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CHRISTIAN RELIEF & DEVELOPMENT ASSOCIATION

TRAINING PROGRAMME ON FOOD SECURITY & VULNERABILITY

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PART I

FOOD SECURITY CONCEPT AND DEFINITIONS

BY :- DR. DAGNEW ESHETE/

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FOOD SECURITY CONCEPT AND DEFINITIONS

1.1 Concept of Food Security

If "food security" is the objective, a clear understanding of the concept of food security is essential to better explore the underlying causes and dimensions of food insecurity at different levels. Does it refer to a nation, community, household or individual? Is food security a measure of the ability to acquire food, or of the amount and kind of food actually consumed? Does it refer to access in the present or in the future? Over the years, the term food security in general has been used in all these ways.

Food security is a concept that can generally be addressed at the global, regional, national, sub-national, household and individual levels. The concept of food security has been developing since early 1970s. The concept on household food security in particular is a more recent development; and the bulk of the literature dates from the 1980s. When we look into the evolution of food security, the initial concern in the 1970s focused on the global, regional and national food supply or stocks (i.e, food security was conceived as adequacy of food supply at global and national levels). Such view favoured macro level food production and supply-oriented variables which overlooked the micro-level food access.

Equating national food security with food self-sufficiency is another problem area that need to be clearly understood. Many countries that used to be considered as self-sufficient in food were found to be food insecure due to the fact that they either lack an efficient food system or the capacity to raise the level of food entitlement. This indicates that attaining macro-level food self-sufficiency does not ensure the achievement of household food security.

Available information (UNDP, 1992), indicates that over the last two decades, there has been an increasing trend in per capita food output in the world. A significant proportion of the population in developing countries, however, have been suffering from hunger and malnutrition. For example, the calorie supply at the global level in 1990 was more than 110 percent compared to the total requirement. During the same period, however, over 100 million people were seriously affected by famine, and more than a quarter of the world's population were suffering from food shortages (Ibid). Such facts indicate that global level food availability does not guarantee food acquisition at national and household levels.

Since early 1980s, there have been two main shifts in the way the term "food security" is used: first to focus on "access to food", the ability to acquire food, as well as on "supply"; and secondly to focus or worry about the food security of households and individuals, as well as national food security.

The concept of food security gained wider attention since early 1980s as the result of debates on the question of "access to food"; and the central focus on the unit of analysis shifted from global and national levels to household and individual levels. Increasing attention has been paid to household and individual levels food security because of the growing understanding that, expanded food production, food supply and sufficiency at macro-level (although is necessary) will not ensure that all families and individuals will be able to secure their food needs. Analysis of national food security should focus on how domestic production, marketing and trade can achieve the goals of national food availability and household and individual access to food, including adequate nutrition.

1.2 Definitions of Food Security

There is no single definition to micro-and/or macro-level food security. Food security is one of the major components of food policy analysis (along with production policy, price policy, trade policy and food aid). Food security is related to technological changes in agriculture and best addressed within the framework that takes account of the linkages among the various sectors of the economy. Maxwell and Frankenberger (1992) cited about 20 definitions and developments in the concept of household food security. However, some definitions are more cited than others. Many of the definitions are adjusted to suit the particular needs and priorities of individual users. The following are some of the many definitions of household food security that are widely cited by writers and researchers (as cited in Maxwell, 1992):

1. According to the United Nations (1990), household food security is defined as "the ability of a household members to assure themselves sustained access to a sufficient quantity and quality of food to live active, healthy lives". This may happen as a result of adequate home production of food and/or adequate economic and physical access to food supply.

2. The UN Food and Agriculture Organization (FAO) defines food security as "ensuring that all people at all times have both physical and economic access to the basic food they need"; and

3. The World Bank (1986) defines the term `food security'

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"access by all people at all times to enough food for an active, healthy life".

1.3 Essential Elements for Defining Food Security Concept

Availability of food in sufficient quantity and quality, sustainable access to food, entitlements, and risks related to any of these elements, are the essential determinants of household food security. Essential elements often used in defining (explaining) the food security concept include the following:

- availability of food;
- access to food;
- sustainability;
- food entitlements;
- vulnerability; and
- livelihood security

Availability of food in sufficient quantity and quality, and access to food (or the ability of people to acquire food in sustainable manner) are the two most determinants of food security at all levels. However, the first does not ensure the second. That is, Food may be available but households or household members may not have the ability to acquire it (mainly due to lack of purchasing power). In order to ensure household and individual food security, the available food should be accessible or affordable.

1.4 Food Security Sources and Possible Options

The concept of food security in general integrates a number of important issues the magnitude of which ranges from micro to macro economics. In order to attain the goals of food security, an overall consideration in terms of policy and programme development covering all aspects of the food system is required. In particular, success in production and distribution plays an important role in influencing the food security status of a household/individuals or a society at large. The main determinants of agricultural production include commodity (input) prices, quantity/quality of labour and other factors such as land, technology, and government agricultural policy and institutional services.

The chronic and recurrent acute food insecurity problems in Ethiopia have been experienced in the past three decades is mainly as a result of a combination of: (a) widening gap between food production and population growth; (b) productive resource decline (including farmland scarcity and soil degradation); (c) natural disasters; and (d) lack of appropriate development policy environment. The country's annual structural food deficit has been steadily growing. Currently, the national annual food production deficit amounts to about a million ton. Such trend is likely to

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continue for the foreseeable future unless concerted development policy efforts are made to accelerate domestic food production and supply. Some possible policy options to attain these goals include:

- providing effective agricultural development extension support to producers to enhance food production and productivity;
- policy support to bring previously unused land under cultivation;
- improving the land tenure policy;
- improving/introducing effective production incentives to producers (such as: introducing effective input support, marketing, credit and other appropriate extension services;
- introducing income/employment generating schemes;
- providing asset building/protection support to producers;
- introducing conservation-based development schemes, etc.

These and other development support options that need to be explored if the growing food insecurity (food gap) is to be reduced; and at least a substantial portion of the food demand is to be met from the domestic production. In its immediate sense, food security policy deals only with production, marketing and consumption of food.

Food security in general is a broad and integrated concept which requires improvement at both micro and macro economic situations. Its attainment requires an overall considerations in the whole system of food chain (production, distribution, and consumption processes). The success in the whole food system plays an important role in influencing not only the nutritional well-being of individual members of a household or a society at large, but also the health condition.

In the Ethiopian situation where over 85% of the total population are employed in agriculture (depending on farm production and income), the link between food security, agricultural production, and nutrition and health is not questionable. As regards the link between national food output and access to food by households, however, can be looked from two angles: (a) the link between national food availability and access by households, and (b) the link between food output and food availability at the national level.

At the micro level, agricultural income is the main indicator for determining the income position of rural households and level of poverty for countries whose economy/employment is dominated by agriculture like Ethiopia. Rural poverty could be determined by measuring the level of agricultural income and productivity in th

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absence of income from assets and transfers. Chronic food insecurity is directly related to poverty as such type of food insecurity (food shortage) is caused by the inability of the household to produce, purchase or to have access to food. The problems of rural poverty and food insecurity can not, therefore, be overcome unless agricultural productivity improves through enabling economic policy environment.

1.4.1 Sources (Possible Options) of Household Food Security in Ethiopia:

In Ethiopia, the livelihood of rural people is dependent on the ownership of key productive factors including (in order of importance) draught animals, breeding cattle, farmland, family labor, farm implements (e.g, sickles, digging hoes) and small animals. The level of ownership of particular productive assets such as draught oxen, breeding cattle and farm land determines the seasonal or annual production and income (and thus food security) of rural households. This level also broadly determines the coping abilities of households in periods of food crises. Of all the productive assets indicated, the ownership or otherwise of draught oxen most markedly determines annual household income flow and economic differentiation among rural households.

Specific sources of household food security in Ethiopia (Dagnew, 1993 & 94) include:

a) food production (mainly based on crop and livestock husbandry)
b) cash income from different sources (mainly market-based);
   - domestic trade
   - sales of family labor (wage employment)
   - rental income
   - international trade
c) reserves of food (stocks) or other assets; and
d) Institutional assistance programmes (including food aid and related assistances by non-government agencies).

The main sources of food security (food economy) for rural people in Ethiopia by agro-ecologies and geographical locations are:

a) Crop production as primary and livestock production secondary for settled farmers mainly in medium and highland parts of the country (including in associated lowlands within those agro-ecologies);
b) Livestock production as primary and crop production secondary in semi-nomadic or agro-pastoralist societies (eg., Borena and Ogaden); and
c) Livestock production as the only source of food security (eg. Ogaden and Afar). Some pastoralists

in such geographical areas, however, supplement their incomes from some trading activities undertaken by selected adult family members. These are the dominant sources of food economy for the respective rural people by agro-ecologies and geographical locations (Ibid).

1.5 Food Security Indicators

A number of indicators have been identified along with the development of the concept of food security to make monitoring of food situation possible. The utilization of the indicators varies between the characteristics of the investigations, procedures and level of aggregation. In most cases, the purpose and depth of investigations, however, greatly influence the use of indicators. Different types of household food security indicators are classified into three main categories, namely: a) supply indicators, b) food access indicators, and c) outcome indicators (Frankenberger, 1992).

The major indicators that reflect food supply situation include:

- meteorological data
- information on access to resources
- agricultural production data
- market information
- information on food balance sheets
- information on pest damage
- institutional and market infrastructures
- regional conflict, etc.

Food access indicators are relatively more effective to monitor food situation at household levels. Their use as well varies between regions, seasons and social strata reflecting various strategies in the process of managing the diversified sources of food. Specific food access indicators include:

- land use practices
- dietary change
- change of food source
- diversification of income sources
- diversification of livestock
- livestock sales
- sale of production assets
- access to loans/credit
- seasonal migration
- Distress migration

Outcome indicators, such as the level and changes in food consumption and the amount of food in stores serve as proxy estimates for measuring household food situation. Specific outcome

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indicators include:

- household budget and expenditure
- food consumption frequency
- subsistence potential
- nutritional status
- household perceptions of food insecurity
- storage estimates

Outcome indicators can be disaggregated at lower level as opposed to food supply indicators. The problem with outcome indicators is that some of the indicators like anthropometric results may not exactly indicate the level of food crisis since nutritional intake is affected by a number of factors like health care.

The following are also important elements that generally affect (determine) rural household food security in all areas despite existing variations within and between societal locations, occupations and social groups:

a) the average level of household income;
b) the magnitude and probability of seasonal and annual fluctuations of income around the average (variation in income position);
c) the value and form of stocks a household can maintain;
d) level of asset ownership;
e) sources of income and nature of employment;
f) availability of family labor;
g) market price and household purchasing power; and
h) terms of trade between livestock and crop products.

Improving food security requires increasing the purchasing power of the poor, boosting the overall food production and supply, and establishing appropriate market stabilization schemes. Increased food supplies and purchasing power must be linked to elements of any long term food security efforts at appropriate levels. In the short-term, it would be appropriate to meet the more immediate food security needs of the poor by redistributing aid assistances through relief-oriented development programmes.

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PART II

FOOD INSECURITY

BY :- DR. DAGNEW ESHETE

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FOOD INSECURITY

This section will discuss on the meaning/definition of food insecurity, causes, and indicators of household food insecurity (food shortages) relating to the Ethiopian objective situation.

2.1 What is Food Insecurity?

In contrast to " food security", the term food insecurity, could be defined as the lack of access to enough food both in quantity and quality on a sustainable basis. According to FAO (1981 and 1991, in Maxwell, 1992), `food insecurity', is defined as "a situation in which the individuals of a society have neither the physical nor the economic access to the nourishment they need". In some cases, there may not be enough food at the time and location required to fulfil the needs of all members of the community, whether it be a nation, region, a village or a household. This dimension constitutes the problem of the physical availability of food supplies. This implies that in order to provide physical access to food for consumers (households) at community-levels, it would be necessary to establish an efficient distribution system, including processing, storage, transportation and marketing to ensure the distribution of food products within a specific country, region or locality in the desired time.

In the absence of the above mentioned basic services or facilities, food insecurity would lead to serious human suffering, and dislocations (including family break-down, distress migration and death). Variations in food availability or price instability can contribute to a growing food insecurity seriously affecting food consumption (including individuals dietary intake).

There are two types of food insecurity, namely: Chronic and transitory food insecurity. According to World Bank (1986), "chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food"; while "transitory food insecurity is a temporary decline in household's access to enough food".

When we look into the distinction between these two states of food insecurity: transitory (exceptional) food insecurity is often triggered by seasonal instability in food supply or availability, fluctuations in food prices and/or incomes, which themselves may

result in periodic variations in individual food consumption and nutritional status - and in its worst form, it produces famine. Poverty in general, on the other hand, is the major determinant of chronic food insecurity. Chronic food insecurity affects households that persistently lack the ability either to buy enough food or to produce their own. The poor in general do not have access to adequate means of production to gain access to sustainable food supply in quantities needed for a healthy life.

2.2 Causes of Food Insecurity in Ethiopia

In examining the causes of food insecurity in Ethiopia and in African situation at large, it is useful to distinguish between long-term trends, which affect the vulnerability of individuals, households and nations, and sudden shocks which trigger food systems into crisis. Generally, all the causal factors for both chronic and transitory food insecurity (food shortage) discussed above apply to the Ethiopian situation as well. Poor agricultural growth, unequal distribution of productive resources and income, rapid population growth and urbanization are important causes for the growing chronic food insecurity and poverty problems. Drought, war and growing refugee problems are also the main causes of transitory food insecurity in Ethiopia like in many other African countries.

Inappropriate policies of governments and/or donor agencies have also been important contributory factors for both chronic and transitory food insecurity in most African countries including Ethiopia. Specific casual factors for chronic and transitory food insecurity in Ethiopia are briefly described in the following subsections (in their respective order).

2.2.1 Chronic (Seasonal) Food Insecurity Problems

In many parts of Ethiopia, rural people often face seasonal food shortages, generally between June and September in most intermediate and highland areas; between January and July in some southern parts of the country (eg., Wolaita); and between November and March in some pastoral and semi-pastoral areas of the country (eg., Ogaden). Specific causes of seasonal cyclical food shortages in generally crop dependent areas include:

a) seasonal rainfall variation (irregular rainfall distribution);
b) lack of draught oxen;
c) inadequate farm size, and soil fertility decline; and
d) shortage of basic farm inputs and implements;

These are key factors responsible for the seasonal shortfall of rural food production and supply (in order of importance). Lack of

productive assets particularly in medium and highland agro-ecologies are the most underlying causes of seasonal food shortages.

In the pastoral and agro-pastoral areas, seasonal rainfall variation, shortage of pasture and water for livestock, and food price increase are the primary causal factors for the seasonal food insecurity (often November-March).

A growing number of both rural and urban population in Ethiopia and in Sub-Sahara african countries are at risk of falling below the thresholds (below poverty line) than are actually counted as being food insecure at a given time. Available information (Debebe & Maxwell, 1992) indicates that, about 27 million people in Ethiopia are food insecure; and nearly 19 million (43%) of the rural people are under poverty line (IFAD, 1989). With very rare and expensive irrigation practices, Ethiopian agriculture is highly vulnerable to climatic variation. A decades experience shows that, a year of good harvests, with improved access to food for many poor households, has been followed by poor rains and a sharp deterioration in food supplies the following year.

2.2.2 Causes of Transitory (Acute) Food Insecurity:

Transitory food insecurity refers to sudden or exceptional food shortages caused by certain or a combination of disasters often faced by the vulnerable social groups, the assetless poor in particular as the first victims.

The specific causal factors of such serious food insecurity problems are:

a) rain failure at critical times in the agricultural cycle (e.g, in crop planting and/or flowering stages);
b) human and animal disease outbreaks;
c) crop pest and disease outbreaks;
d) hailstorm, flood and related hazards leading to serious harvest failure and livestock loss;
e) sharp grain price increase coupled by sharp decrease in livestock prices (i.e, unfavourable terms of trade);
f) declining/lack of purchasing power;
g) food availability decline in local markets, and
h) declining or lack of labor demand during crisis situations which further aggravates the magnitude of household food insecurity.

Recent studies (Dagnew, 1993) indicate that the lowlanders (Kolla peasants and pastoralists) are particularly vulnerable to the recurring disaster-induced food shortages and famines (mainly due to drought, disease and pest outbreaks). In alleviating such

problems and their socio-economic impact, a combination of disaster prevention, preparedness and management interventions (i.e, relief, rehabilitation and development-oriented intervention) by government and/or non-government agencies is required.
Drought has been the major immediate cause of the alarming level of food insecurity in many regions of Ethiopia. At the household level in particular, the resilience of food production and livelihood systems has been undermined in many cases, by years (recurrent) drought, leading to the depletion of family assets and the erosion of community social security structures.

2.3 Who are the Food Insecure Groups?

Maxwell (1992:2-4) notes that " many indicators are used to identify vulnerable groups at local level. Early warning systems commonly assemble data on production, incomes, assets, coping strategies and community support mechanisms". Data on nutritional status of children (eg., child growth and weight) is also one other indicator reflecting generally the past undernutrition that commonly prevails within the poverty groups.

In terms of determining the economic status of rural households, available information (Ibid) indicates that the level of asset ownership and annual incomes can be used as the two main indicators. However, in many cases, obtaining a near-correct annual income of peasant households may be a difficult task. The same information source indicates that the size and types of productive assets and sources of income earning activities (employment) could be considered as the main indicators of the total seasonal or annual household income. Others, like the availability of active family labor, buying or selling of labor, and changes in consumption patterns (eating habits) can also be used as subsidiary indicators of the income/economic status and the general food security situations of households.

The appropriate way of analyzing the problems of food insecurity is to start with people often vulnerable to a lack of food (at a household and individual levels), and then move to assessing the national food production and self-sufficiency situations. Generally, statistical sources are not that helpful for describing the socio-economic characteristics of the food insecure. However, household and local/community level studies, and new methods of rapid and participatory rural appraisal help for the proper identification of the food insecure social groups.

According to Maxwell (Ibid), the food insecure groups in the African situation (including Ethiopia) fall into the following five main categories:

a) families that are poor in the ownership of productive

and non-productive assets, but live in surplus agricultural areas;

b) the resource-poor living in disaster-prone and other marginal areas;
c) poor pastoralists mainly in lowland areas;
d) the urban poor; and
e) refugees, displaced persons and others affected by War/civil conflicts.

In general, the rural landless people, female-headed households, the urban poor and, in some areas the elderly and the handicapped feature with increasing prominence among the food insecure groups. The majority of the food insecure groups in African situation are the rural poor and those often affected by war or civil conflicts.

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PART III

SOCIO-ECONOMIC AND ENVIRONMENTAL CONDITIONS ON NORTHERN ETHIOPIA

BY :- SILESHI TEFERA

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SOCIO-ECONOMIC AND ENVIRONMENTAL CONDITIONS OF NORTHERN ETHIOPIA

3.I INTRODUCTION

Northern Ethiopia includes the vast highland region in the northern parts of the country comprising the Amhara and Tigray Regional governments. The Region is bounded in the north by Eritrea; in the west by the Republic of the Sudan, in the south by Oromiya Regional Government and in the east by Afar Regional Government.

With a length measuring about 470 km. from west to east (i.e., from the Beles river in the west to the Awash river in the east) and about 500 km. from north to south (i.e., from the Mereb river at the Tigray - Eritrean border in the north to North Shewa in the south), the Region corvers an extensive area of about 245,000 sq. km, or about one-fifths of the total area of the country. The Amhara Regional Government, which is made up of the former administrative regions of Gonder, Gojjam, Wello and four Awrajas in Shewa administrative region, has an area of about 180,000 sq. km. while Tigray Regional Government covers about 65,000 sq. km.

Problems of regional development exist. The Region has historical significance as location of the emergence of the Ethiopian polity, agricultural settlement and nascent urbanization process. The Region is also endowed with extensive natural resources, particularly land and water, albeit yet untapped. Despite its human and physical resources, the Region has remained poor.

Major constraints in the development of the Region are manifested in the faulty policies, of the past regimes. A highly centralized administration of the feudal regime hampered decentralized development and concentrated the available resources in limited areas of the country, most notably in Addis Ababa, the nation's capital and other major urban centres. Socialist economic management of the Marxist regime of the Dergue precluded the participation of the private sector. Policies of both regimes had far-reaching implications for the development process in all the regions as well as in the target region in northern Ethiopia. Provisions of inadequate social and economic infrastructure, a small industrial base which is limited to small-scale manufacturing operations and the ever-growing unemployment in almost all the urban centres, the slow process of urbanization and low level of urban facilities are the mark of under-development in the Region.

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The Region also has to face the consequences of a rapidly growing population. The vagaries of nature such as environmental degradation (e.g, deforestation, severe soil erosion, drought and wide-spread famine, etc.) could not be abated. Per capita agricultural output in the Region, which lies in the heart of a cereal and livestock production area, has decreased for the past three or four decades.

In the face of all these difficulties, the options left, so far, for the Region are clear; the Region has either to break away from the cycle of poverty through sound management of its economy or remain being a recipient of food aid to cope with the growing food insecurity problem.

For the purposes of the present training workshop, analysis would avoid separate treatment of the Amhara and Tigray regions. Focus would be made on the Region, except in cases where it becomes necessary to give specific examples.

3.2 The Resource Base

3.2.1 Physiography and geology

The physiography of Ethiopia and particularly that of the northern part is a close manifestation of the underlying geology. The physiography is formed by the two tectomic occurrences of the Arabo-Ethiopia swell and the bisection of the Rift system.

The Ethiopian plateau, in which the target Region is located, comprise the highlands between the Escarpment in the east (above the Rift Floor) and the Sudanese border in the west. The Amhara and Tigrary regions are located in the Plateau hinterland. The hinterland, except in the river valleys and deep gorges, lies 1000 metes, above sea level; and about 50 per cent of the plateau lies above 2000 metres. Despite the deeply eroded plateau some of the greatest heights in the country are found in it, particularly in the Amhara region.

A large part of the plateau is covered by the Trepan series (mainly in the Amhara region), which is formed by thick volcanic flows (Traps). A broad classification of the Region depicts 7 physiographic regions. These are the simien massif, the north western Lowlands, Tana sub-basin, the central dissected plateau, the Dejen-Beles plateau, the Eastern Escarpment and the Tigrean plateau.

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3.2.2 Climate

Physiographic features have a strong bearing on climatic conditions in the Region. There are five climatic Zones in the Region with variations in area. These climatic regions are Wirch, Dega, Weina Dega, Kolla and Bereha. Wirch has an Alpine, cold climatic conditions and has a limited area coverage within the Region as a whole. It includes areas above 3,000 metres.

Dega and ***Weina Dega*** are important climatic zones in which the majority of the Regions' population live. The Dega lies between 2,300 and 3,000 metres and has a temperate climate and covers an extensive area. Weina Dega has a sub-tropical climatic condition and occupies the area between 1,500 and 2,300 metres. This is where the majority of people in the Region live.

The Kolla climatic zone has tropical conditions; and it is composed of the low-lying peripheral areas of the Region. An important area with such climatic conditions prevails in the western lowland areas. The areas are characterized by hot and dry climate.

Bereha is equivalent to the desert type, and is barely discernible in the Region. It has a negligible area coverage.

Rainfall pattern of the Region is uniomodal receiving a larger volume of rainfall - some 90 per cent - during June to September. The "Belg" (or commonly known as the "small rains") season occurs during February to May. Rain throughout the Region, except perhaps in the northern part in Tigray, is brought by the movements of the Inter-Tropical Convergence Zone (TCZ) when moisture-bearing winds originate in the South Atlantic Ocean and Southwesterly and Southeasterly winds - the monsoons - carrying moisture below across the Region.

Mean annual maximum of 1,772 mm is received at Gonder. Precipitation decreases in the northeast particularly in Tigrary where the mean annual rainfall ranges between 400 and 800 mm. The lowlands in the east and west of the Region have low moisture indices.

Temperature is also influenced by relief and wind movements, hence differences in temperature are observed within short distance in the Region. mean annual temperature in the lowland areas ranges between 25 and 30°c. However, a grater part of the Region especially the central plateau both in the Amhara and Tigray regions, has a mean annual

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temperature between 15 and 20°c. Wirch and Dega zones have obviously lower temperature, with a mean annual temperature of 10-15°c.

3.2.3 Soils: Distribution and Characteristics

There is dearth of information about soil in Ethiopia. However, from the scanty sources made available, broad generalizations could be made concerning the Region's soils.

A generalized soil distribution map (see National Atlas of Ethiopia) shows 17 types of soil units in the country. Six of the soil types are considered major resources of the Region. They are Luvisols, phaeozems, vertiaols, Lithosols, Cambisols and Nitosops. The greater part of central Tigray is covered by the cambisoles, while in the Eastern Zone a combination of Lithosols and erosols is dominant. In the northwestern part of Tigray there is a significant area covered by Luvisols of the Chromic and Eutric classes. Cambisols in Tigrary are in lithic phase, viz., they are of limited depth due to the occurrence of hard rock near the surface.

In the Amhara region Chromic and Orthic Luvisols are the dominant soil groups, mostey in their stony phase of development. Luvisols, Nitosols and Vertisols have significant coverages in West Gojjam zone, accounting vertisols for some 80 per cent of zone's area. Vertisols are found around Lake Tana with characteristics of flooding. Vertisols are also found in the western low-lying areas with drained characteristic.

Several soil types in both Tigray and the Amhara regions have limited agricultural use. Basic problems associated with soils of limited potential are steep topography, flooding and shallow depths. Lithosols, Vertisols, and Cambisols are examples of soils with limited use for agricultural production. Some of the soils in the Region are susceptible to intensive erosion and, poor profile development and are located in areas of low precipitation. Regosols are examples of such soils. Cost of management of the poor soils is very high.

3.2.4 Water resources

The Region lies within four river basins: Abbai, Tekezzie, Mereb and Awash basins. All the four basons, except the Awash basin, drain the Region and could be large sources of water, power and agricultural development (irrigated agriculture). The Abbai Basin, one of the largest in the country, has a total catchment area of 198.5 thousand sq. km. of which 91.3 thousand sq. km contains 51 per cent of the total area of the Amhara Region. The Tekezzie basin has a total catchment area of 87.8

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thousand sq. km and largely drains in Tigray. The Mereb basin the smallest of all, with a total catchment area of 23.5 thousand sq. km., drains the northern half of Tigray region. The Awash basin occupying the eastern part of the Region has a total catchment area of 168.1 thousand sq. km. of which 33.8 thousand sq. km (or 19 per cent) lies within the Amhara region.

Perennial rivers and intermittent streams rise in the interior plateau and drain into the four basins. Because of the underlying geology which has caused a westward dip of the Basement complex, all rivers in the region drain to the west. The rivers have cut deep canyons and gorges which have made many of them non-navigable and non-irritgable. The Abbai and Tekezzie have a total drainage volume of 56.6 and 7.6 billion cubic meters/year respectively. Only 1 per cent of the total volume of water has been utilized.

3.2.5 Forest resources

Data on forest resources of the Region are scarce, depicting the difficult existing situation in the Region.

However, references in the literature do show that an extensive coniferous and broadleaf forest resource of the Region at the beginning of the century has now been depleted. Remnants of the original forest are now limited to small patches around churches, cemeteries and inaccessible gorges.

The remnant climatic climax vegetation, particularly the conifers, occupies areas in the eastern portion of the Amhara region and the broadleafs are sparsely found in the western part including North Gonder, South Gonder, West Gojjam and East Gojjam zones. The coniferous patches could be observed in the Central and Eastern Zones of Tigray. Woodlands and savanna and grasslands cover the low altitude areas in narrow strips in the eastern and western boundaries of the Region.

Forestry, as one of the land use activities in the Region, had to compete with crop production and grazing. Agricultural production had to expand greatly because of the need to feed a growing population. Indeed, forest and grazing lands had to shrink rapidly.

The negligible consumption of modern energy resources (coal, electricity, petroleum and its by products etc.) has induced the use of fuelwood thus aggravating forest destruction. A fundamental cause for forest depletion

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is lack of public awareness about environmental management-or mismanagement - and its consequences.

3.2.6 Human resources

The Region's demographic structure features the following major characteristics.

- rapid increase of population growth resulting from high growth rates currently estimated at 3 per cent;
- its large young population; and
- unbalanced spatial distribution of population.

According to the 1984 Census total number of population of the Region was 11.5 million or 27 per cent of the country's total. The 1994 Census population of the Region was 16.9 million with a rural population of 15.2 million, or 90 per cent of the total. The share of population between the Amhara and Tigray regions is 13.8 and 3.1 million inhabitants respectively.

C.S.A projections show that population of the Region will reach 35.5 million in the year 2020 - more than double in just 26 years.

In 1994 proportion of the young population in the 0-19 years was 55 per cent of the total population of the Region.

According to the 1994 Census, it is reported that fertility rate in the Amhara region was 4.3 children per woman. There are differences between urban and rural situations. Urban fertility rate is 2.7 and rural is 4.5 children per woman.

Dependency ratio is also high as a consequence of the young population structure. Dependency ratio in Tigray was 129.4 which means that roughly 100 persons in the productive age have to support 129.4 persons in terms of food, clothing, health, education and other services. The corresponding figure for the Amhara region is 123.7.

3.3 Human Interaction with the Environment in the Region

3.3.1 Economic activities: the agricultural sector

For millennia the fragile ecosystems in the plateau region of northern Ethiopia have been disturbed through infinite interactions between natural

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forces. In this process, the economic activities of humans are optimized by their quest to live off the land.

Agriculture, which is predominantly limited to cereal production, is the mainstay of the regional economy. In 1994/95, over 90 per cent of the population were engaged in small holder agricultural activities and the sub-sector of peasant agriculture accounted for about 94 per cent of the total area under crops.

Estimates of area under different land uses for 1994/95 are shown in table 1. Temporary crops, i.e., cereals, pulses and oilseeds occupied 3.2 million hectares, or nearly 88 per cent of the total area used for different agricultural activities.

Table 1: Estimates of area under different land use (Amhara and Tigray regions in 1994/95)

('000 ha)

Region	Types of Land Use						
	Temporary Crop	Permanent Crop	Grazing Land	Follow land	Wood-land	Other land	All land
Tigray	507.38	0.77	7.67	29.76	0.00	31.79	577.37
Amhara	2,669.44	21.01	92.98	148.29	2.16	98.91	3,032.79
Total	3,176.62	21.78	100.65	178.05	2.16	130.70	3,610.16

Source: *CSA, Agricultural Sample Survey 1994/95 (1987E.C), Report on Land Utilization, Private Peasant Holdings, Vol. IV, Statistical Bulletin 132, Oct. 1995.*

Grazing land, occupying 100.7 thousand hectares, accounted for about 2.8 per cent. Land that was left fallow is also relatively small, nearly 5 per cent.

a) Agricultural production and productivity

Growth of agricultural production in the Region has been very low over a long period. With increasing population, decline in per capita availability of food from domestic sources will persist. Total area under food grain and volume of production have not changed much in the Region.

CSA's estimates of total production of major crops in Tigray and the Amhara regions in 1994/95 were 5.3 million qt. and 28.6 million

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qt. respectively. Grain yields for Tigray in 1994.95 were estimated to be 10.96 qt/ha and 9.7 qt/ha for the Amhara region. The corresponding figures of forecasts for 1995/96 were 11.51 qt/ha and 9.79 qt/ha respectively (table 2).

Various reports of the CSA show variations in production of major crops in the Region (CSA, Time Series Data on Area, Production and yield of principal crops 1979/80-1983/84, Vol.1). Total production of major crops in the Region in 1995/96 exceed these of previous years. Current production (1996/97) of major crops in the Region amounts to 35.3 million qt. while production for 1991/96 was 23.1 million qt.

b) Food production and consumption - the Regional food balance

Effort was made to construct an approximate food balance of the Region on the basis of the recommended calorie in-take of 2100 k/cal per person per day. Only major crops (which are assumed to account for 70 per cent of the daily calorie in-take) and food aid (cereals) that were delivered to the Region were considered. Volume of food aid, that was distributed to the Region in 1993/94, 1994/95 and 1995/96 was 2.4, 1.8 and 1.4 million qt. Per capita food availability is, therefore, 153 kg, 209 kg, 169 kg, 204 kg. and 202 kg. per person in 1991/92; 1993/94; 1994/95; 1995/96 and 1996/97 respectively. Hence, on the basis of an average food requirement of 2.25 qt /head/ day, food gap has been observed in all the years. The Region in general has faced food deficits of 72 kg/head; 16 kg/head; 56 kg/head; 21 kg/ head and 23 kg/head during 91/92, 93/94, 94/95; 95/96 and 96/97, respectively (see table 3).

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Table 2: Estimates of 1994/95 and forecast of 1995/96 of Area, Production and Yield of major crops (Tigray and Amhara regions) of private holdings

Region	Total area ('000 ha)		Total Production ('000 qt.)		Yield (qt/ha)	
	Estimate 1994/95	Forecast 1995/96	Estimate 1994/95	Forecast 1995/96	Estimate 1994/95	Forecast 1995/96
Tigray	481.43	492.00	5,278.22	5,663.80	10.96	11.51
Amhara	2,933.09	3,028.00	28,612.93	29,654.19	9.76	9.79

Source: *CSA, Agricultural Sample Survey 1996/97 (1989 E.C), Report on Forecast of Area and production of major crops (for private peasant holdings, Statistical Bulletin 163, Dec. 1996.*

Table 3: Food gap situation in Northern Ethiopia (Amhara and Tigray Regions)

	Years				
	1991/92	1993/94	1994/95	1995/96	1996/97
Production ('000 qts)	23,146.64	30,997.09	26,855.84	33,249.92	35,317.94
Food aid ('000 qts)	-	2,445.11	1,761.09	1,356.44	-
Population ('000)	15,104.40	16,034.20	16,970.60	16,985.90	17,473.60
Total Food Avail. ('000 qts)	23,146.64	33,442.20	28,616.93	34,606.36	35,317.94
Per Capita Food avail. (qt)	1.53	2.09	1.69	2.04	2.02
Food gap (qt/head)	-0.72	-0.16	-0.56	-0.21	-0.23

Source: *Data for food aid were extracted from a CDPP report*

Note: *The food gap is calculated based on an average requirement of 2.25 qt/head/day*

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c) Application of agricultural inputs

Deficit in food availability in the Region as a whole is obvious. Improvements are required, but they are difficult to come by. Expansion of areas of production is at present impossible because of the growing population pressure and the high cost of developing new farm lands notably in the northern and western lowlands of the

Region. The option left for the regional authorities is to consider increasing productivity on the existing farmlands.

Currently, modernization of the agricultural system in the region has little basis to be operational. Modern inputs, such as improvement of the traditional system of farming, application of extension services, fertilizers, improved seeds and adopting irrigation agriculture are very much lacking.

A problem, which is fundamental to agricultural production in the Region is the small size of farm assets owned by the peasants. For instance, the size of farm plots are on the average less than one hectare. According to UNECA's SAERP survey in the Region, there are cases where the smallest holding amounts to 0.04 hectare.

Other farm assets, or farm capital of peasant households include simple farm implements and farm animals. Crude ploughs, axes, and sickles are among the most important tools. Oxen are a crucial farm asset because they are the primary traction power in the farm system of the Region. The distributions of these assets are not balanced among the peasants. A large number of households (51 per cent) have an ox; hence they use oxen through rentals, borrowing from neighbours or through pairing with an ox belonging to another person.

Cows are kept for milk production mainly for home consumption; sheep and goats to be sold at the market place to generate additional income to the household.

One of the major constraints for the low agricultural production is poor soil management techniques such as fallowing, terracing and soil fertilization. The various techniques practiced in the Region require extensive agricultural land. According to UNECA's sample survey, most of the peasants in the Amhara region either do not have adequate knowledge of fallowing land, or they have abandoned the technique altogether.

Although livestock production is a major component of the agricultural system, animal husbandry may not be productive any longer due to shortage of animal feed/grazing land decline. The traditional livestock rearing in the Region entirely depends on the availability of grazing land and crop residue which is in short supply. Bacterial, viral and fungal diseases are rampant in the

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Region. Unless both preventive and curative measures are taken, output from livestock resources will decrease, thus contributing to the food insecurity problem that is existing at present.

Expansion of the agricultural area under crop is a problem; the Region's crop production has already encroached upon steep hillsides which should be protected and into marginal lands. Thus application of modern inputs is a better option. However, application of commercial fertilizer and improved seeds in the Region is inadequate; and the prices of these inputs are beyond the purchasing power of farm households.

Table 4 shows estimates of areas in which modern inputs were applied in 1991/92. According to the table about 2.0 million ha in the Amhara region was considered for application of modern inputs. However, a relatively larger area of farmland (78%) was cultivated with no fertilizer. Areas that were supplied with improved seed irrigation and pesticides were 9.8 thousand hectares; 13.3 thousand hectares and 50.4 thousand hectares respectively.

Table : Estimates of modern inputs applied in areas of the Amhara Region in 1991/92 (1984 E.C)

('000 ha)

Total area	Improved seed	Irrigation	Pesticide	Fertilizer
2,025.64	9.79	13.37	50.36	443.72

Source: *CSA, Agricultural Sample Survey, Meher season, Private Holdings, Statistical Bulletin 133.*

3.3.2 The Employment Situation

One of the measures to be taken to alleviate food insecurity is generating additional income enabling households to purchase food either from domestic sources or from outside of the Region. Therefore, workers in the Region should be gainfully employed elsewhere. With a high overall dependency burden in the Region, per capita agricultural production falling and increasing pressure resulting from a high growth of population, the need for people to get additional income other than agricultural activities cannot be overstated.

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The Region's high dependency ratio, as it is, does not indicate the true picture of the dependency problem because by CSA's definition ***not all workers in the working age groups are at work/employed*** .

Data in table 4 shows that of the total population of about 17.0 million in the Region, the total economically active population in 1994 was 9.1 million, or nearly 54 per cent. Of this large work force 8.4 million, or 92.2 per cent were engaged in agriculture, while the rest were distributed among different sectors such as manufacturing, wholesale trade, construction, public administration, etc. Those employed in manufacturing accounted for only 1.7 per cent of the total-due to the small size of the sector itself.

The employment problem of the Region coupled with a growing population pressure that demands more land for agricultural activities, which is constrained at the moment, gives a dismal picture of the long-term prospect.

Table 5: Economically active population by major industrial divisions (Tigray and Amhara Regions) 1994

No	Industrial Division	Tigray	Amhara	Total Both Regions
1	Agriculture hunting, fishing forestry	1,324,445	7,108,910	8,433,355
2	Manufacturing	21,056	130,494	151,550
3	Hotels and restaurants	21,090	107,328	128,418
4	Others: wholesale trade construction, electricity, gas public administrative	109,538	300,293	409,831

Regarding mobility and sectoral transfer of labour there is also a problem to be encountered. Workers in the Region may easily move from one occupation to the other within the same category, due to workers' proficiency to learn skills in a short time. However, it is much more difficult for them to move to another job in a different category.

In the Region, in all likelihood mobility of labour from agriculture to manufacturing or service sectors will create a problem. It is tantamount to allowing a farmer to move to the urban centre where the manufacturing and service sectors are concentrated. In the Region's urban centres, where unemployment problem is becoming acute, a peasant shifting to a

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totally different living and working environment will have little chance of success.

With regard to mobility of the labour force outside of the Region it again becomes questionable. At present, possibilities regarding the mobility of labour and capital, not only in the Region but in other parts of the country too, are not clear. There are incidences in the country currently that the movements of people to other regions are considered as "encroachment" upon other areas.

It is obvious that this situation calls for a policy on labour in general and labour mobility in particular. There is no labour policy at present. Information obtained from MEDAC indicates that a national labour policy is at the drafting stage. Once the policy is put in place and properly implemented it will definitely be one more contribution towards the effort of alleviating the problem of food insecurity in the Region as well as in other parts of the country.

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PART IV

NATIONAL EFFORTS TOWARDS ENHANCING FOOD SECURITY

BY :- SILESHI TEFERA

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NATIONAL EFFORTS TOWARDS ENHANCING FOOD SECURITY

4.1 INTRODUCTION

Throughout the long history of Ethiopia, the Central Highlands region, particularly Shewa administrative region has played a relatively greater dynamic role in the economic and political life of the nation.

The region was the most favoured in terms of agricultural production, although much of the region has remained vulnerable to environmental degradation.

Ethiopians have devised methods of regional classification of the country based on the relationships between physiciography and climate. It is, therefore, partly in the Central Highlands (particularly Dega and Weiyna Dega climatic zones) that traditional sedentary agriculture, which attracted dense human settlements, was initially practised.

A "Core-periphery" structure developed in which could be observed a dichotomous and polarized social and economic development. The "Core" region included the Central and Northern Highlands while the "Periphery" comprised the low-lying areas surrounding the highland "core" region. There are stricking differences between the "Core" and the "Periphery" interms of distribution of population; types of social and economic activities and physical attributes.

The two systems of regions occupy almost equal areas; however, the large majority of people - some 85 per cent-live in the "Core" region. Historically, people from all walks of life rallied round the two most powerful institutions - the church and the palace-for economic, political and religious reasons.

Characteristics of the agricultural system in Ethiopia comprise three distinct features, though of varying importance: ***sedentary agriculture*** mainly based on grain and livestock production, which almost entirely depends on the rainfall; ***pastoral agriculture*** in which 4 million semi-nomadic pastoralists are engaged in livestock rearing in the southeastern, southern and southwestern lowlands. A third agricultural system is ***shifting cultivation,*** practiced in limited areas stretching between

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southern Gambella and Metemma in North Gonder administrative zone. Shifting cultivators are confined roughly within the region of dense forest and high precipitation practicing hoe culture.

Despite its extensive natural potential resources, backward traditional agricultural production methods and high growth rate of population, have rendered Ethiopia one of the poorest nation, making it also vulnerable to the vagaries of nature-droughts, decreasing agricultural outputs and wide-spread famine.

Challenges that the nation has to accept and act upon are many; but the major challenges - rapid population growth, poor performance of the major sector (agriculture) and the unemployment problem are focused upon. The food security situation could only be enhanced by sound policies and strategies.

4.2 The Economic Challenges

4.2.1 General

Ethiopia, located between 3° North and 15° North latitudes and 33° East and 48° East longitudes, covers an area of 1.13 million sq. km. It is bounded in the north and northeast by Eritrea (now the state of Eritrea); in the west by the Republic of Sudan; in the east by the Republic of Djibouti and in the south by the Republic of Kenya.

4.2.2 Physiography

The physiography of Ethiopia manifests the underlying geology. In geologic history, erosion, volcanic eruptions, tectonic movements and subsidence have occurred giving the Ethiopian landscape an uneven feature resulting in a topography with altitudes ranging between the highest peak at Ras Dejen 4,620 metres above sea level and the Afar Depression 110 metres below the level of the sea. Physiography has resulted from the interaction of the two tectonic phenomena of the Arabo-Ethiopian Swell and the bisection of the Rift Valley System. The whole region of the Horn of Africa, except the Rift System, is an uplifted Plateau of which the western part contains the Ethiopian Highland system and the eastern part comprises the Chercher and Bale highlands. The physiography of Ethiopia may be generalized into four categories: the Central Highlands, the Peripheral lowlands, the Rift Valley and the Eastern Escarpment.

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4.2.3 Land Resources

Ethiopia has a total land area of 113 million hectares. The Highland region comprises about 45 per cent (52.6 million hectares) and accounts for four-fifths of the total population. Volcanic soils in the region are relatively fertile and deep and 75 per cent of the total area of the highlands has a crop growing period exceeding 180 days. A variety of crops are grown and diverse farming and land use systems have developed due to the wide-ranging environmental conditions.

The low-lying areas in the northwest, east and south have semi-arid and arid climatic conditions supporting semi-nomadic pastoralists who are also engaged in producing maize and sorghum. In the south, southwest and west, tsetse infested humid and sub-humid lowlands are populated by shifting cultivators and hunter-gathers.

a) The Agricultural Sector: General Back-ground

Agriculture, the mainstay of the Ethiopian economy, accounts for 41 per cent of the GDP, 90 per cent of foreign exchange earnings; and 85 per cent of the people live in it.

Of the three sub-sectors in agriculture, the sub-sector peasant (excluding pastoralism) is by far the most important. In 1991 it comprised 90 per cent of agricultural production and about 95 per cent of the agricultural area under crops. Mixed farming (crop and livestock production) characterizes the sub-sector.

Little is known about pastoralism, the second sub-sector, except that livestock production is the backbone of the semi-nomadic population of the lowlands.

Medium-to large-scale state farms, in the third sub-sector, are publicly owned. Their contribution is relatively small - some 10 per cent of the total production.

b) Land-use and Potential

Currently, it is estimated that some 66 percent of the land area is potentially suitable for agricultural purposes.

Table 1 shows the current land-use potential of the country. Some 16.5 million hectares, or nearly 15 per cent of the total area, is

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cultivable. Rain-fed annual and perennial crops occupy 14.6 million and 1.9 million hectares, respectively.

Grazing and browsing account for 57 million hectares or 51 per cent of the total land used. A large area, 25 million hectares, or 22.5 percent is currently considered either unproductive or unutilized.

Forest and shrubs occupy 13 million hectares, or nearly 12 per cent of the total - the share of forest land being only 4 million hectares.

c) Land-use Alternatives

(i) Rain-fed Agriculture

Due to the diversity of physiographic, altitudinal and climatic conditions, Ethiopia is divided into18 Agro-climatic zones and 62 sub-zones grouped into 7 major categories. These divisions are based on temperature and moisture regimes. (see table 2).

Table 1: Current Land-use Potential

Land-use	Area ('000 ha)	%
Cultivable Land	16,509	14.8
- Annual crop	14,613	13.1
- Perennial crop	1,896	1.7
Grazing and browsing land	56.888	51.0
Forest, shrubs, etc.	13,051	11.7
- Forest	4,016	3.6
- shrub and others	9,035	8.1
Currently unproductive	4,239	3.8
Currently un-utilized	20,859	18.7

Source: *TGE, National Programme 1, (Draft) Addis Ababa Nov. 1993*

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Table 2: Agro-Ecological zones and sub-zones of Ethiopia

Major Zone	No. of sub-zone	Area ('000 ha)	Agricultural suitability	Major Limiting problem
Arid (A)	8	42,272.02	Pastoral	rainfall
Semi-arid (SA)	6	2,900.20	Pastoral/cultivation	rainfall
Semi-moist (SM)	11	18,,962.82	annual crops	erosion
Most (M)	15	24,540.12	annual crops	erosion
Semi-humid (SH)	11	16,731.90	ann/perennial crops	erosion
Humid (H)	8	6,358.12	ann/perennial crops	erosion
Pere humid (PH)	3	669.27	perennial crops/frost	cold
Total		112,434.45		

Source: *TGE, National Programme I, "Food Production, Food Security and Nutrition", (Draft), Addis Ababa, Nov. 1993*

The relative importance of the agro-ecological zones can be discerned from table 2. The Arid zone accounting for nearly 38 per cent of the total area of the country, is not used for agricultural purposes due to scanty precipitation. Semi-arid areas, though limited to a relatively smaller size (2.6 per cent) are also unutilized for agricultural production.

The semi-moist, moist, semi-humid and humid zones cover together about 60 per cent and are used for annual and perennial crops. Per-humid zone (0.6 per cent) is more suited for perennial crops and forestry. The main problem or limitation in the agriculturally suitable zones is the threat of erosion, which varies in its severity between zones.

The highlands in the east and northeast are more oriented to coarse grains (maize and sorghum) production while those in the western, southwestern and southern parts of the country are more suitable for the production of maize as well as root and tuber crops. It is the Central Highlands which are more suited to grains (wheat, barley and teff).

Data on area cultivated and total production of major crops indicate that over the last 30 years (1960 to 1990) overall cultivated area

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have shown a declining trend, while total output levels for cereals and pulses were erratic with no particular trend.

(ii) Irrigated Agriculture

Ethiopia's estimated irrigation potential is about 3 million hectares. At present, irrigated agriculture under different stages of development, however, covers an area of only 300,000 hectares excluding the traditional small-scale irrigation developed on some 72,000 hectares. It is, therefore, evident that there exists a vast untapped potential to increase agricultural production through irrigation based on intensive agriculture.

Most of the recently developed modern small-scale schemes remain largely unused because of unsettled policy issues relating to organization, land ownership, and water use rights as well as cost-recovery due to the ever-increasing development costs.

4.2.4 The Demographic Structure of Ethiopia

a) Demographic Characteristics

Ethiopia's demography features the following major characteristics:

- rapid increase in population growth resulting from high growth rates (currently estimated at 3.1 percent);
- a large young population and the resultant high dependency burden; and
- unbalanced spatial distribution of population.

Ethiopia's population, currently about 60.46 million (table 3) is projected by the Central Statistical Authority (CSA) to reach about 79.4 million by 2005. By the year 2015, the population is expected to reach about 111.6 million - nearly double the size of the present population.

Population distribution by age group reveals an age structure which is dominantly young, the median age being 18 years. In 1990 the proportion of the young population in the age group of 0-14 years was 48.2 per cent. The proportion of the 15-59 years age group was 47.2 per cent while the older age group of 60 years and over accounted for 4.6 per cent of the total population (table 4).

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Table 3 : Population Projection of Ethiopia by Sex, Rural and Urban (1984-2020)

Year	Sex	Rural	Urban	Total (in '000)
1984	M	18,048.7	2,110.3	20,159.0
	F	17,521.3	2,385.9	19,907.2
	T	35,570.0	4,496.2	40,066.2
1985	M	18,546.7	2,279.2	20,825.9
	F	18,023.3	2,551.8	20,575.1
	T	36,570.0	4,831.0	41,401.0
1995	M	24,231.4	4,214.8	28,446.2
	F	23,764.3	4,466.6	28,230.9
	T	47,995.7	8,681.4	56,677.1
2000	M	27,736.7	5,760.1	33,496.8
	F	27,265.5	5,993.5	33,259.0
	T	55,002.2	11,753.6	66,755.8
2005	M	31,996.1	7,870.9	39,867.0
	F	31,449.6	8,081.9	39,531.5
	T	63,445.7	15,952.8	79,398.5
2010	M	36,721.7	10,609.3	47,331.0
	F	36,123.9	10,791.1	46,915.0
	T	72,845.6	21,400.4	94,246.0
2015	M	41,630.5	14,586.2	56,216.7
	F	40,884.1	14,483.0	55,367.1
	T	82,514.6	29,069.2	111,583.8
2020	M	46,377.4	19,665.4	66,042.8
	F	45,577.6	19,864.7	65,442.3
	T	91,955.0	39,530,1	131,485.1

Source: *CSA, **Ethiopia Statistical Abstract 1995,** Addis Ababa, April 1996 and OPHCC*

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Table 4: Total Population of Ethiopia by Age Group and Sex, 1994 ('000)

Age	Both Sexes		Male		Female	
	Number	percent	Number	Percent	Number	Percent
0-4	10,258	18.7	5,173	18.8	5,085	18.6
5-9	8,713	15.9	4,419	16.0	4,294	15.7
10-14	7,705	14.0	3,964	14.4	3,741	13.7
15-19	6,184	11.3	3,212	11.6	2,972	10.9
20-24	4,618	8.4	2,400	8.7	2,218	8.1
25-29	3,282	6.0	1,647	6.0	1,635	6.0
30-34	2,492	4.5	1,169	4.2	1,323	4.8
35-39	2,256	4.1	1,009	3.7	1,247	4.6
40-44	2,155	3.9	984	3.6	1,171	4.3
45-49	1,923	3.5	925	3.4	998	3.6
50-54	1,566	2.9	783	2.8	783	2.9
55-59	1,218	2.2	614	2.2	604	2.2
60-64	932	1.7	464	1.7	468	1.7
65-69	656	1.2	324	1.2	332	1.2
70-74	453	0.8	226	0.8	227	0.8
75+	528	1.0	265	1.0	263	1.0
Total	**54,939**	**100.0**	**27,578**	**100.0**	**27,361**	**100.0**

***Source**: CSA, **Ethiopia Statistical Abstract 1995**, Addis Ababa, April 1996*

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As shown in table 4 above, dependency ratio is high as a consequence of the young population structure. Roughly about 100 persons in the productive ages support 111.8 dependents in terms of food, clothing, health and education. Youth dependency ratio is 102.1 per 100 persons while old age dependency ratio is 9.7 per 100 persons. The actual economic dependency is much higher than this due to the fact that not all persons in the working age group are actually at work.

b) Employment

According to the CSA census results, out of a population of 21.9 million covered in the census, 14.7 million people aged 10 and above or 67.2 per cent were economically active, hence indicating the significant magnitude of the labour force seeking job opportunities. About 7.2 million people of 32.8 per cent were classified as economically inactive.

Data are not available regarding the current employment situation. However, based on the 1984 census figures, it is possible to capture the limited employment opportunities in the modern sector of the economy. Table 5 shows the distribution of the economically active population by industrial group. The data show that among the economically active population, a large segment of the working population (12.8 million) is employed in agriculture and allied industries. The proportion of those engaged in any industrial group other than agriculture and allied activities accounted for less than 5 per cent of the economically active population excepting public administration, social, cultural and recreational services, which account for 5.1 per cent of the economically active population.

Thus, agriculture is the main source of employment and very few job opportunities are available outside agriculture. Urban areas provide employment opportunities mainly in public administration, social, cultural and recreational services engaging about 45 and 44 per cent of the male and female economically active popualtion, respectively. Trade (wholesale, retail, and catering) is the second largest source of employment, accounting for about 20 per cent and 40 per cent of the female population.

The employment generating capacity of the manufacturing sector is low due to the small size of the industrial sector itself. A total of nearly 88,000 permanent employees in the manufacturing industry (public and private) represent a mere 0.6 per cent of the total labour force.

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Table 5 : Distribution of Economically Active Population by Major Industrial Groups

Industrial Group	Rural	Urban	Total
Agriculture, Forestry Hunting & Finishing	12,822,561	123,839	12,946,400
Mining and Quarrying	5,688	4,228	9,916
Manufacturing	84,260	146,434	230,694
Construction	6,187	30,544	36,731
Electricity, Gas and Water	817	9,419	10,236
Wholesale Retail trade & catering	180,843	379,565	560,408
Transport & Related workers	8,989	52,878	61,867
Bank, Insurance and Business Service	578	11,084	11,662
Public Administration, Social, Cultural, Recreations, etc.	143,477	606,970	750,447
Total	**13,253,400**	**1,364,961**	**14,618,361**

Source: *TEG, "The 1984 Population and Housing Census of Ethiopia", (OPHC), Table 3.5 Addis Ababa, December 1991.*

A serious unemployment problem concerns the youth in Ethiopia due to its low participation in the labour force. A recent study commissioned by the Ministry of Labour and Social Affairs shows that in the 15 years covering 1978/79 - 1992/93, registered job-seeking youth numbered some 773,600 out of which only 135,100, or 17.5 per cent, were employed. Since the number of street children has also increased, particularly in the urban areas, delinquency has increased.

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c) Current and Long-term Grain Production and Consumption

i) Agricultural Production and Productivity

Overall agricultural growth over the past many years has been known to be very low. With population growing at a rate of close to 3 percent per annum, a declining trend in per capita availability of food from domestic production has, thus, become a permanent feature. Over the years, estimates of the total area under food grains production (cereals, pulses and oil seeds) ranged between a low of 5.6 million hectares and a high of 6.1 million hectares. In like manner, total production fluctuated between a low of 4.9 million metric tons and a high of 7.85 million metric tons.

Grain yields ranged from 881-1336 kilograms per hectare for cereals, 668-1209 kilograms per hectare for pulses and 346-467 kilogram per hectare for oilseeds. The national average yield for all food grains ranged between 831 and 1282 kilograms per hectare. The yield per hectare of land showed marked variation between crops and regions. The observed low yield levels are attributed, among other things, to cultural practices in which improved agricultural inputs (fertilizers, seeds, etc.) are either not applied at all or are used sub-optimally. Among other factors constraining agricultural production and productivity are problems relating to the environment, technology, policies and incentives, infrastructure, and institutional considerations.

Per capita food availability in 1992/93 has been estimated at about 1515 calorie per day, which converts to about 163 kilograms of food grain equivalent per year. This is much n(28%) below the intake of 2100 calorie per day considered normal for an average healthy human being.

ii) Production and Consumption of Food Grains

More recent data show that fluctuation persists in the production of major crops, yields and hectarage (table 6).

Table 6: Area Under Cultivation, Yield and Production of Major Crops* - 1992/93-1994/95

Crop	1992/93			1993/94			1994/95		
	Area ('000 ha)	Yield (2t/ha)	Production ('000 2t)	Area ('000 ha)	Yield (2t/ha)	Production ('000 2t)	Area ('000 ha)	Yield (2t/ha)	Production ('000 2t)
Cereals	3,954.1	13.1	51,487.7	5,287.7	9.7	51,052.6	6,448.6	9.1	58,484.9
Pulses	702	8.2	5,765.8	1,640.4	3.2	5,181.9	919.7	8.6	7,946.6
Oilseeds	200.7	3.5	696.1	229.8	3.3	762.9	312.4	3.2	996.6

Source: *CSA, **Ethiopia Statistical Abstract 1995,** Addis Ababa, April 1996.*

* Estimates for 1992/93 does not include Belg season crop production.

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The production of major crops during the crop year 1995/96 far exceeds those recorded in the past ten years. Currently, production of cereals, pulses and oilseeds stand at 7.5 million metric tons, 778 thousand metric tons and 119 thousand metric tons. Comparable 1986/87 figures for the same crops were 5.6 million metric tons, 541 thousand metric tons and about 85 thousand metric tons, respectively. Growth in the production of major crops over the past ten years recorded a growth rate of 3.8 per cent per annum (MEDAC, Food and Nutrition Unit).

Projected estimates of per capita grain production and shortfalls in consumption are presented in tables 7 and 8. The food grain gap (Table 8) is estimated on the basis of the recommended daily intake of 2100 calorie per person. It is assumed that 70 per cent of the daily colorie intake would be accounted for by cereals, hence making the annual requirement of grain per person some 157.7 kilograms.

Table 7 : Projections of Production by Major Crops, 1996/97-2000/01

CROPS	1996-97	1997-98	1998-99	1999-2000	2000-01
CEREALS	59,085.14	61,082.22	63,146.78	65,280.65	67,487.65
PULSES	6,744.47	6,972.42	7,208.08	7,451.71	7,703.59
OIL CROPS	1,173.45	1,213.11	1,254.10	1,296.49	1,340.32
Total	67,003,06	69,267.75	71,608.96	74,028.85	76,531.56

Source: MEDAC, Food and Nutrition Unit.

Table 8: Projected Per Capita Grain Production and Food Availability Gap (1996/97 - 2000/01

	1996-97	1997-98	1998-99	1999-00	2000-01
Prod (000 tons	6,700.86	6,927.35	7,161.5	7,403.5	7,653.79
Pop (M1, 1984 census)	60.46	62.51	64.61	66.76	69.01
Per cap pd. (kg/hd)	110.83	110.82	110.84	110.9	110.91
Net per cap prod (kg/hd)	94.21	94.20	94.22	94.26	94.27
Gap at 2100 cal (kg/hd)	-63.29	-63.3	-63.28	-63.24	-63.23

***Source**: MEDAC, Food and Nutrition Unit*

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4.3. The National Policy and Strategy Responses

4.3.1 General

Ethiopia is facing food insecurity problems of large magnitude. It was estimated (USAID/Government Review) that in 1991 nearly 20 per cent of the Ethiopian population could not secure enough food through their own resources. Currently, it is estimated that 52 per cent of the total population of the country is food insecure, or below the poverty line (FDRE November 1996).

In recognition of the overall deficiencies in the development effort in general and implicitly, those of the agricultural sector, the current and past governments have taken economic, social and institutional reform measures. Although specific measures to alleviate food security problems were implicit in most of the policies and strategies, (until the end of 1996 when a strategy of food security was drafted by the FDRE), it should be understood that most of the strategies, programmes/projects and policies touched upon the problem indirectly.

As well noted in the previous sections of this report, food security problems are multi-sectoral in nature and are closely inter-wined with activities (and problems) in other sectors. Therefore, whatever steps were taken, they focused on administrative and economic measures to correct the dismal performance of the economy giving importance to activities such as increasing production and productivity in agriculture, industry, water resources development, etc.

A synopsis of policies and strategies and programmes with respect to governments' (past and present) efforts to enhance food security in the country is reiterated as follows.

4.3.2 Programmes

The package programme approach was adopted by the feudal regime in the 1960s, principally focusing on integrated rural development to be implemented in a regional framework. The Chillalo Agricultural Development Unit (CADU) was initiated in the former administrative region of Arssi with SIDA assistance. Focusing on the peasant sector, the overall objective of the programme was to provide packages of development inputs such as fertilizer and seeds. Development benefit was expected to have a spiral effect later affecting other areas.

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However, the effects did not take place. The CADU programme failed because of the high operational costs involved. CADU's experience was

replicated in Wolayita Agricultural Development Unit (WADU), the Ada Agricultural Development Unit (AADU) and later HADU in Humera Wereda of northwestern Ethiopia. These programmes were not successful either.

After the 1984/85 famine which affected more than 7 million people in many regions of the country, the Dergues' major policy intervention focused on a number of comprehensive programmes known as Peasant Agriculture Development Extension Program (PADEP). A series of such programmes were established in different parts of the country. They were financed through multilateral arrangements (e.g. EEC, World Bank) and through funds made available by individual governments (eg., Italy).

A major objective of the PADEP programme was to increase productivity of small holding peasant agriculture. Although the PADEP concept was initiated first by the Ministry of Agriculture and the World Bank, the Dergue Government had to reconsider its strategy because it would not be good politics to run the government programmes in the middle of a great crisis - drought. The Dergue, therefore, initiated another programme by giving priority to a selected number of surplus-producing weredas. This was a strategy to attain food self-sufficiency in food through a dramatic increase in food production.

The strategy envisioned a larger deployment of personnel (extension agents) and massive concentration of resources such as modern inputs in the selected surplus-producing weredas. Results were of no consequence. Let alone Ethiopians ti beceme self-sufficient in food, the disaster-affected population since the early eighties, had increased, and hence, delivery of food aid had also increased.

In Ethiopia, the history of ***resettlement*** goes back to the latter part of the 1950s. Re-settlement programmes were intended to reduce population pressure on land and to improve agricultural activities. A large-scale resettlement programme was started by the Dergue government in response to the severe drought and the resulting wide-spread famine and human displacement in 1983/85.

Two types of resettlement schemes were formulated, namely, "conventional", in which displaced people resettled in formerly uninhabited parts of Gambella, Assosa and Metekel. ***"Integrated" resettlement*** took place in the already inhabited, but sparsely populated Peasant

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Associations, by insertion. Weaknesses of the programmes were that they were unplanned and executed without the participation of the beneficiaries. The resettlement schemes also caused severe ecological damage.

Villagization programmes were viewed by the Dergue as part of an integrated rural development strategy in which basic infrastructure, services and production increasing-technologies could be delivered to the villagers. The first programme took place in Bale administrative Region in 1979.

Villagization programmes were to be implemented in three phases. The areas where annual crops culture predominated were to be covered during the first phase. The perennial crop production areas were to be villagized in the second phase; while the nomadic areas were to be covered in the final phase.

The programme was given a big support by the government in 1985/86 when 15 pr cent of the country's rural population (5.5 million people) were moved into newly-established villages.

Major operational problems of the scheme could be enumerated: the scheme was hastily conceived; it was a Party programme which had to be implemented at any cost; increased physical distances that farmers had to cover from their villages to their farm plots contributed to a waste of time; and participation of the farmers in the scheme's implementation was hardly voluntary.

The villagization programmes became defunct when farmers abandoned their villages and returned to their original sites (thus pre-empting TGE's policy statement on the discontinuance of the resettlement and villagization programmes) when the Dergue regime collapsed in May 1991.

4.3.3 The Policy and Strategy Responses of the Government

In response to the multifarious social and economic problems the Transitional government of Ethiopia (TGE) initiated a number of policy reform measures and strategies.

The cornerstone of the TGE's economic and institutional reforms is the shift from centrally-planned to market-oriented economic management. These policies reflect the essential features of free-market practices and

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are a departure from most of those policies and strategies of past governments and to correct market and economic imbalances.

A major follow-up of the TGE's economic policy is decentralization of the decision-making process. This policy is concretized in the establishment of a four-tier state structure: Central (now Federal), Regional. Zonal and Wereda administrations (Proclamation No. 7/1992). The powers and duties of the Central and Regional governments were also delineated (Proclamation No. 41. 1993).

The powers vested in the regional administrations allowed the regions, among others, to plan, guide and supervise social and economic development programmes. Fiscal decentralization (Revenue-sharing) (Proclamation No. 33/1992)is also a major achievement of the policy in promoting development and strengthening regional and local governments in matters of having access to resources.

The interaction between demographic and development factors and its adverse consequences had become a serious concern to the TGE. The government has tried to identify a number of demographic factors which have a bearing on the underdevelopment of the country. Low productivity of the economy, very low provision of social services, food insecurity, prevalence of maternal and child mortality, etc. have been given serious consideration.

It has been emphasized also that high fertility exacerbates problems of economic development and manifests, as stated in a specific Article of the policy (The National Population Policy of Ethiopia, April 1993), "improving productivity in agriculture and introducing off-farm non-agricultural activities for the purpose of employment diversification". Another, even more relevant strategy prescribed by the policy, is related to "breast-feeding as a means of dealing with the problems of childhood malnutrition."

The institutional mechanisms at the Federal and Regional Government levels have partially been put in place. The National Office of Population was established under the Prime Minister's Office (Now under MEDAC) in 1993. Regional Bureaux of population (including offices and Committees in zonal and wereda administrations, respectively) have also been established in all but a few of the Regions.

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There is a strong financial and technical support given to the government from UNFPA soruces through a series of Country Programmes. The Third Country Programme, which will end in December 1997, will be followed by a fourth one.

Nonetheless, there are implementation problems facing population offices both at the Federal and regional levels. The National Office of Population has organizational and staff problems. The office has not been given recognition yet by the Federal Civil Service Commission. The existing regular professional staff and national project personnel are limited in number.

Some of the Regional Population Bureaux have to be strengthened both in terms of organizational structure and manpower. Activities properly implemented till now relate to training workshops organized by the central and regional offices Regional staff members, although few in number, have been sent abroad for short-term courses.

The TGE had elaborated and endorsed its policy on disaster prevention and management (TGE October, 1993). The broad approach of the policy is focused upon the integration of disaster prevention in development efforts. The aim of the policy is, therefore, that through relief and development planning and raising the capacity of local economies the suffering of people in drought-prone areas is mitigated.

One of the major policy objectives states that "no human life shall perish for want of assistance in time of disaster." The alleviation of food availability problems is clearly subsumed in an important policy objective: adequate income shall be provided to disaster-affected households "to give them access to food and other basic necessities."

The operational modalities of the various policy statements in the accompanying directive prescribe a number of interventions for both sedentary farming areas and pastoral regions. Employment Generation Schemes (EGS) is one of the interventions which provides a means of distribution of income to deprived target groups.

An organizational structure of relief management has also been prescribed by the policy both at the central and regional levels. The National Disaster Prevention and Preparedness Committee (NDPPC) is given overall responsibilities. The Disaster Prevention and Preparedness Commission (DPPC) is the Secretariat of the NDPPC. Although the process of establishing the institutional mechanisms is in full swing, some

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of the Relief and Rehabilitation Bureaux in the regions are still understaffed.

The Government initiated the establishment of the Emergency Food Security reserve (EFSR) as a project within the DPPC in 1982. Although sanctioned, it was not created until 1992 when it became an autonomous body with its own Ministerial Board and Donors Advisory Technical Committee. The EFSR is a food strategy institution complementing the EGS concept.

The Reserve's main objective, in the context of the National Policy on Disaster Prevention and Management, is to provide a readily available source of basic food for use in the initial stage of drought-related food shortages. The Reserve acts as a food bank from which government and NGOs could make withdrawals of food for emergency and repay them when additional shipment arrives.

The stock size targeted for the short and medium-terms is 205,000 tonnes and 307,000 tonnes respectively. The stock has been built up by donors and government contributions. The EFSRA currently possesses a total storage capacity of 212,000 tonnes at strategic locations: Nazret, Shashemene, Mekelle, Kombolacha and Dire Dawa. Additional warehouses are planned to be constructed at Woretta and Wolayita Soddo, and Bedele. So far, implementation of the Reserve's operations in terms of delivery of emergency food has been satisfactory.

The government's National Policy on Ethiopian Women (March 1993) explicitly stated that (1) Women's contribution to the economy (and hence, to food security of the household), and to quality of life has not been recognized; and (2) there is an unequal access by women to employment, land and other means of production. It also recognizes that women are the first victims of natural and human-made disasters.

The policy is designed in such a way that, ***inter alia***, stresses on women are reduced, and it proposes activities to improve the lot of the rural people (including women) and activities focused on women.

The mechanism chosen is to establish institutional capacity in Line Ministries and at regional level to ensure that women's activities are coordinated. The problem of implementing this aspect of the policy, however, is that given resource constraints, service delivery rates are inversely proportional to distance from the administration.

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A long-term strategy of economic development of Ethiopia has been drafted and sanctioned by the government. Implicit in this strategy-the Agricultural Development-Led Industrialization (ADLI) - is a strong government support of agricultural and industrial development programmes[1]. The centre piece of the strategy is productivity

improvement of small holding and pastoral agriculture and industrialization based on utilization of domestic raw materials with labour-intensive technology.

The development of the peasant sub-sector is envisioned to be done in three phases. There would have to be major improvements in traditional agricultural practices during the first phase-the use of improved seeds being focused upon. During the second phase small-scale irrigation schemes, the expansion of agricultural infrastructure and modern technological inputs such as fertilizers, pesticides, etc., will be introduced. The third phase will include a shift of labour from agriculture to non-agricultural activities thereby expanding farm sizes of households.

The strategy is an important framework for the long-term development of sedentary and pastoral agriculture. If successful, it would muster up all the capacity to address many of the development problems including food insecurity.

EPRDF's currently on-going Five-Year Programme on Development Peace and Democracy Strategy (Amharic text, no date) has as its overall goal a rapid and sustainable growth. The achievement of this programme will depend on implementing agricultural and/or rural-centred development focused on 85 per cent of the population of Ethiopia. The strategy is an improvement on almost all rural development approaches of the past because it also takes into account the welfare of the urban population, particularly with respect to increased supply of agricultural products, at a reduced price, to the urban consumers.

A cursory review of the ***components of the new strategy***, which is being implemented currently, indicates that it presupposes the following rationale: (i) ***preventing the famine problem which has endangered the lives of the Ethiopian peasants; (ii) agricultural and/or rural-centred development will not only be linked to the betterment of rural life and increased growth in the agricultural sector, but it is assumed to be the sole method of assuring rapid growth of urban economies; (iii) increased agricultural output will reduce food prices***

[1] MOPED September, 1993

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for urban consumers, (iv) rapid growth in agricultural output would create a conducive environment for the expansion of labour-absorbing industries and others which use agricultural raw materials; and (v) a rise in the standard of living in the rural areas will exert greater demand for urban-based industrial commodities, thus resulting in a further expansion of industries in the urban centres.

A number of activities will be taken in order to operationalize the development strategy. They are, ***inter alia,*** utilization of improved agricultural inputs (e.g, improved seed, modern fertilizer and pesticide, credit, improved extension services, etc.), expansion of small-scale irrigation, development of livestock resources, implementing development policies which are based on environmental protection, expansion of efficient market services and expansion of economic and social infrastructure that support the development.

Currently, government's effort towards enhancing the food insecurity problems has been concretized in a Food Security Strategy (November, 1996) document. The strategy intends to give a clear picture of the food security situation in the country. It provides guidance in the operationalization of its plan to improve the situation of food security by considering broad intersectoral issues. The government thus views the food security strategy from the viewpoints of three components:

Economic growth, Employment, and other Targeted Development-Related Strategies

Strategies including economic growth and employment, targeted development programmes which enhance household entillement/access to sustainable food supply/income, and building of people's emergency management capabilities are the most important policy considerations.

The economic growth and employment components in particular call for a number of interventions such as maintaining sound macro-economic and population policies; giving priority to rural development and focusing on agriculture, lowering of real food prices and taking measures for regions with less reliable rainfall and pastoral areas.

With regard to the macro policy interventions, government had already begun implementing some macro-economic reform programmes which had been initiated in mid-1992. Exchange rate realignment, foreign exchange auctions and liberalization of external trade, among others, have already been introduced as part of the reform measures. Increasing agricultural production with the diffusion of modern inputs is one of the

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aims of the government, it will also promote irrigation development at a reasonable cost.

The second major component of the strategy, additional entitlement/access and targeted programmes, includes sub-components such as supplementary employment/income schemes; targeted programmes and nutrition and health interventions. Supplementary

employment will focus, among others, on agricultural production/marketing natural resource management, decentralizing administration.

Targeted programmes, i.e, for very poor and vulnerable groups, will include building on successful Safety Net Programmes, establishing monitoring arrangements; focus especially on women; etc. ***Nutrition and health interventions*** will consider children's immunization and diarrhea prevention, nutrition education and family planning and better weaning foods and school feeding programmes.

The last component of the strategy, i.e., emergency capabilities will focus on maintaining and strengthening monitoring, surveillance and early warning arrangements and food and relief distribution capabilities.

Finally, the ***Food Security strategy*** of the government emphasizes the important linkages between the ADLI strategy and the Economic Reforms currently underway.

Finally, it should be noted that there are several other areas in which government's policy and programme interventions would strongly complement the food security strategy.

TGE's health policy, which came out in September 1993 may not be seen in isolation from food availability and population issues. The Education and Training policy has been adopted in 1994. It has set as one of its specific objectives the brining up of "citizens who can take care of and utilize resources wisely."

The FDRE's Environmental Policy of Ethiopia (April, 1997), which was recently adopted by the Council of Ministers has a major objective of ensuring that the essential ecological processes and life support systems are sustained.

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UNDP-supported programmes under the Fifth Cycle have been designed during 1994. The National Programme for Disaster Prevention, Preparedness and Mitigation (NPDPPM) contained Area-Based

Integrated Development (ABID), currently under implementation. The sub-programme's objective is the alleviation of poverty and vulnerability.

The Road Sector Development Programme I (September/1997) envisions a road construction progamme for a period of five years (1997-2002). A major objective of the programme is provision of transport services to remote and inaccessible rural areas.

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PART V

THE RELEVANCE OF MACRO POLICIES TO FOOD SECURITY

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THE RELEVANCE OF MACRO POLICIES TO FOOD SECURITY

5.1 INTRODUCTION

In developing economies at large, it has been customary to deal with problems of food insecurity (and poverty in general) largely, form the point of view of micro decisions at the farm level, coping strategies of households, and distributional technicalities and strategies.

The mounting pressure and profound effect of sweeping policy changes underpinning stabilization and structural adjustment programs, however, led to an increasing realization that the impact of macroeconomic as well as other sectoral policies need to be part of the analysis in any poverty alleviation program. Often, policy reforms involve gainers and losers. This has been an unavoidable aspect of stabilization and adjustment programs to date, particularly, at the initial stage of the process. Moreover, adjustment programs in Africa, though with some success in short-run stabilization, not only largely failed to bring about growth but, in most case, also adversely affected the poor.

The key policy problem, therefore, is how to assist target groups (such as food insecure) without at the same time causing distortions in the market/economic mechanisms in so long as adjustment program is inevitable. Accordingly, since the second half of the 1980s the social impact of economic policies has attracted a great deal of attention, both from leaders in developing countries as well as the international community.

For instance, the World Bank is now shifting towards linking its development lending requirements to governments' commitment and articulated program of poverty reduction. As a result, developing countries adjustment policies, nowadays, include not only macroeconomic but also specific poverty reduction as well as environmental protection aspects.

The November 1996 World food summit in Rome also declared its commitment to reduce the number of malnourished people in the world, currently figuring 800 million in 82 low income countries (42 of which are in Africa) by half in 2015. To this effect, a plan of action is drawn which includes:

- ensuring an enabling social and economic environment;
- implementing policies aimed at eradicating poverty and inequality;
- pursuing participatory and sustainable development practices;
- fostering a world trade system that is both fair and market-

oriented;
- anticipating natural disasters and crises;
- encouraging the application and use of public and private investment;

Commitments, as stated above were negotiated to ensure that "all people, at all times, have physical and economic access to sufficient , safe and nutritious food".

So the issue at hand is that if poverty reduction (hence food security improvement) is the underlying and prime objective of reform programs, how exactly do macro and sectoral policies influence food security situation at the household level? How are the linkages? Are there remedial measures in cases where policies unfavorably affect that food security situation of households? This paper discusses issues revolving around such questions.

Assessment of the extent of the impact of policies on households' food security requires detail information on the income, expenditure and consumption of households as well as market price movements regularly surveyed over a medium term. In the absence of such information, however, our approach would focus on a qualitative discussion of the potential/probable impact of policies (largely SAP) including measures that could be taken to mitigate the adverse effects (if and when it arises) of adopted policies.

In this paper, a review of relevant government policies, i.e, policies closely related to food security issues, adopted in the last few years is presented first. Then the potential impact of such policies on household food security is discussed.

5.2 GOVERNMENT POLICIES AND STRATEGIES

Over the last five years some radical policy changes, largely macroeconomic, with potentially far reaching economic consequences have been introduced. Never-the-less, all policies potentially have some effect on the welfare of households, of which food security is the central one. As such, it would have been more useful to review all policies. Given the specific topic, this section focuses only on government policies that are closely related to households food security.

5.2.1 Exchange Rate Policy

Like many developing economies, one of the chronic problem this country has been facing is shortage of foreign exchange. Over the years the value of goods and services imported into the country has been persistently much higher than foreign exchange earning from exports, resulting in external trade balance deficit. For instance, between 1985 and 1991 export earning amounted only 30% of import payments. Even after accounting for foreign transfer to private and

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public, the current account deficit stood at an average of over 22% of import.

To finance the deficit it was inevitably to resort to external borrowing, resulting in the accumulation of debt and the debt burden. For instance, over the same period, net external debt (excluding military and debt owed to the socialist block) increased by about 11% annually, mounting to birr 7.5 billion (US$ 3.6 billion)[1] in 1991. This phenomenon eventually led to a situation where the country's capacity to service its debt weekend and arrears began to accumulate, calling for a radical solution[2].

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[1] @ the rate of 2.07/US$.

[2] One should as well be aware of the pressure exerted on the socialist Derg by the hostile attitude of some developed countries.

For decades the rate of exchange of birr to the US dollar was held fixed. But with a shift towards a market oriented economic structure, the merit of holding the overvalued Birr fixed became questionable. And in a market oriented economy exchange rate policy is believed to be central in the effort to solve the balance of payments problem. As a result, in 1992 the Birr was devalued from 2.07 to 5 to the dollar. Since may 1993 Birr has been made to depreciate further gradually in the auction market, now standing at about 6.8 to the dollar.[3] The objective is the unification of the exchange rate market, i.e, closing the gap between the auction and parallel market rates.

The central and immediate objective of devaluation is to improve the trade deficit by encouraging export as well as efficient import substitution while simultaneously deterring imports, and all based on a free market system.

The effect of this massive devaluation and further depreciation of Birr would be to raise the market prices of goods and service (as prices of imported intermediate and consumption goods as well as exportables have increased) which in turn have a direct impact on the food security situation of households, as elaborated in the next section.[4]

5.2.2 Price Decontrol and Market deregulation

The practice of controlling prices as well as regulating markets, which prevailed through out the 1980s was partially lifted in 1990, particularly, for agricultural commodities. Since 1992, further steps in this direction has been taken. Accordingly, prices of most commodities, including, that of manufactured commodities from public enterprises, which makes up for a significant proportion of the consumption basket of for poor households - both urban and rural -have been decontrolled, leading to price increases of such commodities. As such, potentially it would have an unfavorable effect on some households food security situation.

There are, however, few imported as well as domestically produced commodities whose prices are still controlled, such as fertilizer, pharmaceutical, kerosine, bread, city transport, which are regarded as basic consumption items, even though their prices are made to gradually increase in tandem with market prices. Moreover, the

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[3] The birr will continue to depreciate. The gradual but continuous depreciation of Birr is more of an administrative move rather than market effect.

[4] Note that in the Ethiopian condition it is largely the performance of agriculture (which itself depends on the weather condition) that influences inflation rather than other factors.

minimum producer price of some major export commodities, notably coffee, are set by government to the benefit of farmers, who otherwise may sell at lower prices as traders may not, and often don't, pass price increases on to farmers.

The general pricing policy is to accelerate further price liberalization with a view to eventually create a competitive market based system/structure. In this regard, following market deregulation, currently, small/individual traders, large private trading organizations like Gunna, Ambassel, Ethiopian Amalgamated, etc., as well as EGTE and peasant service cooperatives are operating simultaneously in the rural markets. The question, however, is whether these enterprises are freely competing or not?

5.2.3 Monetary and Financial Policy

The overall policy intention in the financial sector is very much in line with market based system. Generally, the major short-run objective of monetary\credit policy is controlling inflation (including improving the current account deficit). To this effect, imposing total credit ceiling, particularly, reducing credit to government, is a central strategy.

Moreover, currently interest rate is closely controlled by National Bank and it is reasonably low. However, in the near future the objective is to let it be determined freely by the market, i.e, by the demand for and supply of credit. As interest rate in Ethiopia, is not effective enough to control credit either way, direct pressure is exerted on banks to limit their credit, if the National Bank thinks that excess money is in circulation.

The current practice of extending credit to farmers under the guarantee-ship of regional governments, though quite advantageous for the former, it may not continue for long as it is a risky undertaking by regional governments.

Current commercial banks credit policies and practices are not expected to be favorable, to peasant farmers, handicrafts men, etc., (particularly in the absence of governments guarantee) because of collateral requirements. As a result a new proclamation, (No 40/96) allow the establishment of micro-financing institutions, for catering the financial needs of peasant farmers and others engaged in small scale production & service activities. However, only a few organizations are registered to date.

5.2.4 Fiscal Policy: Government Expenditure

The policy intent with respect to total government expenditure is to reduce (as % of GDP) outlays with little economic or social benefits (such as security related matters, price subsidy, etc.), while simultaneously maintaining or even increasing socioeconomic

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expenditures.

Government expenditure on food security related categories include: subsidy, expenditure (both capital and recurrent) on agriculture and natural resources, and expenditure on social services.

Regarding subsidy, government withdrew its fertilizer subsidy (which was about 20%). Obviously, this will induce a substantial unfavorable impact on production, and food security situation of farmers. On the other hand the share of expenditure on agriculture and natural resources (as extension services, water supply, settlement, etc.) showed no change even from pre-reform period, remaining at about 12 to 13 percent of total expenditure. So with total expenditure being limited or even reduced, the stagnant share of agricultural expenditure implies that no priority (contrary to what is stipulated in the policy documents) has been accorded to the sector.

Regarding social services (education, health & social welfare) a substantial rise from pre-reform period (about 15% of total expenditure) was observed in early reform period (1992/93) - about 22%, though there has been little change since then.

It should also be noted that the extent of government expenditure allocation to food security related outlays need to be gauged in light of the magnitude of the food insecurity problem, rather than the mere statistics.

5.2.5 Export Tax

One of the major factors that has the potential to influence peasant farmers activities, particularly those engaged in the production of export crops is the export tax rate. Most export taxes, except on coffee, are eliminated. Normally, one expects farmers' income in this sector to show improvement. On the other hand, however, export subsidies are also eliminated, inducing an opposite effect to that of export tax elimination.

5.2.6 Import Tariff

A substantial tariff reduction has also been effected (from 230 to 80 %). Moreover, for imports of few essential commodities, like fertilizer, fuel, etc., the marginal exchange rate (the lowest applicable rate) has been used to purchase foreign exchange. All these amounts to reducing the cost of such inputs, hence increasing the revenue of households using such production inputs. On the other hand, however, tax exemption categories are also reduced, though most essential commodities are still exempted.

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5.2.7 Land Policy

The principal objective of agricultural policy is to ensure adequate food security through increased agricultural production, employment and income and increase foreign exchange earnings through agricultural export.

Towards this end the issue of land policy is crucial. This encompass ownership structure, tenure system, and size of land holding. Government has unequivocally made clear that land will remain under state ownership. Under the given ownership structure, redistribution of land, taking into account farmers household size, is said to have been carried out in some regions, and farmers security of land user-ship is guaranteed. Also it is said that farmers have the right to rent their land as well as hire labor.

Towards achieving these objectives, detail strategies are in place, which includes:

- construction, rehabilitation and maintenance of rural roads;
- improve and expand agricultural research and extension services which among other things will develop and disseminate appropriate conservation-based farming technology;
- soil and water conservation;
- encouraging small irrigation services;
- improved delivery of livestock services;
- intensification of modern technology farm inputs;
- support community development programs, like SRF (social rehabilitation fund program).

5.2.8 Food Security Policy & Strategy

Apart from the long term objective of food self-reliance at a national level and food security at household level, which would involve not only closely related policies but also a host of other macroeconomic and sectoral policies and strategies, in the short to medium run, it requires a highly focused strategy to assist needy households and improve their food security situation.

It is said that each year, over 4 million people in the country side alone are food insecure, hence requiring support. The urban poor and destitute is also enormous. Moreover, every unfavorable natural phenomenon (drought, crop infestation, flood, etc.) push back those vulnerable at the margin, to an insecure situation where they need additional food and other basic necessities to survive.

Therefore, medium term, policies relevant to food security focus on:

- transferring of food and other necessities to the needy;
- enabling the affected population to continue maintaining

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their
livelihood activities;
- rehabilitating and restoring affected environmental and natural
resources of affected areas.

To address such daunting problems a strategy (in draft form) is in the making.

a) Emergency food aid and relief distribution

With an increasing frequency of drought occurrence and accompanying problems, particularly in the north and north-eastern parts of the country, the need for emergency relief supply to affected households is inevitable. This in turn calls for external assistance. In this regard, strengthening the capacity to monitor, surveillance, and early warning arrangement; increasing the efficiency of distributing relief; increasing the capacity to hold adequate reserve of food grain; and enhancing the assessment capacity of food aid and internal food market prices are regarded as essential measures to be taken.

b) The Safety Net Program

This involves provision of loan to poor farmers for farm inputs, implements and other assets (like improved seeds, fertilizer, oxen, farm implements, etc) so as to enhance their productivity level. The program also includes loan for micro-enterprises and cash support for the aged, disabled and others incapable to work.

c) Employment Scheme

Agricultural activities, discussed above, like construction of roads, irrigation dams, water supply, soil conservation, et., are expected to provide employment opportunities. Therefore, such public as well as NGOs schemes are to be supported.

d) Nutrition and Health Intervention

This encompass largely risk prone children under five and lactating mothers involving children immunization, family planning, etc.

5.2.9 Natural Resources and Environment Policy

As a result of intimate linkage between the creation of resources by humans on the one hand and their utilization or consumption (properly or otherwise) on the other, the appropriate system of development and conservation should be one of participatory.

Natural resources and environment policy issue encompass a wide ranging scope, major of which include aspects of natural resource

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base: location, topography, climatic resources, land resources, forest resources, mineral resources, water resources, livestock resources, inland fisheries resources, floristic & faunistic resource and energy resources.

The major federal government policies in this respect include:

- cost effective prevention of pollution of land, air, and water resources;
- identify and develop natural resources currently under-utilized;
- conserve, develop and sustainably manage Ethiopia's rich and diverse cultural heritages;
- long-lasting benefit oriented management of non-renewable resources;
- maintenance and possible enhancement of the regenerative and reproductive system of renewable resources, sustain essential ecological processes and life support system, preserve biological diversity.

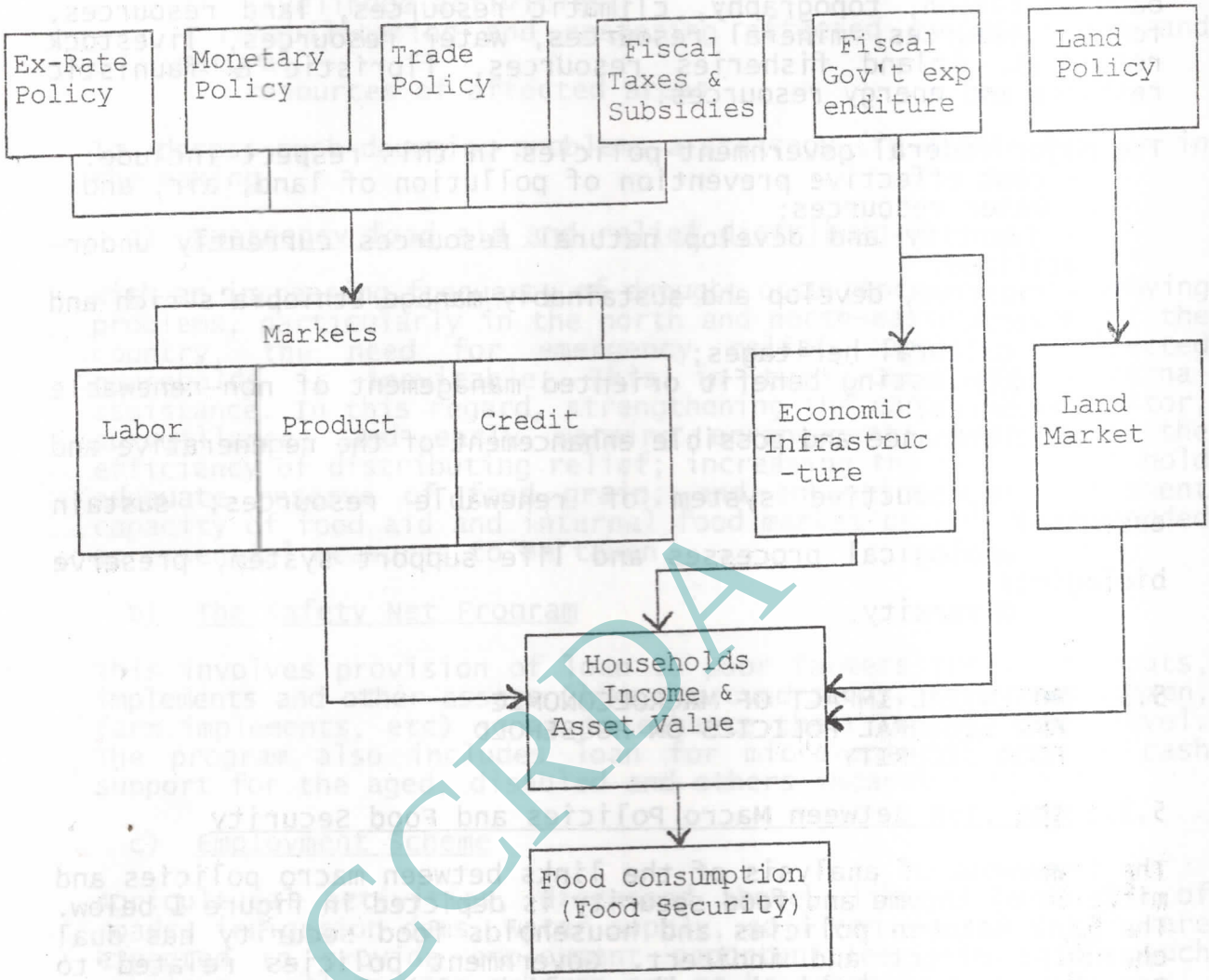
5.3 POTENTIAL IMPACT OF MACROECONOMIC AND SECTORAL POLICIES ON HOUSEHOLD FOOD SECURITY

5.3.1 The link Between Macro Policies and Food Security

The framework of analysis of the links between macro policies and micro-level income and food security is depicted in figure 1 below. The link between policies and households food security has dual channels: direct and indirect. Government policies related to transfer to households has direct link with food security. The later (the indirect one), however, involves a two step process. Initially, policies affect directly market prices and economic infrastructure (meso-economy), which are the back-drop for households' social and economic decision making. In the second step, the changing market prices of goods & services and infrastructural services in turn affect household income, asset value and real consumption, including their expectations. These, in turn, affect households' welfare. The effect could either improve or deteriorate their food security situation.

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Figure 1. Links Between Macro Policies and Food Security



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5.3.1 Exchange Rate Policy

The need for defining the Rates at which a currency exchanges for another arises from the simple fact that no country is self-sufficient in the production of all goods and services people needs, or even if self-sufficiency was possible the cost of producing certain products and services could be cheaper in one country than in another due to comparative advantage. Also some commodities may not even be produced at all in some countries. As a result transaction with the rest of the world i.e, exporting and importing some commodities is inevitable. But importing requires acquiring the currency acceptable by trading partners or exporters. This necessitates defining exchange rate between currencies of trading countries.

Moreover, due to differences between countries in resource base, technological progress, etc, certain commodities (largely technology induced capital goods) have high demand by many countries. Also efficiency in economic management as well as other international factors create a difference in the rate of price increases (inflation) among countries. All such factors necessitate readjusting the exchange rate of the domestic currency in terms of currencies of trading partners (largely int'l currency). Readjusting the exchange rate can be effected by devaluation or revaluation.

5.3.3 Devaluation

In developing economies characterized by acute shortage of foreign exchange (as a result of which burdened with foreign debt accumulated over time), one of the policies considered central and most effective to improve the balance of foreign trade (or BOP) is devaluation which makes the domestic currency cheaper in terms of foreign currency. For instance, since 1992, the value of Birr in terms of the USD depreciated by 233%. In other words, the Birr which had been exchanged for 0.483 cents is now equivalent to only 0.145 cents.

Trading is effected at international prices, particularly, a small country like Ethiopia is always a price taker. Therefore, devaluation, by making domestic currency cheaper, implies that for every dollar worth of export, the exporter receives more than what he/she use to receive in domestic currency, while the importer pays more domestic currency for every dollar worth of import. Devaluation therefore makes exports and imports more expensive in domestic currency thereby deterring imports but encouraging exports and efficient import- substitution which in turn is expected to improve the external trade position of the country.

Devaluation, however, has the potential to affect, never-the-less,

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every household both in the rural as well as urban areas. Its effect is indirect, complex and varied. It could affect households food security position either positively or negatively.

Primarily, devaluation directly increases market prices of exports and imports. It is also expected to increase the prices of exportable and importable goods depending on the significance of the share of exports and imports in the total domestic production of the respective commodities as well as the extent of imported intermediate inputs utilized in the production process. For example, between July 1992 and 1996, Birr was devalued by 207%. Hence, export prices in domestic currency will increase by the same rate. However, the domestic market prices of exportable goods increased by less than the devaluation rate. For instance, as shown in table 1, the domestic market price of coffee increased by 104%, price of sesame by only 62%, prices of horse beans and lentils by 27 and 23 percent respectively. One of the major reasons could the share of export in the total production. From the same table, coffee and sesame having significant export share (40 & 60 % respectively), also a higher price increase. In other words the pass through of devaluation induced price increase on to the domestic market price is significant. Where as in the case of horse beans and lentils the price increase is small partly as a result of lower export share, about 1% only.

Moreover, since devaluation directly increases the price of imported intermediate inputs, like fuel, chemicals, spare parts, equipments, fertilizer, insecticide, etc., prices of manufactured output as well as non-exportable agricultural produces (like Teff, Barley, etc) will definitely rise, in so far as they utilize such imported inputs. Hence devaluation is inherently inflationary. However, the rise in the general price level, particularly for the non-exportables is expected to be less than that of exportables and importables.

Table 1: Market Prices of Selected Export Crops and Export Share

	1992 (birr/kg)	1996	Price Change	Export Share
Coffee beans	11.64	21.13	81%	40%
Coffee roasted	18.38	33.75	104%	40%
Horse beans	1.87	2.38	27.3%	1%
Lentils	2.44	3.0	23%	-
Sesame seed	3.95	6.42	62.5%	36%

Source: CSA: Report on Average Prices of Goods & Services for A.A; Statistical Bulletins.
CSA: Agricultural Sample Survey; SB No 163.
National Bank of Ethiopia: Quarterly Bulletin, Vol.12, No. 1, 1996/97

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That devaluation has a direct impact on market prices is not debatable. Given this the focus is on how change in market prices affect households' food security. Never-the-less, every household participate in the market either as a buyer or a seller. In either case the household will be affected. If the household is a producer, then his/her revenue from sales, hence real income and asset value, will be affected; if on the other hand the household is a consumer, then his expenditure, hence real consumption will be affected. Whether the effect is favorable or not depends largely, on their income source, ie., whether they are producers of exportables, producers of import substitutes, producers of non-tradables, wage laborers, or participants in other informal activities (as petty trade, handicrafts, etc).

Considering households producing and marketing export commodities (and import substitutes though this is less significant in Ethiopia), their income as a result of higher market prices would increase even if there is no increase in the production level. For instance, the income of producers of coffee, horse beans, lentils, hides and skins, etc, would be expected to increase thereby improving their food security position.[5]

On the other hand, households producing non-tradables are likely to be net losers, particularly if they are using imported intermediate inputs, like fertilizer. Such farmers will face an increase in their cost of production more than the increase in revenue from the sale of non-tradables. As a result they may be forced to reduce their consumption of fertilizer which in turn reduce their productivity level. In either case their income level will decline with adverse implication on their food security

[5] There are some underlying assumptions. Firstly, households are assumed largely not to consume exportables but non-tradables; secondly, either they are not utilizing imported inputs, like fertilizer, or even if they use the share of such input in the total cost is not low; thirdly, traders will pass devaluation induced price increases on to farmers, ie., farm-gate prices will increase parallel to prices of central markets.

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position.

Regarding income of wage laborers, again it depends on the sector in which labor is employed. In commercial farms and other enterprises producing for export labor may have some real wage increase assuming that the rate of wage increase would be higher than that of the general price increase. Thus the food security situation of such wage laborers is likely to improve. At least, it wouldn't deteriorate. On the other hand labor employed in non-tradable sector (ie., commercial farms producing for domestic consumption, government and other service sector employees, other actors in the urban and rural informal sector, etc) are likely to be the most adversely affected group since their real wage fall as inflation rate exceeds that of wage increment rate, if at all there is wage increment, deteriorating their food security position. In this sector unemployment could as well increase.

The aforementioned effect of devaluation on household food security is expected to materialize in the short to medium term period, (within five years or so). In the longer term devaluation is expected to induce a more profound change in the structure of production and consumption expenditure.

Production for export is expected to increase substantially by utilizing additional factors of production (land, labor, capital), including by shifting such resources away from non-tradable activities (if there are factors of production constraints) towards exportables and efficient import substitution thereby improving the income, hence the food security situation of farmers in this sector. This also implies that an increase in real wage as well as employment level in this sector. Similarly, domestic consumption is expected to shift from the more expensive exportable goods to the relatively cheaper non-tradables thereby increasing the demand and encouraging more production, particularly if there is no shortage of factors of production.

The impact of devaluation on households income, hence food security position, is however, much more complex than what is explained in the above paragraphs. Even in the case of households expected to gain out of devaluation, there are many other conditions which could frustrate such expectations. Consider first the case of imported intermediate inputs. Since devaluation also increase the price of such inputs (fertilizer, insecticide, fuel, etc.) if the share of such inputs in the total cost of production is high, and if the rate of increase in the price of output is less than that of the input costs, then the income gain would be insignificant. The second factor that denies producers, particularly small farmers, benefiting from devaluation is imperfect functioning of product markets. Because of un-integrated market (communication barriers, etc.), traders may not pass on price increases to the farm gate. Third, the income gain from the

devaluation induced rise in domestic prices of exports could be wiped out by a simultaneous and equal fall in int'l prices. If for instance, devaluation increase the domestic price of coffee by 10% while simultaneously int'l prices fall by an equal percentage' then the net income gain is zero. If int'l prices decline by a higher margin then the net effect on income would be negative.

Moreover, at a macro level, it is the achievement of both internal and external balance that is eventually sought from such policies and this requires supply response and more resource flows into the tradable sector. Therefore, change in relative prices is a necessary but not a sufficient condition. But, for supply response to take effect non-price reforms as marketing, infrastructure, credit, etc, are crucial because of many structural impediments (like risk aversion, poor market articulation, inelastic supply factors of production, etc) that would not simply change due to relative price changes.

5.3.4 Monetary /Credit/ Policy

A dis-stabilized economy, where the growth of domestic demand persistently exceeds that of domestic supply is often characterized by inflation. This higher growth of demand could be generated by excess supply of money resulted largely by government credit from central banks (ie., money creation) to finance persistent budget deficit. Moreover, as explained above', policies like devaluation, price decontrol, etc., inevitably induces inflationary pressure. Inflation can be viewed as an implicit tax imposed on cash holdings as well as on fixed income/wage. Inflation is particularly, detrimental to low-wage earning segment of the population with little or no means to shelter against inflation. Rural producers of non-tradable too, whose terms of trade against manufactured commodities is normally unfavorable, are likely to be adversely affected when inflation persist.

As a result there is a general consensus that a good macroeconomic policy aimed at fostering the well-being of the population must began with steps to combat inflation. Accordingly, the central target of stabilization is to check inflation by imposing credit ceiling in general and reducing government budget deficit in particular thereby limiting its credit from the central bank. One of the major task of monetary policy is, therefore, to ensure that the expansion on domestic liquidity is consistent with low inflation.

It should however be noted that in the Ethiopian case the major determinant of inflation is rather output, particularly that of agriculture. To date, inflation has been very closely moving along with the weather condition. For instance, table 2 below shows that drought seasons were followed by high inflation and good weather condition by low (even negative) inflation. So the role of monetary

policy in controlling inflation, in this country, is a limited one.

Table 2: Inflation and GDP & Money Growth.

Year	General Price Change	Food Price Change	Agri. Growth	Money Growth
1993	3.5%	1.5%	6.1%	12.6%
1994	7.6%	10.2%	-3.5%	8.6%
1995	10.0%	15.0%	3.4%	28.5%
1996	-4.7%	-6.9%	17.4%	-3.5%

Source: NBE, Quarterly Bulletin, V12, No1, 1996/7

However, limited credit (tight monetary policy) has multiple and conflicting effects on households' income. Primarily, tight monetary policy creates disinflation. As such poor households who are net consumers, ie., largely, wage laborers (both in urban & rural) as well as those engaged in informal activities, either receive an implicit real wage increase, hence improvement in their food security, or at least become secured against a fall in real wages. Farmers too, since often inflation increases manufactured goods prices at a higher rate than agricultural commodities, disinflation would secure their real income, hence their food security position.

But limited credit has also an unfavorable affect. Generally, both rural and urban poor households have no access to formal credit because of collateral barrier. As a result they inevitably resort to the informal credit market. But a general credit constraint in the formal sector pushes more households to the informal sector for credit thereby increasing the cost of borrowing/interest rate which in turn adversely affect poor households. Though indirectly, this tends to deteriorate the food security position of such households.

The overall effect of tight credit policy is perhaps favorable on households income in the short-run. In the longer term, however, it is deflationary, counter productive.

5.3.5 Fiscal Policy: Government Expenditure Reduction

As discussed above narrowing the budget deficit is regarded crucial in the effort to tackle inflation. Moreover it is also believed that this will also improve the external trade balance by reducing spending on imports.

Reducing the budget deficit can be achieved by increasing revenues and/or reducing spending. However, in a developing economy like Ethiopia, there is practically little room for increasing revenue in the short run due to the undeveloped and narrow tax base.

Inevitably, therefore, governments resort, largely, to expenditure cutback to solve the budget deficit problem. Cutback in government spending could, in principle, affect any of the expenditure categories. It could reduce capital and recurrent expenditure on economic or social infrastructure & services; it could limit the budget for civil service expenditure; it could as well reduce transfer to the poor or eliminate subsidies to public enterprises.

However, cutback on some categories of public expenditure will have serious consequences on the food security position of the poor. For instance, governments, particularly in developing economies, play an essential and almost exclusive, role in providing services and infrastructure in rural areas, like building of rural roads or track, water supply, electric supply, installation of storage facilities, establishment of infrastructure for marketing, construction of irrigation dam, extension services, etc. This has a two-fold impact on their situation: to improve living conditions directly and increase the productive capital available to rural groups. If expenditure cutback hit such activities, rural households food security position will deteriorate, both in the short and long term period.

Similarly the supply of social infrastructure, education and health services, has two different kinds of effects on rural households. It improves the living condition of the rural poor and also enable them to acquire human capital, thereby, increasing their productivity level. So, again, any measure that reduce expenditure on such services will have a negative impact on the long-run income and food security position of the poor.

It goes without saying that reducing transfer for poverty- focused social provisions as well as the retrenchment, following the restructuring of civil service institutions, will have direct deteriorating effect on the food security situation of this category of the population.

As a result, since the second half of the 1980s, government as well as multilateral institutions (IMF & WB) being aware of the seriousness of the effect of such measures devised means of mitigating such unfavorable effects. Broadly, two additional measures were introduced:

- Identifying expenditure categories that should be exempted cuts (like primary education, primary health care, sanitation, targeted food consumption, etc) such that there will be little or no adverse effect on agricultural output, on poverty-focused social provisions, and on consumption of the poor.
- safety net measures to accommodate the marginalized with additional financial support from multilateral institutions and the world community at large.

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Therefore, the task is a difficult one. On the one hand, for the reform (stabilization) program to be successful expenditure cutback seems inevitable; on the other, a greater proportion of government expenditure in developing economies happen to be closely linked to poverty related programs where reduction would have an adverse impact on their living condition, hence both morally unacceptable and politically sensitive.

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5.3.6 Fiscal Policy: Taxes on and Subsidies for Tradables

Any tax on international trade, what ever is the form, create a gap between international and domestic prices. As such, it affects the income distribution among the different categories of economic agents.

Structural adjustment program insist for the removal of all restrictions, taxes and subsidies on the ground that it induces a distortion in resource allocation.

a) Import Tariff: Apart from being one of the major source of revenue in developing countries, import tariff has also been used as an instrument to protect local infant industries.

Under structural adjustment program tariff rates need to be reduced to a minimum level so as to keep tariff uniformity among GATT member countries. Basically it is argued that low tariff rate will force domestic producers to reduce prices in line with international prices hence becoming more efficient.

Reducing import tariff, therefore, tends to lower market prices of importables. This in general benefits consumers of such commodities. Producers of import substitutes, however, face a loss of revenue. If, however, tariff reduction lowers market prices of intermediate inputs (like fuel & fuel products, fertilizer, insecticides, etc.), the cost of production of farmers will be lower thereby increasing their income thereby improving their food security situation.

b) Export tax: Again export tax is regarded as one of the major sources of government revenue. However, it is an additional cost to the exporter, who also push a proportion of the cost on to the farmer thereby lowering the producers' price. This discourages exports and reduce domestic market prices of exportables, resulting in a loss of farmers' income.

As a result, adjustment programs require a substantial reduction or total elimination of export taxes. This promotes export while increasing market prices of such exportables, thereby increasing the income and food security position of farmers. In effect this is similar to devaluation.

c) Consumer Subsidy: Government in its effort to alleviate the food insecurity position of targeted poor households, to increase the output of small producers, etc., may introduce a price subsidy for specific imported food items or intermediate inputs or specific export crops. Subsidy reduces the consumer price. However, depending on the objective of the program it may or may not affect the producer/market price. Pre-adjustment programs in many countries involved the former type subsidy schemes.

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Adjustment program (SAP) requires the removal of all forms of subsidy as it leads to inefficient resource allocation, hence distortionary, although there are cases where market distortion may not arise. If market agents buy such commodities at market prices from producers or importers but sell it at a lower price to targeted consumers, this would not affect producer prices. In such a scheme three is no loss of income incurred by producers or importers of the subsidized commodities.

However, if market agents lower the producer price, say by assuming a monopsonistic position, then subsidy is distortionary. In this case producers face loss of income though the targeted group particularly poor households benefit and improve their food security position. In the case of removal of subsidy for intermediate inputs, as fertilizer, the ensuing high production cost resulted from fertilizer price rise will force farmers to reduce their input consumption hence a decline in productivity and deterioration in their food security situation.

d) Trade Liberalization (Quantitative restrictions): Governments in an effort to protect local infant industries impose restrictions or quota on imports of some final goods. Such restrictions limit the availability of goods in the domestic market. Normally this tends to increase the market price of restricted goods, benefitting protected import-substitution industries.

But structural adjustment program requires the total elimination of all restrictive measures in external trade, the argument being that it leads to an inefficient import substitution and rent seeking. It also induces a shift of resources away from efficient import-substitution and export production.

Trade liberalization, i.e, elimination of import restriction or quota, is expected to increase the supply of goods to the domestic market, thereby reducing prices in line with international price. Therefore, apart from producers of the previously restricted goods, all consumers will benefit.

In most of the cases, however, import restriction is imposed on luxury items or other non-food urban consumption oriented goods with little or no effect on food security.

e) Land Policy: Land policy constitutes the underlying issue in the effort to solve food security problem. Access to land, i.e, ownership structure and unambiguous tenure holding right as well as the size of land per household are the most important determinants of food security. As a result of cultural, social, political and economic factors, different land tenure holding system exist, including privately (individually or communally) owned, state owned, lease holding, and usufruct (the right to use).

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Structural adjustment program don't seem to have a strong and clear cut position regarding the ownership structure of land. However, there is a clear pattern of thought that could be drawn or inferred from the general policy framework of SAP. Primarily, the role of the state is expected to be largely one of creating an enabling environment, mainly a market-oriented economic management as well as supplying infrastructural services but not amassing state asset (state ownership of factors of production particularly land and physical capital). The privatization drive is a move towards the realization of this policy. This implies the need for the marketability of not only products (inputs and outputs) but also factors of production - labor,land and capital. It also means that there should be free exchange between factors of production based on their marginal productivity. Therefore, land like any other physical asset should be able to be sold freely in the market, or leased out, or used as a collateral.

All these imply that though there is no a strongly articulated advise or conditionality specifically related to land policy under adjustment program, there is a clear indication that privately owned, or at least a tenure system that would allow market based free leasing or transfer is favorable. Any form of ownership structure and tenure system that impede the free marketability of land is therefore, counterproductive, hence adversely affect households' food security situation.

f) Direct Taxation and User Charges: Direct taxation is one of the instruments used for the redistribution of income. Progressive tax shifts the burden of tax incidence from low income to higher income bracket. Also, to the benefit of largely, the low income group, in many countries, charges on government social provisions, like water supply, electricity, health and education, etc., are set much below production costs.

Under structural adjustment program, however, all service charges including taxes have to be based on market rates. Moreover, as discussed above, the budget deficit has to be narrowed down or eliminated either by reducing government expenditure, or increasing taxes, or both. Therefore, fees and charges for social services has to be adjusted upwards, at least, to cover the cost incurred. But all such additional charges and tax payments would adversely affect, at least in the short-run, the food security position of poor households.

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PART VI

APPROACHES TO ADDRESSING FOOD SECURITY AT HOUSEHOLD LEVEL : A REVIEW OF SELECTED EXPERIENCES

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APPROACHES TO ADDRESSING FOOD SECURITY AT HOUSEHOLD LEVEL

This section presents (summarizes) important institutional (Government and NGOs) programmes/projects interventions or approaches being practiced for addressing household level food security. The experiences of two NGOs on-going projects in the northern region of Ethiopia are also presented to enhance practical working group discussions during the training session.

6.1 Government Intervention Programmes/ Projects

Over the last 20 years massive relief resource have been mobilized to respond to the regular food emergencies around the country, with large quantities of food aid being distributed every year. Despite this, the food security in the country has not improved. In recognition of this, the Government of Ethiopia has recently (November 1996) drafted a food security strategy for the country. As indicated in parts IV and V earlier, the most important issues considered in the strategy include: increased use of improved inputs, increasing the area under cultivation, promotion of irrigation, improving the marketing and distribution of agricultural products, promotion of rural financial markets, implementation of entitlement/access and targeted programmes as well as enhancement of emergency capabilities. Each of these issues are briefly discussed below.

6.1.1 Increased use of improved inputs

To increase food production as quickly as possible, the strategy focuses on the diffusion of simple technology packages within small holder institutions in areas of reliable rainfall. The extension package includes improved seeds, fertilizes, and better crop husbandry methods for maize,sorghum, teff and wheat as well as a component of addressing post-harvest handling of cereals to reduce losses. In two projects with donor assistance, the government plans to invest more than US 32 million in seeds, and US $230 million in fertilizers over the next five years.

Livestock development is also a high priority for the government. Intensification of smallholder dairying, which would be the focus of future actions, would aim to achieve yield levels in the range of 5 to 15 liters of milk per day per cow on a substantial number of small farms. These yields would be based on improved cross-bred cows, substantially better nutrition of dairy animals, and better animal health services.

6.1.2 Increasing the Area Under Cultivation

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Ethiopia is rich in agricultural land but utilization of this resource in a sustainable manner is at a very low level. Only about 13 percent of the potential cultivable land is currently used for annual crops. Some of the anticipated growth in agriculture would come from opening up new lands for cultivation, partly through the promotion of medium-scale modern private farms, but more importantly through expanded irrigation in low lying areas.

6.1.3 Promotion of Irrigation

To decrease the country's reliance on rainfed agriculture to the extent feasible, the government will also pursue opportunities for cost effective irrigation, in areas with less reliable rainfall. In Tigray, for instance the regional development plan includes construction of hundreds of small catchment dams. Similar plans are being developed for parts of Region 3 (Amhara).

In these regions with lower than average rainfall the strategy would also include disseminating appropriate technologies and products of dryland agriculture. This would include short maturing crops with more drought tolerance, and technologies for better water harvesting, together with continuing the programme to construct small dams to store water.

The government also envisages to promote irrigation where the water resource exist to allow development at reasonable cost. Priority will be given to small holder schemes with indicative costs upto US $1,500/ha.

6.1.4 Marketing Infrastructure

To reduce marketing costs and improve distribution of food, the strategy will include extensive construction of new roads, and rehabilitation of existing roads, in rural areas. The road sector development programme aims at increasing the road density in the country, currently 21 km/1000 km2, by 80 percent to 38 km/1000 km2, within ten years (1997-2007)[1]. The programme, to be carried out in two five-years phases, is estimated to cost US 3.9 billion.

This improvement of infrastructure will be combined with promotion of trade, processing and distribution of food, as well as making more efficient use of grain storage capacity.

6.1.5 Promotion of Rural Financial Markets

Recognizing the fact that the present formal financial system is not well placed to provide medium and long term financing, to small and micro enterprises, the government is attempting to put in place a legal framework. Studies are also underway to establish workable links between the formal institution and the informal financial systems in the rural areas.

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[1] Ethiopia: Food Security Strategy, 1996: 21

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6.1.6 Entitlement/Access and Targeted Programmes

There are three components of the entitlement strategy: employment/income support schemes, targeted programmes, and nutrition/health intervention. In each of these it is envisaged that the central government would play as much as possible, a facilitating rather than an implementing role. Implementation would be largely through regional administrations, NGOs and communities.

a) Employment and Income Support Schemes

This refers to employment generation schemes/projects which can be undertaken during normal years and accelerated, where necessary, in years when lower rainfall or other shocks place many more people at risk for losing their access to food. Under these programmes, the vulnerable population is expected to appear through self-selection for employment in schemes to rehabilitate natural resources, or build economic and social infrastructure.

b) Targeted Programmes

The emphasis would be on simple, small loans or flexible vouchers to targeted recipient households selected by the peasant association or Kebele.

The Safety Net Programmes (SNP) will be launched to increase productivity by small farm households, assist the urban unemployed by providing work programmes in regional and woreda administrative centers and other town, and to provide loans to both urban and rural households to start small enterprises or family businesses. The activities might include tailoring, restaurants, petty trading, small-scale grain milling, bakeries, the blacksmithing of farm tools etc.

c) Nutrition and Health Intervention

A set of targeted nutrition and health programme is envisaged in support of reducing very serious levels of under nutrition observed in the country.

The highest priority area here is addressing the needs of those with both the highest risks and the most serious consequences of malnutrition : Children under five and pregnant and lactating mothers. The targeted nutrition programme addressing their needs would be administered by the Ministry of Health, with widespread community outreach and participation.

6.1.7 Enhancing Emergency Response Capabilities

The most important aspects considered in building the emergency response (disaster management) capabilities include the monitoring, surveillance, and early warning arrangements, the capacity to deliver food and relief distribution to the right audiences as well as building of strategic food grain reserves.

With regards to the strategic/emergency food reserve the aim until present has been to set aside a stock of food to cover emergency requirements of food for about four month, until food aid

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deliveries arrive in the country. The government is proposing to set the level of the reserve at about 324,000 tons, based on the amount of food estimated to be needed to feed an average of 4.5 million people. The currently operational strategic food grain reserves located in Mekele, Kombolcha, Shnille, Nazareth and Shashemene, will further be expanded to Gondar, Sodo, and Bedele areas for quick response to disaster-related problems in vulnerable areas of the north west, south east, and western parts of the country.

6.2 NGO's Projects/Programmes

There are now over 250 NGO's operating in Ethiopia, and their combined resources are substantial. Many of the NGOs who came to Ethiopia in response to the famines in the 1970s and 1980s focused primarily on the provision of emergency relief, and handled large quantities of food aid.

Subsequent to the emergency phase, NGOs were also involved in rehabilitation programmes, where the aim is to assist disaster affected population return to their relatively normal productive lives post emergency period. Their specific involvements included: the provision of inputs support such as seeds, tools, and veterinary drugs, provision of health services and rehabilitating social infrastructures, like construction of clinics, schools, etc.

In the realm of development, a significant number of NGOs are involved in a wide range of community-based development activities. Some NGOs specialize in one particular sector, while others adopt a more integrated - development approach, being involved in a number of sectors e.g, natural resources development (water, forestry, etc.), crop and livestock develpment, human health, saving and credit, training, social services, infrastructure etc. In many ways, NGOs efforts supplement or compliment the national relief and development efforts; and they make efforts to target/assist "the poorest of the poor" in both rural and urban sectors.

In general, NGOs tend to carry out their programmes in marginal areas. In terms of distribution, NGOs are found in most regions of the country, although there appears to be a heavy concentration in Oromia and Southern Nations Nationalities People's Administrative Regions. Working at the micro (community)-level, NGOs could be considered as instruments to adapt or test national policies at the local level.

6.2.1 Features of Areas and People Supported by NGO's

The nature of poverty and the factors that led to its persistence in areas supported by NGO's are subsumed in the interrelated social, economic, political, cultural and environmental processes specific to these group of society. Often times, this areas are potentially food deficit areas where the people rely on one seasonal rainfed crop production annually for their subsistence and have few resources with which to cope in times of stress. Various surveys conducted in these areas reveled that most of families resort to coping mechanism that include the sale of livestock or other assets, manual, labour, petty trade or borrowing from relatives or money lenders even in times of good harvest. The main features of these areas and the characteristics of the food-insecure

households supported by NGO's are summarized below.

Table 1: Common characteristics of Food deficit areas and food insecure households supported by NGO's.

Characteristics of Food Deficit Areas	Characteristics of Food Insecure Households
- Recurrence of drought - Severe land degradation - Falling agricultural production - Poor soils due to erosion and century old soil mining - High Population pressure and over stepped carrying capacity - Poorly monetized local economy - Mono economy (land based economies only) - Limited livelihood Options - Low income and savings - Limited access to productive resources - Poorly developed human resources - Administrative and Political Marginalization	- Poor - Landless/Ox-Less - Single income source - Unstable income flow - Limited access to household income by women - Large families/higher number of dependents/Younger age - Female-headed household, - Aged - Children at weaning age - Limited Assets

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6.2.2 Major areas of NGO's Intervention Towards the Goal of Food Security

Major Problems Affecting Food Security	Areas of Intervention
1) Drought/Inconsistent Rainfall	Irrigation, drought resistant/short maturing seed varieties, income diversification, improving trading linkages, improved post-harvest storage, credit/savings institutions, terracing, micro basins, micro irrigation.
2) Single Crop/Single Season	Perennial crop varieties, micro irrigation crop diversification.
3) Pests	Inter-cropping, crop rotation practices, provision of resistant varieties.
4) Declining soil fertility (Erosion, deforestation, topsoil loss)	Terracing, tree planting, agro-forestry, water control measures, introduction of nitrogen-fixing crop varieties.
5) Lack of Reliable Agriculture input Supply	Provision of inputs, provision of credit.
6) Low Productivity and Disease to livestock	Veterinary service, forage production, breeding, credit.
7) Shrinking land area	Introduction of higher yielding crops/tubers, intensive input use, intensive animal husbandry, micro-irrigation.
8) Limited Production	Provision of extension service, introduction of improved/appropriate technology.
9) Lack of Markets	Provision of required supplies, road construction and maintenance, improved communication.
10) Lack of Trading Capacity (Skills, Resources)	Training in Market analysis, credit provision.
11) Limited knowledge of enterprise development	Skills training, establishment of credit and saving institutions, facilitating access to inputs.
12) Unstable income source	Support to increase productivity of agriculture sector, skill training, cash crop production, cash for work/public works scheme, saving and credit institution.
13) Transportation	Input provision, credit provision, local institutions support scheme.
14) Unclean/limited water supply	Health education, establishment/rehabilitation of wells, training.
15) Poor Sanitation	Health education, establishment of culturally appropriate sanitation facilities.
16) Unbalanced diet	Health education, crop diversification, fruit nurseries, vegetable gardening.

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17) Population Pressure	Family planning, health education, basic health services.
18) Large-post-harvest Losses	Improved post-harvest technologies, community grain banks, saving and credit institutions.
19) Limited intra-household Sharing	Family counselling/education on importance of women (children) access to resources and household nutrition status.
20) Access by women to income resources:	Introduction/Training on appropriate activities that facilitate women accessing resources, GAD promotion.
21) Illness of primary wage earner	Preventive public health services, support to other family members, education.

CASE 1

6.2.3 AGRICULTURAL REHABILITATION PROGRAMME OF THE IFSP IMPLEMENTED BY REST AS AN APPROACH FOR ADDRESSING FOOD INSECURITY

The Agricultural Rehabilitation Programme (ARP) of the Integrated Food Security Project (IFSP) currently implemented by the Relief Society of Tigray(REST) is chosen as a case study (for trainees working groups) among many development programmes that address rural household level food insecurity. Since its establishment in 1978, REST has been engaged in Relief, Rehabilitation and Integrated sustainable rural development programmes in the Central, Eastern and Southern Zones of Tigray. In 1992 there was a shift in focus from relief to development, with the main objective of contributing to the attainment of food security at the household and community level. This was envisaged through the promotion of Integrated Food Security Project (IFSP) comprising of:-

- . **Agriculture Rehabilitation Programme;**
- . **Soil and Water Conservation;**
- . **Reforestation;**
- . **Distribution of Food Aid; and**
- . **Farmers training programme.**

The project beneficiaries of the IFSP include the poor and medium farmers. The total number of target beneficiaries of different programmes of the IFSP are estimated to be 112,560 of which 31,340 are vulnerable groups eligible for free relief food distribution. The balance of 81,220 beneficiaries are participants of FFW/FFR programmes. This includes those able-bodied but eligible groups for food relief which are expected to participate in any community development

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works "to secure the relief food ration". Aside from the beneficiaries of food programmes, there were also target groups identified for Agricultural Rehabilitation Programme (ARP). The total target beneficiaries of the ARP for 1996 were 20,740 farmers (including women).

AGRICULTURAL REHABILITATION PROGRAMME (ARP)

A combined effect of severe droughts and war forced large number of farmers to dispose of their productive assets. Consequently, oxen, plough shares and seeds which are the basic means of production in Tigray's subsistence agriculture are nearly non-existent. For instance, information from REST's five year plan indicates that one third of the households in Tigray (213,000) do not own oxen. For these household to be self-sufficient and attain food security, provision of basic agricultural inputs mainly oxen, plough share and seeds were found to be very determining factors.

i) Objectives of the ARP

Encourage poor farmers (repatriates, displaced, ex-soldiers and ex-fighters) to be involved in agriculture
production activities aimed at increased food production and productivity to bring about household level food self sufficiency and decreased dependency on relief food.

ii) Modality of Intervention

The ARP is effected through an organizational framework established at the Regional, Zonal, Woreda and Tabia Levels.

Initially,prior to implementation of the programme, the objectives of the ARP were thoroughly discussed with the Zonal administration to have a common understanding on where, to whom, when and how the programme is to be implemented.

Subsequently, further meetings and discussions were held with the respective wereda ARP committees to determine the beneficiaries selection criterion, interest rate and the time schedule for financial disbursement.

Although the interest rates and repayment period were fixed at the woreda level, further changes were made after discussing the issues at the Baito Level. The justification for making changes in the interest rate and repayment period were based on the fact that the interest rate charged should cover not only the current market rate but should also make provision for future administration costs when using the repayed sum of money as a revolving fund. Likewise, the repayment period was determind considering beneficiaries ability to recover (repay) and agencies interest to collect disbursed money fast enough to reach other needy people with ARP support. Accordingly, the interest rate was fixed at 15% for all revolving loan schemes, while the credit repayment period has been agreed to be three years for oxen, and one year for seeds and plough share provided that there is favorable harvest for beneficiaries.

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As regards to facilitating the ARP fund disbursement, teams were formed comprising representatives from REST, Bureau of Agriculture and the communities. Members and their respective roles is as follows:-

- ARP Desk/REST - Coordinator
- Finance Division/REST - Cashier
- Zonal ARP committee - coordinator
- Woreda Bureau of Agriculture - Member
- Woreda ARP Committee - Member
- Tabia ARP Committee - Member

Following the delegation of roles and responsibilities among the fund disbursement team members, the fund allocated for ARP programme was released to selected beneficiaries at woreda, sub-wereda and in some areas at tabia level in period of 19 days (June 5 - 24, 1996).

Table 2: Input Provided and Number of Beneficiaries by Woreda

No.	WEREDA	No. of Beneficiaries by Type of Input				Total Planned	Accomplished % of the Planned
		Oxen	Seed	P/Share	Total		
	Samre	351	533	901	1785	3197	55.8
	Alaje	312	666	814	1792	3398	52.7
	Ofla	320	2049	1963	4332	4332	100
	Enderta	276	773	1302	2351	2762	85.1
	Alamata	308	1796	1238	3342	3342	100
	Endamekoni	390	226	665	1281	2708	47.3
	Raya Azebo	305	171	330	806	3009	26.8
	Hintalo	304	1801	1248	3352	3352	100
	Total	**2566**	**8051**	**8461**	**19041**	**26,050**	**73.1**

Source: Evaluation (consultancy) Report, 1997.

Providing the inputs mentioned above, a total of 3.424 million Birr was utilized. Most of the fund of the ARP programme i.e, 2.566 million birr (75%) was utilized for oxen purchase mainly

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because the demand for oxen exceeded that of seed and plowshare. On the other hand, the credit provided for seed and plough share amounts to birr 603,825 (18%) and birr 254,730 (7%) respectively.

iii) Programme Impacts

The programme impacts were assessed by taking appropriate samples in Alamata and Seharti-Samre weredas, through reviews of selected indicators, interviews, and discussions with wereda and tabia -baito members and beneficiaries.

The response of all beneficiaries interviewed in Alamata and Shearti-Samre weredas indicate that the beneficiaries were satisfied with the ARP programme mainly because the loan has contributed in improving the seasonal harvest and income. Overwhelming number of beneficiaries have reported the significance of oxen provision in saving their plot of land from being out-rented.

According to the explanation of Ato Demissie Mulaw (beneficiary of Oxen), there were t options to get the service of oxen cultivation for their farm lands. The first option is borrow oxen from relatives and friends which most often is not a successful alternative. The second perhaps the most common practice is to rent out ones land for oxen owner for a quarter of product to be paid to the land owners. To be a beneficiary of oxen from the ARP means to the whole harvest from the land owned which contributes to an overall increase in house production and incomes.

Repayment performance of the loan provided is also reported to be encouraging. Since inception of the programme (June 1996) until June 1997 more than 90% of the annual expe loan repayment has been collected in Alamata wereda, while the recovery performance was as h as 96% for Saharti-Samre wereda.

Aside from the impacts mentioned above, the programme has brought social stabiliza increased asset ownership and improvements in the food security status of households.

iv) Problems and Challenges

- The delay in the timing of fund disbursement for all inputs of the ARP programme wa the main implementation problem raised by baito members and the beneficiaries alike. Inputs, in particular oxen were purchased and distributed to beneficiaries in late June 19 after land preparation and sowing time for most important long cycle crops was over.
- Absence of complementary programme such as veterinary service was the other problem cited by the representatives of the Bureau of Agriculture and beneficiaries. D

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to the absence of veterinary service in the programme a total of four beneficiaries were reported to have lost their oxen due to animal diseases.

- The programme support was limited to few agricultural input packages. Important inputs like fertilizer were not considered as a package with seeds to enhance the food security objectives of ARP.

CASE 2

6.2.4 FFW AS AN APPROACH TO ADDRESSING FOOD INCREASING: CASE STUDIES FROM WV-KILTE AWLAELO AND ANTS OKIA II ADPs

a) General Overview

The famine of 1984/85 forced WVE to intervene and rescue human lives. Once the famine was over, the transition from relief to rehabilitation of the affected communities was ushered between 1986 to 1990. The year 1991 saw the beginning of the third phase, the Area Development Programme (ADP) focusing on development. The Area Development Programme was initiated to promote rural development in an integrated manner. Sectors considred in the Area Development Programme include : agricultural development and extension support: infrastructure; child sponsorship : health care programme; development activities geared to women (GAD), income generating activities, and schemes to promote the use of improved technology. Environmental rehabilitation programme through FFW form one component of the Area Deveopment Programme.

b) Project Site History

i) Kilte Awlaelo ADP

Kilte Awlaelo ADP is located in the eastern zone of Tigray region. It is about 860 k.m. North of Addis Ababa, and 80 km. North east of Mekele, the regions capital. According to the new government structure, it has one Woreda i.e., Atsbi-Womberta Woreda in an area that agro-ecologically is classified as highland being between 2640 and 2800 meters. According to the woreda council reports the population of the woreda is about 94,000.

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Subsistence agriculture was, and is the main occupation for more than 90% of the populati most of this agriculture is rain-fed cereal production-barley, teff, wheat, maize and some on a family land holdings of approximately 0.5 hectares.

The project area is severely affected by low rainfall. The situation of low rainfall has exacerbated by extensive deforestation and extensive loss of top soil, and considerable erosion.

The area was never well supplied with physical infrastructure. The lack of infrastructure a others has affected the ability of the government to render extension and other services.

ii) Antisokia II ADP

Antisokia II ADP is located in the Amhara National Government of Oromiya Zone. It is 325 North-east of Addis Ababa along the all weather road from Addis Ababa to Dessie nearly 5 from Kemise (The Zonal Town). The project covers 9 PAs and two urban dwellers associa of Kemise town. This represents a population of about 60,000 and 13,000 households. The cultivable land area is about 12,037 hectares and this gives an average land holding of hectares of cultivable land per household.

Crop production and animal husbandry are the two major agricultural practices supporting 90% of the households in the area. The dominant crops gown in the area include sorghum, and teff. Barely, harricot beans, lentils, beans and peas are also grown by some farmers the agro-ecology is conducive.

Land constraints, environmental degradation, inadequate improved farming techniques, and li awareness and ability to exploit local potentials and the recurrent drought are some o numerous problems that impeded the production of adequate food to feed the community me in the area.

c) Programme Objectives

The objectives of WVE's FFW programmes were stated as :

- To redeem the deteriorating ecosystem by undertaking conservation measures such reforestation and soil and water conservation.
- To attain food self-sufficiency and fill the food gap by promoting a conservation-based agriculture/farming system.

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- To increase the overall food stock in the projects through FFW in order to balance the food deficits, caused by socio-economic and ecological factors.

d) General Programme Activities

i) Environmental Protection

The environmental protection activities consists of afforestation and construction of soil protection measures.

Afforestation Programme

The projects run large and several (mini) nurseries to raise seedling for planting and distribution. The central nurseries are of high standard and are too big to raise as high as 1 million seedings. The other source of seedlings are the mini or PA nurseries which form the collective property of the community. Each PA nursery has a capacity of producing 50,000 seedling/year. The purpose was to minimize transportation cost and to have the seedlings close to the plantation sites. Another intention was to facilitate transfer of responsibility to the community. The nursery sizes are much smaller and house less variety in plant species.

Regarding the performance of the afforestation programme (in the year 1992 to 1995), nearly 7.228 and 2.767 million seedlings were raised for planting and distribution in Kilte Awlaelo and Antisokia II ADPs respectively.

These included both indigenous as well as exotic species, timber as well as fruit trees. However, because of high demand for it, eucalyptus seedlings have been raised on a large scale and dominates all afforestation activities.

The seedlings are used to plant on common land which are seriously degraded, and are distributed freely to individual beneficiaries to plant on their own plots, and distributed to local organizations such as schools, churches, government agencies, etc. for their own use. In Kilte Awlaelo ADP about 55% of the seedlings (3.236 million) raised in the last four years (1992-1995) were distributed to individuals, while the remaining balance (2.609 million) was planted on common lands. In Antsokia, most of the emphasis has been on private planting, since 80% (2.272) of the seedling raised have been distributed to individual beneficiaries while 5% (0.1372 million) and 15% (0.42 million) of the seedlings raised were planted on communal plantation sites and distributed to local institutions respectively.

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Regarding the survival rate of seedlings planted in both ADPs, it was reported that the surviv rate has been relatively good. Understandable, in the earlier years of the projects survival rat were low. Trees planted for individuals had a much higher survival than those planted f communal use. This may be due to many factors, but the fact that individuals care for their ow plantation is the most significant reason. By contrast communal forestry has had lower record of performance, partly because no one has yet designed an effective method of benefit sharing i which the benefits of the planted forest is shared equally between the community as an entity an the individuals within it. Likewise, hillside plantation also suffer neglect and poor managemer because of uncertainties in ownership.

Soil Conservation

From the very beginning, we should realize that one primary objective of FFW is to creat employment to the peasant in the project areas. In that respect therefore, preference was give to those physical conservation measures which were labor intensive. These include both stone an soil bunds, fanya juu, check dams, cut-off drains and micro-basins. Project documents indicat that in both ADPs, several thousand km. of bunds and fanya juu have been constructed since 199 Similarly the figures shown for check dams, cut-off drains in quite high.

Overall soil conservation activities were sound and have had a major effect in stabilizing so erosion in the areas treated. There is no evidence however that the conservation measures had an impact on production improvement.

ii) Infrastructure

The infrastructure programme supports all other programmes in each ADP; it is also the large "Consumer of commodity resources" as all it activities are carried out through FFW. Th programme components cover the construction of all community assets, and these include : feede roads and bridges, ponds, earth dams, and springs development schemes.

Road construction

One major activity that the projects have given emphasis to is development of road networks. Th justification for the roads is that it promotes communities access to basic services and that it woul reduce travel time between PAs and to the respective PAs. In line with this objective, a total c 768 and 282 kms. of feeder road was constructed and maintained between 1992 - 1995 in Kilt Awlaelo and Antisokia II ADPs respectively.

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Water Development

This is a very important component where significant progress has been made in the ADPs. Water consumption is one of the priority needs of the project communities be it for domestic consumption or for irrigation. In Kilte Awlaelo in particular where water is a scarce resource, considerable efforts have been made to provide irrigation water to beneficiaries through the construction of earth fill dams. To-date there are seven earth fill dams both under construction and operation. Out of the seven earth fills dams three are for domestic use of animals, water consumption and laundry purposes while the remaining four are constructed to provide irrigation for project communities.

Table 3: Earth fill dams constructed for Irrigation Development in different PAs of Kilte Awlaelo ADP.

Site name and dams	Potential		
	At full capacity water storage (M3.)	Command area (HA)	No. of Benef.
Haresaw PA	1.39 million	100-139	500
D/Selam	0.7 million	70	280
Kuret	0.39 million	39	156
Buhele	500,000	50	200
TOTAL	2.98	259-298	1136

Source: Kilte Awlaelo ADP Progress Report, June 1996

As depicted above, the command area of the dams is in the range of 259-298 hectares and provide a year round irrigation water for 1136 households. Apart from the construction of earth dams, 5 ponds have been constructed in the period under reference to provide water for domestic use of animals, consumption and laundry proposes.

In Antsokia II ADP the major emphasis of the water harvesting scheme was realized through the construction of ponds and clearing of springs. Between 1992 - 1995 at total of 56 ponds were constructed while 80 springs were cleared to provide the community with safe water for both consumption and laundry purposes.

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Beneficiaries here produce horticulture and fruits on their irrigation plots in addition to cereal In both ADPs the earth dams and irrigation schemes have been constructed to enable beneficiari to diversity production and to have two or more harvests in the year. This has provided not onl an increased production but enabled the beneficiaries to gain additional income.

iii) **Capacity Building**

More than merely meeting the immediate food needs of the most vulnerable members of th community, the FFW programme provided practical opportunities to 1933 and 508 farmers i Kilte Awlaelo and Antsokia II ADPs respectively, to raise the awareness and enable them lear new methods of solving the old problem of rampant environmental degradation and improve farming practices.

In addition to these opportunities, selected members of the community were trained by staff fro MOA as community facilitators of reforestation and soil and water conservation techniques. I both training the major topics covered were:

- Land management on farm land and marginal land,
- Nursery Management, Agroforestry Development
- Soil conservation thought physical structures such as terracing, soil banding
- Biological conservation measures such as the planting of particular grasses and trees
- Rain water conservation through ponds and dams

e) **Beneficiary Screening**

Although accurate information on the proportion of FFW to local household production and foo needs are lacking, it is estimated that some 10 - 20 percent of the food needs of the loc communities are met by food aid distributed by WV. There is still a food gap despite W intervention in the ADPs. It is apparent therefore that a large number of households appear fc selection in FFW activities annually. This make the screening of beneficiaries a critical issue fc primary two reasons. First, the food to be distributed is limited compared to needs and secon the existence of relatively poor households who should have access to food resources provided b FFW.

The number of FFW beneficiaries to be screened for a specific round of work is determined b the quantity of work planned and the availability of food for distribution. Recruitment for FF is done on a rotational bases and only one person is given a chance from a single household Often the number of households who wont to participate in the FFW programme far exceed th demand for labour. Thus, the ADPs have resorted to some form of screening procedures, t identify the poorest of the poor or the most vulnerable in the local communities. The procedu used currently in both ADPs bases on screening committee representing the various communit members. A group of 5 - 7 persons formed at the PA and or goth- (sub area of a PA in Autisok I) Kushet (sub area of a PA in Kilte Awlallo) level are elected by the community to work in th screening committee. The composition of the committee includes, the elderly, youth, women an poor farmers to reflect the interests of the various groups in the community. Some of th committee members may also be heads of traditional social institutions such as Iddir, Equb

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embers and would also involve church leaders. The committee identifies the poorest in its goth, shet using criteria such as the extent of poverty, landlessness, instability in income flow, limited set ownership, extent of unemployment (demobilized ex-soldiers) families with large number dependents, female headed households to qualify for FFW programme.

ne or two staffs representing the ADPs and staff members from bureau of Health, Agriculture, dministration office and woreda DPPB also participate in the screening committee, although their le is limited to supervising the committee work and making sure that the committee operates in ccordance with the mandate.

Setting Work Norms

both ADPs MoA work norms were followed for all activities and the beneficiaries are paid in ccordance with the norm. There is an attendance list which the team leader at each site mpletes every day. The work norms are such that targets can normally be completed in half a ay. This arrangements allows them to do other things on their own private plots or in the ousehold.

Monitoring and Evaluation

he agriculture unit consists of an agriculturalist extension agents, home agents, and a forester. hese staff are responsible for measuring the impact on productivity realized by the provision of e agriculture inputs, food programmes and technical assistance provided by the programme. A rester and a nursery technician manage the progress of nursery seedling planting and physical nservation activities and are responsible for measuring achievements made agents mplementation plan and programme goals.

he requirement that technical assistance be available at the households level has necessitated the eation of decentralized structure that foster community involvement and partnership in velopment. This has percipitated the creation of community structure for each of the principle ogramme areas - the area development committee, environmental rehabilitation, the revolving n scheme committee, water committee, etc. These committees are responsible for representing e community in project design, community coordination, sensitization, beneficiary selection and rganizing food distributions, data gathering, monitoring, and problem solving. Planning takes ace at the community level. Implementation and follow-up are normally done by the respective llages. (Gots" or Kushets"). Each village has a representative to relay messages, collect edback, and sensitize the community on matters pertinent to their own development.

eetings with the concerned community structure and extension agents are conducted at the sub-velopment center regularly. The extension agents, inturn have regular meetings with the chnical experts at World Vision site center. At these meetings implementation procedures, chnical issues, and problems are discussed.

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The availability of technical assistance and monitoring at the field level is reinforced t government ministry officials. The government line ministries are involved from the early stag of planning up to evaluation. Community level planning is often done together with the vario ministries engaged in similar development understandings. They provide technical advice ar participate in training. Joint monitoring is conducted together with representatives of communi bi-annually and annually. The results of the monitoring and evaluation on targeted activities a discussed with the community, woreda, zonal regional-officials and project staff to identi shortcomings of interventions and further strengthen the quality of services rendered.

h) Impacts of Food Security Interventions

Some of the major impacts observed include:

- The development of water resources to provide potable water system has reduced the prevalence of water borne disease and the distance women and children have to travel to fetch water.
- By constructing permanent productive structure like irrigation canals, diversion ditches and hand dug wells, people are made to practice irrigated agriculture and thereby produce 2-3 times annually on the same field and become less dependent on the rain-fed agricultur which is quite often practices.
- People have acquired skills and knowledge in the area of afforestation and conservation works, use of fuel saving devices and of improved agriculture practices.
- large area of degraded land have been stabilized with visible improvement in yield and micro environment climate
- Environmental rehabilitation programmes has heightened people's awareness on causes and consequences of environmental degradation and on what can be done to address the issue. Farmers are now more aware on the consequences of indiscriminate felling of tree
- The promotion of agro-forestry and planting of multi purpose trees on home stead and communal plots has increased and stabilized the supply of food, livestock feed, fuel and construction material and has become a viable source of income and food security even at years and seasons of crop failure.
- The construction and maintenance of roads and crossing infrastructures have made possible to reach formerly unreached communities for disseminating information, providir agriculture, health and other development services and inputs. This has also stimulated government interest in establishing some facilities like clinics and schools in the newly

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opened areas, contribute in the improvement of the overall life of the people including travel time to social service centers and market places particularly for women and children.

- Through augmenting the food deficit in the families and communities, the programme saved many lives from perishing, improved nutritional status and reduced Morbidity. It also made possible to maintain the families and communities intact form being disintegrated and migrate in search of alternative survival strategies. The maintenance of the social fabric has also contributed to maintaining family values and tradition necessary for peace and order during times of crises.

- Through a deeper socio-economic research on problems of women and subsequent involvement of women in FFW programmes the role of women in rural development has been maximized.

I) Problems and challenges

i) Data

Absence of base line data and indicators to measures the impacts of FFW on food production or household food security.

ii) Delays in Commodity Arrival

The timely delivery of commodity has been the major problem faced during the period under review. The feeling that FFW commodity it "too little too late" is exacerbated by the additional problems of late arrival leading the suspension of some tasks and difficulty to respond timely to the food needs of the vulnerable segment of the socity during hungry seasons.

iii) Targeting the Poor

- comprises all the obstacles arising form conflicting interests over the selection process, and completion for scarce and valuable resources.

- difficulty in setting a cut-off point for selection. At times the cut-off is seen as arbitrary and unfair and it may miss genuinely needy or vulnerable who fall just the wrong side of the line thus weakening the programmes impact

- Those who control the choice of beneficiary groups or individuals use the opportunity for corruption.

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iv) Dependency

Long years of attachment of the beneficiary communities to FFW assistance has created an attitu towards dependence. This makes smooth phase-out of programmes a challenge.

6.2.5 Issues and Lessons for a Successful Food Security Intervention

- Don't waste time searching for all encompassing food security insecurity indicators. Ai for a manageable number known to be reliable and then combine these in a sensible mann to get a picture of vulnerability.

- Long-term sustainability of project benefits and impacts will be enhanced if all stake-holders are directly involved in decision making as well as management of project activitie The piece of work in beneficiary screening, monitoring and capacity building endeavours of REST and WVE programme lend an excellent working relationship, and mutual assistance networks between these parties. Although such an approach will take considerab time to develop, it should be considered from the very beginning.

- Identify the resource constraints for each village or community. Even neighboring villages or small catchments may not be unified in their needs and priorities.

- There are likely to be difference among community groups over how they use a resource Be sure to know the identify of the various users of a resource (such as a common grazing lands) before converting it to another use (such as wood lot) to avoid causing loss of acce or income to some group.
- Identify the key problem (root cause) to food insecurity to be talked rather than a list of the ranges of problems that could partly or fully be resolved by the existing system in the community.

- Access the survival strategies of communities, and the basket of households needs require for the purpose of reviewing current strategies to fill identified gaps.

- Food security intervention should not only be oriented to solve problems but should attempt to harness existing resources and capitalize on local potentials.

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- Consider complementary packages in a given food Security intervention that are unaffordable and out of reach of farmers whose effect may bring both negative and positive impacts.

- Set out clear and attainable objectives. Most FFW programmes for instance show conflict in objectives to be achieved. As it appeared in the case reports of WVE not all activities were congruous with achieving the stated objective of food security. A good example that could illustrate the conflicting solutions to two key problem emerges very clearly from eucalyptus plantation while it contributes to the attainment of food security objective, it actually diminishes the carrying capacity of the land by lowering the water table, thus limiting the longterm capacity of the land to meet the food security needs.

- Employ a range of indicators and involve different interest groups at intervals to identify the food insecure (needy) and maximize the benefits of scarce resource.

- Plan for phase-out strategy from the outset to avoid dependency syndrome and subsequently ensure sustainability of work done. Such strategy often involves not only the financial requirements of specific activities, but for instance, the management capacities required, the technical skills, maintenance of existing systems and demonstrated ability to respond to innovative solutions

- Given the acute shortage of land in the cases presented above any development effort would call for improvements in the technical base of production. Efforts thus would be necessary in areas of identifying and studying simple technology innovations appropriate to raise both land and labour productivity.

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PART VII

EARLY WARNING SYSTEM AND FOOD INSECURITY (VULNERABILITY) ASSESSMENT IN ETHIOPIA

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EARLY WARNING SYSTEM AND FOOD INSECURITY (VULNERABILITY) ASSESSMENT IN ETHIOPIA

7.1 Introduction

In a country like Ethiopia where quite a significant portion of the population is chronically food insecure and suffers from a high risk of acute food insecurity, the presence of a system that forewarns of impending food shortages or famine is crucial for implementing preparedness measures that mitigate the effects of the crisis. This paper is intended to introduce the concept of early warning system in general, and the operations and uses of the system that is in place in Ethiopia. Attempts are also made to discuss the various indicators, data collection processes and techniques employed for food insecurity or vulnerability monitoring. The last part of the paper provides an impression of the magnitude of food insecurity in the country and identifies the socio-economic groups that experience food insecurity on a permanent or temporary basis.

7.2 Definition of Key Terminologies and Important Considerations in Vulnerability Assessment

This section attempts to introduce briefly the main concepts and definitions of key terminologies used in the paper

7.2.1 Definition of Terminologies

a) **Early Warning System:** is a system of data collection established to monitor people's access to food, inorder to provide timely notice when a food crises threatens and thus to elicit appropriate response (Davis, 1991).

b) **Livelihood Protection:** Means ensuring that people do not take drastic measures to avoid famine which will threaten their ability to be self-supporting in the future.

c) **Famine:** There are wide differences in the definition of the term. But most definitions seem to agree on the key elements that characterize it. Famine is characterized (Riely, 1995) by:

   a) sharp deterioration in economic conditions, which lead to reductions in consumption;

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b) extreme social disruptions ; and
c) some degree of excess mortality

d) **Vulnerability**: This is a term used to represent "... defenselessness insecurity and exposure to risks, shocks and stress... and difficulty in coping with them." (Ibid)

e) **Famine Vulnerability**: It can not be equated to poverty. The key elements in the concept include risk and variability in household incomes which could lead to variability in consumption (Ibid)

f) **Vulnerability assessment**: refers to the assessment of the root causes of famine among communities or among specific groups of households.

g) **Early Warning Analysis**: is the assessment over time of the factors that cause famine.

7.2.2 Important Factors and Key Considerations in Vulnerability Assessment

A combination of a number of long-term and short-term factors determine the level of famine vulnerability. The main long-term factors (Ibid) include:

a) increases in population pressure and the resulting deterioration in the natural resource base which limits productivity in the crop and livestock sectors in particular,
b) adverse policies which distort the functioning of the economy in general, with particular bias against the rural poor in many cases; and
c) repeated crisis situations which lead to the erosion of household assets and a deterioration in the long-term productive capacity of affected populations

The short-term factors that affect the level of famine vulnerability include:

a) adverse changes in the pattern of rainfall, which threaten crop and livestock production, agricultural employment and other productive activities;
b) market failure which leads to sharp rises in food prices or the collapse of prices for livestock and other goods and services households produce for sale; and

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c) conflict and civil war which disrupts household productive activities as well as their access to assets and markets for food and employment

Household food consumption is usually difficult to directly assess. However, because of the strong relationship observed in developing countries between household incomes and consumption, an indirect way of assessing food consumption is used through the assessment of incomes. This means that any fluctuations in household incomes have a direct impact on the household's food consumption. Thus an understanding of the factors that influence incomes and food access for a specific group of households is central for both early warning and vulnerability analysis.

Crop and livestock productions are quite often the main engagements and sources of income for rural households. But many are not limited to these undertakings. To minimize risks associated with these activities, households attempt to diversify their income sources. This is their most important strategy to help them cope with changes in their incomes and consumption. They may resort to wage employment, petty trading, handicraft activities, receiving remittances etc., in addition to the usual productive activities. Hence,

- identification of the important income sources (components) for various communities or household groups;
- estimation of the relative importance of each income source;
- identification of the most important variables or determinants that influence each individual source of income; and
- identification and monitoring of the relevant indicators that measure the changes in each of the income components

constitute some of the key elements in vulnerability assessments and early warning activities. Detailed discussions on the choice and analysis of appropriate indicators for monitoring and assessment of vulnerability is presented in section 3.4

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7.3 Early Warning System (EWS)

7.3.1 Objective of the EWS

The main objective of the EWS is famine prevention and livelihood protection through the provision of timely and accurate warning information to relevant decision makers. EWS also has the potential to provide useful data for development and food security planners.

7.3.2 Levels of Operation

EWS can be set up at different levels: global, regional, national, sub-national, zonal, and woreda levels. Example of the first two are FAO's Global Information and Early Warning System on Food and Agriculture, and IGADD's Early Warning System covering the Horn of Africa, respectively.

7.3.3 An Overview of the Ethiopian Early Warning System: Background, Functions, and Institutional Structure

The Ethiopian Early Warning System emerged in the aftermath of the early 1970's drought-induced famine which claimed the lives of well over a hundred thousand people in the northern part of the country. Awareness of the need for a system that continuously monitors and provides information on the food supply situation of the country led to the establishment of the EWS in 1977 within the former RRC (the present DPPC). Though it has had a number of technical, conceptual and institutional limitations it has played crucial roles in the DPPC's preparedness and planning efforts in containing food emergencies. It has been successful in predicting large scale famines. It is the oldest and the largest such system in Africa. Some of its important functions include:

- Assessment of food security situation of the rural areas of the country through the regular monitoring of most of the conventional early warning indicators
- undertaking of seasonal or ad-hoc food situation assessments
- Alerting the government, donors and NGO's on current food situations as well as prospects
- Determining areas and estimating numbers of people in need of emergency assistance

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- Estimating the duration and amount of relief assistance required to address actual or threatened food emergencies
- Monitoring emergency response

Until recently, the system had been highly centralized. Now, in line with the government's decentralized administrative arrangement, the EWS is decentralized and its structures has been expanded to cover all administrative levels. Cognizant of the multi-sectoral nature of EWS's activities, relevant line departments are represented on the Early Warning Committees formed at all levels. At the central level, the members of the committee are the DPPC, MoA, CSA, NMSA, MoH, and the Ethiopian Mapping Authority. The DPPC is the secretariat of the National Early Warning Committee and is the lead agency in coordinating the other member agencies as it relates to the activities of the committee.

The EWS enjoys the support and collaboration of some NGO's, UN and bilateral agencies in the area of early warning data collection, provision of secondary data useful for early warning data analysis, and participation in food security assessments. These agencies are partly involved in the collection of early warning and food security-related information mainly to support their own operations in the country. SCF-UK, through its Nutrition Surveillance Programme, monitors the food security situation in selected zones of Tigrai, Amhara, Oromiya and SNNPR. Food Security Monitoring is also undertaken by CARE-Ethiopia, CRS, SCF-USA, UNEUE, FEWS/EU and WFP. The information so generated by these agencies is then fed into the EWS. Recently, some NGO's and aid agencies have started to participate in seasonal and disaster area assessments organized by Early Warning Committees. Such joint efforts not only enhance the food security assessment capacity but also contribute to the credibility of the information generated by the system.

Despite the system's successes in providing advance warnings on all the big famines (those that threatened large areas of the country) since 1984, it has continued to suffer from credibility crisis in the eyes of a number of donors on the grounds that it tends to exaggerate beneficiary numbers and that the methodology it employs in arriving at the numbers in need of relief assistance is not transparent. Estimates of relief food needs have also raised strong criticisms of the EWS. It is often argued that what is normally distributed to relief beneficiaries is far less than what is required as estimated by the system (amount distributed is significantly less than amount pledged by donors, and the amount pledged by donors is almost always short of estimated requirement) The fact that famine situations have been contained using relief food resources which were well below the estimated requirement has posed major challenges on the reliability of EWS's needs estimates. If households in the affected communities could get through the hard times with the irregular and

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inadequate relief rations without disrupting their lives and livelihoods then the case against EWS's inflated needs estimates would be very strong.

There could, however, be another possible dimension to the scenario. In the face of an inadequate or absence of relief supplies, affected households may choose to ensure the survival of their family members at the expense of their long term productivity. They may, for instance, be forced to take drastic measures such as the sale of productive assets (e.g. draft oxen, and other productive animals) and other valuable household items to be able to raise some cash for purchasing food. Such measures, especially if repeated, could erode the asset or productive base of the households and make them much more impoverished and vulnerable to minor shocks in the future.

As regards the methodology for estimating the size of beneficiaries, it would be admitted that the current Early Warning System lacks a clear and transparent methodology. The practice has been that the initial estimates originates from the grass root level: the peasant associations and the woredas. These estimates are adjusted, as necessary, at each of the higher administrative level. When the regional estimates reach the Early Warning Department of the federal government, a further adjustment, quite often a reduction, is made. The EWD adjusts the figures based on a number of considerations, such as relief history or degree of vulnerability, population size, and the intensity and magnitude of the prevailing problem of the affected areas.

To address many of the technical , conceptual and methodological weaknesses of the system an enhanced system development work is now underway with the financial support of UNDP. It is hoped that this effort will help the system to work towards strengthening its workings by introducing new tools of data analysis and fine-tuning its needs assessment methodology, and ultimately improving its image among its users, particularly donors.

7.3.4 Early Warning Indicators, Food Security Indicators, and Use of Baseline Information for Interpreting Data

As the name indicates, rapid onset disasters do not give adequate lead time to enable advance warning on their occurrence. Thus our warning system is mainly involved in the prediction of slow onset disasters such as drought related famine. When a quick onset disaster strikes, the system has an additional responsibility of undertaking an impact assessment and suggest to decision makers on appropriate interventions that help minimize the impact of the disaster on the lives and livelihoods of the affected communities.

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How do we make advance warnings on a possible threat of acute food insecurity triggered by a slow onset disaster? This is done by monitoring the performance of variables known as early warning indicators. These are processes or events that influence the main determinants of food security. Let us take crop production, one of the determinants of food security. Factors that have a bearing on crop production include: amount and distribution of rainfall, quality of land preparation, availability of inputs, area planted, crop damages, etc. These are not the only variables that influence crop production. All these form a set known as crop production indicators. To the extent possible, the performance of each of these indicators is closely monitored throughout the cropping season to assess whether they have been positively or adversely affecting crop production in different areas. Likewise, other indicators have similarly been defined on the basis of food security determinants.

The patterns or sequences of the coping strategies employed by households in response to actual or potential food shortages help to define many of the indicators useful for food security monitoring. All the coping mechanisms of households could be categorized into three sets depending on what stage they occur on the food shortage - famine continuum. The first one refers to those responses and conditions that occur before food consumption starts to decline. The second group of responses occur simultaneously with the decline in food consumption or access to food. The third and the last set esponses are made when households have failed to cope with the food crisis. These three sets of coping mechanisms form the basis for defining three types of indicators that can be used to monitor the food insecurity situation of households. These are :

a) **Leading or Early Indicators:**

- Crop failure
- Unusual deterioration in conditions of rangelands or livestock
- Significant deterioration in local economic conditions (increases in food prices, increases in unemployment, unusual disappearance of primary food stuff from the market), etc.

b) **Concurrent or Stress Indicators:**

- Unusual out migration of able-bodied household members in search of food or work
- Appearance in the market of unusual amounts of personal and capital goods (e.g. jewelry, farm implements, draft animal)
- Unusual increases in land sales or mortgages

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- Increases in the number of people seeking loans
- Increased use of wild foods
- Reduction in the number or size of meals, etc.

c) Trailing or Outcome Indicators:

- Signs of acute malnutrition
- High rates of morbidity or mortality
- Increased land sales
- Consumption of seed
- Family disintegration
- Permanent out migration of entire household, etc.

(Source: Maxwell & Frankenberger, 1992)

Should each and every indicator of household food security be used as a monitoring tool? Is it feasible to do so? Are all indicators sensitive enough to detect slight changes in food availability or access to food? Can they all be measured early enough to enable decision makers make appropriate and timely interventions? The answer to all the above questions is "no". A number of considerations should be made in the selection of indicators. Among them are (ibid):

- resource limitations
- appropriateness of the indicators
- level of accuracy required and
- timeliness

Availability of resources including capacity not only to collect but also to process and anlayze the data has to be assessed. Similarly, whenever there are changes in the food security situation, the indicator should be able to pick up some aspect of these changes. Otherwise, it is worthless collecting data on an indicator if it does not provide relevant information. The other two criteria, accuracy and timeliness, are in most cases incompatible. A high level of accuracy usually does not allow for a timely generation of the required information. One has to make a kind of balance between the two.

At present, the Ethiopian Early Warning System uses quite a number of indicators which may be classified as follows:

- Climatic indicators
- Crop production indicators
- Livestock performance indicators

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- Market indicators
- Indicators of other income generating activities
- Indicators of other sources of food,
  Health, nutrition, and education indicators

(For a comprehensive listing of indicators under each category, please refer to Column I of Annex 1. The list is by no means exhaustive).

Since it is very difficult to obtain quantitative information on most of the indicators, qualitative information, usually comparing current situation with what "normally" happens, is collected on a regular basis. This raises an important issue regarding the availability of a comprehensive information known as **base line data.** To enhance early warning data analysis and to have good knowledge of the local food economy relevant basic information should be collected, preferably by agro-ecological zone, and be available for easy reference. The baseline information should take normal seasonal patterns into account. Such a data would serve as a bench mark against which current situations would be compared.

Let us illustrate the use of base line information for early warning/food security data interpretation and analysis with examples. If a report indicates cases of migration from an area, this may not be a cause for concern if the base line information on that area reveals that some household members normally move out of their area in search of temporary employment during a certain part of the year. If, on the other hand, the observed migration has abnormalities in terms of magnitude, seasonality, direction of movement or type of people migrating then it could be a signal of distress. When such unusual events occur, where they have occurred and why they have occurred should be identified. Similarly. if an indicator shows of a poor condition of livestock in an area, it may deserve little or no attention provided that the base line data indicates that livestock "normally" lose weight and their conditions decline at this time of the year. When making the analysis, if an indicator shows deterioration it is always useful to cross-check the information against other indicators to verify the reason for the deterioration and to assess the significance and likely impact of the deterioration. Indicators should also be compared with their seasonal "norms" or patterns to pick up any abnormal seasonal trends. (Some of the types of information that need to be collected and organized for a woreda base line data is shown in Column II of Appendix 1).

If there is a deterioration in an indicator, does that provide sufficient proof for a worsening food insecurity situation in the area? Of course not! No single indicator should be interpreted in isolation. If viewed separately, an indicator could give a totally erroneous picture of the situation. If, for example, an indicator shows of a crop failure in an area this should not be sufficient to conclude that that community would

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face a major food crisis in the months ahead. A number of questions have to be asked to get a comprehensive view of the likely food situation in the area. How important is that crop in the community? What is the share of crop production to overall income in the area? What is the rating of the other sources of income? Are there other sources of food like grain reserves from the previous year(s)? These and other considerations could reveal that the community has other means to cope with the crop production shortfall, and that external support requirements could be minimal. It should be well known that most communities do not depend entirely on one source of income. Years of experience have taught households that income diversification provides a considerable degree of protection against an unstable food access. The figures below throw some light on the importance of different income sources in the rural areas of Ethiopia.

Table 1: Sources of income (percentage of total net income per capita) for sample households by agro-ecological zone

Income Source	Agro-ecological Zone [a]		
	Highland	Lowland	Pastoral
Cropping	54	47	20
Livestock	18	9	52
Wages	11	1	13
Fuel Products	5	35	0
Handicrafts	3	1	12
Transfers	6	4	2
Commerce	2	1	0
Rental income	1	2	1
Total	100	100	100

* The highland zone includes Adele Keke, Debre Birhan, and Gara Godo. The lowland zone comprises Dinki, Doma, and Korodegaga. The pastoral zone is represented by Beke Pond.

(Source: ***Famine and Food Security in Ethiopia*** Lessons for Africa, 1994)

Of course, the importance of each income source varies from area to area or from one household to the other. Those sources of income, that individually appear far

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less important, constitute quite a significant share of the total annual income when considered as a whole.

7.4. Data Collection Methods and Procedures

7.4.1 Data Collection Methods, Their Comparative Advantages and Disadvantages

There are several types of conventional as well as non-conventional data collection methods in use depending on the needs of the user of the data. A brief description of each, comparative advantages and disadvantages are given below

a) **Census:**

- provide a kind of picture or profile of the situation of a country at the time of the census and serve as a basic national inventory.
- require the mobilization of huge resources (human, material and financial) to conduct the operation
- pre and post census activities take quite a long time, in some cases upto 3-4 years to obtain results.
- use structured questionnaires
- go for a 100% count or enumeration and therefore produce a reliable data
- are not free from errors, especially errors of enumeration and processing
- are usually repeated every ten years
- will continue to be useful for any national statistical programme
(Casley and Lury, 1982)

b) **Sample Surveys**

- are reliable and scientific data collection methods
- allow inferences or conclusion to be drawn about the entire population based on investigations on a sample of the population

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- use structured questionnaires for data collection
- planning the survey, processing and analysis of the data require high level of statistical skill and processing facilities
- require quite a considerable amount of resources, but much less than that of a census. They take a relatively longer time and can not be used for rapid data collection purposes. (Ibid.)

c) **Case Studies:**

- The target groups or the focus of the studies are a small number of individuals or groups. These individuals or groups are not randomly selected. The selection is purposive, and only those that meet certain characteristics of interest are considered
- The investigations are quite demanding, i.e. they require professional skills and considerable time
- They usually employ open-ended questions
- The results of the studies can not be generalized to the population the cases are drawn from (Maxwell and Frankenberger, 1992)

d) **Rapid Rural Appraisals (RRA)**

- do not use formal survey techniques with structured questionnaires
- use check list to collect qualitative data on impressions, opinions, values as well as factors influencing specific events
- do not produce statistically sound results
- have been used to obtain a fairly good knowledge (insight) of some aspects of the target area or population with a minimum amount of time and resources
- almost always use purposive or deliberate choice of the target group

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- have proved to be rapid and cheap methods of collecting data, providing quick results to policy or decision makers
- have been useful in food security monitoring by providing quick results using informal methods (they have been most useful in crisis situations which demand meeting of short deadlines) (Ibid, 1992)

e) Participatory Rural Appraisals (PRA)

- use semi-structured questionnaires (i.e. some closed and some open ended question)
- follow the principle that the grass-root or the community is not only part of the problem but also part of the solution, and that their active involvement produces better results. They consider target groups not as passive onlookers that simply take in solutions that come from above, but as active stake holders with considerable potential for high participation, among other things, in the collection and provision of reliable data provided that they have the right motivation
- are gaining more and more popularity in recent years, and agencies, especially NGO's working at grass-root levels use them in the design, planning and implementation of projects
- are not as quick and cheap as the RRA's, but are useful tools for obtaining reliable and sustainable results

7.4.2 The Practice in Ethiopia in the context of Food Insecurity/ Vulnerability/ Monitoring

Two levels of food security monitoring exist in the country. They are the national and sub-national food security monitoring.

a) National Food Security Monitoring

The purpose of the national food security monitoring is to determine whether the country is in deficit of food or not and to provide information on the magnitude of deficits or surpluses. Such information is used for assessing food import requirements or assessing the potential for exportable volumes of food. The main monitoring tool is what is known as "food balance sheet" which basically uses six types of data:

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(i) Supply side data
- Beginning in-country stocks (mainly stocks of EGTE and EFSRA)
- Total domestic food production (both Meher and Belg, includes estimates of all food crops including root crops)
- Total food imports

(ii) Demand/utilization
- Domestic utilization (food use, feed use, seed use and other uses)
- Total Exports
- Closing Stock

The amount on the supply side always balances with the amount on the demant/utilization side. When total domestic requirements exceed total national supplies then the country would be in deficit, and therefore there would be a need to fill the gap through commercial imports or food aid or both. This type of monitoring cannot provide information regarding deficits or surpluses at regional, zonal or woreda levels.

For several years now this assessment has been done entirely by the FAO/WFP. The EWS is now planning to incorporate this type of assessment in its regular food security assessment system. To this end a model for bringing together the required data and analyzing such data has already been designed under the on-going system development programme.

b) **Sub-National Food Security Monitoring**

The central task of the EWS is the monitoring of the sub-national food security situation in the country. The monitoring system, as indicated in section 2.3 above, provides, among other things, information on areas and size of populations at risk or likely to be at risk of food shortages, the type, amount and duration of assistance required to mitigate the situation.

Data for sub-national food security monitoring purposes are collected using three different but complementary methodologies. They are regular surveillance, one-off or seasonal rapid assessments, and baseline data collection. Each will be briefly treated below.

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i) Regular Surveillance:

The main objectives of regular surveillance are to regularly monitor the major indicators of food security and to be informed of a rapid onset disaster at the earliest possible opportunity following the event.

Information on the performance of a set of early warning indicators (see Annex 1 for this set of indicators) in most of the crop-dependent areas is collected on a monthly basis at the woreda level using two standard questionnaires (formats). One of them, the crop questionnaire, is used to collect data not only on crops but also on other food security related variables such as conditions of livestock and rangelands. health situation, prices of fire wood and labour, school attendance, availability of drinking water for both human and livestock consumption, and current and future food situations. The woreda MoA, in collaboration with member agencies of the Woreda Early Warning Committee, is responsible for completing the assessment forms on a regular basis. The main sources of information are the woreda development agents, peasant association or community leaders, and the relevant line departments at the woreda level, chiefly the administration, health and educational offices.

The second tool is a standard market questionnaire. Information on prices and supplies of food grains, livestock and important livestock products, and reasons for abnormal market behaviors are collected monthly at the woreda capitals of most cropping areas. This is again done by the woreda MoA.

Completed forms are transmitted to the zonal Disaster Prevention and Preparedness Department which shoulders the responsibility of collecting all the completed forms from the different woredas and passing them over to both the Regional DPPB and the Early Warning Department of the DPPC with the minimum of delays.

The data is then processed and compiled, mainly manually, and analyzed to generate information which is used to prepare monthly early warning reports. It is also used to provide additional background information for one-off assessment missions.

Although the woreda level information is the backbone for the regular monitoring system, there are other types of national level secondary data which are fed into the monthly monitoring system. They are satellite and rain guage data. Daily, dekadal and monthly NDVI, CCD and RFE images are used by the EWS. Dekadal and monthly rain fall data is also obtained from NMSA.

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ii) One-off (or Seasonal) Rapid Food Security Assessments

These are rapid appraisals mounted to collect quite a considerable amount of information on food security indicators over a large area. The data are sometimes collected through inter-agency assessment missions with DPPC as the lead agency. Rapid assessment methods such as "key informant" interviews and field observations are employed to collect needed information on a regular basis. Their benefits lies in that they are undertaken within a short period of time at a relatively low cost. They often take only one to two weeks. In some cases it may even go up to a month. One of their common characteristics is that they do not employ scientific and statistically sound methods of data collection like sample surveys.

Rapid rural food insecurity assessments serve a number of purposes. They can be used to :

- verify conflicting information that have been received through the regular monitoring network
- confirm or reject claims by local officials of a worsening food insecurity situation which have not been detected by the regular monitoring mechanism
- assess the impact of quick on-set disasters which by their very nature could not be detected early enough before their occurrence
- assess overall prospects for food security until the next harvest (in the case of crop-dependent woredas or until the next rains (in the case of livestock-dependent woredas)

The major food security assessments undertaken by the EWS are:

- Pre-harvest crop assessments
- Pastoral area assessments
- Disaster area assessments

iii) Pre-harvest Crop Assessments : These assessments for the Meher and Belg seasons are conducted in October and June, respectively, usually as a joint exercise between the federal government, the regional governments, interested donors and NGO's. The Meher pre-harvest crop assessment deserves special importance in that it is the basis for launching emergency

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appeals to donors in December every year. It provides initial estimates on beneficiary numbers, areas affected and relief requirements during the following year.

The Belg pre-harvest assessment, though not as important as the Meher one, is similarly carried out with the involvement of relevant agencies, donors and NGO's. Unless there has been a major fall in Belg Crop production the findings of the assessment are not used for requesting donor pledges for emergency food aid. It is rather used to evaluate whether the food situation will improve or deteriorate in the belg growing areas following the harvest.

iv) Pastoral Area Assessments (PAA): These are done twice a year, right after the main and small rainy season of the pastoral communities with the intention of assessing the impact of the rains on the pastoral and livestock conditions. These assessments look into the main variables that influence the food economy of the livestock-dependent populations to find out if there are significant changes that adversely affect availability of or access to food. When there is a general convergence of information confirming of an impending food problem the number of people likely to encounter major reduction in consumption is estimated together with the duration the assistance would be required.

v) Disaster Area Assessments (DAA): Unlike the others, disaster area assessments are conducted on an ad-hoc basis, i.e. when situations call for them. The field staff of the Early Warning Department of DPPC are usually deployed for the purpose. Depending on the magnitude of the problem and the interest shown some UN agencies, donors, NGO's, regions and zones participate in such missions. DAA's are mounted when:

– an unpredicted disaster hits an area

or – an earlier predicted food crisis is reported to have considerably worsened affecting much more people than anticipated.

The assessment usually looks for signs of food distress by observing the behavior of stress indicators or late outcome indicators. Nutritional assessment in the form of anthropometirc measurements on children under five is a common component of the DAA. The main purpose of the DAA is to measure the impact of the disaster and recommend appropriate mitigate or even rehabilitative interventions. Disaster assessment data is collected using rapid assessment methods such as "key informant" interviews and field observations on an irregular basis.

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The EWS also collects seasonal quantitative data on crop production through agricultural sample surveys by the CSA and informal data collection methods by the MoA. Sample survey on nutritional status and food security situations is available from SCF (UK) through its nutrition surveillance programme which is being implemented in selected zones of the country.

vi) Baseline Data Collection

Baseline agricultural and socio-economic data are very useful for EWS activities. Thus EWS is one of the large users of such data. Most of the baseline data is collected by other agencies using different data collection methods including: censuses, sample surveys, remote sensing techniques, and "key informant" methods.

vii) Procedures and Techniques of Rapid Food Security Assessments in Ethiopia

Assessment Planning

- For key assessments like the pre-harvest assessments the National Early Warning Committee convenes to decide on the timing of the assessment, number of assessment teams to be deployed, coverage of areas, and the contribution (man power and field vehicles) of each relevant line ministry toward the assessment.

- The timing and purpose of the assessment is communicated to the regions so that they get prepared to join the assessment missions from the center. The regions then alert the lower level governments to complete their own assessments at woreda level and expect the national/regional teams.

- The DPPC makes an official request to the relevant donors, UN agencies and NGO's asking them to participate in the assessment. They are also asked to indicate the zones they prefer to go to for the assessment. Their assistance in the provision of field vehicle (s) is also sought.

- A half-day briefing session is organized for participants of the assessment at the national level. The objective of the briefing before the teams are dispatched to their respective areas is to discuss:

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- the objective and focus of the assessment
- the reporting requirements (reporting formats, date of submission, etc.)
- the methodology to be used
- other issues pertinent to the mission and give clarification of questions raised by participants

The forum also serves to get the participants know each other.

- Before the teams depart they are provided with:

- a brief guidelines for rapid assessment
- the necessary data collection and reporting forms
- the appropriate check-list
- baseline information like population figures by PA's or woredas, historical figures on beneficiary levels, etc.
- provisional schedule (itinerary) which is flexible enough to be modified as the need arises. The teams are required to inform the Early Warning Department in Addis when they make significant changes to their schedule.
- letters of introduction to the regions to be visited

- <u>Team composition</u>:- Assessment missions usually include staff from one or more of the following government agencies

  - the DPPC
  - the MoA
  - NMSA
  - Ministry of Health
  - the CSA
  - Ethiopian Mapping Authority

The missions could also get additional staff at various administrative levels (regional, zonal and woreda). It the assessment has a national significance, it is often conducted with the collaboration of NGO's, bilateral and UN agencies.

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Briefing and De-briefing at regional, zonal and woreda levels:-

As the teams arrive at the regional, zonal and woreda capitals they request the secretariat of the Early Warning Committee to organize a briefing session with representatives of the relevant line departments at the level. The purpose of the briefing is to:

- brief local officials on the objective of the assessment
- obtain a briefing on current situations of crop, livestock, market, wage labour, other sources of food and income. This allows to get a general impression on the food security situation at the next lower level, and get information on areas where food problems have occurred or are likely to occur.
- collect any other relevant data at that level
- collect, where applicable, information on estimates of beneficiary numbers
- identify the areas for the next level field visits (i.e. which zones to be visited is decided by the region which woredas to be visited is decided by the zone etc.)

Before a team leaves the woreda, the zone, or the region it is required to provide a short de-briefing with the relevant officials at that level. The focus of the de-briefing is on:

- areas visited by the team
- review of the team's main findings
- highlighting areas which are likely to need assistance and why
- as necessary, outlining the implausibility of some of the claims and findings of the local officials.
- getting an opportunity for receiving major comments of the local officials on the findings of the team.

Selecting woredas for visits

Given the time constraint, it may not be possible to visit all woredas in a zone. Thus a method for choosing a reasonable number of relevant woredas is applied. This is how the selection process goes.

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- Based on information from the zonal officials we list down the woredas where relief needs have been requested, likely to be required or a need for close monitoring has been identified

- From the above list those woredas that are inaccessible are stricken off

- The remaining woredas may still be too many to be covered within the time available. So a good estimate is made on the number of woredas that could be "purposive or visited within the given time. We use what we call representative selection method. The relevant and accessible woredas are grouped into similar (homogenous) groups based on specific characteristics. The grouping may be based on farming systems (e.g. meher dependent, belg dependent) or on other important features. Then we select at least one woreda from each category and conduct the visits. This approach is likely to give a representative picture of situations in the affected but not visited woredas.

Data Collection Methods at Woreda and sub-Woreda Level

Relevant information is collected using three methods:

- Community interviews
- Household/individual/interviews
- Field observation

a) **Community Interviews**:- Three types of interviews could be considered at the community level. They are:

- Interviews with woreda officials
- Interviews with "key informants" and
- Interviews with a cross-section of local residents (community group interview)

– The woreda officials provide detailed information on food security related situations and prospects.

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- The key informant interviews include individuals with a considerable knowledge of the community (e.g. PA chair persons, elders, tribal or religious leaders, school teachers, development agents, local NGO staff or local traders)

- When time allows, the mission requires a group of local residents (e.g. poor farmers, rich farmers, female-headed households, artisans, etc.) to come together for a group a interview.

The community interviews are conducted using a check list that contains a set of key questions on which the interview focuses on. (Structured questionnaire are not usually used) The open-ended nature of the questions allows for flexibility.

b) **Household Interviews**:-This type of interview is conducted only when the PA may require food aid but where the wereda or community interviews do not give a complete and plausible justifications. The interview is done by talking to individuals at their homes, on farms or on the road. As time is usually scarce, the interview will be highly focused on very important elements. (The interviewee should be asked to identify the changes in the key food security variables from previous or normal years)

- In all types of interviews every precaution is taken not to pose "leading" questions, i.e. questions that will tend the interviewees give a wrong picture of the situation in the hope of securing relief assistance.

c) **Field Observation**:- This is an important method of collecting information. Visual inspections of food stock, crop, and livestock conditions, and examining the physical appearance of people especially of children, help to form some impressions. Where possible market spot-checks are also made to get some idea on market conditions.

(Most of the material in section 3.2.3 is adapted from the forthcoming EWS Rapid Assessment Manual, pp. 3-41)

7.5. Outputs of the Food Security Monitoring in Ethiopia

7.5.1 Early Warning Reports

The various primary and secondary data collected through the regular surveillance and the various assessments (seasonal or ad-hoc) are processed and organized to

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facilitate analysis. Although much of the data processing work todate is done manually, computer-supported tools and models are now being developed to enhance data processing and analysis activities considerably. The results of the analysis are written up in early warning bulletins. These are:

- Monthly Early Warning Reports: These usually carry the main information collected through the regular surveillance system. Ad-hoc reports from regions/zones and highlights of a disaster area assessment could also be included in the monthly bulletin as necessary

- Seasonal Reports: The findings of each of the Meher and Belg crop pre-harvest assessments are published in December and August respectively.

- Annual Early warning Report: This is usually published in February/March. It provides an update of the Meher pre-harvest assessment based on the findings of the regional post harvest assessments. The report depicts the annual food security prospect for the new year, usually assuming that belg production in the new year will be normal.

- Pastoral Area Assessment Report: The findings of the twice yearly assessments of the food security situation in the pastoral areas are usually written in two early warning bulletins; one published in August and the other in January. The January report is quite often incorporated into the Annual Early Warning Report.

- Disaster Area Assessment Reports: These are not regular reports. They are written up following disaster area assessments. If no such a thing occurs, which is most unlikely, there would not be a DAA report. The reports are quite often used for internal consumption purpose to help commissioners make decisions on resource allocations to the disaster affected area (s).

- Special Flash Reports: These are exceptional ad-hoc reports published when it is necessary to report on a very serious and urgent event that calls for the immediate attention of the policy and decision-makers.

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7.5.2 Report Dissemination

The above reports usually come out in the form of texts, maps, graphs or tables, quite often leaning towards a textual structure. With the exception of the Disaster Area Assessment reports, all others are distributed to a wide cross-section of users in the country and overseas using hand delivery, postal services, meetings and FAX as medium of transmission. Arrangements are now underway to introduce E-mail and internet to allow much more rapid and cost-effective report dissemination. The major users of the EWS reports are the government (Disaster Prevention and Preparedness Committees at various levels, Ethiopian embassies), donor organizations, UN agencies, NGO's operating in the country, some local and international research institutes, and libraries.

7.6. Food Insecurity Indicators

Because of the complex nature of the variables that influence the food security of households it is not possible to give an exhaustive list of variables that could be indicative of a fall in the current or future food consumptions. There is no standard list of food insecurity indicators that apply for every affected household or community. Coping strategies employed in response to an actual or threatened food problems vary between communities, and even between households in the same community. Below is a list of some of the indicators of the presence or likely presence of acute food insecurity situation in an area. It should not be assumed to be a complete list. Some of the indicators are observed way before the famine process sets in while others are objective and visible manifestation of famine conditions in full progress.

- Poor crop growing conditions
- deterioration in conditions of livestock
- Drastic fall in or total loss of incomes:
    - total or significant crop failure
    - unusual loss of livestock
    - reduced waged labour opportunities or a fall in prices of waged labour
- depressed livestock prices with the resultant decline in the terms of trade between livestock and food commodities
- Unusually high volumes of livestock being offered for sale
- Appearance on the market of unusual amounts of capital goods such as farm implements, jewelry, or productive livestock such as draft oxen or breeding animals

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- Mortgaging or sale of land
- Increased migration of able-bodied members of households in search of unskilled employment
- Unusual migratory movements of pastoralists with their herds
- Increased petty trading
- An unusual rise in loan taking and in the numbers of people failing to meet their debts (borrowing of money or food from outside kinship relations or close friends at an unusually high interest rates)
- Unusual increase in the supply of fuel products (firewood, charcoal, cow dung, etc.) to markets
- Sharp declines or absence of supplies of food commodities on markets
- Unseasonal price rises of food commodities
- Increased gathering of wild foods(wild fruits, roots, leaves, animals, etc.)
- Reduction of number of meals per day (jumping meals)
- Reduction of size of meals
- Consumption of taboo or toxic foods
- Consumption of seeds
- Increased levels of food stress related malnutrition and low birth weight
- Lethargy
- Family disintegration
- Unusual increase in the number of beggars and prostitutes in towns and cities
- mass migration

Food Insecure Groups in Ethiopia

The population of Ethiopia is among the most food insecure in Africa. This basically emanates from its deep rooted poverty. A couple of comparative indicators show that Ethiopia's GNP/cap in 1992 was $US 110 against an average of $US 530 for the entire Sub-Sahara Africa for the same year. There is also a big contrast on the level of daily calorie supply. According to UNICEF's State of the World's Children Report published in 1994, during the period 1988-90 the daily calorie supply as % of requirement was only 73. Sub-Sahara Africa met 93% of its requirement for the same period. These figures speak for themselves on how poverty is well entrenched in the country.

Increasing unemployment in both the rural and urban areas, severe limitations in farmland holdings exacerbated by rapid population growth, declining soil fertility through centuries of soil erosion, low growth due to inappropriate development

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policies, and recurrent drought in parts of the country are among the most important contributory factors for the increasing food insecurity in the country. Consequently more and more people are finding it difficult to gain access to adequate food. The country has a huge number of food insecure people. According to indications from an analysis undertaken in 1992, around 27 million people could be food insecure in Ethiopia during the same year (Debebe and Maxwell 1992). This includes both types of food insecure groups: chronic as well as acute food insecure. Usually the number of people that annually suffers from transitory or acute food insecurity is in the range of 2-5 million. This figure could go up to 8-10 million in the event of a large scale famine.

Of the total food insecure population, the rural resource poor forms the largest social group. Refer table below for the share of each food insecure social group as estimated in 1992.

Table 2: Share of food insecure groups in Ethiopia, 1992

Category	Share
Chronic, rural	50.5%
Transitory, rural	24.3%
Urban, employable	14.2%
Displaced	7.5%
Refugees	2.8%
Urban, Unemployable	0.7%
Total	100%

Source: *Linking Relief and Development*, IDS Bulletin, Vol. 25, No. 4, October 1994

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With little or no land of its own, and worsened by lack of oxen and other agricultural inputs, the majority of rural households are not able to produce or purchase enough food to meet their minimum requirements. Chronic food shortages also affect the pastoralists, particularly the poor. Repeated shocks of drought have brought their herd sizes to such a low level that they do not enjoy access to sufficient food from their livestock products or the sale of their animals. The other food insecure group is the urban poor. This group has little or no income to enable it purchase food stuff that meets its basic needs. Low income households employed in the informal sector and those social groups outside of the labour market forms the chronically food insecure in this category (classification). The table below shows the category of the different food insecure households in Ethiopia, which also generally reflects the existing vulnerable groups in other African countries.

Table 3: Classification of Food Insecure Households in Ethiopia

	Rural	Urban	Others
Chronic	Resource poor households • landless or land-scarce • ox-less • poor pasoralists • female-headed households • elderly • disabled • poor non-agricultural households • newly established settlers	Low income households employed in informal sector Groups outside the labour market • elderly • disabled • some female-headed households	• Refugees • Displaced • Ex-soldiers
Transitory	Less resource poor households vulnerable to shocks, especially but not only drought, • farmers and others in drought-prone areas • pastoralists • others vulnerable to economic shocks, e.g. in low potential areas	Urban poor vulnerable to economic shocks, especially by those causing food price rises	Groups affected by temporary civil unrest

Source: Ethiopia, Food Security Strategy, (Draft Copy), 1996

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Annex 1

1. Early Warning Indicators Used in Crop Dependent Areas of Ethiopia	II. Some of the Base line Data that Need to be Collected in Crop Dependent Areas
Indicator A. Climatic Rainfall • onset and cessation • amount and distribution • adequacy of rainfall for crop production/livestock production	Base line Data • Normal start and finish of rainy season(s) • Long term average, amount of rainfall, and number of rainy days by agro-ecology (a.e)
B. Crop Performance indicators • Area prepared • Area planted • Date of planting • Cropping pattern • Crop damage (crops affected, cause and severely of damage) • Availability and use of inputs • Crop production • Crop Performance - phenological stage - crop condition	• Size of cultivable land, by agro-ecology • Long term average of area planted, by a.e. • Usual planting date by crop for each cropping season • Crops grown in each cropping season ranking them by importance, by agro-ecology • Climatic hazards by agro-ecology • Major crop pests and diseases by a.e • Time-series data on supplies and utilization of modern agri-inputs by agro-ecology • Calendar showing phenological stages of crops by a.e and cropping season • Long term average production by crop • Relative importance of meher and belg crops by a.e

a.e= agri-ecology

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c. Livestock Performance Indicators • Livestock disease • Water and pasture adequacy • Physical condition of livestock • Livestock herd size (qualitative)	• Importance of livestock (L.S) in the Production system, by a.e. • Focus of animal husbandry • Herd composition • Use of animals • Endemic animal diseases • Normal seasonal patterns of watering grazing (seasonal availability of water and pasture) • Normal seasonal patterns of L.S. condition • Size of herd by type and a.e.
D. Market Indicators • Price and supply of main food crops • Price and supply of main cash crops • Price and supply of livestock • Price and supply of milk/livestock products • Cross-border trade • Physical access to market	• Time series data on prices of main food crops • Normal seasonal patterns of supply of main food crops • Main cash crops grown in the area • Importance of cash crops in the area (its estimated share to total income) • Time-series data on prices of L.S. • Normal seasonal patterns of supply of L.S • Importance of cross border trade for the area • Commodities traded, source of supply • Usual seasonal patterns of cross-border trade • Locations of markets • Normal physical access to markets

a.e= agro-ecology

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E. Indicators of Other Income Generating Activities	
• Daily wage rate in towns • Opportunities for waged labour • Price and supply of fire wood (fuel products) • Other main sources of income • Patterns of migration	• Normal seasonal patterns of wage rate • Normal seasonal patterns of waged employment opportunities • Where do people normally go for employment? What time of year? At what scale ? • Normal seasonal patterns of fuel products and supply (firewood, charcoal, animal dung) • Sources of income (ranking these sources by a.e) • Normal seasonal patterns of migration in terms of direction of movement, magnitude of migration and reason
F. Other Sources of Food • Food reserves from past harvests	• Areas and % of population which normally produce surplus food which could be carried over to following year, by a.e.

a.e = agro-ecology

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G. Health, Nutrition and Education Indicators	
• Incidence of epidemic diseases • Consumption patterns – ranking of main food stuffs – size of meals – number of meals • Evidence of malnutrition • School attendance	• Seasonality of endemic diseases • Seasonality of epidemic diseases by type of disease and a.e. • Normal seasonal patterns in the ranking of main food stuffs, by a.e. • Information on normal size and # of meals per day, by season • Normal seasonal patterns of school attendance
	Other Baseline Data • Population by a.e. • History of recent disasters and relief • HH coping mechanisms to food problems etc.

Source: Adapted from ***Guideline for Early Warning System in Ethiopia,*** 1995

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ANNEX 1

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PART VIII

HOUSEHOLD COPING STRATEGIES WITH FOOD SHORTAGES

BY :- DR. DAGNEW ESHETE

CCRDA

HOUSEHOLD COPING STRATEGIES WITH FOOD SHORTAGES

8.1 The Concept and Definition of Household Coping Strategy

In describing the concept of coping strategy, common terms or phrases like "coping mechanism", "coping technique", and "survival methods" are often used interchangeably by writers and researchers. In this context, "coping strategy" means "coping mechanism" or "coping technique" implying a forward planing approach mainly at a household and individual levels. The term "response" is also used for individual actions aimed at survival in the face of disaster-induced food crisis or famine. "Coping strategy" could be defined as a mechanism by which households or community members meet their relief and recovery needs, and adjust to future disaster-related risks by themselves - without outside support (Dagnew, 1993). According to Davies (1993), "coping strategies are the bundle of poor people's responses to declining food availability and entitlement in abnormal seasons or years".

There is a growing body of literature on the household coping mechanisms, notably empirical studies from Africa and Asia, that focus on the differences between seasonal and disaster (mainly drought) - related food shortages; differing household aims; the timing and sequence of stages in the coping strategy; and the constraints which influence the choice of the strategy. Several responses for example, reducing food consumption, sales of livestock, borrowing, collection and eating of wild foods (plant and/or animals) or migration may be undertaken by different household members at the same time or sequentially, as part of the overall strategy; while some responses may be undertaken simultaneously (Dagnew, 1993 & 94).

A better understanding of household coping mechanisms demands a recognition of the nature of all stages or categories of response. Household responses to various degrees of food shortages are often based on:

(i) production-based responses;
(ii) market-based responses; and
(iii) non-market based responses, such as the use of different institutional and societal income transfer systems (Ibid)

Rural households have been adopting a variety of coping strategies in response to both seasonal and disaster-related food shortages. Previous studies (Ibid), on food shortages and

famine show that all households are not equally vulnerable to either seasonal and disaster-related food shortages and famines of differing magnitudes. The rich usually have access to food and seldom starve. In periods of serious food shortages, the poorest income groups may not have the same options open to them for coping with food shortages as those who are better-off. For instance, the poor peasant household may find it more difficult to obtain credit facilities from local sources and may have fewer assets to liquidate. The poor income groups are more often constrained by high dependent worker ratio or "dependency ratio" in the family.

8.2 What Indigenous Coping Strategies Exist?

In Ethiopia, people from different cultural, regional and agro-ecological backgrounds have experienced a long history of recurring famines of varying severity. With such differences in background, responses made by households of different income groups in periods of food crisis may be expected to show significant variations.

Traditionally, rural people derive most of their family consumption requirements, from domestic food production, largely from crop and livestock production activities. Most often, failure to achieve self-sufficiency in food production forces rural people (both crop producers and pastoralists) to get involved in market-based economic activities (such as asset sales, petty trading, food purchases, borrowing and selling family labor, etc). Failure to achieve self-sufficiency does not only drive households to depend on market-based food supply sources, but also to depend on non-market based income and food supply sources, the character of which depends on the economic status of households and the magnitude of food scarcity. In this context, non-market based household responses include dependence on generally unmarketed food supply sources such as wild foods. This in general, indicates that there is a high scope for building on existing local coping strategies in disaster prevention, preparedness and management (Dagnew, 1993).

This paper, based on a field work information (see table 1), has considered two contrasting regions (North Wollo to represent crop and livestock dependent in different agro-ecologies, and Ogaden representing pastoral and agro-pastoral societies) for assessing the traditional household coping strategies with disaster-induced food shortages/crisis.

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Table 1 : Examples of Existing Local Coping Strategies by Geographical Locations and Occupations in Ethiopia.

Coping Strategies Practised by Settled Farmers (Highlanders)	Coping Strategies Practised by Pastoralists & Agro-Pastoralists (Lowlanders)
1. Changing cropping pattern (crop diversification)	1. Sales of animals (small animals first and then big animals depending on the problem of magnitude) for food purchase
2. Reducing food consumption (in amount, quality and number of meals, etc.)	2. Reducing food consumption
3. Sales of small animals	3. Support from kin and among clan and sub-clan members (including gift of animals for use of product and slaughter for food, labour support, etc.)
4. Borrowing grain & money	4. Long distance migration with animals in search of water and grass
5. Sales of family labour locally and through temporary migration	5. Slaughter animals for family consumption, and
6. Asking support from kin and friends (including support from religious institutions)	6. Eating wild food (though wild food is gradually disappearing).
7. Some petty trading activities	
8. Shared rearing of livestock (for use of products including sharing of offsprings)	
9. Sales of productive assets	
10. Depend on relief food	
11. Slaughter animals to save family lives (by lowlanders)	
12. Eating wild food, and	
13. Household and/or village-level distress migration (involving short and/or long distance migration - permanent and/or temporary).	

Note: This table attempts to demonstrate the similarities and differences in coping strategies that are practised by settled farmers (in rain-fed agriculture) and pastoral societies (eg. Ogaden) based on a fieldwork undertaken by the author, Sept.-Oct. 1993.

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Rural households in Ethiopia have been adopting a variety of coping strategies in response to both seasonal and disaster-induced food shortages (to ensure family food security in times of crisis). According to Dagnew (1994), existing household coping strategies with food shortages in the country could be summarized in the following generally sequential categories:

a) Self-insurance (risk-minimizing) strategy such as changes in the agricultural production strategy including cottage industrial production;

b) Adaptive (income stabilization) strategy which includes intensifying secondary economic activities;

c) Asset disposal strategy (e.g, sales of productive and non-productive assets, slaughtering of animals for family consumption by pastoralists); and

d) Distress migration and family separation (including the abandonments of child/family members as a means of survival).

8.3 Factors Limiting the Development of Indigenous Coping Strategies

Many factors limit the development of existing indigenous coping strategies in Ethiopia. That is, there are significant variations in the factors limiting the household coping abilities (ways of coping against unfavorable situations) between different geographical and agro-ecological zones; and the needs of intervention support would also vary accordingly.

Major factors limiting the development of useful indigenous household and local coping strategies by agro-ecological/ geographical locations, requiring appropriate institutional interventions include the following;

8.3.1 In Settled Farming Areas

Factors limiting the development of useful indigenous coping strategies in the highlands and associated lowlands include:

- rainfall variation affecting seasonal production (including recurring total failure of rainfall);
- gradual soil erosion and degradation, inadequate productive asset ownership and decline;
- growing problem of general productive resource distribution and land carrying capacity problem in

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particula aggravated by uncontrolled, fast population growth;
- poor/lack of marketing infrastructure, credit and pricing policy support for family income stabilization;
- lack of irrigation support in potential areas for sustainable production;
- poor/lack of access to production inputs for sustainable crop and livestock production activities;
- lack of the means for income generating activities to better cope with exceptional crisis situations periods;
- lack of sustainable local-level employment sources and the declining means for income generating activities to better cope with exceptional stress/crisis situations;
- lack of access to pest, disease and drought-resistant innovations such as improved seeds and livestock breeds;
- lack of appropriate training in disaster prevention, preparedness and management to develop the coping capacity of local people;
- the negative impact of the inappropriate application or untargeted free distribution of food aid in the past nearly two decades.
- worsening terms of trade; and
- civil conflicts.

One key feature revealed by a recent study (Dagnew, 1993 & 94) is that the choice of coping strategy against deepening food shortages in disaster prone areas of Ethiopia (e.g, in Wollo, Tigray, and Wolaita) showed some distinct variation according to income groups. In particular the following strategies were used largely by the poor:

(a) temporary migration in search of wage-labor as an income stabilization measure;
(b) high dependence on income from secondary and marginal economic activities;
(c) begging and intensifying dependence on collection and eating wild foods;
(d) Sales of household possessions (including dwelling houses);
(e) distress migration, family separation and abandonment.

The rich did not use these strategies during the particular crises years of the 1980s and early 1990s. Significant differences also exist in the other coping strategies (eg, reducing consumption, changing cropping pattern, etc.) in terms

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of differences in the number, type, intensity and frequency of adoption of each coping technique; which in turn primarily depends on the level of asset ownership, income status, level of food reserve of each household, family labor availability, and on the magnitude of the crisis situation.

In general, the poor have fewest or no assets and reserves; and when famine occurs, it is often households from this social group who fall below the threshold of collapse much faster than other income groups. It is often the poor who are first forced to engage in short-term and marginal economic activities like the collection and sales of grass/wood/leaves, and wild food, begging, reliance on wild foods and relief distribution for consumption during the peak crisis periods. They are first, too, to lose their credit-worthiness and are forced to reduce drastically their food intake. In the end, desperately, they sell their assets. In Ethiopia, the rich and many of the middle income groups have been able to cope with the recent crises periods by drawing upon their reserves and gradual selective asset sales. Households from the poor income group do not have the same options open to them for coping with serious food shortages.

8.3.2 <u>In Lowland Pastoral Areas</u>

Many limiting factors to household coping strategies mentioned above are also common in lowland pastoralist and agro-pastoralist areas despite variations in their degree of magnitudes. The major factors that greatly contribute to the weakening of the indigenous coping strategies in the lowland pastoral areas which also require appropriate interventions include:

- seasonal weather instability, and the recurring drought problem in particular;
- poor transport and marketing infrastructure;
- lack of access to development inputs for sustainable livestock and crop production activities (e.g, lack of drought-resistant seed & pasture, lack of veterinary, water and pasture development support);
- Livestock decline both in size and quality;
- lack of training and pastoral extension support to promote income generating activities of household and to strengthen their capacity in managing disasters;
- worsening terms of trade between livestock and crop products;
- civil conflict.

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In conclusion, the more access households have to key productive assets and permanent income earning activities (regardless of their social backgrounds, geographical and agro-ecological locations), the more self-sufficient they become in food; they are in a better position to cope with disaster-induced food crisis. The more households are deprived of the key productive assets and the minor regular income-earning sources, the more they are vulnerable to disaster-induced food crisis which can be catastrophic.

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PART IX

FOOD SECURITY PLANNING AND INTERVENTIONS

BY :- DR. DAGNEW ESHETE

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FOOD SECURITY PLANNING AND INTERVENTIONS

9.1 Definition and Types of Planning

Planning is a process to set a future course of action (including advance decision making). It is a continuous (on-going) activity. Common types of plans includes: (a) development plans (short-term, medium-term, and long-term development plans); (b) contingency (emergency) plan; and (c) relief plan. Food security planning includes all these types of plans.

An understanding of a planning concept and the logic to planning processes is important. Planning logics can apply equally to major tasks (i.e, planning an overall operation to relatively minor day-to-day activities). The planner also needs to constantly monitor progress and adjust the objectives to take account of new realities. Planning should take place in both stable and in exceptional circumstances.

The success of any operation plan depends upon the quality of planning and how prepared the agencies and communities are to implement such an operation, and on the timing and size of their response. For example, a relief plan to be prepared must ensure a balance between provision of adequate measures (in time, type and size) to prevent distress and greater vulnerability without undermining useful indigenous coping mechanisms, and not to increase long-term vulnerability and dependency. A relief plan contains the plans of concerned agencies for relief and rehabilitation projects in times of emergency; and it also includes proposals for improving the local/community-level capacity to prevent disaster in future.

All planning efforts begin with a situation assessment, and the above indicated planning types are no exceptions. In most cases, field workers and development experts know simply from experience the appropriate time to plan. In disaster prone and food deficit areas, basic risk assessment and data gathering and analysis need to be undertaken for proper disaster preparedness and prevention measures.

Needs and resources assessment is an essential ingredient in all planning processes (including food security planning). In order to plan effectively one requires to understand the prevailing situation by assessing both needs and resources. On the basis of

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needs, one can set objectives. An understanding of resources can help in the development of a strategy (operation plan) to reach the objectives. Needs and resources assessments are essential steps prior to understanding any planning exercise.

9.2 Methods of Food Security Situation Assessment

In order to undertake regular food security situation assessment particularly in areas prone to recurring disaster- induced food shortages and famine, it would be most appropriate to develop and use food situation indicators. Several indicators are used to identify vulnerable groups and assess the food security or insecurity situations at the local and household levels. Early warning information at local level including information on household-level production, incomes, assets, coping strategies are among the most important indicators for food security assessment. Available information sources (Dagnew, 1993) indicate
that the information including:

- rainfall situation;
- crop (including harvest) and pasture situation;
- stock position (reserve situation);
- asset sales (eg. livestock sales);
- anthropometric (nutritional status) data, including human health situations;
- changes in food habits;
- terms of trade between crop and livestock products;
- market price situation (food supply and price situation);
- purchasing power of the people;
- labor movement and demand for labor;
- deviation from regular nature of economic activities (e.g, intensifying secondary or marginal economic activities;
- income position and household income sources to cope with a growing food insecurity;
- crop and animal pest and disease situations;
- instability caused by ethnic or social conflict, war, etc.; and
- migration are important indicators for emerging and/or existing food insecurity problems. That is, most of these indicators show/confirm the existing problems of food insecurity in differing magnitudes; while some others (eg, rain failure, poor crop and pasture situations, etc.) indicate the emerging or impending food insecurity problems as warning indicators that facilitate for taking appropriate preventive measures.

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9.3 Food Security Planning and Intervention Programmes

Maxwell (1992:11-12) notes that "policy in the 1970s and for much of the 1980s concentrated on achieving national goals of food production and self-sufficiency; often with intense government involvement through grain marketing parastatals and, in some cases, state farms. Food security planning was to be run from the center, with fixed goals and many multi-sectoral initiatives. ... Food security policies for the 1990s need to begin with the diversity and complexity of food security as experienced by the food insecure themselves. The primary focus needs to be on individuals and households who lack, or fear they may lack, secure access to enough food at all times for an active, healthy life"
Proper food security planning is a process which should involve a strong local government participation. Such grass-roots based planning approach is likely to be more successful than over-centralized, top-down approaches. Micro-level food security planning should promote the data collection processes, planning and implementation with the communities on which the beneficiary groups depend.

As regards the social composition of the food insecure groups in Ethiopia, rural people (small farmers and pastoralists) still predominate. However, poor pastoralists, landless, members of female-headed households, the urban poor and those displaced by war and/or civil conflicts are becoming increasingly prominent and most vulnerable to any sudden disasters. In order to improve the food security and the general livelihoods of these social groups, specific or appropriate policies and strategies to be designed need to take these varying needs into consideration.

On the basis of the policy documents reviewed (Dagnew, 1993 & 1995), the relief, rehabilitative, and relief-development linked efforts that have been going on in many disaster-prone areas of Ethiopia are some of the aspects of food security-related interventions by the government and donor agencies. Camp-level feeding (nutrition), health, sanitation and related rehabilitative programmes that have been provided for both returnees and refugees, and relief-development linked projects in some parts of the country are examples of such interventions to be cited which have been designed to facilitate the coping ability of affected people. However, the past institutional efforts to develop effective policies that address (alleviate) the country's growing problem of poverty (worsening socio-economic problems) through an effective programme of poverty alleviation and famine prevention measures have not been encouraging.

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The types of institutional interventions required pre-crisis, during crisis and post-crisis periods are: Preventive, emergency, rehabilitative and interventions linked to long-term development programmes. Proper (targeted) disaster prevention, preparedness and development approaches will not only improve the food security situation at a household and local levels, but also promote the general livelihood security of households or societies at different levels.

Food shortages and people's vulnerability to the recurring disasters could be prevented (or at least reduced) through building the capacity of households and communities in managing disasters. That is, traditional and newly evolving household and community-level coping strategies with food shortages, disease, etc. need to be developed through improving their disaster prevention, preparedness and management capacity. One important way of stimulating or building on useful indigenous coping mechanisms is through strengthening the socio-economic role of peasant associations and other community-level institutions such as Service Cooperatives, religious institutions, and local committees (including village-level informal social and financial mutual support groups or committees like Edir, work teams, etc.).

In order to solve the growing food insecurity problems among the food insecure social groups and to improve the general livelihood security, food security planning should consider the following approaches or strategies (in order of importance):

- a selective area and population group-based targeted approach. This must embrace a strategy for protecting key productive assets from distress sales during emergency periods and appropriate research and technology dissemination;
- an agro-ecology (area)-based targeting approach;
- land tenure reform allied to a conservation-based development approach;
- a systematic and well-planned food and nutrition strategy;
- population control in the form of improved family planning measures and voluntary settlement in less populated areas with agricultural potential. Above all, the first two key policy implications require a more urgent attention. The following brief discussions will concentrate on these key policy implications.

9.3.1 Selective Area and Population Group-based Targeting

This refers to the application of (a) emergency, and (b) rehabilitation-development planning and implementation approaches based on the priority needs of the needy population groups in areas vulnerabl to natural and/or human-made disasters. This approach involves the prop

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allocation of national manpower, financial aid, and investment resources in order of priority.

The agricultural sector in Ethiopia has been the dominant source of the economy (in which over 85% of the population have been employed) for the past many generations. However, because of the poor/stagnating agricultural production performance and very high variability from year to year (as the main underlying causes), the overall food security situations at macro and micro-levels have shown a sharp decline particularly in the recent two decades. Growth of the agricultural production will still remain central, and the agricultural sector a priority for resources. However, growth in production (including other non-agricultural production sectors) needs to be targeted or directed specifically to enhancing the employment and production-related incomes of the poor or the food insecure groups. Generally institutional support need to focus on strengthening labor-intensive small-scale production and other supplementary/ non-farm income generating activities (e.g, petty trading), with special emphasis on resource-poor and marginal areas.

The dominant issues which primarily focus on the ways of promoting building on useful indigenous coping mechanisms (strategies suggested) for enhancing sustainable family food security and the livelihood security at large include the following:

a) Targeted Productive Asset Strategy

Earlier we discussed the productive asset position (e.g, the ownership of plough oxen, breeding cattle, farm implements, land distribution, etc.) of rural households in Ethiopia. The economic impact of the ownership or otherwise of these key productive assets has been discussed based on the findings of the previous household and village level studies. The results of the study have shown that over 38 percent of the sample peasants in the country do not own key assets like draught oxen and other productive assets which are their sources of livelihoods. Over 31 percent of the poor and some middle peasants are reported to possess one oxen. Most of the samples in the poverty group reported that, they lost their oxen and other productive assets as a result of the recurring drought and disease outbreaks since the 1984/85. Moreover, the average land ownership is about 1 hectares/household and many peasants are limited to a very small garden plot only. The number of landless is also increasing alarmingly from year to year. This is an urgent problem that must be tackled both in medium and long-term programme in a sustainable way.

The other important asset-related problem that poor peasants often face is the seasonal seed and fertilizer supply shortages they suffer as a result of their lack of purchasing power. Poor farmers are unable to maximize their seasonal farm activities, particularly at peak planting seasons of the year when the rainfall situation is favorable; and in consequence suffer a progressive deterioration of

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their economic status and increased vulnerability to any sudden disasters.

b) Production and Income Diversification

In order to better ensure a sustainable micro-level food security, household-level production and other income generating activities need to be diversified. This includes the diversification of crops (annual and/or perennial), livestock husbandry, and other off-farm income generating activities through the proper utilization of family labor and other available productive resources by seasons. Balancing between food and cash crop production, and/or between crop and livestock production are important approaches to cite which may enable not only households but also the country at large to attain a sustainable food security.

Irrigation support is another important aspect to be considered in the process of micro-level food security planning (for enhancing sustainable food production).

In Ethiopia as a whole, irrigated farming practices are very rare common. Greater emphasis should be placed on the introduction of small-scale irrigation practice, which requires only the improvement and extension of traditional stream-diversion and furrowing systems. This will offer a chance for poor farmers' labor to be utilized for diversified and intensive double-cropping to ensure sustainable family food supply in some potential areas.

c) Targeted Marketing, Pricing and Credit Support

Food security planning should also look into the provision of appropriate institutional marketing, price regulation and credit services. In most areas of Ethiopia, lack of input and output price regulation, poor marketing infrastructure and credit services are among the many major contributing factors for the decline of food production and supply at local and household levels (in generally food deficit areas in particular). Proper institutional marketing and credit services (targeted by area and population groups or socio-economic groups) would play important role for sustainable food production and supply and in securing community and household-level food security.

Hence, in order to improve the local and household-level food security, food security planning/intervention needs to consider the following specific institutional services:

- provision of improved credit and marketing institutional support;
- targeted financial and asset institutional support which would significantly improve the economic status and purchasing powerof the poor;

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- policy support in food grain, inputs and stock market (supply and price) stabilization and regulation, including subsidy and the improvement of the terms of trade between crop and livestock products, and
- the establishments of key transport and communication networks at least up to major relay and secondary market centers (including the opening of new market centers at strategic locations and provision of associated support).

d) Targeted Relief and Development Linked Support

This refers to the efficient use of relief and development resources (including better use of food aid) for the vulnerable poor, particularly in disaster-prone areas. Maxwell (1992:12) notes that "food security policies should aim towards establishing efficient and equitable food systems, resilient in the face of drought or other shocks. They should provide secure safety nets against destitution, preferably in ways which simultaneously promote long-term development. ... Food security interventions generate a larger pay-off and are more cost-effective if they are targeted on the most food insecure, whether through geographical targeting, focusing on food consumed primarily by the poor or community management".

A relief-development linked plan is prepared to provide appropriate relief and development linked assistance to the vulnerable social groups. Relief assistance is provided to the affected population in a manner which ensures that such efforts contribute towards rehabilitation and long-term development. Relief and rehabilitation plan, for instance, enables to extend relief and rehabilitation assistance to disaster victims through measures designed to relieve current distress and build up future capabilities to meet the challenges of disaster-related crisis. The preparation of such plans is bottom-up, and must identify measures needed to provide effective relief and rehabilitation support to the most needy people. Specific relief and rehabilitation measures among others include:

- implementing employment generation schemes;
- provision of drinking water in areas where water shortage is critical;
- distribution of gratuitous relief to the old, infirm and disabled (non-able bodied) social groups during disaster period;
- making efforts to meet fodder scarcity;
- introducing of cattle camps for taking care of livestock;
- health care for human population and livestock;
- provision of supplementary nutrition to the most vulnerable social groups like children and women;
- distribution of food aid; etc.

Relief and rehabilitation plans should assess the nature and duration of operations, and identify specific projects, wherever

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possible. More over, these plans will identify the priorities in execution in relation to areas, types of relief measures and type of employment generation schemes. Such plans are initiated at the Woreda level.

As part of the relief plan, employment generation scheme (EGS) emphasizes relief assistance to able-bodied persons to be provided based on their participation in the development linked programmes. EGS provides a means of distribution of income to deprived sections of communities, build-up the assets of an area so as to improve its resilience to disaster-related problems, and create conditions and strengthen the infrastructure to enhance future development in disaster-prone and food deficit areas. EGS is also designed to ensure the full participation of women, and be productive.

Linking relief and development offers positive benefits. According to Smith and Maxwell (1994), "better `development' can reduce the need for emergency relief; better `relief' can contribute to development; and better `rehabilitation' can ease the transition between the two".

Relief and development interventions are implemented harmoniously to provide poor people with secure livelihoods and efficient safety-nets, mitigating the frequency and impact of shocks and easing rehabilitation. Relief food is not used not for direct free distribution, but rather as a wage to pay for development work. Hence, disaster affected people, rather than receiving food free, they are employed to build roads, plant trees, develop irrigation facilities or carry out soil and water conservation works. Such planning approaches enhance increased incomes and reduce future vulnerability. Wages could be paid in cash, with relief food being sold through the food marketing system to stabilize prices and generate cash to pay for public works. Relief works are popular means for linking relief and development.

e) Strengthening the Traditional Coping Mechanisms

Food shortages and people's vulnerability to the recurring disasters could be prevented (or at least reduced) through building the capacity of households and communities in managing disasters. That is, traditional and newly evolving household and community-level coping strategies with food shortages, disease, etc. need to be developed through improving their disaster prevention, preparedness and management capacity.

A special institutional targeted policy measure that assists household coping strategies (e.g, seasonal cropping strategies, off-farm and other means of income generating activities, etc.) needs to be adopted in the planning process. This approach would be effective through introducing appropriate measures such as input and output pricing policies, marketing and credit policies, and subsidies which would increase the purchasing power of the poor income groups, especially in stress periods. Such a policy should

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also place particular emphasis on contingency planning which focuses on the creation and strengthening of:

- seed and food grain reserve schemes; and
- draught and breeding animals purchase, either for stock or holding in reserve at strategic locations for distribution during or after stress periods. These could be distributed free or at subsidized prices or through low interest credit scheme depending on individual household economic position. Past experience and early warning information should be utilized to decide which policy options and planning approach (including) is to be adopted.

f) Short and Long-Term Targets

The following are policy suggestions drawn from the previous studies which aim at solving both fixed and variable productive asset-related problems for those population groups with little or no income and low purchasing power:

Emergency-Linked Income Transfer & Asset Protection Measures: Income transfer measures could be practical through relief food-aid either free or through EGS to the most needy social groups in times of serious food crisis; seed, fertilizer and farm tools distribution as post-recovery support; expanding the participation of the affected poor in various employment-based safety net programmes and projects. This includes people's participations in food-for-work and/or cash-for-work projects and programmes, etc., which enhance savings for productive asset purchases, improved income and family food security.

Emergency-linked policy support need to be provided with the aim to protect key assets from distress sales and ensure at least the minimum level of family food security. Special policy attention must be given to establishing a workable early-warning system, and to the proper use of such early-warning information for appropriate intervention measures. Early-warning information would allow proper institutional contingency planning to tackle an impending or future disasters. This can be accomplished through institutional disaster preparedness measures, including building essential reserves for saving human and animal lives, designing alternative strategies of asset protection from distress sales, etc. Crucially, interventions must center on protecting peasant assets from distress sales; only then is sustainable development and household-level food security a feasible goal. The policy measure includes the provision of emergency relief (including EGS) for target groups in times of serious food shortages. Households with active family members should be motivated to participate in community-based socio-economic and infrastructural development activities (basis for future/long-term food security or development) through EGS (using relief food or monetized aid resources for wage payments).

Provision of low interest or interest-free (revolving) credit for selected poor households with particular focus on food deficit

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areas. Such a credit facility should be earmarked for purchases of key productive variables and/or fixed assets for sustainable seasonal food production and ultimate food self-sufficiency. This should include the provision of low interest or interest-free revolving funds that would have positive multiplier effects;

Many short-maturing income generating activities often included in the normal seasonal/annual production or economic plans (e.g, selected varieties of cereal, vegetable and root crop production through use of irrigation water from micro-dams, ponds and river diversions; increasing other farm and non-farm fast income generating sources) also need to be considered for shorter-term or emergency-linked measures as may be appropriate. Short-term policy should primarily focus on rural employment creation or developing income generating sources, such as through proper mobilization of community-level resources with zero or minimal institutional cost outlay (e.g, using food aid resources for food-for-work type of participatory development activities).

Other possible short-term or emergency-linked measures for absorbing unemployed rural labor include:
- expanding food-for-work or cash-for-work projects; and
- provision of appropriate supports for local cottage industries. Support should also be given in conjunction with improved marketing arrangements and greater credit provisions. On-job and on-site training should be expanded as may be appropriate. All these measures would offer additional income sources for the rural poor and enhance their ability to feed their families; this would eventually lead to a long-term sustainable family food self-sufficiency.

Price Stabilization Measures: Both short and long-term policies must include price stabilization measures. Along with the other famine-prevention schemes indicated earlier (e.g, grain reserves), price stabilization (price control) schemes offer one of the most important policy approaches. The purchasing power of the poor, particularly in periods of food crisis, can thereby be increased. Food supplies may be secured by developing grain reserves at strategic locations. These reserves could be built up through local purchases during periods of crop harvest (when output prices are very low) or through regional imports, etc. Such an approach would create an effective solution for resale at subsidized prices (when market prices tend to highly increase in times of food scarcity) to population groups with the lowest purchasing power. This better secures the food supply entitlements of the poor. This approach could apply to both seed needs and livestock in similar stress situations.

9.3.2 Agro-ecology Based Targeting

The study (Dagnew, 1993) revealed that peasants living in Kolla agro-ecologies in particular are more vulnerable to serious disaster-induced food shortages than people who live in Dega and

Woina-Dega areas. Household food shortages have been caused by (a) recurrent mainly drought-induced production failures, and (b) the highly erratic nature of seasonal rainfall, often resulting in total and/or partial crop losses and poor grazing pasture for their animals. People who live in such an agro-ecology often experience a high incidence of human, livestock and crop disease and pest outbreaks, as well as other environmental hazards. Peasants in this agro-ecology also have less opportunity for crop diversification practices to secure their household food needs compared to other agro-ecologies due to high rainfall variability; and irrigated farming practices are non-existent (very rare). These findings have important policy implications.

Specific and valuable (emergency-development linked) policy support services are needed for the rural people with particular reference to people living in disaster-prone lowland areas in order to develop people's coping mechanisms. Proper disaster prevention and preparedness measures (i.e, comprehensive emergency relief-linked development strategies) should include the following alternative combination of support services as may be appropriate:

a) establishing and continuously improving an early warning network down to the community-levels;

b) timely and effective use of early warning information so appropriate policy decisions may be taken in good time;

c) Promotion of adaptable production technologies (such as, the introduction of drought resistant and better yielding crop varieties, small scale irrigation techniques, improved farm tools, etc.) and developing local skills through appropriate training schemes.

d) Diversifying rural household income sources, such as through promoting different income generating activities or secondary income sources in disaster-prone areas greatly contributed to family income stabilization and ensures food security in disaster periods. This includes cottage industries (e.g, handicraft, carpentry, pottery), petty trading, development of horticulture (gardening), etc.

e) Promotion of food grain and seed reserves, livestock and feed preservation centers at strategic locations in drought-prone areas. Although the approach may sound some what expensive, establishing livestock preservation camps to be run by government institution (MoA) would be important in order to counter the adverse effects of drought (ie, to save lives of animals from serious shortages of fodder and drinking water, health deterioration, and to minimize distress sales of animals) in vulnerable areas.

f) Construction of ponds and watering points for animals, including water supply sources for human consumption in drought-prone areas;

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g) Provision of better human and animal health services. Previous studies (Dagnew, 1993) indicate in lowlands in particular, the problem of human and livestock disease outbreak in times of disaster (drought) has been a growing concern. This needs an appropriate policy attention for:

- improving veterinary services to prevent animal deaths from serious diseases such as trypanosomiasis, anthrax, rinder pest, etc.; and
- improving public health facilities to prevent serious diseases such as malaria, typhoid, typhus, meningitis, etc. This requires the strengthening of the community health extension services with particular focus on disaster-prone areas. This will have a direct impact on the productive capacity of households contributing to their resilience against disaster-induced crisis in communities.

h) Provision of improved grain and livestock marketing facilities such as:

- establishing/improving marketing infrastructures (eg, establishing communication facilities, roads, opening new market centers in inaccessible areas);
- stabilizing market prices (food supply and price regulations);
- facilitating for better terms of trade between crop and livestock products in times of serious food shortages. During the periods of drought-induced stress the grain prices sharply increase, while livestock prices often sharply decrease. On the other hand livestock (e.g, oxen) price tends to increase post-disaster recovery period. This is a problem that requires a serious institutional policy attention for appropriate and sustainable solution in disaster-prone areas.

i) Laying the foundation for longer-term solutions that include conservation-based development work;

j) Restoring soil fertility by applying various measures of soil and water conservation; afforestation, and other appropriate technologies for improving both sustainable food crop and animal production; and

k) Provision of appropriate training and extension education services to communities in disaster-prone areas to better manage disaster.

All the above listed short and medium-term measures are vital packages of the overall strategy that need to be well incorporated and strengthened in the regular long-term development programmes for the regions with similar problems and resource endowments. Moreover, for disaster area management programmes to be effective, contingency planning is essential.

In sum, policy makers must recognize and devise appropriate intervention measures to strengthen peasant households' existing useful coping mechanisms in the face of a hostile environment and

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to promote the development of new adaptive strategies. This raises policy issues which involve the above short and medium-term alternative intervention measures as packages of the overall development strategy, and will help increase household production-based incomes and decrease household vulnerability to crisis situations. Above all, development strategies must be targeted on the poor and the needy households because their plight is the most desperate.

9.4 The Management of Intervention Projects/Programmes

The major problem confronting (affecting) agricultural and other socio-economic development managers in Ethiopia and in developing countries at large is implementing development projects/programmes. Such problem can be related to poor project preparation/planning. Unless projects are carefully planned in substantial detail, inefficient or even wasteful expenditure (affecting nation's scarce capital) is almost sure to result.

In many developing countries, the capacity to prepare and analyze development projects is poor. Managers, even those in important planning positions often underestimate the time and efforts needed to prepare appropriate projects. Projects provide an important means by which investment and other development expenditures often indicated in plans can be clarified and realized. Sound development plans require good projects, just as good projects require sound planning; the two of which are interdependent. Projects are planned and carried out in naturally sequential manner, and this sequence is often called the project cycle (including: identification, preparation and analysis, appraisal, implementation, and evaluation processes).

Project implementation (intervention) involves the process from the signing and financing of project agreement to the completion of projects. The objective of any effort in the project planning and analysis clearly is to have a project that can be implemented to the benefit of a given society. Thus, implementation is perhaps the most important part of the project phase when actual project management is expected to play the greatest role. The better and more realistic a project plan is, the more likely that it can be carried out and expected benefits realized.

The project management should be flexible to intelligently respond to changes of circumstances during project implementation phase. Technical changes are inevitable as the project progresses. For example, changes in the fertility of soil affects its response to fertilizer applications, susceptibility to water-logging, etc. Price changes may necessitate different cropping patterns or adjustments in inputs. Other changes in the project's economic or political environment will alter the way in which it should be implemented. The greater the uncertainty of various aspects of the project, or the more innovative and new the project is, the greater the likelihood that changes will have to be made. Even when the

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project implementation is under-way, project management will need to review and replan parts of the project, or perhaps the entire project. Implementation is a process of refinement, of learning from experience.

Monitoring and evaluation are important related but distinct functions applied during project implementation phase. Within the project, the primary need is to monitor progress. "Monitoring is the provision of information, and the use of that information, to enable management to assess progress of implementation and take timely decisions to ensure that progress is maintained according to schedule. Monitoring assesses whether project inputs are being delivered, are being used as intended, and are having the initial effects as planned" (Casely & Lury, 1992). Monitoring is an internal project activity, an essential part of a good management practice and, therefore, an integral part of a day-to-day management. Evaluation, on the other hand, assesses the overall project effects, both intentional and unintentional, and their impact. It involves comparisons requiring information from outside the project as control or a baseline information. Evaluation draws on data generated by the monitoring system to help explain the trends in effects and impact of the project. The relative roles of monitoring and evaluation will mainly vary with the type of project (Ibid).

Based on a structured project plan of operation, monitoring activities are carried out by an implementing institution and/or jointly with funding/donor agency and other concerned counter parts through established close supervision and monitoring system. Periodic progress reports (weekly, monthly, quarterly, and annual reports) are based on regular project monitoring activities. On the other hand, project evaluation can take place at:

- mid-term (interim evaluation);
- end of project (final) evaluation, and
- ex-post evaluation (a number of years after project completion or termination).

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PART X

MONITORING AND EVALUATION OF FOOD SECURITY INTERVENTIONS

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MONITORING AND EVALUATION OF FOOD SECURITY INTERVENTIONS

10.1 Objectives of Monitoring and Evaluation

In order for organizations to attain their programme/project objectives or interventions, the need to develop and applying workable monitoring and evaluation systems is unquestionable. The main objectives of using prpoer monitoring and evaluation systems for food security interventions are the following:

- to assess the extent to which objectives and targets of food security are being achieved
- to assess the programme impact on the quality of life and the extent to which progress has been made in the satisfaction of basic needs.
- to provide measurement on people involvement in the development and decision making process
- to establish a system of information dissemination that provides continuous flow of information needed for management decisions
- to measure directly how the project is affecting diverse sectors of the population and to suggest possible improvements and/or suggestions in their implementation.

The monitoring and evaluation of programme/project interventions mainly focus on stipulating information requirements, collecting and processing information, comparing target situation and actual performance in regard to activities, inputs of resources, results, assumptions and project impacts, assessing deviations as well as other related problems affecting the intervention efforts for appropriate policy measures.

10.2 What is Monitoring?

Monitoring is a continuous surveillance of project implementation performance through timely gathering of information on project inputs, activities, outputs and complementary action with a view to ensure that progress is maintained according to schedule.

Questions answered by programme monitoring:

- Where the scheduled food security activities carried out as planned?
- How well were they carried out?
- Did the expected changes occur at programme level, interms

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of improved access to services,
- Improved access to services, improved quality of services, improved use of services by beneficiaries?

10.3 What is Evaluation?

Evaluation is the retrospective measurements (assessment) and analysis of results of food security programme. It attempts to determining what happened and why it happened. It is a process for measuring change (impact) brought about by implementation, and comparing the change against some standard so as to draw conclusion.

Questions Answered by Impact/Efficiency Evaluation:

- Is the food security programme effective in achieving its intended goal?
- Can the results be explained by some alternative process that does not include the programme?
- Is there a link between impact at the population/ household level and the activities of the programme?
- Is the programme an efficient use of resources as compared to alternative allocations?

10.4 Difference and Complementary between Monitoring and Evaluation

Monitoring and evaluation create the information base required for steering and decision taking in project implementation and it is therefore difficult to separate. In general, however, monitoring is primarily performance - oriented, is an ongoing process and consists of comparing the set targets and the actual performance achieved. On the other hand, evaluation examines the progress made by the project at specific periods in time. It assesses the objectives, the impacts and the assumptions.

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Table 4: Difference and Complementarity Between Monitoring and Evaluation

Differences/ Complementarity	Item	Monitoring	Evaluation
Difference	Frequency	It is carried out on a day to day basis/regularly	It is conducted in specific periods in time/episodic
	Location	Within the project management unit (PMU)	Parent department/ ministry/central agency/external agencies
	Focus	Inputs, process, outputs, work plans	Effectiveness, relevance/ impact, cost effectiveness
Complementarity	Basic purpose	Improve efficiency, adjust work plan, accountability	Improve effectiveness, impact, future programming
	Information Sources	Periodic progress reports, field observation, rapid assessments	Same plus, in-depth studies, socio -economic surveys
	Undertaken by	Programme managers, community workers, community (beneficiaries) supervisors, funders	Programme managers, supervisors, funders, community (beneficiaries) external evaluators
	Reporting to	Programme managers, community workers, community (beneficiaries) supervisors, funders	Programme managers, supervisors, funders, policy makers, community (beneficiary)

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10.5 Participatory Monitoring and Evaluation

In order to fully exploit the forces involved in the implementation of project activities and for ensuring the sustainability of project impacts, the project management must set up and attain an efficient form of cooperation with the relevant person, groups and institutions in its social and institutional environment.

Once the relevant cooperating partners have been identified, the areas of cooperation have to be stipulated. Special attention should be paid to those groups and institutions who are to be carriers of the development process and who are of decisive importance for the sutainability of project impacts.

In participation analysis for monitoring and evaluation process the following issues deserve attention:-

- Identifying what person, groups and institutions, in the social and institutional environment are relevant for M&E;
- Classfying the identified persons, groups, and institutions into those taking an active part in project participation, and groups beneffiting from and affected by its impacts;
- Analyzing the interests, forces and interactions between the identified persons, groups and institutions in relation to their potential for cooperating with the project.

Once the cooperating partners and areas of cooperation have been stipulated, we have to decide how cooperation is to take place (an informal basis or formalized or institutinalized). The chief management task will then be to build up long-lasting relationships between the project, the project executing agency, line departments and the target groups such that the objectives and interests of all participating parties can be appropriately incorporated in the planning and decision-making process.

Involving participants in project monitoring and evaluation will benefit both the project and the community and will help ensure validity of the data collected, and will provide a low-cost method of gathering precise information at the community and individual level . The simpler and more accessible the system, the better in order to have various organizations input data and use it to serve their needs and the drive toward the goal of food security.

10.6 Steps in Developing Food Security Project Monitoring and Evaluation System

Many projects use some specific elements of the monitoring and evaluation system in their work in one way or another either systematically or unsystematically, as an ongoing effort or just at irregular intervals. It has often been observed too that many project executing agencies/NGOs already have an information system, and internal reporting system or reporting mechanizm to external bodies.

Although the conventional approach to food security monitoring and evaluation system in most projects lacks essential components, it is worth noting to remark that monitoring and evaluation work involves several work steps. The information and data needed to steer the project must be collected, processed, analysed, documented and assessed and finally interpreted as to the consequences they have on project implementation. The first step is to formulate objectives.

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a) Formulating Objectives

The first step in developing a monitoring and evaluation plan is to formulate objectives - a set of expected results and effects - of different orders. The outcomes of the food security project on beneficiaries will not be measured or tracked by the M&E system unless the project is conceptualized in these terms. For example, an objective of food security intervention could be stated in the following manner.

- an aggregate increase in agricultural productivity in "X" project areas by 5% per year by 1998.
- a 10% per year increase in income through 1988 by households participating in income generation activities
- a 2% per year decrease in malnutrition status (<80% WFM) of children under five in the project communities through 1998.

b) Data Collection Plan

i) Identify the Information Required

The following questions should be answered to decide on the information required.

- Who needs what information and what for? (It involves identifying users and their needs. It may include donors, government agencies at various levels, community, project management, and other agencies).
- When is it required?
- How detailed the information has to be

ii) Review and evaluate existing information system. Through an internal review of the existing information, the M&E is further refined to cater for additional or improved information system.

iii) Defining Indicators

An effective M&E plan includes several types of indicators so that the plan can respond to the needs of various users. Objectively verifiable indicators demonstrate whether the project is achieving its expected outcomes. An example of indicators that correspond to food security objectives could be:-

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Table 5: Direct and proxy indicators

Programme Objective	Direct Indicators	Proxy Indicators
Increased Agricultural Crop Production	% increase in the yield of any of the major cereals grown in the project % change in overall crop production per household	% increase in fertilizer use % increase in the use of improved seeds % increase in Irrigated area % increase in the adoption of improved practice
Increased Households Income	Proxy Indicators -% increase in No. of livestock (expressed in value terms) -% increase in savings - Improvement in physical state of the Household (i.e. tin roof, additional rooms etc.).	
Improved Health Status in Target Areas	Direct	Proxy
	- Reduced prevalence of diarrhoeal diseases -Decreased % of children who are under weight	-% increase in families using family planning methods -% increase in households using protected water source -% increase in households with a vegetable garden for home consumption -% increase in deliveries attended by trained TBAs

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iv) Design Data Collection and Processing System

a) **Data Collection Mechanism**: Data collection for monitoring and evaluating projects is made by means of primary and secondary sources

Primary Sources

- *in-depth interviews*
- *standard questionnaire interviews*
- *direct observation and group discussion*
- *records of respondents and physical measurement*

In this method of data collection consider the following

- *the unit of analysis (individuals, families, communities etc.)*
- *classifying the data (by gender, age, locations, etc)*
- *sampling techniques (random, purposive sampling)*

Secondary Sources

- census and statistical reports
- reports of the national, regional government and NGOs offices, local administration, DPPB
- project reports

b) Documentation and Reporting

Information generated must be processed for the user, complied, summarized and analyzed in
reports, possibly giving conclusions and recommendations.

Monitoring Reports -This include regular reports, which form part of the normal management information flow and periodic reports on problems. on particular issues.The report covers physical progress, financial expenditure, resource utilization and major hindrances for program success. Depending the needs of information user the reports could be release every month, bi-monthly or every quarter. The periodic reports on the other hand are compiled to inform management before decisions could be made on outstanding issues.

Evaluation Reports: There are two types of evaluation reports i.e.) ongoing or formative, expost or summative evaluation. Formative evaluations are most often carried out biannually and even in two-three years as an interim when the project completes half of the project life. It is important to note the relevance of involving all stake-holders particularly the community and relevant government agency representatives to allay suspicions, encourage co-operation and increase feedback for future actions.The second evaluation is an ex-post evaluation mainly undertaken by an outside body. It focus on the technical aspects including impact, sustainability, community empowernment and other socioeconomic achievements.

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Table 6: Monitoring and Evaluation Information Needs, Dissemination and Use

Audience	Role Role in Monitoring an d evaluation	Which/why which results they need to get and why	How How they can get this results
Non-involved community	Small part (interviewed)	Summary of results to create support	Meetings, discussions, mass media
Involved community	Planning, carrying out monitoring and evaluation	Full results-to put recommendation in to action	Participation, meeting, study of results, mass media
District level agencies	Receive information, disseminate lessons, support action ,review progress	Full results or summary for lesson learned and decision making	Full report, discussion, mass media
Programme staff	Coordination, facilitation of decision making and action	Full results to put recommendation into action	Participation, meetings, study of report

Adopted from Reily, Cogill and Bailey (1996)

v) **Assessment and Interpretation**

The information transferred to the project management is interpreted by comparing the actual status, reached in project implementation and the set performance targets. Depending on the deviations identified, project managers have to assess what consequences these will have on the individual results of an activity or its implementation, and the importance these deviation will have for other results of activities, and then decide whether any corrective action has to be taken.

10.7 Monitoring and Evaluation Unit

Most projects do not need a separate M&E department staffed with qualified personnel and a data collection team. Since most projects have an in-built information flow system, it would be cost effective to build on those facilities and systems, use them to the full and improve them if necessary. When the need arises for a new system, however, they should.

- be kept as small as possible
- not provide service for the project management alone, but also for all relevant project units
- not monitor and evaluate the information on project implementation and the

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result on their own but together with other work units.

10.8 Major Problems of Monitoring and Evaluation Process of NGOs

- Absence of base line data information
- Absence of standardized project progress reporting format and periodicity
- Inadequate participation and involvement of government agencies and community in monitoring and evaluation process
- Insufficient and at times untimely feedback on monitoring and evaluation reports
- Monitoring and evaluation findings of previous periods are not often considered in the design of new projects
- Insufficient awareness and misconception on the purpose of monitoring and
- Monitoring and evaluation is not often seen as distinct responsibility on its own and not given proper attention
- Lack of system capable of generating cost effective data
- Poor data-base on essential elements of project/programme
- Lack of coordination among the various stakeholders of the project

10.9 Remarks for Consideration

_ All parties involved in M&E should achieve a clear view and consensus on the situation and its relevance from the outset.

_ Feedback's generated from M&E should be utilized to tailor project actions

_ Wherever possible cooperation should be processed through the existing organization and based on groups that exist

_ Successful M&E demands the generation of baseline data and set-up of appropriate indicators

- To reinforce cooperation in M&E, the project should employ various forms of interaction

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- informal meeting to exchange information
- regular information flow, through exchange of reports, studies
- holding discussion, seminars, workshops and special events
- attending each others work meetings, evaluation
- setting up joint committees, work groups, task forces, etc.
- setting up of coordination committee

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