970/71 savings had risen to 24% of G.D.P. Subsequently there was a sharp decline in domestic savings except for the brief period of export (tea and coffee) boom, 1976-78. The period of aid build-up (1973-81) was also a period of declining savings.

This does not necessarily imply, however, that aid directly caused the poor savings performance. The explanation of the poor savings performance lies in the poor performance of real foreign exchange earnings in the 1970s. It is only possible, in macroeconomic terms, to realize planned domestic savings if there is foreign exchange available to cover the import content of investment activities. To establish a causal macroeconomic link between high aid and low savings it would be necessary to demonstrate that high levels of aid in some way undermined foreign exchange earnings (e.g., if aid flows sustained the exchange rate at higher levels than would otherwise have been the case), or promoted consumption of imports.

One reason why the increase in aid was not fully reflected in an increase in capital formation was the low level of private capital formation and private capital flight in the 1970s. Again, there is no simple causal relationship -- the decline in private investment activity reflected the impact of a number of government policies rather than "crowding out" by aid finances public investments.

There is currently a revival in private investment underway which is indirectly supported by current aid practices. The provision of aid in the form of balance of payment support rather than funding for the public investment program more readily accommodates the import requirements of private investment activity.

D. CONDITIONALITY AND POLICY DIALOGUE

A new feature of this relationship between Tanzania and the donor community during the 1980s has been the importance of more general policy conditionality, as reflected by the interrelationship between the IMF, the donor community and Tanzania. In the 1960s the IMF played a low key role, and in providing expanded facilities in response to the first oil shock, there was only modest conditionality. The Fund's role has been more active during the present period of reform.

Macroeconomic conditionality has focused attention on the management of a range of macroeconomic policy instruments, notably the exchange rate, the budget, and monetary

instruments such as growth in the money supply and interest rates. These are important policy instruments, particularly for short and medium term macroeconomic management. Extreme disequilibrium in foreign exchange markets and high rates of inflation undermine development activities across the board. Thus firm action in relation to these policy instruments was a necessary condition for recovery, and at the beginning of the reform period focusing policy conditionality primarily on these areas was appropriate. However, as the process of reform deepens, other policy issues can and have taken on greater significance, even for macroeconomic management. Currently, institutional questions relating to agricultural marketing, the financial sector and the management of the public sector (including the civil service) have become more of the primary constraints to extension of the recovery process. As concentration each year on the IMF negotiations focuses government officials' energies and attention on the policy agenda, it will be important for the IMF to continue to ensure that the agenda it helps to define includes these and other emerging important issues.

There has been an increasing tendency to develop work involving teams drawn from the donor side, the Tanzanian government and non-government Tanzanian experts. This approach has major benefits. It recognizes the increasing body of Tanzanian expertise, the mobilization of which at an early stage of policy analysis is likely to be productive in improving the empirical basis and the local relevance of policy studies. Joint efforts have a greater chance of internalizing the reasoning and conclusions of policy analysis within the Tanzanian system. This is particularly important where improved policy requires ongoing adjustments in approach rather than a once and for all adjustment in a given policy variable.

While the process of policy dialogue has been highly productive in recent years, there are aspects which require continuing attention. The Bank report, World Bank/Tanzania Relations, 1961-1987, includes a systematic history of the complicated, and not always happy, policy dialogue between the World Bank and the government of Tanzania over the past three decades. "Policy dialogue" ranges from provision of technical assistance, to advice and persuasion in donor/government interchanges, to negotiated policy conditionality in relation to specific aid agreements. The Bank report offers a number of important insights drawn from study of the historical record. These include: (i) the need to understand the political and social environment and policy objectives on the recipient side, and the need to have a realistic view of the range of policy options practically available; (ii) the advantage of an advisory rather than "mandatory" role; (iii) where inadequate policies make lending unadvisable in the Bank's view, the reasons should be set out cogently and explicitly; (iv) there is a need for improved coordination within the Bank to ensure consistency in advice and conditions; and (v) there needs to be effective coordination between donors involved in policy dialogue.

The need for coordination is self-evident. From the point of view of the Tanzanian officials, the sheer volume of work involved in a continuous flow of missions and subsequent flow of reports, in their varying stages of preparation, becomes unmanageable. Existing arrangements for sectoral policy work and dialogue could be strengthened. There is no overall planning of work -- initiatives reflect the requirements of the various agencies more than a thought out and agreed position between donors and the Tanzanian government about the priority and proper sequence in which policy issues should be tackled.

An improvement to existing arrangements would be to adopt a practice as follows:

- (a) using consultative group meetings not only to discuss the policy framework paper and external financing requirements for the coming year, but also to discuss government proposals on priority issues for further review -- and the results of those reviews;
- (b) the government could then agree with the donors on collaborative work programs involving inputs from the government, multilateral and bilateral donors and other local and foreign experts; on the donor side a "lead agency" might be proposed by the government and be appointed to be responsible for coordinating donor work on a particular issue, in consultation and collaboration with a "lead ministry" in Tanzania which the government would also identify; and
- (c) in allocating tasks there would be a need to rationalize and concentrate donor assistance; those donors requested and agreeing to take a "lead role" would need to be very active in assisting the government, including strengthening local capacities, while others would have to consider relying more on the government and the lead donor agency or agencies to guide decisions on involvement and financing; they would also need to exercise restraint in fielding missions and taking up policy issues not on the agenda.

The Bank report on World Bank/Tanzania Relations sees the Bank as playing a lead role, sometimes a dominant role, in aid coordination. By and large the donor community accepts the Bank's leading role in relation to macroeconomic work. However, as the Bank report recognizes, in practice the Bank's staff capacity is predominantly located at headquarters. In relation to sectoral work, where local knowledge is particularly important, some bilateral donors have stronger representation in Dar es Salaam. Moreover, in some areas bilateral donors have built up a more substantial and continuous experience of field operations in project implementation than the Bank. It is therefore imperative for donors to take account of comparative advantage within the aid community in allocating tasks.

E. IMPROVING PROJECT EFFECTIVENESS

The depressing record of past project performance is summarized for the World Bank's portfolio in World Bank/Tanzania Relations. Of projects which have been subject to operational evaluation the following conclusions resulted:

- (a) In the rural sector 12 out of 17 projects had a negative re-estimated Economic Rate of Return (ERR); and 4 were substantially lower than at appraisal;
- (b) the two industrial projects evaluated had a negative ERR, while two other industrial projects had capacity utilization of 4% (Morogoro Shoe Factory) and 49% (Southern Paper Mills);
- (c) five out of 6 transport projects had ERR below estimates at appraisal. However, operations in Telecommunications, Energy and Power and Water Supply and Sanitation were generally successful although typically delayed in implementation;

(d) of 6 education projects reviewed only two were successfully completed. Others were subject to excessive delays in physical construction and were hampered by staff shortages.

Evaluation by other donor agencies suggest that the poor performance of Bank projects were typical of aid performance in general. One problem which emerges from the record is that of donor comparative advantage and delivery capacity. Large-scale, capital intensive, engineering based infrastructural projects, the main focus of ODA in its early days, were appropriate vehicles for aid in that they require foreign expertise and participation in implementation, whatever the source of funding. Successful development in agriculture and the social services depends more on local small-scale activities, is best implemented with technologies at the labor intensive end of the range of possibilities and typically depends on human inputs as much as on physical hardware. High technology inputs may be required in the small scale sector. For example, sustained external support for research is necessary for a breakthrough in agriculture. However, the impact of research depends on adoption at the farm level, requiring extension into the small farm systems through a carefully designed process of local institutional development.

Donors should not ignore agriculture and the social sectors, but donor initiatives in these sectors should be more cognizant of the real limitations of their own delivery capacities in the design of programs. In practical terms this means addressing a number of specific issues: (i) the manner and content of initial projects design; (ii) flexibility in implementation; (iii) institutional sustainability; and (iv) financial sustainability.

(a) Project Design

The design and appraisal of projects has been very much donor driven. Broad priorities and targets (e.g. rural water and primary education targets) have been set by the Tanzanian government but the translation of ambitions into concrete projects has been heavily dependent on donor initiative and technical inputs. As a result of this, the project does not necessarily respond to the priorities of the eventual clients, nor incorporate a realistic view of local capabilities.

The government planning structure does not effectively articulate local requirements nor realistically assess local capabilities. The aid coordinating agencies of government (in Finance and Planning) have capacity located in ministerial offices in Dar es Salaam but lack the manpower and mandate to play an active role in identifying projects and probing the institutional arrangements for their implementation. Implementing agencies (e.g. line ministries) may have more practical knowledge but are also likely to have their own institutional interests at stake -- their role is more likely to be that of advocate than appraiser.

It is easy for the project design work on the donor side to concentrate on the "hardware" of the project neglecting local institutional capacities. Institutional "software" tends to be treated formalistically, if at all. Organizational structures are specified within which key actors are assumed to perform in a well-behaved fashion, consistent with project objectives.

Donors have implemented massive programs to deliver services to rural Tanzania, which could only be sustained by local communities and users and the local technical cadres in the field. This was most obviously the case in relation to rural water supply, where donors accepted

ambitious targets to extend the system without taking account of the complex requirements for subsequent operation and maintenance. A program of borehole drilling can be mounted using external consultants and construction firms. Subsequent operation and maintenance depends on the local capacity. The development of that capacity was the crucial constraint which should have influenced the design and pace of implementation of the program, but which was in practice neglected.

Bottlenecks have also emerged in the capacity of central institutions to handle the volume of resources supplied under aid, and to transmit them to local operational use. The difficulties of organizing the supply of school text books, involving a central government agency, private contractors and eventual supply to the districts, have not yet been resolved.

In some areas, the dependence on external know-how is virtually inevitable. Where donor leadership of project design is the necessary result of the lack of Tanzanian experience and capacity, this should have direct implications for design. In such cases the development of local technical and managerial competence should be a key objective of project design — if not the most important element. Yet in many instances the issue has been neglected. Where there is no realistic scheme to meet the technical and managerial needs of a project, that in itself should be grounds for rejection. If finance is provided for an elaborate project (e.g., Morogoro Shoes) without provision of an adequate back-up program for subsequent management and operation, the donor agency is essentially in the position of funding the delivery of a turn key project. By contrast, relative success in projects involving sophisticated technology has been achieved where there is an existing organizational capacity which is capable of assimilating the project. In areas such as electric supply (TANESCO) and telecommunications (TPTC), long standing public utility corporations with an existing technical capacity provide an appropriate context for high technology investment.

Even where a Tanzanian institutional capacity exists, much of the detail of project preparation and appraisal will be in the hands of expatriate experts, applying donor appraisal criteria. This, in itself, would be no bad thing if the donor exercise were paralleled by systematic appraisal on the Tanzania side. This does not typically happen. While there is frequent debate over project design, reflecting Tanzanian policy thinking and institutional interests, there seem to have been few instances where the Tanzanian side has questioned the economic viability of a project which has met donor criteria. Given the fact that many projects which have passed the test of donor appraisal have nevertheless failed disastrously, and in some cases (when loan funded) the cost is eventually borne by Tanzania, passivity in this regard has been costly.

Points which have arisen in enough cases to be treated as general issues include:

- (a) When ODA is expanding there is a tendency for the project preparation process to be driven by the need to achieve spending targets. Within donor agencies, departments are likely to ensure their command over agency funds if project commitments exhaust available resources, and career success is likely to depend on effectiveness in preparation, packing and negotiation of projects. There is no mechanism in most agencies by which careers are affected by the eventual operational success or failure of a project (by which time the staff in question are likely to be handling different portfolios possibly at a higher rank).

(b) Detailed preparation and appraisal is often in the hands of consultants. While they will, no doubt, be concerned for their professional reputations, nevertheless then they typically have an involvement in the project of strictly limited duration, their immediate success or failure being judged on the basis of the document which emerges from the appraisal process.

(c) Preparation is likely to be stronger on the design of the physical components of the project and its capital investment phase, and less strong on the human institutional side and the operational phase.

(d) Although many consultants will be familiar with local conditions, there is still a tendency to design to standards and practices which conform to international norms and neglect issues related to the adaptability of the technology to local conditions and to the problems of subsequent maintenance.

Many lessons have been learnt and incorporated in programs and project proposals in such areas of rural water supplies, textbook procurement, etc. In future project design, consideration of these institutional issues should be as explicit as considerations of the "harder" engineering aspects and should incorporate a realistic assessment of the constraints which impede institutional performance. This may suggest the need for specific institutional changes, or for redesign to increase the prospects of viability even in the light of institutional weakness.

(b) Flexibility in Implementation

Another weak aspect of project design has been inflexibility resulting from the typical project design/appraisal/implementation cycle. Weaknesses can be described in terms of a premature specificity in project design and inflexible commitment in implementation.

Many development activities are inherently risky, both because of the need to venture into areas where the required background information is scanty and because the economic environment in which projects are implemented is highly changeable. The appropriate response should be experimental design, developing and modifying the activity in the light of experience and knowledge gathered in the early stage of implementation and adjusting to new circumstances as they emerge. The logic of the public project process tends to demand the specification of a project in great detail in advance of its funding and, once agreed, tends to persist too long with implementation of the agreed plan irrespective of changing circumstances.

In agricultural projects, for example, a commitment to work in an area or on development of a particular commodity may be reasonably made on a basis of a broad assessment of market prospects and agronomic potential. However, detailed assessment of appropriate inputs, farm level constraints and farmers' response to possible interventions is almost never available on a sure enough basis to plan a detailed multi-year program. Part of the answer is, no doubt, a general effort to improve the knowledge base. However, action can rarely be based on full information and scientific analysis. A practical approach is one of trial and error, in which the design of an activity develops on the basis of field experience.

Looking back at some of the aid disasters the depressing aspect is not that the initial commitment was made (although the size of many commitments must appear foolhardy in light of inherent uncertainties); indeed development requires risk taking and therefore accepting the likelihood of some failures. What is depressing is the degree to which some activities have been persisted with even in face of the clear warnings of failure. As the funding of projects involves agreements between the Tanzania government and foreign governments or multilateral funding agencies, each with their own procedures and constraints, and as implementation often involves contractual relationships with commercial firms, there may be limits to the flexibility which can be achieved. This suggests that there are areas into which donors might best not venture, leaving them to NGOs or to commercial enterprises. NGOs are better able to operate effectively in relation to small scale, community based projects. Commercial enterprises are more likely to be able to handle the risks of production for competitive external markets.

Flexibility could be increased by leaving project personnel or clients room to modify and adjust in those areas where uncertainties are greatest. For example, crop focussed projects tend to be viewed as failures if farmers decide to grow a quite different crop, although their decision may be an astute response to evolving economic conditions. Projects should adapt to the decisions of actors in the economy, rather than expect a disciplined response to a preconceived plan, itself necessarily based on incomplete economic data.

(c) Institutional Sustainability

The record is replete with instances of projects which have not delivered the desired results because, in the operational phase, the capacity created has not been utilized effectively and physical facilities have not been maintained.

At the beginning of the 1970s, Tanzania's organizational capacity was limited by the scarcity of trained manpower. Nowadays this is much less obviously a general constraint, although there is still a scarcity in some specialties. There is even some evidence of graduate oversupply, with some staff in the public sector being overqualified for the tasks they are called on to perform. The contemporary problem is the poor utilization of available Tanzanian manpower. This is because of poor incentives and motivation at the level of the individual and weak administrative structures. The tendency has been to employ a growing public service at lower and lower levels of real wages supported by insufficient, and declining real recurrent inputs. Yet technical assistance is not a productive solution to weaknesses resulting from totally inadequate incentives. Inserting high paid technical assistance staff into a work situation alongside qualified but grossly underpaid local staff is a prescription for frustration on both sides.

An alternative donor response is to provide piecemeal and indirect incentives to staff involved in "their" projects, through consulting, seminars, overseas trips, etc. Such piecemeal responses distort the incentive structure further. Efforts to maintain performance by special incentives to project staff can have hidden negative effects in shifting attention from non-project activities in an arbitrary fashion and creating additional anomalies in an already confused incentive structure. Efforts by donors to work in the context of a weak institutional structure by either by passing institutions or creating parallel structures has the risk of demoralizing further already weak state institutions.

A bold solution would be a comprehensive initiative for donors to underwrite salaries of key cadres at a reasonable subsistence for the appropriate technical and professional levels. This would mean that certain selected categories of staff, agreed between the government and donors, would receive pay sufficient for them to be able to perform their duties. This would not be a distortion precisely because the tasks performed would be identified as essential, necessitating remuneration at levels sufficient to ensure their proper performance. If, at the same time, the government decides to maintain in employment large numbers of non-essential staff at salary levels determined by the limited availability of revenues, that is no reason to pay needed staff inadequately.

In relation to weaknesses in administrative structures, Tanzania experienced in the 1970s what could be described as a series of endogenous shocks. Government decentralization, the abolition of local government institutions and of cooperatives imposed a high pace of institutional change on an already fragile system. The temporary disappearance of local government and the impact of decentralization left gaps in the political/administration structure during a phase in which a great deal of emphasis was placed on the public delivery of rural social services. In the process of reorganization, particular capacities of the government virtually disappeared, such as road maintenance – which had in the past been undertaken using labor intensive methods under the control of district engineers.

At the same time, despite the formal commitment to decentralization, a number of activities of government became increasingly centralized, both in the sense that an increasing role was played by central institutions within government and in the sense that activities were increasingly confined to public institutions. Examples include medical stores and procurement of textbooks. The centralization process was itself fuelled by design of projects which at first sight could much more readily be managed by one centralized government institution. The result has been the development of a system with formally powerful but practically ineffective central institutions and weak or non-existent local institutions needed for the management and maintenance of field facilities.

Institutional sustainability is primarily and ultimately dependent upon the Tanzanian side taking action to improve the operation of its own administrative system. Certain main needs are evident. These include: (i) defining the tasks of government at its various levels narrowly enough to lie within likely performance capacity; (ii) a smaller but better paid public service; (iii) a clear definition of responsibility and accountability related to identifiable performance criteria; and (iv) a more coherent and transparent incentive structure.

(d) Financial Sustainability

Institutional and financial sustainability are, of course, interrelated. One root cause of institutional weaknesses in recent years has been the recurrent financial constraint facing most public institutions. Donors and the government failed to take adequate account of the recurrent cost implications of development spending. In the future, this issue should be explicitly and seriously considered in all project design and appraisal. Instead, the ad hoc response to the deep fiscal crisis has been a massive donor support to the recurrent budget by the indirect means of counterpart funds discussed above.

One way in which funds may be assured is through the generation of funds within the program/project. While not all worthwhile projects can generate revenues, and in some cases attempts to generate revenues may run counter to the objectives of the project, the range of possible user contributions to projects is wide. Even where subsidy is seen as desirable, a service provided against a user charge may be better than no service at all. A strategy to improve sustainability should therefore incorporate a systematic exploration of the potential to generate beneficiary contributions to the recurrent requirements of projects.

STATISTICAL APPENDIX

Statistical Appendix
Table 1

TANZANIA--MACROECONOMIC BALANCES, 1983-1990

	percentage of GDP							
	1983	1984	1985	1986	1987	1988	1989	1990
1. Foreign Savings								
Balance on Current Account excluding Net Official Transfers	-4.45	-5.38	-5.44	-8.30	-23.19	-25.43	-29.77	-34.20
2. Private Sector								
2.1 Gross Domestic Investment	8.29	10.15	10.09	12.39	16.80	13.65	14.55	15.23
2.1.1 Fixed Investment	5.69	8.30	8.36	10.83	15.12	12.51	13.34	13.96
2.1.2 Change in Stocks	2.60	1.85	1.73	1.56	1.68	1.14	1.21	1.27
2.2 National Savings	9.91	8.81	9.90	11.02	-2.29	-4.00	-0.60	-0.60
2.3 Investment minus Savings	-1.61	1.34	0.20	1.37	19.09	17.65	15.15	15.29
3. Public Sector								
3.1 Gross Domestic Investment	5.31	5.17	5.63	7.13	6.01	4.55	4.85	5.08
3.1.1 Fixed Investment	5.31	5.17	5.63	7.13	6.01	4.55	4.85	5.08
3.1.2 Change in Stocks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.2 National Savings	-1.45	-1.10	-0.52	-2.49	2.92	-1.90	-2.35	-2.30
3.2.1 Current Revenues	19.02	17.62	16.52	14.36	19.42	18.70	20.15	20.55
3.2.2 Current Expenditures	20.47	18.71	17.04	16.86	16.49	20.60	22.50	22.85
3.3 Investment minus Savings	6.76	6.27	6.15	9.62	3.09	6.45	7.20	7.38
4. Public and Private								
Investment minus Savings	5.14	7.61	6.35	11.00	22.18	24.10	22.35	22.67
Memorandum Item:								
Share of Gross Domestic Investment financed by Foreign Savings (%)	32.61	34.92	34.13	41.62	95.46	71.57	154.25	168.25

SOURCE: IMF, BOT, BOS, and Mission Estimates.

Statistical Appendix
Table 2

TANZANIA--KEY ECONOMIC VARIABLES, 1983-1990

	1983	1984	1985	1986	1987	1988	1989	1990
Incentive Indicators								
1. Real Effective Exchange Rate								
1.1 Index (1980=100)	172.00	176.00	205.00	142.00	70.00	55.00	..	..
1.2 Annual Change (%)	11.69	2.33	16.48	-30.73	-50.70	-21.43	..	..
2. Real Interest Rates								
2.1 Short-Term Deposit Rate	(72.16)	(75.83)	(80.83)	(83.63)	(86.27)	(89.37)	(91.50)	..
2.2 Short-Term Lending Rate	(69.75)	(73.74)	(79.40)	(82.13)	(84.88)	(88.27)	(90.40)	..
3. Index of Real Wages								
3.1 Minimum Wage (1980=100)	63.47	73.06	49.27	47.69	..	..	..	..
3.2 Average Wage (1980=100)	60.03	47.66	36.95	29.26	..	..	..	..
3.3 Middle Salary(1980=100)	45.92	43.26	..	..	..	..	..	..
4.3 Top Salary (1980=100)	57.23	52.36	42.92	28.62	..	..	..	..
4. Ratios of Domestic Agricultural Prices to International Prices								
4.1 Coffee	88.41	87.89	83.86	85.45	102.75	82.28	85.10	80.40
4.2 Cotton	84.00	95.59	101.44	90.47	59.45	103.93	105.10	103.90
4.3 Tea	56.35	61.10	73.69	73.94	86.78	80.06	75.40	84.00
4.4 Tobacco	96.53	97.79	90.62	92.95	78.43	75.72	85.20	94.00
External Trade Indicators								
5. Volume Index of Major Exports								
5.1 Coffee	116.00	126.00	101.00	116.00	97.00	89.00	128.07	138.70
5.2 Cotton	120.00	92.00	70.30	99.00	142.00	164.00	180.56	180.93
5.3 Tea	125.00	84.00	88.00	72.00	90.00	84.00	66.70	74.17
5.4 Tobacco	150.00	132.00	219.00	205.00	234.00	279.00	317.50	374.02
6. Export Shares in World Trade	0.02	0.02	0.01	0.02	0.01	0.01	0.01	..
7. Manufactured Exports								
7.1 Real Growth Rate (% p.a.)	(22.85)	18.50	(7.85)	11.15	(1.43)	8.45	-12.00	4.00
7.2 Value as Share of Total Exports (%)	11.61	8.51	10.09	10.66	17.85	19.50	16.95	15.45
8. Commodity Terms of Trade								
8.1 Index (1980 = 100)	90.96	96.21	90.46	103.69	89.35	94.26	95.20	71.82
8.2 Annual change (%)	3.16	5.77	(5.97)	14.63	(13.83)	5.49	1.00	-24.56

SOURCE: IFS, BOT, and Mission Estimates.

Statistical Appendix
Table 3

Table : Balance of Payments, 1984-1990
(in millions of US\$)

	1984	1985	1986	1987	1988	1989	1990
Exports of Goods & NFS	478.67	430.29	445.91	441.59	485.50	518.00	600.90
Imports of Goods & NFS	819.83	936.20	992.20	1,207.09	1,255.10	1,371.00	1550.00
(of which Petroleum)	211.00	224.00	145.00	170.00	293.60	305.00	239.90
Resource Gap (deficit = -)	(341.16)	(505.91)	(546.29)	(765.50)	(769.60)	(853.00)	(949.00)
Interest Payments (net)	30.60	23.30	29.90	38.30	41.00	65.00	55.00
Other Factor Payments (net)	2.99	77.15	79.88	174.05	176.30	171.37	186.00
Net Private Transfers	62.12	233.38	249.89	230.00	235.00	226.80	293.70
Balance on Curr. Acct. excl. Net Official Transfers	(310.99)	(370.46)	(396.70)	(742.35)	(744.30)	(849.53)	(892.30)
Net Official Transfers	96.94	223.02	223.54	477.08	508.00	523.45	539.00
Balance of Curr. Acct. incl. Net Official Transfers	(214.05)	(147.44)	(173.16)	(265.27)	(236.30)	(326.08)	(353.00)
Net MLT Borrowing	191.30	133.80	164.30	73.60	144.60	217.00	208.90
Disbursements	225.60	172.70	198.70	111.70	191.30	267.00	248.90
Amortization	34.30	38.80	34.40	38.10	46.70	50.00	40.00
Subtotal	..	..	..	..	..	..	..
Other Capital (net) and Capital n.i.e.	63.57	5.83	72.06	91.07	136.90	141.08	160.40
Increase in Reserves (+)	(40.82)	7.81	(63.21)	101.60	(45.90)	(32.00)	(39.00)
Gross Reserves (end year)	26.87	16.00	61.09	31.80	77.71	54.20	93.00

SOURCE: IMF, BOT, and Mission Estimates on Accrual Basis.

Statistical Appendix
Table 4

MERCHANDISE EXPORTS (AVERAGE 1985-90)

	Value (millions of US\$)	% of Total
Coffee	120.27	32.14
Cotton	62.05	16.58
Tea	15.93	4.26
Tobacco	16.47	4.40
Cashewnuts	13.52	3.61
Sisal	5.17	1.38
Manufactured Goods	57.68	15.40
Other Exports	83.11	22.21
Merchandise Exports	374.22	100.00

SOURCE: Bank of Tanzania and Mission Estimates.

Statistical Appendix
Table 5

TANZANIA-Debt Indicators
(Millions of US\$)

External Debt, December 31, 1989		
Public Debt, incl. Guaranteed	4,760.00	
Non-Guaranteed Private Debt	8.50	
Total Outstanding & Disbursed	5,452.00	

	Percentage	
Net Debt Service Ratio for 1989		
Public Debt incl. Guaranteed	21.40	
Non-Guaranteed Private Debt	0.20	
Total Outstanding & Disbursed	24.50	

	IBRD	IDA
IBRD/IDA Lending (12/31/89)		
Outstanding & Disbursed	251.50	1,016.48
Undisbursed	0.00	306.37
Total Outstanding incl. Undisbursed	251.50	1,322.85

SOURCE: Debtor Reporting System, IECDI.

Statistical Appendix
Table 6

TANZANIA DATA SHEET

	1989
General	
Area (thous. sq.km)	945.00
Population (millions)	25.63
Growth Rate (1978)	3.60
Density (per sq. km)	25.00
Social Indicators	
Population Characteristics	
Crude Birth Rate (per 1,000)	47.70
Crude Death Rate (per 1,000)	13.10
Health	
Infant Mortality (per 1,000 live births)	102.70
Population per Physician	26,545.00
Population per Hospital Bed	772.00
Income Distribution (% of national income)	
Lowest Quintile(15-20 years ago)	6.00
Highest Quintile(15-20 year ago)	50.00
Distribution of Land Ownersh	
% Owned by Top 10% of Owners	..
% Owned by Smallest 10%	..
Access to Safe Water	
% of Urban Population	90.00
% of Rural Population	42.00
Access to Electricity	
% of Urban Population	..
% of Rural Population	..
Nutrition	
Calorie Intake as % of Requirements	..
Per Capita Protein Intake (g/day)	52.00
Education	
Adult Literacy Rate (%)(1978)	46.30
Primary School Enrollment (% of relevant age group)	66.00

SOURCE: Social Indicators of Development, 1990, IECSE.

Statistical Appendix
Table 7

GDP BY INDUSTRIAL ORIGIN

Page 1 of 2

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Official Accounts (millions of current Tsh)															
Agriculture, etc.	9,046	11,131	12,506	14,728	16,636	20,338	26,449	32,737	41,295	61,231	84,153	117,982	178,760	207,059	233,804
Mining	214	243	228	284	329	299	266	249	337	251	474	645	723	1,129	4,815
Manufacturing	2,811	3,287	3,859	3,868	4,097	4,501	4,361	4,869	5,932	6,665	8,551	14,792	24,453	30,353	20,436
Elec. & water	219	254	261	275	424	423	421	514	551	1,071	1,488	2,963	4,103	4,831	5,088
Construction	884	1,111	1,052	1,229	1,498	1,614	1,863	1,252	1,661	2,061	3,131	3,543	4,800	5,904	12,650
Trade/hotels/rest.	2,839	3,407	3,889	4,344	4,713	5,479	6,814	8,148	10,447	14,195	19,476	25,963	43,800	53,572	57,717
Transport/commun.	1,685	1,793	1,917	2,113	3,019	3,133	3,395	3,507	4,789	7,021	7,797	11,815	15,621	23,345	38,242
Finance, etc.	2,036	2,419	2,686	2,978	3,744	4,507	4,891	5,252	6,028	6,659	8,127	11,061	14,132	20,641	24,123
Pub admin, etc	2,342	2,596	2,873	3,342	3,959	4,732	5,446	7,372	8,614	10,735	10,213	13,291	17,163	22,437	31,968
Imputed bank chg.	(424)	(543)	(689)	(844)	(965)	(1,120)	(1,360)	(1,292)	(1,511)	(1,806)	(2,544)	(6,444)	(12,888)	(18,043)	(25,260)
GDP at f.c.	21,652	25,698	28,582	32,317	37,454	43,906	52,546	62,608	78,143	108,083	140,866	195,611	290,667	351,228	401,583
GDP at m.p.	24,419	28,868	32,169	36,285	42,118	49,102	58,226	70,509	88,892	120,621	159,648	221,678	327,686	404,155	541,008

Official: Percentage Share

Agriculture, etc.	41.8	43.3	43.8	45.6	44.4	46.3	50.3	52.3	52.8	56.7	59.7	60.3	61.5	59.0	58.2
Mining	1.0	0.9	0.8	0.9	0.9	0.7	0.5	0.4	0.4	0.2	0.3	0.3	0.2	0.3	1.2
Manufacturing	13.0	12.8	13.5	12.0	10.9	10.3	8.3	7.8	7.6	6.2	6.1	7.6	8.4	8.6	5.1
Elec. & water	1.0	1.0	0.9	0.9	1.1	1.0	0.8	0.8	0.7	1.0	1.1	1.5	1.4	1.4	1.3
Construction	4.1	4.3	3.7	3.8	4.0	3.7	3.5	2.0	2.1	1.9	2.2	1.8	1.7	1.7	3.2
Trade/hotels/rest.	13.1	13.3	13.6	13.4	12.6	12.5	13.0	13.0	13.4	13.1	13.8	13.3	15.1	15.3	14.4
Transport/commun.	7.8	7.0	6.7	6.5	8.1	7.1	6.5	5.6	6.1	6.5	5.5	6.0	5.4	6.6	9.5
Finance, etc.	9.4	9.4	9.4	9.2	10.0	10.3	9.3	8.4	7.7	6.2	5.8	5.7	4.9	5.9	6.0
Pub admin, etc	10.8	10.1	10.1	10.3	10.6	10.8	10.4	11.8	11.0	9.9	7.3	6.8	5.9	6.4	8.0
Imputed bank chg.	-2.0	-2.1	-2.4	-2.6	-2.6	-2.6	-2.6	-2.1	-1.9	-1.7	-1.8	-3.3	-4.4	-5.1	-6.3
GDP at f.c.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

GDP by Industrial Original (millions of 1976 Tsh)

Agriculture, etc.	9,046	9,150	8,998	9,066	9,418	9,511	9,639	9,914	10,312	10,931	11,557	12,066	12,606	13,183	13,567
Mining	214	231	189	200	189	193	193	174	186	174	154	149	138	139	165
Manufacturing	2,811	2,641	2,730	2,821	2,683	2,382	2,304	2,103	2,159	2,075	1,991	2,075	2,187	2,399	2,587
Elec. & water	219	244	286	318	400	417	420	413	439	461	544	584	574	506	512
Construction	884	915	783	879	932	890	930	549	660	601	705	735	780	858	937
Trade/hotels/rest.	2,839	2,782	2,797	2,839	2,839	2,725	2,668	2,612	2,640	2,662	2,958	3,112	3,225	3,549	3,747
Transport/commun.	1,685	1,652	1,699	1,634	1,818	1,652	1,694	1,473	1,482	1,509	1,504	1,551	1,652	1,663	1,736
Finance, etc.	2,036	2,089	2,208	2,338	2,483	2,529	2,702	2,817	2,984	3,046	3,318	3,395	3,500	3,554	3,630
Pub admin, etc	2,342	2,497	2,997	3,255	3,188	3,551	3,556	3,543	3,549	3,616	3,225	3,243	3,343	3,475	3,553
Imputed bank chg.	(424)	(462)	(485)	(501)	(531)	(549)	(667)	(716)	(755)	(797)	(886)	(862)	(920)	(950)	(1,038)
GDP at f.c.	21,652	21,739	22,202	22,849	23,419	23,301	23,439	22,882	23,656	24,278	25,070	26,049	27,085	28,376	29,396
GDP at m.p.	24,419	24,421	24,988	25,653	26,335	26,059	25,973	25,770	26,910	27,094	28,357	29,480	30,996	32,361	33,720

Statistical Appendix
Table 7

GDP BY INDUSTRIAL ORIGIN GROWTH RATES

Official Accounts

Agriculture, etc.	1.1	-1.7	0.8	3.9	1.0	1.3	2.9	4.0	6.0	5.7	4.4	4.5	0.7	2.9
Mining	7.9	-18.2	5.8	-5.5	2.1	0.0	-9.8	6.9	-6.5	-11.5	-3.2	-7.4	0.7	18.7
Manufacturing	-6.0	3.4	3.3	-4.9	-11.2	-3.3	-8.7	2.7	-3.9	-4.0	4.2	5.4	9.7	7.8
Elec. & water	11.4	17.2	11.2	25.8	4.3	0.7	-1.7	6.3	5.0	18.0	7.4	-1.7	-11.8	1.2
Construction	3.5	-14.4	12.3	6.0	-4.5	4.5	-41.0	20.2	-8.9	17.3	4.4	6.0	10.0	9.2
Trade/hotels/rest.	-2.0	0.5	1.5	0.0	-4.0	-2.1	-2.1	1.1	0.8	11.1	5.2	3.6	10.0	5.6
Transport/commun.	-2.0	2.8	-3.8	11.3	-9.1	2.5	-13.0	0.6	1.8	-0.3	3.1	6.5	0.7	4.4
Finance, etc.	2.6	5.7	5.9	6.2	1.9	6.8	4.3	5.9	2.1	8.9	2.3	3.1	1.5	2.1
Pub admin,etc	6.6	20.0	8.6	-2.1	11.4	0.1	-0.4	0.2	1.9	-10.8	0.6	3.1	3.9	2.2
Imputed bank chg.														
GDP at f.c.	0.4	2.1	2.9	2.5	-0.5	0.6	-2.4	3.4	2.6	3.3	3.9	4.0	4.8	3.6
GDP at m.p.	0.0	2.3	2.7	2.7	-1.0	-0.3	-0.8	4.4	0.7	4.7	4.0	5.1	4.4	4.2

DEFLATORS

Official Accounts

Agriculture, etc.	100	122	139	162	177	214	274	330	400	560	728	978	1418	1571	1723
Mining	100	105	121	142	174	155	138	143	181	144	308	433	524	812	2918
Manufacturing	100	124	141	137	153	189	189	232	275	321	429	713	1118	1265	790
Elec. & water	100	104	91	86	106	101	100	124	126	232	274	507	715	955	994
Construction	100	121	134	140	161	181	200	228	252	343	444	481	615	688	1350
Trade/hotels/rest.	100	122	139	153	166	201	255	312	396	533	658	834	1358	1509	1540
Transport/commun.	100	109	113	129	166	190	200	238	323	465	518	762	946	1404	2203
Finance, etc.	100	116	122	127	151	178	181	186	202	219	245	326	404	581	665
Pub admin,etc	100	104	96	103	124	133	153	208	243	297	317	410	513	646	900
Imputed bank chg.	100	118	142	168	182	204	204	180	200	227	287	748	1401	1899	2434
GDP at f.c.	100	118	129	141	160	188	224	274	330	445	562	751	1073	1238	1366
GDP at m.p.	100	118	129	141	160	188	224	274	330	445	563	752	1057	1249	1604

Statistical Appendix
Table 8

GDP BY EXPENDITURE

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
OFFICIAL ESTIMATES														
=====														
GDP BY EXPENDITURE (millions of current Tsh)														
Private consumption	15,377	17,979	23,363	25,497	32,486	37,035	42,261	55,128	68,652	93,130	104,934	195,928	312,816	385,667
Gen'l gov't. cons.	3,989	4,308	5,585	5,956	5,494	6,105	8,046	9,443	13,844	18,555	23,621	25,433	32,663	42,189
Exports gnfs	5,297	5,627	4,692	5,131	5,540	5,994	4,546	5,111	6,321	7,453	14,580	29,943	49,882	74,545
Imports gnfs	5,841	6,570	9,565	9,759	11,087	10,162	8,862	8,761	13,543	17,480	37,026	79,592	132,551	197,998
Gross dom. inv.	5,597	7,524	8,094	9,458	9,685	10,130	12,235	9,588	13,618	18,963	31,166	49,966	64,876	99,752
Gross fixed inv.	5,159	6,663	7,330	8,592	8,630	8,632	10,825	7,752	11,973	16,872	28,679	46,281	60,754	94,270
Increase in stocks	438	861	764	866	1,055	1,498	1,410	1,836	1,645	2,091	2,487	3,685	4,122	5,482
GDP at mp.	24,419	28,868	32,169	36,285	42,118	49,102	58,226	70,509	88,892	120,621	159,648	221,678	327,686	404,155
Net factor income	(100)	(88)	(45)	(71)	(112)	(176)	(231)	(211)	(173)	(704)	(3,281)	(11,038)	(18,542)	(29,377)
GNP at mp	24,319	28,780	32,124	36,214	42,006	48,926	57,995	70,298	88,719	119,917	156,367	210,640	309,144	374,778
SHARES OF GDP--OFFICIAL														
Private consumption	63.0	62.3	72.6	70.3	77.1	75.4	72.6	78.2	77.2	77.2	65.7	88.4	95.5	95.4
Gen'l gov't. cons.	16.3	14.9	17.4	16.4	13.0	12.4	13.8	13.4	15.6	15.4	14.8	11.5	10.0	10.4
Exports gnfs	21.7	19.5	14.6	14.1	13.2	12.2	7.8	7.2	7.1	6.2	9.1	13.5	15.2	18.4
Imports gnfs	23.9	22.8	29.7	26.9	26.3	20.7	15.2	12.4	15.2	14.5	23.2	35.9	40.5	49.0
Gross dom. inv.	22.9	26.1	25.2	26.1	23.0	20.6	21.0	13.6	15.3	15.7	19.5	22.5	19.8	24.7
Gross fixed inv.	21.1	23.1	22.8	23.7	20.5	17.6	18.6	11.0	13.5	14.0	18.0	20.9	18.5	23.3
Increase in stocks	1.8	3.0	2.4	2.4	2.5	3.1	2.4	2.6	1.9	1.7	1.6	1.7	1.3	1.4
GDP at mp.	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Net factor income	-0.4	-0.3	-0.1	-0.2	-0.3	-0.4	-0.4	-0.3	-0.2	-0.6	-2.1	-5.0	-5.7	-7.3
GNP at mp	99.6	99.7	99.9	99.8	99.7	99.6	99.5	99.7	99.8	99.4	97.9	95.0	94.3	92.7

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