

Policy Directions and Program Needs for Achieving Food Security in Eritrea

Temesgen Kifle

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Table of Contents.

Table of Contents	i
List of Abbreviations	ii
1. Introduction	1
2. Country Overview	2
2.1 History	2
2.2 Socio-economic setting	2
3. The agricultural sector	5
4. Concepts of Food Security	7
5. Food Security Crisis in Eritrea	8
6. Efforts to Respond to Humanitarian Crisis	14
7. Policies and Programs to Achieve Food Security	17
8. Conclusion	24
References	26

List of Abbreviations.

ACORD	Agency for Co-operation and Research in Development
APHCA	Animal Production and Health Commission for Asia and the Pacific
ECDF	Eritrean Community Development Fund
ERREC	Eritrean Relief and refugees Commission
FAO	Food and Agriculture Organisation
FEWS NET	Famine Early Warning System Network
GDP	Gross Domestic Product
GNI	Gross National Income
GSE	Government of the State of Eritrea
IDP	Internally Displaced Person
IMF	International Monetary Fund
MFI	Micro Financial Institution
MOA	Ministry of Agriculture
MT	Metric Ton
NGO	Non Government Organisation
OCHA	(UN) Office for the Coordination of Humanitarian Affairs
OFDA	Office of U.S. Foreign Disaster Assistance
SCP	Saving and Credit Program
SZSCS	Southern Zone Saving and Credit Scheme
TSZ	Temporary Security Zone
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USAID	United States Agency for International Development
WFP	World Food Program
WHO	World Health Organisation

1. Introduction.

The prolonged drought in Eritrea has put millions of people and livestock in danger. The available evidence indicates that agricultural production in 2002 was the worst since independence. Among the main reasons for food insecurity in Eritrea are shortage of rainfall, economic deterioration, and pressure of internally displaced persons (IDPs) and refugees. Due to insufficient rainfall, production of food crops and forage has dropped significantly, food prices have mounted up and malnutrition rates have increased. The aftermath of the border conflict with Ethiopia was mobilisation of soldiers (which this affects the ability of households to farm and do other income generating activities), internal displacement of people, and inaccessibility of farmland (due to unexploded mines). Together with this, the deterioration of the economy and the weakening of the household asset have aggravated the nature and magnitude of the problem. To prevent the human catastrophe from spreading, the Government of Eritrea has declared a drought alert and appealed to the international community for urgent humanitarian assistance. At the same time, the Government is making an earnest attempt to avert food insecurity. Until now, the confirmed pledges are very small in comparison with the total amount requested. Actually, it is not reasonable to take food aid as a long-term solution to food insecurity although it has a great effect on meeting emergency food requirements. What is more important is a design of policy framework to increase agricultural production and productivity using appropriate strategies. Based on the available information on Eritrea's food crisis and the nature and extent of the problem, therefore, this article aims to suggest program needs and policy directions that help the country alleviate food security crisis.

Following this introduction, the rest of the paper is structured into seven sections. The second section deals with the country's overview. Here, a brief explanation of the country's history and socio-economic condition is presented. Information about the agricultural sector of the economy is given in section three. Section four deals with concepts of food security. The notion of food security at the national, household and individual level and the different types of food security problems are all included in this section. The nature and magnitude of food security problem in Eritrea and the particular groups that are vulnerable to food shortages are reviewed in section five. Section six is devoted to the efforts that have been made to respond to humanitarian crisis. In this section, efforts that have been made by the society, the Government and the international organisations have been incorporated. Appropriate policies and programs to achieve food security in Eritrea are presented in section seven. Finally, the conclusion part of the study summarises the main themes of the paper and explains their significance with direct reference to the research paper

2. Country Overview.

2.1 History.

Eritrea is a small country on the North East of Africa, commonly known as the Horn of Africa. Its boundaries are The Sudan to the North and West; Ethiopia to the South; and Djibouti to the Southeast.

The modern history of Eritrea has its origin in the period of its colonisation by Italy, i.e. 1890-1941. After the defeat of Italians in 2nd World War, Eritrea was placed under British caretaking administration. However, after 10 years of British administration, Eritrea was awarded to Ethiopia as part of a federation. During the period of federation, the Ethiopian regime not only undermined the terms of federation but also annexed Eritrea as the 14th province of Ethiopia. This sparked a 30-year struggle for independence that ended in victory over Ethiopia in 1991. In 1993, independence was overwhelmingly approved following an internationally supervised referendum.

Since independence Eritrea had been at peace and good progress in reviving the economy had been made. However, the two and half year border war with Ethiopia that erupted in May 1998 and ended under United Nations (UN) auspices in December 2000 has reversed the decade of progress achieved. As a result of the peace agreement, the UN is now administering a 25-km wide Temporary Security Zone (TSZ) within Eritrea until a joint boundary commission delimits and demarcates a final boundary.¹ The boundary commission announced its decision on April 13, 2002 in the Hague, and both sides accepted the results. Now, the physical demarcation of the border is expected to begin in July 2003.

2.2 Socio-economic setting.

With a per capita Gross Domestic Product (GDP) of circa US\$ 180 per year, Eritrea is a low income food-deficit country (FAO, 2002, p. 2). At independence, the physical, social and institutional infrastructure of the country was negatively affected by war, drought, and inappropriate policies of the past colonial regime. It was hard to find any sector of the economy and any aspect of social life that was not affected by the causes of suffering. Since the proclamation of independence in 1993, the Government of Eritrea has committed itself to improve the economy and raise the standard of living of the population. The major national development objective is the creation of a modern, technologically advanced and internationally competi-

¹ The Temporary Security Zone is a 25-km-deep buffer zone separating the two armies.

tive economy (GSE, 1994, p. 10). Improvement in agriculture (through irrigated agricultural development and increase in farmers' productivity), development of export-oriented industries and services, and human capital formation are among the directions to realise the national development effort. To attain the above stated objectives, a broad-based growth strategy that is composed of rehabilitation, reconstruction and development of all sectors of the economy has been adopted by the Government. The main parts of this strategy are human capital formation, export-oriented development, infrastructural development, environmental restoration and protection and the promotion of private sector. The substance of this strategy is the establishment of an efficient outward looking private sector-led market economy. To convert into a fact, the Government began to privatise the stated-owned industries after making the necessary rehabilitation. As a result, 35 out of 41 large public enterprises were sold off by the end of 2001 (World Bank, 2002a, p. 1). In other developments, the country was able to record significant economic and social improvements. However, the border conflict (with Ethiopia) that was erupted in 1998 has reversed the steady progress that was made before the outbreak of hostilities. As a consequence of the war, more people were displaced, foreign investment was discouraged, domestic output was deteriorated, hard currency was dried, exports were shrunk, and consumer prices inflated. For instance, the annual growth rate of GDP decreased from 7.9% in 1997 to 0.8% in 1999 and then to -8.2% in 2000. The economy grew by 8.7% in 2001 but is estimated to have declined by about 1% in 2002 (World Bank, 2003, p. 1). Now, the economic future of Eritrea relies on the country's ability to resolve fundamental social and economic problems like managing drought, reducing illiteracy, attracting foreign investment, rehabilitating and stabilising the economy, reintegrating the displaced people, demobilising soldiers, demining explosions, and demarcating the border.

In regard to education and health situation in Eritrea, there are still critical constraints that obstruct the development of human capital formation. Nearly 45% of the adult population are illiterate (UNESCO, 2002, p. 100). In spite of the increase in access to and participation of education in the last decade, educational opportunities are still limited, especially in rural areas. The ravaged and insufficient health infrastructure that Eritrea inherited during independence has made the country not to have a well developed health system. Though some improvements are recorded, indicators such as mortality rate and health life expectancy indicate deficiency of basic health services. Compounding this situation, the population is facing serious health hazards because of problems of water and sanitation. In year 2001, access to an improved water sources and to improved sanitation facilities was only 46% and 13% of the population respectively (World Bank, 2002b, p. 26). In rural areas only 7% have access to

potable water. Malnutrition problems are also on the rise due to the pervasive effects of the drought. As reported by the World Health Organisation (WHO), the daily per capita calorie intake which is estimated at 1750 Kcal is only 83% of the minimum provided by the organisation of the World Food Program (WFP) as emergency food rations (2000, p. 1).

Table 1: Eritrea: selected socio-economic indicators.

I. People.	
Population	4.5m
Annual Population growth rate (%)	2.6
Age dependency ratio (as a proportion of working age population)	0.9
Urban population (%)	19
Life expectancy at birth (years)	56.5
Fertility rate (children born per woman)	5.8
Infant mortality rate (per 1000 live births)	73.6
Under 5 mortality rate (per 1000 live births)	103
Health life expectancy (years)	44.1
Illiteracy rate (% ages 15-24)	29.5
Illiteracy rate (% of people 15 and above)	44.3
Gross enrolment ratio (%)	
Elementary (grade 1-5)	57.5
Middle (grade 6-7)	43.2
Secondary (grade 8-11)	21.3
Population below the poverty line (%)	53
II. Economy.	
GNI per capita	\$180
GDP composition by sector (%)	
Agriculture	17
Industry	29
Service	54
Export of goods and services (% of GDP)	16
Import of goods and services (% of GDP)	86
Education spending (% of GNI)	4.4
Education spending (% of total government spending)	4.9
Total expenditure on health (% of GDP)	4.3
Aid per capita	\$43
Consumer prices inflation rate (%)	34

Source: World Bank, 2001 and 2002b; US, The World Fact Book, 2002; UNDP, 2002; WHO, 2002.

3. The Agricultural Sector

The Eritrean economy is largely based on subsistence agriculture. It is known that 80% of the population is dependent on the production of crops and livestock. Despite that the agricultural sector employs the large majority of the population, its contribution to GDP is only 17% (World Bank, 2002b, p. 208).² Even in good years of cropping, the supply of domestic agricultural products in Eritrea is below the demand. Hence, the country depends highly on food imports, including food aid. It is estimated that, in normal years, 50% of the cereal requirements in Eritrea are met through imports.

Historically, agricultural productivity in Eritrea has been low because this sector is highly characterised by the use of traditional methods of cultivation and limited agricultural inputs. Farming methods in Eritrea are still traditional. Except for large-holdings, farming system in Eritrea is operated by human power. Traditional hand appliances, animal drawn tools and elementary techniques are seen to be used by most farmers. The use of oxen for ploughing and threshing is common in almost all agricultural areas. As it is written by Sriranganayakula (2003, p. 2) most of the farmers in Eritrea are not aware of scientific methods of cultivation such as crop rotation, contour cultivation, fallowing, using fertilisers, inter-cropping, proper space between the plants, etc. Though one of the objectives of the new land policy in Eritrea is to promote commercial agriculture, the occurrence of small sized and dispersed family land holdings delays agricultural development.³ Traditional social institutions like religious holidays (that forbid peasants to do any kind of labour work) and extreme fasting (that hampers the productiveness of the rural labour) have also slowed agricultural productivity and development (Gebremedhin, 1992, pp. 2-3). Agricultural productivity is also hampered by lack of education in the rural areas. Additionally, this sector is severely affected by drought and prolonged war. The current border conflict with Ethiopia has not only depleted the agricultural workforce (due to the mobilisation of national military service) but also left a large area of land unused (because of unexploded landmines). This indicates that the deterioration in agricultural productivity in Eritrea is not solely because of shortage of rainfall.

² Unlike the industrial and service sectors which register an increase in GDP composition, the contribution of agriculture to GDP decreased from 29% in 1990 to 17% in 2000 (World Bank, 2001, p. 198 and 2002b, p. 208).

³ Except for some medium and large scale commercial farms that are being held by farmers who got land (by concession) and capital from the Government, communal or village land ownership is the most common land tenure system in Eritrea. Though the Government believes that the customary land tenure system is an obstacle to a modern agricultural development, the implementation of the new land policy is not an easy task. Under the land policy it is stated that

Eritrea is divided into three geographical zones, namely the central highlands, the western lowlands and the eastern escarpment and coastal plains. While it is hot and dry along the Red Sea coast, the central highlands are cooler and wetter and the western hills and lowlands have a semi-arid climate. Arable land in Eritrea accounts for 12% of land use. The remaining 88% of the land is used for permanent crops (1%), permanent pastures (49%), forest and woodland (6%), and other (32%). There are 3.2 million hectares of arable land, of which less than 15% is normally cultivated (FAO, 2002, p. 3). While 95% of the cultivated area is under rainfall, the rest 5% is under irrigation. Eritrea has no perennial rivers or streams and irrigation is very largely dependent on surface water. Because of this, the productively irrigated areas of land rely on the amount of rainfall received. It is estimated that only 21,000 hectares may be irrigated in a good year (FAO, 2002, p. 3).

There are three distinct rainy seasons in Eritrea. The winter rains range from October to February in the eastern lowlands; the spring rains extend from March to May in the highlands; and the summer rains range from June to September over the whole country apart from the coastal.⁴ A winter cropping season is important for the Northern and Southern Red Sea zones.⁵ The spring season is a minor rainy season, but it is important for both short-cycle and long-cycle crops in the western lowlands, central plateau and northern mountains. Good spring rainfall not only softens the soil for ploughing in summer but also helps restore much-needed biomass for pasturing and browsing for livestock and fill up water in seasonal ponds. In the most productive areas of the Southern and Gash-Barka regions, peasants plant short-cycle crops during the start of the main summer rainy season. The highest proportion of major foods in daily intake of Eritrea is cereals. Barley and wheat are grown in the highlands and sorghum and millet at lower altitude. Some maize is also produced at intermediate altitude.

In general, while the winter cropping season in year 2002 failed, the spring and summer seasons were very irregular and below normal. Therefore, one can conclude that in year 2002 there was little or no rain in Eritrea.

ownership of land is the exclusive right of the government, however, all Eritrean citizens and foreign investors have the right of access to land for farming, for pasture, for housing and for development purpose (GSE, 1994, p. 34).

⁴ In Tigrigna language, winter, spring and summer seasons are called Bahri, Azmera, and Kremti respectively.

⁵ Eritrea is divided into six administrative zones (regions), namely Northern Red Sea, Southern Red Sea, Anseba, Gash-Barka, Southern and Central administrative zones.

4. Concepts of Food Security

In its most basic form, food security is defined as the access of all people to the food needed for a healthy life at all times (von Braun, 1999, p. 41). The objective of food security is defined as assuring to all human beings the physical and economic access to the basic foods they need (Thomson and Metz, 1996). The concept of food security can be seen from different levels of analysis, and the exact dimensions that need to be measured vary depending on the unit of analysis chosen. At a national level, a country is food secure when the supply of food is greater than the demand or when the demand for food is greater than the needs. In his article, von Braun (1999, p. 47) has written that food security at the national level (the ability to obtain sufficient food to meet the needs of all citizens) can, to some extent, be monitored in terms of needs and supply indicators; that is, the quantities of available food versus needs. At the household level, food security implies the occurrence of more demand for food than needs (the aggregate of individual requirements). This relates to the ability of a household to meet its requirements either from its own production or through purchases. At the individual level, the meaning of food security is much easier to understand. An individual is food secure if his/her consumption is always greater than need (physiological requirement). Meeting household food needs does not guarantee individual food security because within a household food distribution may be based on a social status, age and sex rather than need (APHCA, 2000, p. 3)

A food secure country may have groups of people who suffer from food insecurity, and a country which is food insecure may have groups of people who are food secure (Thomson and Metz, 1996, p. 3). The same thing might exist at the household level. The nature of food security problems can be divided into chronic and transitory food insecurity. Chronic food insecurity is a continuously inadequate diet caused by the inability to acquire food. This implies the existence of individuals or groups of people who suffer from food insecurity all of the time. But, transitory food insecurity is a short-term temporary deficit of food consumption below needed level. It occurs when households face a temporary decline in access to food that results from instability in food prices, food production or household incomes. Transitory food insecurity is composed of temporary and cyclical (seasonal) food insecurity (Thomson and Metz, 1996). The former occurs when unexpected and unpredictable shocks affect a household's food needs, and the latter occurs when there is a regular pattern of insufficient access to food.

5. Food Security Crisis in Eritrea.

On July 24, 2002, the Government of the State of Eritrea (GSE) alerted the International Community to a threatening humanitarian crisis, and made a series and urgent request for an immediate response to prevent human catastrophe from happening. Again on August 28, 2002, Government and Eritrean Relief and Refugees Commission (ERREC) issued an appeal for urgent humanitarian response. For the year 2003, the GSE has appealed for about 476,000 Metric Tons (MTs) of food aid.⁶

As stated by GSE, the failure of the early rains that were expected in April-May had seriously undermined agricultural activities and vegetation growth. The situation was aggravated by an exception dry spell during the main planting months of June and July. Though some isolated rains in March has induced farmers to plant long cycle crops⁷ such as millet, maize and sorghum, the failure of the rains in April and May has prevented the growth of these crops. The failure of the spring season has also affected the health of livestock because this season is also important for pasture. The continuation of the dry and hot spell in June and July has hindered farmers from planting major short cycle crops like wheat, barely oilseeds and legumes. All the above facts had made Eritrea to expect to harvest little crop from 2002 agricultural year.

Following the declaration of a drought alert, a Technical Task Force has been established by the GSE and UN agencies. The aim of the Technical Task Force was to identify essential facts that helped to arrange repercussion and effect of the predominant drought in Eritrea. The assessment that was undertaken by the Government and the UN in October 2002 indicated that the area of land that was actually cultivated in year 2002 was only 56% of the planned hectares of land for cultivation (UN, 2002, p. 20). According to various assessment reports, Eritrea produced around 54,000 MT of cereals in 2002, and this constitutes 11% of the anticipated annual production or 9% of the total food consumption in Eritrea (Shaebia, 2003a, p. 2). This indicates that around 90% of the annual food consumption required has to be covered either from donations of food aid or purchased from international markets. The problem here is that the import capacity of the Government is limited and international response to the appeal for help is not timely and appreciable.

The most exposed groups that are affected by these shocks are poor crop-dependent farmers and agro-pastoralists. The reason for this is because these groups have little options for get-

⁶ The appealed food aid includes cereals, pulses, oil and supplementary items.

⁷ Long cycle crops are crops that need about six months to reach maturity.

ting sufficient food. Ownership of livestock by the household is an important factor to achieve food security. In times of stress, one can either sell some of the livestock and buy food or use the products of these animals for consumption. In Eritrea, lack of water and grazing has made the life of livestock in danger. It is estimated that in some areas the loss of livestock ranges from 10 to 20 percent (FAO, 2002, p. 10). Even those survived have been exposed to disease, if not to starvation due to the limited supply of fodder.

The number of population considered vulnerable has increased from 1.36 million in 2001 to 2.2 million in 2002. As can be seen from the Table below, much of the increase in total number of vulnerable groups in year 2002 was due to the effect of drought. The increase in number of returned refugees and returned internally displaced persons has also caused the number of vulnerable groups in 2002 to rise. Though all the six administrative regions are affected by drought, those regions that are seriously affected are South and Gash-Barka.⁸ Hence, it is difficult for these two regions to keep on playing their role as “bread basket” for the rest of the economy (UN, 2002, p. 13).

The term internally displaced persons (IDPs) is composed of those who are in camps and those outside camps (in host communities). In year 2002, 47,492 out of 58,180 IDPs were originally from areas that are now known as TSZ. These people will stay in camps in the regions of Gash-Barka and South until demarcation, security and demining prevail. The rest 10,688 IDPs who are originally from the area known as “Omhajer” are now living with host communities and in scattered groups. Vulnerable groups like returnees comprise of those IDPs returning home and those refugees returning from neighbouring countries. Those IDPs who return to their home areas need humanitarian assistance because these people are returning to places ravaged by border war with Ethiopia. At the end of 2002, around 103,000 refugees have been able to return to Eritrea from Sudan, Yemen and Djibouti. Since many of these returnees are beginning their new lives after being staying for a long time in neighbouring countries, efforts are needed to assist these groups in the process of reintegration.

The 3,058 foreign refugees in Eritrea are partly from Sudan (498) and partly from Somalia (2,560). Foreign refugees in Eritrea are also one of the vulnerable groups for the reason that Eritrea does not have any national legal instruments providing protection for refugees and asylum seekers (UN, 2002, p. 14). Those 16,811 deportees are all from the Tigray region in Ethiopia, and they are living in camps in Gash-Barka region. These people are part of the vul-

⁸ While the other four regions are traditionally drought-prone areas, Gash-Barka and South are prime agricultural regions. Besides, these two regions host the greatest number of returnees and internally displaced persons.

nerable groups because they are in need of settlement and integration assistance. The Government has planned to demobilise around 200,000 soldiers, however, the number of demobilised soldiers was only 5,000 so far.⁹ It was revealed that demobilisation would directly or indirectly bring a positive effect on the economy. Finally, the term urban vulnerable includes very poor, elderly persons and socially and economically marginalized persons settled in urban areas.

Table 2. Eritrea: Vulnerable Groups at the end of 2001 and 2002 and Targeted Groups in 2003

Vulnerable Groups	2001	2002	2003
Drought-Affected	524,000	1,400,000	1,400,000
Internally Displaced Eritreans	73,749	58,180	58,180
Returned Eritrean Refugees	83,991	103,000	165,000
Returned Internally Displaced Eritreans	170,000	185,569	185,569
Foreign Refugees in Eritrea	1,922	3,058	3,058
Eritreans expelled from other countries	13,694	16,811	16,811
Soldiers to be demobilised	200,000	195,000	195,000
urban vulnerable	213,000	213,000	283,000
Total	1,280,356	2,174,618	2,306,618

Source: UN, 2002, pp. 4, 8

The main reasons for high food insecurity in Eritrea are short of rainfall for crops and livestock, labour shortage due to mobilisation, the pressure of internally displaced people and returnees, the existence of unexploded landmines, and economic deterioration.

⁹ Subsequent to the peace treaty with Ethiopia, a National Commission for Demobilisation and Re-Integration Program was established in Eritrea. The aim of this commission was to demobilise some 200,000 combatants in a three-phased process (70,000 by end of January 2003, 60,000 by end of July 2003, and no time was fixed for the rest 70,000). The demobilisation plan involves a social reintegration component (such as counselling, medical rehabilitation and community support), an economic reintegration component (including training and education opportunities and support of small-scale rural development activities) and a reinsertion component (the provision of financial and/or assistance in kind as transitional safety nets). For more information refer to World Bank (2002d, pp. 1-2)

(a) Insufficient and occasional rainfall.

Subsequent to three years of drought conditions, the worst rainfall in Eritrea was registered in 2002 since independence. In major agricultural areas of Eritrea, the failure of the spring rains in 2002 has not only hindered land preparation for the winter season but also influenced the higher-yielding long-cycle crops that fully grown in the main season (winter). In addition, replenishment of food and water supplies for farm animals has been hampered.¹⁰ Because of the late beginning of the winter season, crop planting was caused to be slow by several weeks. The failure of the rains at the decisive flowering stage, together with the completion of the winter season before the growth of plants was achieved, has decreased the total production of crops and fodder. For instance, cereal production which averages out at 191,900 tons between the year 1993 and 2001 was only around 54,400 tons in 2002. This shows that cereal production in year 2002 was 71.7% lower than the 1993-2001 average (FEWS NET, 2002, p. 1).

Since independence the highest cereal production that was harvested in Eritrea was in 1998 and the lowest in 2002. If we now compare what was harvested in 2002 with the amount of cereal production in 1998, we find that cereal production in 2002 was only 11.8% of that of 1998 (see Table 3). Because of the short supply of cereals in 2002, domestic availability in 2003 was only 13% of total utilisation (see Table 4).¹¹ This indicates that around 87% of total utilisation in 2003 has to be covered through imports. However, the limited import capacity of the country has forced the Government to depend more on food aid. As can be seen in Table 4, food aid needed in 2003 was 81.1% of total import requirements or 71.1% of total utilisation.

Table 3 Eritrea: Cereals Production, 1998-2002 (in thousand tons)

Year	Cereals production
1998	459
1999	319
2000	71
2001	230
2002	54

Source: FAO, 2003

¹⁰ The inaccessibility of many traditional dry season grazing areas to animals (because of insecurity and border closure with Ethiopia and Sudan) has also contributed to the shortage of pasturage for animals

¹¹ From Table 4 one can observe how the good harvest in 1998 has helped to narrow the gap between domestic availability and total utilisation in 1999.

Table 4 Eritrea: Cereal Supply and Demand Analysis (in thousand tons).¹²

	1998	1999	2000	2001	2002	2003
Domestic availability	145	469	326	204	305	66
Domestic production	130	459	319	71	220	54
Possible stock drawback	15	10	7	133	85	12
Total utilisation	429	578	566	485	445	506
Food use	403	428	425	398	416	484
Non-food use	26	85	126	37	29	22
Possible stock build-up	0	65	15	0	0	0
Import requirements	284	109	240	281	140	440
Anticipated commercial imports	172	65	70	68	75	80
Food aid needs	112	44	170	213	65	360

Source: FAO, 2003

The sharp decrease in production of crops and fodder has resulted in food prices escalation and livestock prices reduction.¹³ For those persons who rely on sales of livestock for income and for those who buy their staple diet in the market the situation is causing serious problems. The substantial reduction in availability of forage and water for livestock has affected 1/3 of all livestock, and it is estimated that the average cost of livestock has decreased by about 30% due to distress sale (GSE, 2003, p. 1). To the contrary, local grain prices have increased by around 100%.

Due to the pervasive effect of the drought, several regions have global acute malnutrition of more than 15% and in some areas as high as 28%. Water shortages are also becoming a critical problem in Eritrea. Villagers who use shallow and hand-dug wells are forced to walk 3-5 hours on average to obtain drinking water. In densely populated areas, water shortages could likely increase the potential for water related disease outbreaks.¹⁴

(b) Labour shortage.

Apart from insufficient rainfall, shortage of labour due to mobilisation is among the most serious aftermath of the conflict that affected the household level. It is estimated that over

¹² Information on cereal supply and demand analysis in 2002 and 2003 is as of late July 2002 and end of April 2003 respectively

¹³ The decrease in livestock prices is because owners predict a lack of forage and water for animals.

¹⁴ Information on impact of drought is extracted from GSE, 2003.

300,000 people are currently mobilised for national military service (FEWS NET, 2003, p. 4). Though all the mobilised were not productive family members, those who were productive had limited the ability of households to farm, look after animals and take advantage of other income generating activities.

(c) IDPs and Refugees returning home.

Though not directly, the existence of a high number of IDPs and Refugees returning to Eritrea has its own impact on food crisis because these people need assistance before they start to resume their usual livelihood.

(d) Economic deterioration.

Before the eruption of war with Ethiopia, Eritrea was making a good economic progress. The annual growth of GDP was remarkable. However, the cost of conflict, together with the effect of drought, has negatively affected the country's economy. In addition, the limited amount of the country's foreign exchange reserve, together with the depreciation of the value of Nakfa¹⁵ against hard currencies, has reduced the capacity of the country to import food items or invest in other income-augmenting infrastructure. At the household level, deprivation of cross-border trade opportunities due to the border closure with Ethiopia has affected rural household income. At the same time, loss of access to Ethiopian and Sudanese food markets has to some extent contributed to food crisis in Eritrea.

(e) Landmines.

Large areas of the most fertile farmland and rich grazing grounds are still inaccessible for the reason that movement of people and livestock is hindered by the already laid landmines and unexploded artilleries and munitions. The available evidence suggests that some 12,000 hectares of the most productive land in Southern and Gash-Barka administrative zones are inaccessible due to landmines and unexploded ordnance (FEWS NET, 2003, p. 4).

In addition to the above factors, lack of farm power and shortage of improved seeds have also aggravated the food crisis in Eritrea. While it is too expensive for small farmers to hire out tractors, the non-utilisation of farm power will result in low agricultural production. The only place where a tractor can be hired at a reasonable price is from Ministry of Agriculture

¹⁵ Nakfa is a unit of Eritrean currency.

(MOA), however the Ministry is in the process of selling off its tractors and other field equipment.

6. Efforts to Respond to Humanitarian Crisis.

During times of food scarcity, rural communities in Eritrea use various mechanisms to cope with difficulties (FAO, 2002, p. 17). For instance, change in nourishment, reduction in amount and frequency of daily food intake, and using up of grain resources from earlier harvest are the direct coping mechanisms. An increase in sale of livestock and firewood and an increase in off-farm employment are also other ways of managing food crisis successfully. If accessible, participation in food for work program and relying on remittances from family members or relatives living in towns or abroad are other coping mechanisms. If all the above ways of coping with food difficulties do not bring the desired results, migration to convenient places and getting into debt are the last means of reducing food stress.

Since the declaration of drought alert, the Government has done several activities. In addition to the formation of a National Drought Relief Coordinating Committee which is composed of Ministry of Health, Ministry of Labour and Human Welfare and Head of Macropolicy, the Government has purchased a certain amount of grain from international market, and at the same time called Eritreans living in and outside the country for donation (GSE, 2003, p. 2). In other development, a campaign to extensive water conservation awareness, expansion of drip irrigation system, intensification of construction of dams and digging of wells, construction of roads to major agricultural areas, introduction of mechanised farming, and incentive to commercial farmers are being performed by the Government. Counselling and training support to small farmers, research and adoptability (to introduce farmers to improved varieties of crops), and encouragement to farmers to do supplementary activities (to increase household incomes) are actions that are being done by the MOA.

The three year program (2003-2005) of the MOA includes activities like the conservation of soil and water (through construction of more dams, ponds and wells) and its use for irrigation¹⁶, the increase in production of cereals, legumes and oil crops, the distribution of improved varieties of cereals to farmers, diversification of high value crops, development of nurseries for high planting materials which will be distributed to farmers, and the provision of

¹⁶ Currently, efforts are underway for the introduction of the irrigation system. The three-category program of water conservation which the MOA is implementing includes the construction of terraces, small ponds, water embankments, and dams (Shaebia, 2003c, p. 1):

credit to small farmers who are occupied in honey and wax production (Shaebia, 2002, pp. 2-3). The same source has also indicated that the major components of the MOA’s strategy for food security are increase in agricultural production and productivity, utilisation of irrigation (a strategy for reducing the reliance of farmers on rain fed farming), diversification activities by changing mono-crops, and a shift from low value to high value crops and from local consumption to export-oriented agriculture. With the intention of raising agricultural productivity, the MOA has distributed recently 91 tractors on loan to farmers in all administrative regions (Shaebia, 2003b, p. 1).¹⁷

Realising that poverty will be reduced if farmers get support, the MOA in Eritrea has arranged several programs that teach farmers how best to make ready their land, utilise improved seeds, restraint plants from disease, and how to take weeds out of the farm in time. Introduction of diversified and supplementary activities that help to change past tradition of farmers and instruction of better harvesting methods are also part of the poverty reduction program in agricultural sector. So as to help pastoralists, the program includes better veterinary services and establishment of water-points for animals to lessen long travels in search of water.

Concerning donor response to the existing humanitarian crisis in Eritrea, there are still unmet requirements. Because commitments are still very small, the country is asking more resources for emergency and recovery assistance. As of October 2002, the overall resource available (from UN consolidated appealing organisations) was only 35.4% of the requirements (see the Table below).

Table 5 Eritrea: Funding for 2002 UN Consolidated Appeal at 7 October 2002 (US\$).

Sector	Revised requirements (%)	Resources available (%)
Food	29,656,978 (32.1%)	6,918,138 (23.3%)
Non-Food	62,686,090 (67.9%)	25,772,015 (41.1%)
Overall	92,343,068 (100%)	32,690,153 (35.4%)

Source: UN, 2002, p. 7

As reported by ERREC and USAID’s Famine Early Warning System Network (FEWS NET) in February 7, 2003, the total food aid pledges was only 39% of the 290,000 MT appeal for the 1.4 million drought affected population and 23.6% of the total appeal for the vulnerable groups (OFDA, 2003, pp. 1-2). According to USAID Famine Early Warning System Network

¹⁷ The farmers are supposed to pay 30% of the rent in advance and the rest will be paid within a period of five years.

(2003, p. 1), food aid pledges as of 4th April, 2003 met only 43% of the estimated national requirements. As of 16 July 2003, the overall resource available (food and non-food items from the UN agencies)¹⁸ was only 42.6% of the requirements.

Table 6 Eritrea: Funding for 2003 UN Consolidated Appeal as of 16 July 2003 (US\$).¹⁹

Sector	Revised Requirements	Resources Available	% Covered
Food	99,996,863	49,330,477	49.33
Agriculture /Food Security/	1,872,222	919,650	49.12
Water and Sanitation	6,516,674	3,319,133	50.93
Education	2,090,000	801,991	38.37
Health	7,483,318	1,427,153	19.07
Family shelter and Household items	8,330,898	900,000	10.80
Multi-sector	20,809,104	9,605,156	46.16
Protection/Human Right/Rules of Law	1,309,445	610,850	46.65
Mine Action	10,851,400	926,210	8.81
Coordination	703,900	272,212	38.67
Grand Total	159,963,824	68,112,832	42.6

Source: OCHA (2002a; 2003).²⁰

The above Tables imply that despite pledges commitments from donors are very low in comparison with the magnitude of the humanitarian crisis. In its annual report, the OCHA (2002b, p. 48) has written that the limited presence of international media, international organisations and donors in Asmara (the capital city of Eritrea) has affected the humanitarian community's

¹⁸ Outside the framework of the UN consolidated inter-agency appeal countries like Norway, Canada, Saudi Arabia, and Switzerland are giving additional humanitarian assistance to Eritrea. United States, Norway and Netherlands are at the top among the major donor countries for the UN consolidated inter-agency appeal (OCHA, 2003)

¹⁹ In the above Table the term agriculture includes activities like provision of supplementary feeds and improved health care for sustained animal production and provision of seeds, fertilisers and crop protection and equipment and supplies. The term multi-sector contains activities like voluntary repatriation and reintegration of Eritrean refugees; international protection; basic humanitarian assistance and durable solution for Sudanese and Somali refugees in Eritrea (OCHA, 2003)

²⁰ OCHA is a UN Office for the Coordination of Humanitarian Affairs.

ability to keep Eritrea on the international agenda. Though this argument is acceptable, as stated by Kellogg (2003, p. 1) the main reasons why badly needed aid slow to come to Eritrea are because: (a) Eritrea approached a humanitarian disaster just as the world focused its attention on the misery in Iraq; and (b) Some donors have purposely cut back aid because they have accused the Government of Eritrea of abusing human rights. In regard to the latter view, Eritrea's president has once accused donor countries of using food aid as a political tool (Shaebia, 2003d, p. 1). He said that social issues and aid should be seen separately from politics.

7. Policies and Programs to Achieve Food Security

Before adopting appropriate policies and strategies, the term food security should be viewed from different perspectives. First, food security should be considered as a basic human right. Second, food insecurity should be viewed as a sign of poverty and development problems because poor households are usually liable to be affected when food availability declines and prices rise.

The right to food²¹ has been known since the adoption of the Universal Declaration of Human Right in 1948. As stated in this declaration, everyone has the right to a standard of living adequate for the health and well-being of the human person and his or her family, including food, clothing, housing and medical services. The right of everyone to an adequate standard of living including adequate food is also incorporated in the International Covenant on Economic, Social and Cultural Rights, adopted in 1966. The international code of conduct on the Human Right to adequate food was first presented in the 1996 World Food Summit in Rome. This summit reaffirmed the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger.

The structural food security policies in Eritrea should encompass elements of macroeconomic policies, agricultural policy and other supportive policies to access to food. The impact of macroeconomic policies on food security should be seen from the effects of various policies at the macro level to the factors determining food security at the micro level. In addition to this, the question of how these policies affect those groups that are vulnerable to food insecurity has to be answered. With the introduction of a domestic currency in 1997 it was possible for the Bank of Eritrea (BE) to design autonomous monetary policy. However, due to the border war against Ethiopia, there was little opportunity of protecting the value of the Eritrean

²¹ For further information on the Right to Food see Eide (1999, pp. 329-337).

currency. Instead, the net claims of the BE on the Government increased strongly, exceeding 80% of the bank's net domestic assets since 1999, and this resulted in rising inflation²², growing current account deficit, and losing foreign exchange resources (IMF, 2003, p. 15).²³ In year 2002 the estimated central Government domestic debt was 132.2 percent of GDP, whereas in the same year the estimated external public debt was 78.6 percent of GDP (IMF, 2003, p. 19). In such a situation restriction on Government borrowings from domestic banking sector, limiting general credit expansion (so as to limit money creation) and adjusting interest rates are important corrective measures. Though these measures (restrictive monetary and credit policies) seem to have a negative effect on food supplies, in the long-run food demand and overall food security may be affected positively by lower rates of inflation if monetary policies are effective in achieving this aim. In order to further increase the effective use of monetary policy measures and thus achieve food security, competition in financial sector has to be realised. One way of achieving this is through the establishment of rural financial services. There have been traditional and informal Micro Financial Institutions (MFIs) operating in Eritrea, however, it is only lately that the formal MFIs have been introduced and developed. Currently, only eight MFIs are operating in Eritrea (Shabait, 2003, p. 1). Among the existing MFIs, the Government sponsored Saving and Credit Program (SCP) and the Southern Zone Saving and Credit Scheme (SZSCS) are worth mentioning.²⁴ As a component of the Eritrean Community Development Fund (ECDF)²⁵ from June 1996 to December 2001 and later as an independent institution, the SCP provides financial services to the poorest and more vulnerable groups in rural and urban areas who have no access to formal banking services. The SZSCS is another MFI that has been launched by the Agency for Co-operation and

²² The continuous depreciations of the currency and supply-side constraints have also contributed to rising inflation.

²³ The reason why large financial needs of the government are met from domestic sources is because the inflow of external assistance to Eritrea is limited to humanitarian assistance. As stated by IMF (2003, p. 4), a prolonged suspension of budgetary and balance of payments assistance from donors owes to concerns about political governance. In a situation where government highly depends on domestic financing (due to lack of sufficient inflow of external assistance) economic growth would be seriously affected because private sector activity would face credit and foreign exchange shortages.

²⁴ For more information on organisational profile of SCP and SZSCS refer to World Bank, 2002c, pp. 1-4); Shabait, 2003, pp. 1-2); Lensink, R. and Mehrteab H., (2003, pp. 3-5)

²⁵ The ECDF project was established to provide poor communities, especially in the rural and war-devastated areas of the country, with sustainable assets and basic services required to improve their social and economic standards (World Bank, 2002c, p. 1). The Government of Eritrea, the World Bank and loans and grants from donors were the main sources of credit for ECDF.

Research in Development (ACORD) in 1994. The main purpose of the SZSCS is to provide access to unprivileged people, especially in rural areas.

Changes in fiscal policy measures could also have implications on food security. For instance, implementation of demobilisation program can help defence budget to be cut.²⁶ This creates an opportunity of diverting part of defence spending to agriculture support services. Besides, through rapid implementation of demobilisation program, it is certain that the existing shortages of skilled labour in private and public sector will be alleviated and workforce in agricultural production will be increased. Public spending on social services, such as education and health, has also a positive impact on food security. However, given the huge fiscal deficit, such spending could only be financed either externally (by reaching agreement with donors) or internally (by generating revenue).²⁷ To generate revenue, however, not only the private sector of the economy has to be encouraged but also the process of demobilisation should be quickly implemented. Finally, efficient macro policy that incorporates investment in improved infrastructure including rural areas, and improved integration of urban and rural labour markets are among the chief measures for raising a country's macroeconomic growth rate.²⁸ Since a substantial proportion of the poor in Eritrea are living in rural areas, public expenditure should not be biased against rural population. At a macro level, the huge difference between the official and parallel foreign exchange values is still causing inefficiency in resource allocation.²⁹ Though the Government is trying to channel the transaction of priority needs (such as food and medicine) through the use of official rate, the vast majority of private transactions are taking place at parallel market rate because official reserves are not sufficient. This implies an increase in prices of imported agricultural inputs and a consequent increase in food prices. Due to this, a reform of the present dual exchange rate regime is highly important to eliminate restrictions and distortions. This can be done by unifying the official and parallel foreign exchange markets and by introducing a single flexible exchange rate.

²⁶ Though the Government believes that demobilisation is the most important issue, it seems that the Government has a suspicion that the Ethiopian army could attack Eritrea once more.

²⁷ As a percentage of GDP current expenditure in 1997 (before the outbreak of the war) was 28.6%, during the war (between 1998 and 2000), it reached an average of 53%, and in the last two years (2001 and 2002) it decreased to an average of 41% (IMF, 2003, p. 33).

²⁸ About the importance of improved infrastructure, it had been found that market and transportation were among the major problems that owners of modern agricultural enterprises in Eritrea faced (GSE, 1996, pp. 83-85).

²⁹ While the official rate is around 13-14 Nakfa per 1 US\$, the rate in parallel market is 22-24 Nakfa per 1 US\$ (IMF, 2003, pp. 10-11)

In regard to agriculture, it is mentioned that the majority of the population in Eritrea relies on agriculture for their livelihood. It is also certain that agricultural development is one of the prerequisites for a viable and sustainable economic development. To achieve agricultural economic development in Eritrea, therefore, appropriate policy measures should need to be designed. Sector reform like agricultural pricing policy, reforms of agricultural marketing institutions and reforms of the mode of operation of agricultural products and marketing system are among the major ones that have the most direct, extensive and crucial impact on food security. Agricultural pricing policies should be best suited to: provide the necessary incentive for farmers to produce; keep food prices low; secure farmers' incomes; and to keep the balance between rural and urban development.

Considering the living standard of the majority of the country's population, an increase in agricultural productivity will bring about price decreases, which this in turn shift the distribution of income to the advantage of low-income people. Since price decreases in agricultural products would also mean population's nutritional and health improvement, further increases in productivity will be attained because healthy people are more productive. To increase food production in Eritrea there are certain points worth mentioning. Increase of area under cultivation and increase in area under irrigation and intensity of irrigation are the main programs for food production increase. Besides, multiple cropping, provision of drainage and land reclamation, and the use of improved seeds and high-yielding program are essential. To transform a traditional and subsistence farming into a modern system of agricultural production, the involvement of technical innovation and institutional evolution in agricultural production is of paramount importance. However, noting the existence of scarce capital and abundant labour in Eritrea, the improved technologies that are needed to be adopted should be convenient to farm households. To say appropriate, agricultural technologies should be economically workable and socially acceptable.

The introduction of research, training, extension and administration services is necessary to develop agriculture and thereby improve the standard of living of farmers. In this regard, the public sector has a great role to play. Human capital development should be a part and parcel of the policy implications because human beings are the active agents who exploit natural resources among other things. Besides its direct link with productivity, investment in education and health has inherent values to the society. Therefore, it will be difficult for a country to develop any sector of the economy without promoting the skills and knowledge of its people. Investment in human capital formation (like in schooling and health) is more meaningful

for alleviating poverty when it gives special emphasis on rural areas and on regions where food insecurity persist.

In meeting emergency needs, food aid plays a significant role. However, emergency needs through food aid can only be met if distribution relief food aid is done without disruption and discontinuation. Despite of the fact that food aid alone can not resolve the problem of food insecurity, it can play a considerable role in meeting transitory food insecurity and in supporting and accelerating long-run development programs for achieving food security. Realising the use of food aid beyond meeting emergency needs, it has to be combined with development investment. For instance, in places with high food insecurity and low rates of school attendance, food aid should simultaneously aim at increasing enrolment. So as to promote human capital, assist poor families, and improve health conditions food aid should respectively be associated with training program, work and health.

Notwithstanding the involvement of many organisations in food security and nutrition programs, a great number of people in our globe are still exposed to food insecurity and malnutrition. And such an exposure is one of the major hindrances to economic and social development. Concerning multilateral aid, achievements were realised by many UN bodies. As reported by Shaw (1999, pp. 560-563) positive achievements have been made in: understanding causes of and solutions to food insecurity and malnutrition; advocacy; technical coordination and standard-setting; and in standardisation and dissemination of data. However, problems of coordination, bureaucracy, operational performance and resource constraints are some of the shortcomings of multilateral development cooperation.

In responding to food security needs, priorities should need to be established according to short, medium and long-term food security programs. In the short term, food security programs should target persons with insufficient available food. At this stage, emergency response programs (such as distribution of food and medical supplies to those affected by drought) and safety net programs (like distribution of food and food supplements to vulnerable persons and provision of training and literacy programs) should be accomplished. Food security programs in the middle term should focus on agriculture, income-generation and health programs that aim at improving: household food availability through increase in agriculture and livestock production; household access to food by increasing agricultural and non-agricultural incomes and savings; and ameliorating individual's ability to utilise food. In the long term, food security programs should concentrate on keeping and enhancing basic human, environmental, and community development. Such programs include education, natural resource, management and human rights.

By and large, good-governance practises, citizen participation and institutional development of local actors are the basis for food security needs. Likewise, international organisations have an important role to play in supplying food aid, in supporting human capacity building and in improving infrastructure. Finally, for the development of sustainable food security, contributions of Non Government Organisations (NGOs) are undeniable.³⁰

8. Conclusion

The consecutive drought in Eritrea has made millions of people to be vulnerable to food shortages. The complete failure of rainfall is threatening the survival of people and animals. Specially, children are being exposed to disease and malnutrition. Cereal production in year 2002 was only 28% of the recent 10-year average, and this was 90% less than the annual food requirements. The drought has also affected pastoralists. Due to lack of pasture for grazing the number of livestock has decreased significantly. The existence of a large number of people displaced, the slow process of demobilisation of soldiers and the continuing resettlement of refugees returning from neighbouring countries have created an extra problem on the country's resources. With little food available to sale and dramatic increase in prices, households' ability to cope with difficulties has been severely weakened. Those farmers who have been forced to sell their livestock have also not much benefited because livestock prices have been decreased as a result of over-supply. In consequence of border conflict with Ethiopia a substantial hectares of land are still unusable. Apart from the effect of inadequate rainfall crop harvest (from those farm areas that are relatively safe from the conflict) was not as much as expected because the agricultural workforce has been depleted by military services. Based on these observations, the Government of Eritrea has alerted the International Community to a looming humanitarian crisis and appealed for urgent response to prevent human disaster. At the same time the Government has tried to import grain and take actions that help food production increase. However, the weak economy, together with the already depreciated domestic currency, has restrained the country from importing enough food for emergency requirements. This implies that food aid for emergency requirements is severely needed in Eritrea. Notwithstanding the pledges to the food aid appeal for Eritrea, the amount arrived to the country is far short of the amount to meet the emergency requirements. To say that the International Community is positively responding to the appeal for urgent humanitarian assistance transportation and distribution of food aid should have to happen at the right time. Otherwise,

³⁰ Both national and international NGOs have a role to play in achieving food security.

a swift end to food crisis in Eritrea is unpredictable. Besides, the Government should focus on policy directions and program needs so as to achieve food security. To realise food security, the Government should be able to create favourable and stable macroeconomic policy environment. At the same time programmatic interventions in food security needs should be maintained. Given the gravity of the drought and the wide range of serious economic challenges that Eritrea is confronted with a consistent framework of tighter fiscal and monetary policies is required to reduce inflation and thus achieve food security in the long-run. Understanding that the private sector of the economy has a role to play in ensuring food security, the present exchange restrictions and distortions should be eliminated by consolidating the official and parallel exchange markets and introducing a single flexible exchange rate. Realising the consequences of the war with Ethiopia on labour shortages, a rapid implementation of demobilisation process is essential so as to enhance private investments and increase agricultural productivity. To be effective, however, border demarcation has to be secured. With respect to agriculture, comprehensive policy measures that include the use of improved technologies, research and extension services, land reform and development programs, rural credit, and human resource development should be taken to attain and sustain agricultural economic development in general and food security in particular.

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