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## Development of agriculture in Ethiopia since the 1975 land reform

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(Accepted 8 August 1990)

### ABSTRACT

Belete, A., Dillon, J.L. and Anderson, F.M., 1991. Development of agriculture in Ethiopia since the 1975 land reform. *Agric. Econ.*, 6: 159–175.

A stated objective of the Ethiopian Government since it came to power in 1975 has been to increase the production of crops for both domestic consumption and export. Consequently, a number of plans and programs have been proposed and implemented to bring about such development in Ethiopian agriculture. This paper mainly focuses on a macro review of the general course of Ethiopian agricultural development since the land reform of 1975. The food production in Ethiopia has lagged behind the population growth as evidenced by the gap between the growth rates of population (3%) and food production (1.8%) over the period from 1970 to 1983. Recently, this situation has, perhaps, further deteriorated. Seventy-one percent of the total land mass is estimated to be suitable for agriculture, but only about 19% is cultivated. This suggests an underutilisation of land. Moreover, Ethiopia has a persistent subsistence production problem in agriculture. Agricultural research and education which are essential to development have not been given due attention by the policy makers. As a result, the agricultural technologies used by farmers have changed little in this century. Moreover, small-scale farmers, although still the most potent economic force in the country, have not been given the incentives necessary to expand production, and currently receive less than adequate support from the central government. Some 85%, 50%, and 79% of total agricultural credit, fertiliser and improved seeds respectively go directly to socialist enterprises (state farms and producers' cooperatives) which, up to 1985, have jointly accounted for only 5% of the total cultivated land and 4% of the national crop production. The favouring of large-scale and capital-intensive state-owned farming enterprises with credit, subsidies, and fiscal incentives, while neglecting smallholders, has contributed to the stagnation of agricultural production in Ethiopia. Overall, the analysis indicates that there has been no significant development of agriculture in Ethiopia following the 1975 land reform.

## INTRODUCTION

Ethiopia is primarily an agricultural country. It is believed to possess an immense potential for agricultural production, a potential which has not yet been realised. Out of the total land area of 1.22 million km<sup>2</sup>, some 71% is estimated to be suitable for agriculture. However, only 19% of the land is at some time used for crop production (NRDC/CPSC, 1983; MSFD, 1984). This apparently low rate of utilization is due in part to endemic problems of malaria, sleeping sickness, etc. in the lowland areas. But 40% of the country's total area is classified as highlands (above 1500 m a.s.l.) and about 88% of the national farming population lives in these highland areas.

Prior to 1975, the agrarian economy in Ethiopia was principally feudal. During the feudal era an agricultural surplus was extracted by a relatively small group of landlords. It is generally believed that the system kept the peasantry impoverished and preserved outmoded primitive cultivation practices. Insecurity of individual tenure under the feudal system also reduced the incentives for tenants to increase yields through investment in the improvement of land. The overall effect of these tenure arrangements was reflected in the stagnation of agriculture. This perceived bottleneck was removed by the land reform proclamation of 4 March 1975 which made all rural lands public property and thereby fundamentally altered agrarian relationships in Ethiopia (PMAC, 1975). Since 1975, through a series of related proclamations, the government has sought to organize agriculture into production units of individual farms, each of at most 10 ha, state farms (mainly comprising former estates, plantations and large commercial farms) and producers' cooperatives.

Under the land reform, private farm households were organized into Peasant Associations (PAs) each encompassing a nominal 800 ha and typically made up of 300 to 400 farmers and their households. Members of each PA cultivated the land as individuals. The total number of PAs, as of 1985, was 20 158 with a total membership of some 5.6 million households (MOA, 1985b). In the same year there were 54 state farms operating on 250 000 ha of land. There were also 1856 producers' cooperatives, of which only 191 were registered and had legal status. These cooperatives accounted for a total of 132 842 farm households (MOA, 1985a).

In spite of these major changes to the structure of agriculture in the country, production has stagnated.

Currently, Ethiopia is experiencing a wide food gap. Agricultural production has been increasing annually by about 1.8% while population growth is approximately 3% (World Bank, 1984). Although recent data are not available, per-caput consumption of cereals and pulses fell steadily from an estimated 415 g per caput per day in 1975/76 to 367 g in 1981/82

(FAO, 1982). Ethiopia has become a regular importer of some 300 to 400 thousand metric tonnes of food grain each year. Imports of food increased from US\$11.2 million in 1974 to US\$62.3 million in 1982 (NBE, 1982). The total volume of food aid flowing into the country increased from 135 000 metric tonnes in 1978 to 243 000 metric tonnes in 1982 (FAO, 1982). The increase in food aid is even more striking if the drought years of 1984 and 1985 are taken into account. In each of these years, international food assistance reached 1.1 million metric tonnes of grain (RRC, 1985).

The basic constraint on development in Ethiopia is that agriculture presently produces little economic surplus. Yet, it is the agricultural sector that can provide investable resources for national development. Agriculture, according to NRDC/CPSC (1982a), should finance its own growth and also finance industrialisation of the country. The problem, therefore, is how to achieve development and growth in agriculture. An appreciation of the general course of agricultural development in Ethiopia since the 1975 land reform may provide some insights on this matter to decision makers in Ethiopia.

#### ROLE OF AGRICULTURE IN ETHIOPIA'S ECONOMIC DEVELOPMENT STRATEGY

Agriculture can directly contribute to Ethiopia's economic development in six important ways. These are (NRDC/CPSC, 1983):

- (1) by providing basic food supplies for the nation;
- (2) by generating foreign exchange earnings through agricultural exports;
- (3) by supplying labour needed by the industrial sector;
- (4) by providing the necessary capital for industrial development and social investment;
- (5) by raising the income of the rural population and thereby being an important source of effective demand; and
- (6) by providing employment for a significant part of the rural population.

The size and sectoral origins of Ethiopia's GDP over the period 1970/71, to 1985/86 are shown in Table 1. From these data it can be seen that agriculture's share of GDP, at around 50% (made up of some 80% from crop and some 20% from livestock production) did not change significantly over the period. The industrial, domestic trade and other services sectors account for about 15%, 15% and 20% of GDP, respectively. The data also show that agriculture made an almost equal contribution to the GDP of the country during both the pre- and post-1975 period. The development of the non-agricultural sectors has not significantly reduced the overwhelming domination of the economy by the agricultural sector. The economic development of Ethiopia will continue to depend primarily on agriculture for many decades to come.

TABLE 1

Ethiopian GDP by sector and annual growth in agricultural production, 1970/71 to 1985/86

Year	GDP (m/birr <sup>a</sup> )	Sectoral share of GDP				Growth in agricultural production (%)
		Agriculture (%)	Industry (%)	Trade (%)	Services (%)	
1970/71	2405	54.5	15.2	13.6	16.7	3.4
1971/72	2286	51.8	16.0	14.4	17.8	-4.9
1972/73	2345	50.3	16.4	15.1	18.2	2.6
1973/74	2605	49.3	16.1	15.6	19.0	11.1
1974/75	2423	48.3	15.8	15.6	20.3	-7.0
1975/76	2739	48.5	14.8	16.1	20.6	13.0
1976/77	3198	48.2	14.9	15.4	21.5	16.8
1977/78	3467	47.6	14.5	14.8	23.1	8.4
1978/79	3656	46.7	15.5	15.2	22.6	5.5
1979/80	3871	46.3	16.2	15.1	22.4	5.9
1980/81	4024	46.0	16.0	15.5	22.5	0.0
1981/82	4035	45.7	16.0	15.7	22.6	0.3
1982/83	4281	48.5	15.5	16.0	20.0	6.1
1983/84	3793	45.6	17.3	16.4	20.7	-11.4
1984/85 <sup>b</sup>	3177	41.3	18.5	17.5	22.7	-16.3
1985/86	3860	44.7	17.3	16.5	21.5	21.5
Average	3260	47.7	16.0	15.5	20.8	3.69

<sup>a</sup> Birr 2.07 = US\$1.00<sup>b</sup> Drought year.

Source: CSO (1971 to 1985).

Agriculture's contribution is also notable in the earnings of foreign exchange needed for modernization of the country. Over the ten-year period 1975/76 to 1984/85, export earnings largely originated in agriculture. Table 2 shows that agriculture's share in the total value of exports was close to 90% over the period 1975/76 to 1984/85. The value of coffee exports has generally increased. However, the value of exports of pulses and oil seeds has tended to decline. Exports of livestock and their products and other industrial crops have not grown importantly.

#### PERFORMANCE OF THE PRIVATE AND PUBLIC SECTORS OF AGRICULTURE SINCE 1975

Appropriate production technologies, research, extension and agrometeorological services are important factors affecting agricultural productivity in Ethiopia.

Regarding production technology, the evidence available from Shibru (1975), Arsi Rural Development Unit (ARDU, 1980) and Addis Ababa

TABLE 2

Value and origin of Ethiopia's exports, 1975/76 to 1984/1985

Year	Value of exports (m/birr)	Agricultural exports as percent of total	Major agricultural export items as percent of agricultural exports				
			Coffee	Oilseed	Pulses	Livestock <sup>a</sup>	Others
1975/76	540	91	60.5	8.7	10.7	16.4	3.7
1976/77	646	91	69.5	6.7	8.0	10.3	5.5
1977/78	671	94	81.7	2.6	5.0	10.0	0.7
1978/79	745	93	78.0	2.7	2.6	16.0	0.7
1979/80	985	87	73.5	2.2	3.0	17.7	3.6
1980/81	852	86	71.0	5.0	3.0	14.8	6.2
1981/82	789	86	71.0	3.6	4.5	16.5	4.4
1982/83	910	85	72.5	3.3	4.0	15.0	5.2
1983/84	930	86	74.0	5.6	2.6	14.0	3.8
1984/85	796	85	65.0	4.6	2.7	22.0	5.7
Average	786	88	71.7	4.5	4.6	15.3	3.9

<sup>a</sup> Includes hides and skins.

Sources: FAO/LUPRD (1984) and Ministry of Foreign Trade (1985).

University (AAU, 1980), confirms the view that improved and appropriate technology is not available or used by significant numbers of smallholder farmers in Ethiopia.

The large gap between crop yields on research plots and on farmers' fields indicates that the research results are either beyond the small farmers' reach or they are not extended to the farmers in a proper way (Table 3). The complex geography of Ethiopia and important local differences in climate, soils, etc., make it most difficult to overcome these gaps unless the funding of agricultural research is dramatically increased.

The shortage of agro-meteorological services and information in the country, for example, suggests that the problems associated with climatic variation in a country like Ethiopia where smallholder agriculture depends entirely on rainfall, are overlooked. The country also has substantial environmental constraints to increased production among which the most important are erosion due to inadequate water and soil conservation programmes, high human and livestock population pressures on agricultural land, and repeated and persistent drought especially in the northern and northeastern areas. These constraints limit directly the opportunities of development efforts, especially in the peasant farming sector where individual farmers' efforts can not mitigate their effects.

The relative importance, in productivity terms, of the three types of agricultural production units – individual farms, state farms and producers'

TABLE 3

Yield levels achieved at research stations, in field trials and in the three sectors of agriculture, 1979 (t/ha) <sup>a</sup>

Crop	Research stations	Field trials	Peasant sector	Cooperative sector	State farm sector
Teff	2.4	1.8	0.8	0.7	0.6
Barley	5.5	4.0	1.1	1.1	1.8
Wheat	5.3	3.2	1.1	1.2	1.5
Maize	9.0	5.0	1.5	1.1	2.7
Sorghum	5.0	3.0	1.2	1.1	1.3
Horse beans	2.0	1.5	1.2	0.8	–
Harricot beans	2.5	1.8	0.8	0.7	0.6
Field peas	1.3	1.0	0.7	0.6	–
Linseed	1.3	–	0.4	0.3	–

<sup>a</sup> Involves use of improved seed in all but smallholder yields.

t, (metric) tonne = 1000 kg.

Source: IAR (1979); MOA (1979).

cooperatives – between the years 1975/76 and 1985/86 is shown in Table 4. Peasant farms are still the dominant economic force in the country. These utilized, on average, about 95% of land farmed and produced over

TABLE 4

Relative importance of peasant farms producers' cooperatives and state farms in Ethiopian crop production <sup>a</sup>, 1975/76 to 1985/86

Year	Peasant farms		Producers' cooperatives		State farms	
	Area (%)	Output (%)	Area (%)	Output (%)	Area (%)	Output (%)
1975/76	98.4	98.0	1.1	0.8	0.5	1.2
1976/77	98.8	98.8	0.9	0.5	0.3	0.7
1977/78	98.7	98.0	0.8	0.7	0.5	1.3
1978/79	98.6	97.5	0.8	0.7	0.6	1.8
1979/80	96.1	96.3	2.2	1.5	1.7	2.2
1980/81	95.4	95.3	1.4	1.0	3.2	3.7
1981/82	94.8	94.5	2.0	1.2	3.2	4.3
1982/83	95.2	94.4	1.8	1.2	3.0	4.4
1983/84	94.4	95.1	3.4	1.9	2.2	3.0
1984/85	94.3	94.3	3.2	1.7	2.5	4.0
1985/86	94.7	91.8	1.9	1.5	3.4	6.7
Average	96.3	95.8	1.8	1.2	1.9	3.0

<sup>a</sup> Made up of cereals, pulses and oilseeds.

Sources: CSO (1985), FAO/LUPRD (1984), MOA (1985b), MSFD (1984) and NRDC/CPSC (1982a).

TABLE 5

National estimates of area under major crops for the peasant, producers' cooperative and state farm sectors in Ethiopia, 1975/76 to 1985/86 (1000 ha)

Year	Cereals		Pulses		Oilseeds		Total
1975/76	4480	(81.9)	647	(11.8)	344	(6.3)	5471
1976/77	4264	(83.2)	670	(13.1)	189	(3.7)	5123
1977/78	4496	(85.0)	627	(11.9)	165	(3.1)	5288
1978/79	4682	(85.2)	647	(11.8)	167	(3.0)	5496
1979/80	5225	(83.0)	857	(13.6)	212	(3.4)	6294
1980/81	4919	(82.8)	755	(12.7)	270	(4.5)	5944
1981/82	5296	(83.2)	812	(12.7)	258	(4.1)	6366
1982/83	5297	(82.9)	811	(12.7)	282	(4.4)	6390
1983/84	5011	(82.6)	773	(12.7)	285	(4.7)	6069
1984/85	4451	(85.5)	649	(12.5)	266	(2.0)	5366
1985/86	4674	(85.0)	714	(9.4)	308	(5.6)	5696
Average	4799.5	(83.7)	723.8	(12.3)	249.6	(4.0)	5772.9

Note: Figures in parentheses indicate percentage of the total cultivated area. Sources: CSO (1985), FAO/LUPRD (1984), MOA (1986), MSFD (1984) and NRDC/CPSC (1982a).

96% of the national agricultural output. For the same period, state farms accounted for 3.2% of the total cultivated area and contributed about 2.8% of the national crop. The PCs accounted for roughly 1.8% of land in agricultural use and contributed about 1.2% of the total national crop production.

Over the same period, cereals dominated national crop production, accounting for over 80% of the area sown (Tables 5 and 6). Pulses and oilseeds accounted for all but a minor percentage of the remainder of the cropping.

Estimates of the annual compound growth rate of area and of production for the period 1975/76 to 1985/86 indicate that the output of cereals increased by an average of 1.91% per annum, whereas the annual growth rate in area sown was 0.88%, the output of pulses and oilseeds increased by 1.67% and 6.74% per annum, respectively, while their growth rate in area was 1.26% and 3.36% per annum, respectively. The compound growth rates in area and production were highest for oilseeds due to the establishment of state farms and the formation of producers' cooperatives since these two sectors have given special emphasis to the production of exportable crops such as oilseeds.

Table 7 shows that, at the national level, yields per hectare of most major crops have been declining. The national level yield data were disaggregated to assess the annual change in yields per ha at the sector level. The results are presented in Table 8. They indicate that positive



TABLE 6

National estimates of production of major crops for the peasant, producers' cooperative and state farm sectors in Ethiopia, 1975/76 to 1985/86 (1000 t)

Year	Cereals		Pulses		Oilseeds	
1975/76	4803	(86.6)	624	(11.3)	116	(2.1)
1976/77	4427	(86.7)	627	(12.3)	48	(0.9)
1977/78	4072	(87.6)	518	(11.2)	57	(1.2)
1978/79	4192	(88.9)	472	(10.0)	52	(1.1)
1979/80	6662	(85.8)	1021	(13.2)	81	(1.0)
1980/81	5914	(86.0)	855	(12.4)	108	(1.6)
1981/82	5735	(86.2)	831	(12.5)	85	(1.3)
1982/83	7149	(86.8)	883	(11.9)	124	(1.5)
1983/84	5835	(87.6)	726	(10.9)	101	(1.5)
1984/85	4903	(86.7)	664	(11.7)	91	(1.6)
1985/86	4521	(86.6)	545	(10.5)	152	(2.9)

Note: Figures in parentheses indicate percentage of the total output tonnage. Sources: CSO (1985), FAO/LUPRD (1984), MOA (1986), MSFD (1984) and NRDC/CPSC (1982a).

changes in yields were mainly in the peasant sector. Yields in both the producers' cooperative and state farm sectors were, in most cases reducing over the period from 1975/76 to 1985/86. Taken together, the data of

TABLE 7

Estimated annual compound rates of per-hectare yields of major crops grown in Ethiopia, 1975/76 to 1985/86

Crop	Average area (1000 ha)	Annual growth rates (%)	t-value
Cereals			
Teff	1357	-2.18	-2.08
Barley	754	2.76	1.62
Wheat	568	-0.77	-0.86
Maize	774	1.04	0.68
Sorghum	835	-3.35	-2.22
Millet	258	-1.30	-0.84
Pulses			
Horsebeans	319	-0.02	-0.01
Chick peas	142	-3.75	-1.90
Harricot beans	35	0.71	0.40
Field peas	144	-0.30	-0.14
Lentils	60	0.02	0.11
Oilseeds			
Nigerseed	146	1.47	0.90
Linseed	57	3.72	2.79

TABLE 8

Estimated annual compound rates of growth of per ha yields of crops on peasant farms, producers' cooperative and state farms in Ethiopia, 1975/76 to 1985/86

Crop	Peasant farms	Producers' cooperatives	State farms
Cereals			
Teff	2.22	-1.62	-8.57
Barley	5.07	3.17	1.31
Wheat	2.75	-3.05	-0.75
Maize	2.20	6.79	-1.61
Sorghum	2.43	0.75	-12.30
Millet	0.42 -	4.80	<sup>a</sup>
Pulses			
Horse beans	3.56	-6.12	<sup>a</sup>
Chick peas	4.65	-8.98	-14.60
Harricot beans	0.56	4.04	-24.60
Field peas	3.86	-6.02	<sup>a</sup>
Lentils	11.50	-1.21	<sup>a</sup>
Oilseeds			
Linseed	5.28	2.48	<sup>a</sup>
Nigerseed	0.65	2.24	<sup>a</sup>

<sup>a</sup> State farms do not produce these crops.

Tables 7 and 8 indicate that the relatively insignificant growth in cereal and pulse production in Ethiopia over the post-revolutionary decade was not only due to no expansion of the cultivated area but also to declines in yield, particularly in the state-owned and operated agricultural sectors. More importantly, the annual growth rates of cereal and pulse production – both estimated to be less than 2% – are less than the current annual population growth rate of 3%. For reasons of national food security and development, it is vital to determine why total crop production has not significantly increased over the period of the last 11 years when, supposedly, the problem of tenure insecurity was solved by land reform and improved technologies had been extended to farmers.

Some discussion of livestock production is necessary to give a more complete picture of Ethiopian agriculture. Livestock play an important role in Ethiopian farming in supplying animal power for cultivation, especially in highland areas. In the highlands, peasant farmers keep livestock as a form of insurance against crop failure, as a form of savings for emergency use, for breeding draught animals for cropping, to supply transport services, to supply manure for fuel and as a source of meat and milk (FAO, 1982; GOE/AACM, 1984). The national herds and flocks are mainly kept

TABLE 9

Estimated Ethiopian livestock population and the proportion resident in the highlands, 1982

Type of livestock	Number (m head)	Proportion in the highlands (%)
Cattle	27	80
Sheep	24	83
Goats	18	73
Equines	7	76
Camels	1	0
Poultry	53	90

Source: FAO/LUPRD (1984, p. 157; 1984, p. 3).

in the highlands where disease challenges to livestock are less than in the hotter lowland areas. Livestock are privately owned and the markets for stock, meat and other animal products are not subject to significant government intervention. Livestock have been and still are the single most important capital asset of rural people. The Ethiopian highlands are stocked at an average of 35 Tropical Livestock Units per km<sup>2</sup> – higher than any other area of comparable size in the continent. Ethiopia has the largest livestock population in Africa (FAO/LUPRD, 1984). The estimated livestock population of Ethiopia in 1982 is shown in Table 9. Its size is impressive, but its productivity is low (Table 10). There are several reasons for this (FAO/LUPRD, 1984).

Firstly, the number of livestock in Ethiopia is not in balance with the available feed resources. Overstocking – associated with consequent land degradation – is widespread in the highland areas. General levels of nutrition of livestock are low and constrain both production and reproduction. Secondly, although the highlands are largely free of trypanosomiasis and other important diseases mainly occurring in the lowlands, livestock in the highlands are affected by many other diseases causing morbidity and

TABLE 10

Livestock yields in Ethiopia and in tropical Africa in 1980 (kg/year per head)

Type of Livestock	Ethiopia		Tropical Africa	
	Meat	Milk	Meat	Milk
Cattle	8	26	13	29
Sheep	3	na	4	7
Goats	3	na	4	7

<sup>na</sup> No estimates are available. Sheep and goats are only rarely milked in Ethiopia.

Source: FAO/LUPRD (1984, p. 164).

mortality. Thirdly, the livestock marketing system is poorly developed. The main livestock production and surplus areas are located far from the main local meat-consuming and/or exporting centres. The transport of animals over these long distances is largely by trekking. Animals are driven for days without proper feed, water and rest causing significant bodyweight losses prior to slaughter. In the traditional husbandry systems, draught oxen are given priority in feeding over stock which are traded or sold, so the latter are seldom specially fattened prior to disposal. Nevertheless, livestock sales are the major source of cash income in the largely subsistence farming areas. Introduced livestock breeds have had little impact nationally and they are mainly in the small-scale commercial dairy sector proximate to Addis Ababa (Tegene and Tenassie, 1984).

#### INVESTMENT IN AGRICULTURE

The central importance of agriculture to the nation is stressed in the national development plan of Ethiopia (NRDC/CPSC, 1983). The plan has acknowledged the need to increase and diversify agricultural output, to achieve self-sufficiency in food supply, and to raise rural incomes and living standards. To achieve this, substantial public investment in agriculture is of paramount importance. Viewed over time, perhaps the most notable aspect of public investment in agriculture is that its post-1975 share is greater than its pre-1975 share (Table 11). The socialist Government formulated its first ten-year long-term plan in 1981 for the period 1984 to 1994 (NRDC/CPSC,

TABLE 11

Agriculture's share of public investment, 1969/70 to 1982/83 (%)

Year	Capital investments in agriculture (%)
1969/70	13
1970/71	16
1971/72	22
1972/73	21
1973/74	22
1974/75	23
1975/76	30
1976/77	41
1977/78	44
1978/79	49
1979/80	31
1980/81	28
1981/82	24
1982/83	19

Source: CSO (1970 to 1983).

1982a). According to this plan agriculture will receive 22.1% of the total national investment. Out of the total agricultural budget, 10.8% is for peasant farming, 6.1% for state farms, 22.4% for producers' cooperatives and settlement farms, 38.6% for irrigation farming on state farms, 9.8% for export crops, 4.2% for forestry, 7.8% for livestock and 0.3% for fisheries.

The most striking point, however, is the large absolute and relative size of investment envisaged for the irrigation and settlement sub-sectors. These two sub-sectors together constitute 61% of the total investment planned for agriculture and over 13% of total planned investment. Settlement farms are also state-owned farms. Irrigation farming is exclusively on state farms. By contrast, peasant farming is to receive only 11% of the total investment planned for agriculture corresponding to 2% of the planned total national investment. This underscores the lack of appreciation of the strategic role of smallholders in the development of Ethiopian agriculture. Furthermore, the apportioning of this investment between the peasant and cooperative peasant farming is not clear. It is likely that despite their poor performance to date (mid term through the ten-year plan), the emphasis will continue to be on state farms, producers' cooperatives and settlement farms. This will result in underinvestment in the peasant sector, the sector which has, despite limited state support since 1975, provided the only productivity gains observed in Ethiopia's agricultural economy.

A number of projects have been implemented during the last 20 years to supply farm inputs (e.g., fertilizer and improved seed), to provide short-term credit for the purchase of inputs and to make agricultural extension services available to smallholders. Nonetheless, the domestic allocation of capital outlays for these 'package' programs was generally inadequate and

TABLE 12

Fertiliser use by sector in Ethiopia, 1977/78 to 1982/83 (1000 t)

Sector	1977/78	78/79	79/80	80/81	81/82	82/83
State farms	–	10.51 (23.4)	23.45 (34.0)	35.53 (52.4)	38.27 (55.0)	33.98 (39.2)
Settlement farms	0.13 (0.4)	0.82 (1.8)	4.19 (6.1)	2.90 (4.3)	1.12 (1.6)	4.56 (5.3)
Peasant farms	31.90 (99.6)	33.54 (74.8)	41.24 (59.9)	29.38 (43.2)	29.13 (41.8)	45.94 (53.0)
Producers' cooperatives	–	–	–	0.16 (0.1)	1.13 (1.6)	2.16 (2.5)
Total	32.03	44.87	68.88	67.90	69.65	86.64

Note: Figures in parentheses indicate percentage share of each sector in each year.

Source: NRDC/CPSC (1982a).

TABLE 13

Use of improved seed by sector in Ethiopia, 1977/78 to 1984/85 (1000 t)

Sector	1977/78	78/79	79/80	80/81	81/82	82/83	83/84	84/85
State farms	2.05 (35)	2.41 (45)	6.36 (65)	15.65 (79)	17.6 (80)	17.6 (67)	5.8 (75)	1.6 (20)
Settlement farms	0.43 (7)	0.59 (11)	0.79 (8)	0.83 (4)	0.90 (4)	1.0 (4)	1.8 (23)	9.89 (74)
Peasant farms	3.40 (58)	2.32 (44)	2.68 (27)	3.26 (16)	3.17 (14)	7.08 (26)	0.17 (2)	– –
Producers' cooperatives	–	–	–	0.12 (1)	0.35 (2)	0.65 (3)	–	1.9 (14)
Total	5.88	5.32	9.83	19.86	22.02	26.33	7.77	13.39

Note: Figures in parentheses indicate percentage share of each sector.

Source: ESC (1985).

most of them were dependent on external funds for their operation. Agriculture, besides providing food and employment to the people and raw materials to industries, also supplies about 90% of the total exports by value. Despite this, the allocation of foreign exchange for the purchase of agricultural equipment and imported farm inputs was only between 2.3% and 10.2% of total export proceeds from agriculture over the period 1971/72 to 1980/81 (NRDC/CPSC, 1982b). Also, although the agricultural sector contributes more than 50% of GDP and accounts for 85% of employment, the resources allocated to agricultural research are inadequate. In 1982/83, for instance, only about 0.4% of the 1981/82 GDP was allocated to agricultural research.

#### INCENTIVES TO PRODUCERS

Farmers growing crops for sale have responded to the failure of the government to provide them with proper incentives (prices) by retreating further into the subsistence mode. Virtually all government farm-gate prices (obligatory quota selling prices) for the private sector for most crops have lagged well behind local free-market prices. Farmers terms of trade deteriorated as producer prices remained fixed relative to the prices of major agricultural inputs, particularly of fertilizer. At current official prices smallholders do not cover their cost of production for some crops.

The pattern of distribution of fertilizer, improved seed and agricultural credit has also disadvantaged smallholder farmers. As may be seen from Tables 12, 13 and 14, state farms (which for example in 1980/81 contributed less than 5% to national crop production and constituted less than

TABLE 14

Agricultural credit disbursement by the Agricultural and Industrial Development Bank of Ethiopia to peasant and state sectors, 1975–76 to 1982–83

Year	Total disbursement (1000 birr)	Share of state farm sector (%)	Share of peasant sector (%)
1975/76	77 119	88	12
1976/77	86 921	82	18
1977/78	130 403	90	10
1978/79	77 820	77	23
1979/80	197 541	85	15
1980/81	371 064	91	9
1981/82	248 180	86	14
1982/83	134 003	79	21
Average	165 381	85	15

Source: AIDB (1984) and AIDB (1976 to 1983).

5% of the total area cultivated) used 52% of the fertilizer, 79% of improved seed and 91% of agricultural credit available nationally. In the same year, the peasant sector which cultivated 95% of the area and contributed 94% of the national harvest used 43, 16 and 9% of fertilizer, improved seed and credit respectively which were available.

Excessive emphasis on the two state agricultural sectors and hence neglect of the peasant sector has resulted in low farm input consumption by this latter sector. Smallholders' incentive for producing more are also dampened by the large scale intervention of the State in food grain marketing. This intervention compounds the difficulties of marketing in a nation with limited road, transport and storage facilities.

## CONCLUSIONS

Ethiopian agricultural development has been severely constrained by the application of inappropriate agricultural policies and the dearth of investment in the smallholder sector which dominates the national economy. Low productivity and poorly structured markets for agricultural inputs and outputs have also contributed to the poor performance of the agricultural sector since 1974/75. The often desperate food situation in the country has not improved significantly since then. Poor growth in production can be attributed to various factors, the most important of which are: the favouring of large-scale and capital-intensive state-owned farming enterprises with scarce credit, other modern inputs and skilled labour to the relative neglect and generally to the detriment of smallholders and the quantitative and qualitative deficiencies of research, extension and other support service efforts.

The 1975 land reform did ensure access to land to the country's 5.6 million smallholder farm families. However, a successful land reform would have taken better account of the economic, technological and social factors involved.

The socialist agricultural revolution in Ethiopia has not yet resulted in the cooperatives and state farms using more than 5% of the total cultivated land or producing more than 4% of the total agricultural production although, together, they have accounted for more than 60% of publicly funded agricultural investment, 91% of agricultural credit, 79% of improved seed allocation and 52% of fertilizer used in the 1975/76 to 1985/86 period.

Objective conditions must be taken into account when moving from redistribution to collectivization in a country where subsistence production accompanied by a low level of technology continues to dominate the agricultural sector. The drive towards collectivization should neither under-



estimate nor ignore the important economic role that could and should be played by the small-scale farmers who presently account for 96% of total agricultural production. Greater attention to the strengthening of small-scale farmers is warranted, indeed essential, in order to increase agricultural production and to promote rural development in Ethiopia.

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