

POSSIBLE IMPACTS OF STRUCTURAL ADJUSTMENT PROGRAMME ON THE HEALTH CARE SERVICE SYSTEM

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1. INTRODUCTION

Modern health care delivery system in Ethiopia is dominated by the government health care structures. The government provides both curative and most of the preventive services. The policy of '*free*' medical care (for those who could not afford to pay for the services) on the one hand, and other economic factors (population growth, stagnant or dropping per capita income with the dropping level of food production and undernourishment, domestic and imported inflation, increasing share of salaries out of total recurrent health budget, and discouraging of private, particularly traditional medical services) on the other hand have resulted in a very wide gap between the supply and demand for health services. Since the health care institutions are the point of delivery of government subsidy to the poor, thinning out of available resources in an attempt to distribute the service, to as many people as possible has created a deep crisis in the health sector. The health service system presently is nearly paralyzed as a result. The major reason for such a crisis is the increasing demand for health services, which is determined by population growth; hereditary factors, nutritional status and general living conditions of the people; and, accessibility of the health service system including price of the services.

To make matters worse, *foreign exchange problems* have contributed to the decrease in the supply of health care services by making it nearly impossible for the government health system to access imported items. As a result, there are little or no drugs; equipment are not functioning properly; sanitation in the health service units is very bad; supervision is inadequate; and there is a general sense of decay, particularly in the hospitals. The preventive health service system is in no better shape, despite the aid received from international organizations such as the UNICEF and the WHO.

The aim of this paper is to investigate the possible impacts of reforms associated with stabilization and structural adjustment in Ethiopia. It has the following objectives:

- 1) to investigate the condition of health service financing in Ethiopia;
- 2) to present government policies of health service financing and provision;

- 3) to investigate possible impact of a structural adjustment programme(SAP) on the health care services; and
- 4) to investigate possible reforms of the health care financing system that could be taken to mitigate possible negative impacts of SAP.

Secondary data from the Ministries of Health, Planning and Economic Development, and Finance, and the Central Statistical Authority is used in addition to published materials.

The paper is organized as follows. Section 2 deals with the health environment in the country. This section is followed by a description of the health service financing policies and the financial situation of the system. Section 4 covers the possible changes that could be introduced by SAP and affect the health services. Finally concluding remarks are made.

2. THE HEALTH ENVIRONMENT

2.1. Introduction

This section deals with the health environment. The introductory part covers the macro-economic conditions in the country and major factors that affect health care services. This part is followed by parts that discuss the health status of the people and the health service system.

Ethiopia is among the poorest countries in the world. It has 52 million people (1991 estimate), whose number is growing at around 3% per annum with a per capita income of US\$120 (World Bank, 1991). The Ethiopian population is increasing at an alarmingly fast rate. If this rate is kept up, the present population size will double in a short time with the consequent increase in the need for health services dramatically (Table 1 in the Annex¹ indicates the rate and size of population growth). Around 80% of the population is in the agricultural sector, which contributes about 40% of the GDP and 85% of exports. Most of the rural people are in or near absolute poverty.

There has been a decline in economic performance over the last two decades and GDP declined by 2.6%. The major cause for this was the decline in the growth rate of the agricultural sector (0.8% average growth rate 1985-1989) (Mekonnen, 1992). The likely explanations for the fall in the performance of the agricultural sector include the low investment level, war, the highly constraining inappropriate government policies, population pressure on land, and drought. The economic crisis has affected all sectors of the economy; it reduced industrial output, increased unemployment, increased external debt and deepened the balance of payments deficit, increased government budget deficit financing, accelerated inflation and resulted in deterioration of social indicators.

2.2 The Macro-economic Environment

There has been a decline in the country's economic performance over the last two decades. The major causes are civil war, drought and inappropriate economic policies. The

GDP growth rate has declined in the period from 1975-1990. Agriculture grew at an average of 0.8% during this period (Mekonnen, 1992) (Table 2 gives GDP contributions from agriculture, industry and services at current market price rates for selected years). Reduced industrial output, increasing unemployment, increasing debt service ratios (see Table 3), declining foreign exchange reserves (Table 4), increasing government budget deficit financing (Table 5), inflation and other deteriorating social indicators marked the period.

2.3 Health Status of the Population

Life expectancy at birth is estimated to be around 42 and infant mortality rate (IMR), estimated for the country in the period 1985-1990 was 149 per live births (World Resource Institute, 1991).

The leading causes of hospital deaths were malaria (17.8%), tuberculosis of the respiratory system (9.9%), bronchopneumonia (6.5%), meningitis (3.7%), gastro-enteritis and colitis (3.1%) (MOH, 1991). The leading causes of outpatient morbidity in children under five were acute upper respiratory infections (10.3%), gastro-enteritis and colitis (7.3%), infections of the skin and subcutaneous tissue (7.0%), helminths (5.2%), ascariasis (5.2%) and bronchopneumonia (4.7%) (MOH, 1991).

The leading causes of adult morbidity were acute upper respiratory infections (9.7%), malaria (4.3%), helminths (4.1%), gastritis and duodenitis (4.0%), infections of skin and subcutaneous tissue (3.7%), pyrexia of unknown origin (3.2%) and ascariasis (3.0%) (MOH, 1991).

It can be observed that most of the childhood diseases are due to preventable causes. The prevalence of intestinal parasites and other intestinal infections reflect poor sanitary facilities and lack of education. It could also be a reflection of the fact that only 10 per cent of the population had access to safe water and even a lesser proportion (5 per cent) had access to safe disposal of human waste.

The nutritional status of the population is very low. Out of a sample of 1,250 children 0-5 years of age, 18.5% were stunted, 7% were wasted and from 40 to 60% had first and second degree malnutrition (World Bank, 1988). The Ethiopian Nutrition Institute indicated that the *weight for height* of an average Ethiopian adult is about 80% of the standard of the reference population, while 12 per cent of the people fall below 70% level. The average calorie intake is deficient by 400 Kcal per person per day (Gebre Egziabher and Beyene, 1986). *Protein-energy* malnutrition affects from 50 to 60 per cent of the children below 5 years of age. It is overt in about 8 to 10 per cent of the children under 5. In some areas, the average food intake of children from 6 to 36 months amounts to only 40% of calorie and 60% of protein requirements (Gebre Egziabher and Beyene, 1986). *Micronutrient deficiencies* are widespread. *Iodine* deficiency (mean prevalence of around 30%), *Vitamin A* deficiency (around 20% of children), and *Vitamin C* deficiency (around 10% of children). In areas where malaria and hookworm are highly prevalent and where *teff* is not grown, iron deficiency anaemia is also considered to be a serious problem. Nutrient deficiency problems such as rickets, Vitamin A deficiency, iron deficiency anaemia, goiter and riboflavin

deficiency are prevalent with seasonal and spatial variations in the country (World Bank, 1988 and Gebre-Egziabher, 1986).

The RRC estimates that 8 million people are either starving or are under threat of famine. This aggravates the nutritional status of the population and may have a lasting and serious effect, especially on children and mothers.

2.5 Status of Health Care Services

The health care services are to be organized and provided in the country through a network of community health services, health stations, health centres, rural hospitals, regional hospitals and central referral hospitals. At the bottom of the health service tier are the community health service. Each community health post is expected to serve 1000 people staffed by a community health worker and a traditional birth attendant(TBA). The community health services have not functioned as expected and most of the community health agents(CHA) opted to provide private curative services instead of their planned role in promoting preventive services. The major reason for the failure of the community health service system in Ethiopia is mainly the inappropriate method of remuneration of the community health workers.

Health stations were expected to be provided service for 10,000 people and run by health assistants who provide preventive mother and child health (MCH) care and basic curative services. They were to give support to CHAs and TBAs.

The Ten Year Perspective Plan (1983-93) expected that ten health stations (HS) will be supervised by a health centre. These health centres (HC) were expected to provide referral services to the Health Stations. Health Centres also provide both preventive and curative care.

At the top of the tier there are the regional and central referral hospitals. The referral system never functioned in full, since patients can enter into the health service system at any point, including at the teaching hospitals such as the Black Lion Hospital.

There are 89 hospitals, with 12,106 beds, 160 health centres and 2,292 health stations in the country. Of these, 345 health stations, 35 health centres and 11 hospitals are partially or fully damaged by the war. Other facilities are not operating at full capacity because of shortage of drugs, reagents and equipment, and ill-maintenance of the facilities.

The Ministry of Health owns and runs 77.8% of the health facilities, while the rest of the facilities are owned and run by other government agencies, non-governmental organizations and religious missions.

There are 1,658 medical doctors (one physician for every 31,360 people), 3924 nurses (one nurse for every 13,250 people), and 10,839 health assistants (one health assistant for every 4,797 people), 14,553 community health agents and 12, 219 traditional birth attendants. The health worker/population ratios given above are among the lowest in the

world. The attrition rate of particularly lower level health workers is very high. For instance, according to a World Bank study, out of 4,000 nurse posts nearly 2,000 remained unfilled (World Bank, 1988) not because of shortage of trained nurses, but because the nurses either left the health service system altogether or have moved into other activities. The major reason for such attrition is the unattractive salary paid by the government sector for nurses. The same applies to the other health manpower categories. The drop out rate of the volunteer CHAs and TBAs was as high as 60 per cent in many regions.

Four urban centres in three regions (Addis Ababa, Asmara, Harar and Dire Dawa) constituting 4.6% of the total population, had 44% of the total hospital beds, 39% of all doctors and 28% of all nurses.

In addition to the governmental health services, there are other service giving agencies, such as, religious missions, NGO services, traditional practitioners, community clinics, private modern practice (private outpatient clinics, pharmacies, and drug vendors). The expansion of private outpatient clinics in the major urban areas of the country is noticeable and it appears that private practice in modern medicine is on the increase.

These non-governmental institutions probably will expand since the emphasis of the government on government-sponsored health service system has relaxed. However, care needs to be taken to protect the consumers against malpractice and 'excessive' charges (WHO, 1991b).

3. GOVERNMENT HEALTH CARE SERVICE FINANCING

3.1. Introduction

Government health service financing policies and the level and structure of financing of health services is analyzed in this section. The policies are reviewed because they have a direct impact on the amount of funds required to provide adequate health services for the demand generated by the policies. Following this review a detailed description of the health budget is given.

3.2. Government Health Care Service Financing Policies

In the 1950s, the government started the designing of development plans. the First Five Year Development Plan did not include a health service plan and this became a point of criticism that resulted in the Second Five Year Health Development Plan (Schaller, 1964). The plan argued that the options for health care financing were limited to the expansion of budgetary allocation to the services and encouraging voluntary contributions by the public. The Third Five Year Development Plan too considered the same means of raising funds for the expansion of health services.

The 1974 revolutionary situation brought about the adoption of the policy of extending access to health services to all people irrespective of the ability to pay. This was in line with

the socialist orientation of the government in the period (MOH, 1978). During the Dergue period, the government tried to finance health care services through its revenue, collected from general tax and other government incomes; user charges were levied in health facilities, poor households were exempted from the charge and heavy government subsidies were paid; and, private practice was actively discouraged.

3.3. Government Health Care Service Financing

The Ethiopian government spent Birr 2.9 per head in 1990. This is a very low level of spending compared with the spending in developing countries who spent an estimated US\$ 9, and much lower compared to the level in the middle income countries who spent US\$ 31 (World Bank, 1987).

The current levels of spending on the health sector is not sufficient to finance the intended provision of health care services. Table 5.8 shows treasury expenditure on the health care services had an average share of only 4.2 and 2.9% in government revenue and expenditure respectively between 1984/85-1989/90. The same table also shows that government health expenditure had, on the average accounted for only 1.5% of GDP and that recurrent expenditures in the health budget had been increasing during the period under review. In addition to the government budgetary allocation, health care services had been supported by external resources. Donor inputs had tended to manifest a declining share in total expenditure on health between 1985-90 except for 1989 (Table 5.5), presumably because of the inability to create a conducive policy environment.

The available data indicate that the health sector faces deep problems, largely because of the inability of the government to make the required allocations on account of financial constraints. This is reflected in the low per capita expenditure on health services and the resultant deterioration of the critical indicators of health conditions. There is, therefore, a need to design appropriate health financing mechanisms with the view of expanding better health activities to meet the great needs of the rapidly growing population. Since a strong financial base is a prerequisite for an effective health care system, such mechanisms would considerably improve the health status of the population.

4. SAP AND THE HEALTH SERVICE SYSTEM IN ETHIOPIA

The major transitional adverse social consequences of structural adjustment programmes are: declining per capita income and real wages; rising unemployment and underemployment; deterioration in the level of social services as a result of cuts on social public expenditures; falling in educational and training standards; rising malnutrition and health problems; and rising poverty levels and income inequalities. (UNECA. n.d.).

4.1. Introduction

The transitional adverse social consequences of SAPs are the result of devaluation, liberalization and retrenching of public employees. The World Bank recently has introduced a 'safety-net' provision to combat these negative effects of SAPs. These issues are discussed

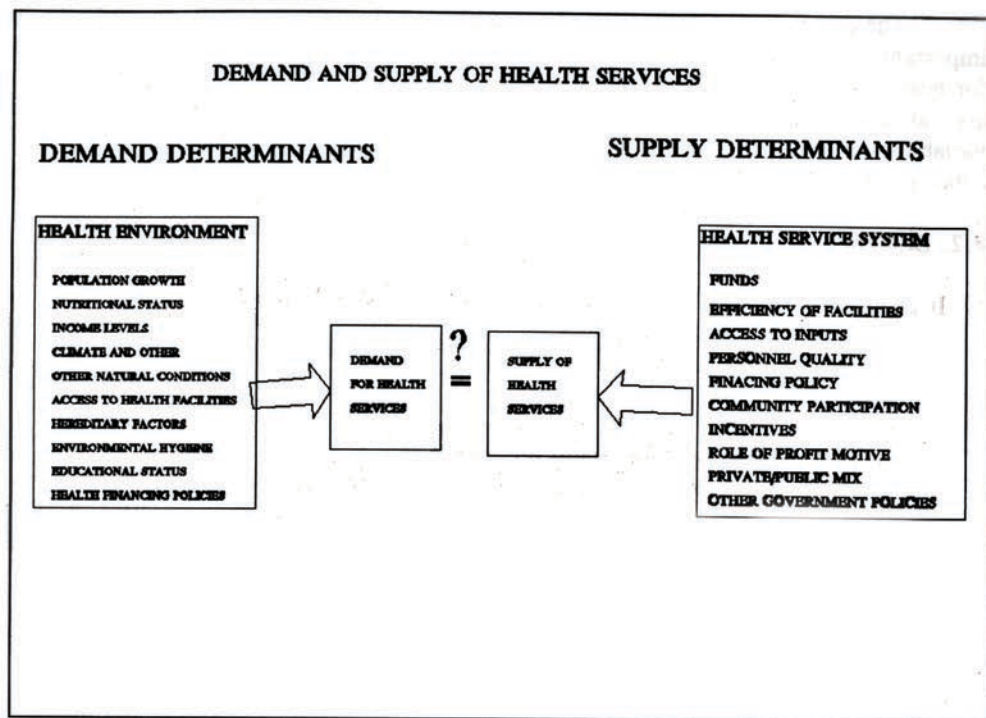


Figure 1 Demand and Supply of Health Services

in relation to their effect on the health sector. In order to set the context of the discussion a framework for the discussion, is given at the outset by introducing functions defining the demand and supply for health care services in Ethiopia (Figure 1 gives a summary of the major issues involved in these equations). The discussion will be based on two scenarios, one of which is based on a set of assumptions as given below (Scenario 1) and the other on the actual components of Economic Restructuring Programme as have been indicated by the government announcement of October 1, 1992 (Scenario 2).

Regarding Scenario 1, to simplify matters and facilitate a clear presentation, the discussion assumes the following:

- 1) The SAP involves retrenching and liberalization with devaluation.
- 2) A devaluation of the Birr will be through floating it in the market and that the rate would be Birr 7 to the U.S dollar.²
- 3) Everything remains the same except the variable under consideration.

The third assumption applies to the discussion of the effects of the already adopted programme. These assumptions are modified when Scenario 2 is discussed.

The discussion is divided into demand and supply functions analyses. Only the most important functions are defined explicitly as the purpose is not to analyze demand and supply for health services as such. Most of the important factors that are to be affected by a SAP are variables that affect the demand for health care services as to be shown below. (The variables that are marked ● in both the demand and the supply functions are analyzed in detail to look at the effect of SAP on the health care service system).

4.2. Demand

It is possible to define a simplified demand function for health care services by:

$$D = f(X_1, X_2, X_3, X_4, X_5) \quad (1)$$

where D = demand for health services

X_1 = disease prevalence and incidence

X_2 = price of health care services

X_3 = income levels of the population

X_4 = availability of services

X_5 = population numbers

$$\left(\frac{\partial D}{\partial X_1}, \frac{\partial D}{\partial X_3}, \frac{\partial D}{\partial X_5} > 0; \frac{\partial D}{\partial X_2} < 0; \frac{\partial D}{\partial X_4} \geq 0 \right)$$

$$X_1 = f(C_1, C_2, C_3, C_4, C_5) \quad (2)$$

where C_1 = climate and other natural factors

● C_2 = nutritional status of the population

C_3 = hereditary factors

● C_4 = educational status of the population

● C_5 = level of environmental and personal hygiene

$$\frac{\partial X_1}{\partial C_4}, \frac{\partial X_1}{\partial C_5} < 0; \frac{\partial X_1}{\partial C_2} > 0$$

$$X_2 = f(\mu_1, \mu_2) \quad (3)$$

where ● μ_1 = cost of production of services

● μ_2 = production efficiency

$\mu_2 = f(m_1, m_2, m_3)$

where m_1 = managerial inputs

- m_2 = morale of workers

$$\frac{\partial X_2}{\partial \mu_1} > 0, \frac{\partial X_2}{\partial \mu_2} < 0$$

$$X_3 = f(\omega_1, \omega_2, \omega_3) \quad (4)$$

where ω_1 = Gross national product

ω_2 = income distribution

- ω_3 = employment rates

$$\frac{\partial X_3}{\partial \omega_1}, \frac{\partial X_3}{\partial \omega_3} > 0$$

$$X_4 = f(\epsilon_1, \epsilon_2, \epsilon_3) \quad (5)$$

where ● ϵ_1 = government decisions and policies

- ϵ_2 = profitability

- ϵ_3 = other factors such as establishing of health facilities by religious missions and receiving grants

$$\frac{\partial X_4}{\partial \epsilon_2} > 0 \quad (\text{for private health care facilities and other organizations that operate on a profit and loss basis}).$$

4.3. Supply of health services

The supply function for health services in Ethiopia could be defined as:

$$S = S_g + S_p + S_{ngo} \quad (6)$$

where S_g = government health care services

S_p = private health care services

S_{ngo} = health services provided by NGOs and religious missions.

$$S_g = f(Y_1, Y_2, \dots, Y_7, \epsilon_1, \mu_2) \quad (7)$$

where ● Y_1 = government budget allocated
 ● Y_2 = price of inputs
 ● Y_3 = availability of foreign exchange
 ● Y_4 = foreign aid
 ● Y_5 = physical existence of facilities
 ● ϵ_1 = government policy
 Y_6 = physicians lobby and other political forces
 Y_7 = occurrence of epidemics

$$\left(\frac{\partial S_g}{\partial Y_1}, \frac{\partial S_g}{\partial Y_3}, \frac{\partial S_g}{\partial Y_4}, \frac{\partial S_g}{\partial Y_5}, \frac{\partial S_g}{\partial \mu_2} > 0; \frac{\partial S_g}{\partial Y_2} < 0 \right)$$

$$S_p = f(\epsilon_2, \epsilon_1) \quad (8)$$

$$S_{ngo} = f(I, \epsilon_1)$$

where I = the interest of the NGO.

4.4. Variables Affected by SAP

● Nutritional status of the population

Scenario 1

A SAP could possibly depress the nutritional status of the urban low income groups as a result of: (a) increased unemployment (retrenching) and consequent fall in the income of the people involved; (b) increased food prices, that could follow devaluation mainly through increased transport costs (without subsidy on such costs) such increase could be substantial³; (c) removal of subsidies on food items and discontinuation of provision of cheap food items to the urban areas through government procurement agencies, for instance cereals; (d) possible marketing of urban land and houses could push rents up and hence the low-income people could be pushed out to the peripheries of urban areas, a factor that could increase the distance between job areas and their homes; and, (e) loss of income through collection of rent income by particularly women from low income families through acquisition of subsidized consumer goods from government stores and *kebele* shops that are ultimately sold at higher prices in the open market. Presently, some of the measures that are involved in a SAP have already been taken and some of the above consequences have already occurred. For instance, the price differential between government owned enterprises and the open market are nearly gone that it has become unattractive to buy good from these shops to sell in the open market.

Scenario 2

The above discussion may not hold in the context of the actual policy adopted. (a) The announcement has not indicated whether there would be retrenching or not. However, it is possible to deduce from developments in the manufacturing sector and the policy change in the employment of tertiary level educational establishments graduates this year that there will be retrenching in the government bureaucracies. Thus, it is possible the above condition in Scenario 1 could hold. (b) Transportation cost cannot go up at this rate, therefore the increase will be much lower; the exchange rate of Birr 5 to the dollar will reduce the cost of maintenance and the subsidized price of petrol has led to only a slight increase in transportation cost. Taking the same example as the one given in the footnote number 2, it is possible to see that the increase in transportation cost could be very low. If the example holds, the increase per quintal will be at most around 50 cents. In relative terms this is less than a 1% increase. (c) It seems that subsidies will not be discontinued after all. Government officials have been indicating that the government will intervene to regulate and stabilize basic goods prices in the open market despite the discontinuation of rations. Rationed goods could possibly continue on to be provided to the urban poor. Therefore, reduction in welfare due the introduction of free market operations are to be moderated. (d) the government has only indicated that there is a need for a revision of the land and housing policies. Most probably, Scenario 1 situation could ultimately come. (e) Most of the rent collected by the low-income population have already gone or are to go. Thus, the effect of the SAP on the nutritional status of the people is less marked in Scenario 2 than it is in Scenario 1.

● Educational status of the people

Scenario 1

Liberalization could bring about the introduction of fees for education, which could result in withdrawal of some children from the school system. In the long-run, such a negative trend could result in a fall in the educational status of the people. However, a possibility exists whereby the economy recovers and starts to grow, thus combating this fall in educational status.

Scenario 2

The cautious manner in which the government has adopted the SAP is indicative of the possibility of leaving the educational sector existing intact for sometime to come. However, indications are there that private school systems could develop in the medium term. This will only increase access to the school system since the students to be enrolled will reduce the pressure on the government school system.

● Hygiene

Scenario 1

The short-run effects of SAP could depress hygienic standards due to the possible fall in income levels of the people. Personal hygiene, housing conditions and even neighbourhood sanitation levels could go down. In lots of areas of Addis Ababa, houses do not have useable latrines, mostly a result of low income levels, consequently lots of people use fields and roadsides to dispose human excreta. Therefore, further depression of income levels could increase the number of households without useable latrines.

Scenario 2

As long as the income levels are depressed, the discussion under Scenario 1 holds. But, the level of the fall in hygienic standards is much reduced as a result of the several steps that were adopted in the SAP package in Ethiopia. If alternative employment is offered to the people to be made redundant, the fall could further be reduced.

● Cost of production of services

Scenario 1

Devaluation of the Birr would result in increase in the cost of imported items such as drugs and fuel. Fuel price increase will result in increased cost of transportation as argued above. This will affect production costs. For instance, supervision and preventive services provided by the Ministry of Health heavily rely on transportation facilities. Such increase has to involve either increased subsidies or increased price for the services for which charges could be levied; otherwise, services have to be cut back. The nature of preventive services makes it difficult, if not impossible, to collect fees and at the same time maximize the effect of the preventive programme. Thus, increased costs would decrease access of low income people to the services.

Scenario 2

Transportation costs have not been markedly increased as shown above, therefore, the cost increase resulting from this cost category will not be high. The cost increase associated with increased price of imported items will be the major area that leads to increases in cost of production of health services. Therefore, the need for subsidy on imported drugs and medical equipment is not to be ruled out. It is also to be noted that a substantial per centage of these items is imported through grants of international organizations such as UNICEF and the WHO.

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MOH (Ministry of Health) (1978). *Health Services in Socialist Ethiopia*. Addis Ababa: MOH.

____ (1991). *Comprehensive Health Service Directory 1988/89*. Addis Ababa: MOH.

MPED Social Service Department. 1992. Health sector plan for 1992/93. Addis Ababa: MPED.

____ (1992a). Government Revenue and Expenditure Statistics Report 1985-90. Finance and Budget Department. Unpublished report.

____ (1992b). A Poverty Alleviation Strategy. A paper prepared in connection with Structural Adjustment Programme in Ethiopia. Social Services Department.

____ (1992c). *National Accounts Statistics Reports 1985-90*. Macro Department, unpublished report.

National Bank of Ethiopia, *Annual Reports* (various issues).

ONCCP (Office of the National Committee for Central Planning) (1984). *Health sector Ten Year Perspective Plan(1985-94)*. Addis Ababa: ONCCP.

Schaller, K.F., E. Tiedemann, and E.W. Ernett (1964). *Second Five Year Public Health Development Plan 1955- 1959/ 1963-1976 G.C.* Addis Ababa.

UNECA (n.d.) *African Alternative Framework to Structural Adjustment Programmes for Socio-economic Recovery and Transformation*. E/ECA/CM. 15/6/Rev. 3 (no place of publication).

World Bank (1990). *Making Adjustment Work for the Poor: A Framework for Policy Reforming in Africa*. Washington, D.C. World Bank.

____ (1987a). *Financing Health Services in Developing Countries: An Agenda for Reform*. Washington, D.C.: World Bank.

____ (1987b). *Sector Review: A Study of Health Financing: Issues and Options*. Washington, D.C.: World Bank.

World Resource Institute (1991). *World Resources 1988-89*. New York: Basic Books Inc.

ANNEXES

Table 1: GDP by Sector for Selected Years
(million birr)

Year	Agriculture	Industry	Service
1973	3730	1052	1045
1978	3699	969	989
1983	4204	1376	1346
1986	3481	1516	1464
1990	4021	1538	1597

Source: National Bank of Ethiopia Annual Reports.

Table 2: External Public Debt
(million birr)

Period	Disbursed	Debt Service	Debt Service Ratio
1982-83	2760	184.6	16.2
1985-86	3910	351.4	25.6
1988-89	5443	562.4	37.9

Source: Ministry of Finance (1992)

Table 3: Foreign Exchange Reserves
(million birr)

Period	Total Foreign Exchange Reserve
1976/77	810.4
1985/86	579.2
1988/89	194.6

Source: National Bank of Ethiopia Annual Reports

Table 4: Government Revenue and Expenditure
(million birr)

Year	Total Revenue	Total Expenditure	Deficit financing
1975/76	983	1200	-217
1985/86	3526	4398	-872
1988/89	3737	5189	-1452

Source: National Bank of Ethiopia, Annual Reports.

Table 5: Population Estimates and Projections: Ethiopia (1980-2015)

Year	Population (in million)	Period	Average Annual Growth (%)
1990	49.9	1980-1985	2.9
1995	57.9	1990-1995	3.0
2000	67.8	1995-2000	8.3
2005	779.8	2000-2005	3.3
2010	94.0	2005-2010	3.3
2015	110.9	2010-2015	3.3

Source: Ministry of Planning and Economic Development Population and Development Bulletin, Vol. 1, No.1, January 1990, p. 21.

Table 6: Health Nutrition Status for Selected Countries(1985 - 90)

Country	Life Expectancy at Birth (years)	Infant Mortality (infant deaths per '000 live births)	Child Mortality (deaths of children under 5 per '000 live births)	Minimum Daily Calorie Requirement	Daily Calorie Supply as Per centage of Requirement
Egypt	60.6	85	124	2510	130
Ethiopia	41.9	14.9	252	2330	67
Kenya	55.3	72	113	2320	93

Source: World Resource Institute, World Resources 1988-89 Basic Books Inc. New York.

Table 7: Top 10 Diagnoses by Hospital Deaths, Ethiopia(Brackets are %)

1	Tuberculosis of respiratory system	724 (9.9)
2	Falciparum malaria (S.T)	708 (9.7)
3	Other unspecified malaria	595 (8.1)
4	Bronchopneumonia	480 (6.5)
5	Other meningitis (except meningococcal)	272 (3.7)
6	Gastro-enteritis and colitis (age 4 weeks to 2 years)	227 (3.1)
7	Meningococcal infection	179 (2.4)
8	Infectious hepatitis	152 (2.1)
9	Pyrexia of unknown origin	138 (1.9)
10	Hypertension with heart disease	136 (1.9)

Source: Ministry of Health Ethiopia Comprehensive Health Service Directory 1988/89.

Table 8: Top 10 diagnoses of All New Out-patients, Ethiopia

1	Acute upper respiratory infections	204039 (5.7)*
2	Other malaria	154539 (4.3)
3	Other helminths	145848 (4.1)
4	Gastritis and duodenitis	143113 (4.0)
5	Infections of skin and subcutaneous tissue	130343 (3.7)
6	Pyrexia of unknown origin (fever)	113437 (3.2)
7	Ascariasis	106078 (3.0)
8	All other diseases of genito-urinary system	89729 (2.5)
9	Bronchopneumonia	87218 (2.5)
10	Amoebiasis	81054 (2.3)

* Figures in parentheses are percentages.

Source: Ministry of Health Ethiopia, Comprehensive Health Service Directory 1988/89.

Table 9: Health Facilities and Health Manpower, 1990/91

	Particulars	Ministry of Health	Nation- wide
1	<u>Health Facilities</u>		
	- Hospitals		89
	- Hospital beds		12106
	- Health centres		160
	- Health stations		2290
2	<u>Health Manpower</u>		
	- Medical doctors	1233	1658
	- Pharmacists	377	405
	- Sanitarians	389	437
	- Nurses	3575	3924
	- Laboratory technicians	591	621
	- X-ray technicians	200	238
	- Pharmacy technicians	230	244
	- Health assistants	10045	10839
	- Traditional birth attendants	12219	
	- Community health agents	14553	
3	Health service coverage (45%)		

Source: Social Services Department, Ministry of Planning and Economic Development.

Table 10: Food Intake in Ethiopia and Sweden: Some indicators

Item/indicator	Ethiopia	Sweden
Calories	1737.00	3065.00
Protein (grms) .	57.50	82.60
Calcium (mgms)	386.00	1092.00
Iron (mgms)	45.60	14.20
Vitamin A (ugms)	199.00	511.00
Thaimin (mgms)	1.33	1.66
Riboflavin (mgms)	0.88	1.93
Niacin (mgms)	13.80	15.20

Source: Gebregziabher and Beyene 1986, p.9, Table 4.

Table 11: Health Expenditure Per Capita
(birr)

Period	Total Expenditure on Health Services (Million)			Per Capita Spending	
	Govern- ment	External Inputs	Total	Domestic Source	Overall Sources
1988	135.7	1.7	137.4	2.9	2.9
1989	132.0	6.9	138.9	2.7	2.9
1990	146.2	6.3	152.5	2.9	3.0

Source: Ministries of Finance and Planning and Economic Development

Table 12: Sectoral Allocation of Government Recurrent Budget, 1984/85-1989/90
(million birr)

	Sector/Sub-sector	1987/88	1988/89	1989/90
1	General Services	1358.1	1714.9	2007.2
2	Economic Services	155.3	190.9	202.6
3	Social Services	585.3	601.8	625.8
	- Public Health	111.2	117.7	123.6
	Total	2619.9	3132.0	3589.3

Source: Ministry of Finance

Table 13: Sectoral Allocation of Government Capital Budget, 1984/85 -1989/90
(million birr)

	Sector/Sub-Sector	Year		
		1987/88	1988/89	1989/90
1	Economic Development	1192.1	1402.3	1061.8
2	Social Development	91.2	88.6	57.2
	- Public Health	24.5	20.3	22.6
3	General Services	7.1	45.6	25.9
	Total	1304.6	1536.5	1144.9

Source: Ministry of Finance