

Strengthening Emergency Response Abilities

SERA Project

Vulnerability Profile: SUMMARY

Ebenat Woreda (district)

South Gonder Zone

Amhara Region

2000

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A. SUMMARY of MAJOR FINDINGS

1. Introduction

In June 1997, the Disaster Prevention and Preparedness Commission of the Federal Democratic Republic of Ethiopia hosted a national workshop entitled “Vulnerability in Ethiopia: From Disaster to Development”. Based on the recommendations of the workshop, DPPC designed a project called “Strengthening Emergency Response Abilities” (SERA) and obtained funding from USAID. The SERA project envisages developing reliable vulnerability profiles; conducting relevant in-depth studies and special studies on the root causes of vulnerability, and developing response packages in cooperation with various stakeholders, and there by contribute to the reduction of vulnerability.

To that end the Disaster prevention and Preparedness Commission of the Amhara National Regional State, responsible for the overall activities of the project, has started actual operation as of July 1999, during which it selected 25 weredas from five zones of the the Region. The pilot phase of the study is, however, limited to 4 weredas: namely Tach Gayint and Ebinat (South Gondar Zone), and Sekota and Ziqualla (Wag Himra Zone). Following is a short account of the vulnerability profile for Ebinat wereda prepared during the pilot phase of the project.

1.1 Key Concepts

Food security is defined as “access to enough food for a healthy life, always, and absence of undue fear of lack of food”. Vulnerability analysis stresses the fact that security is an important dimension of welfare, and that stability of access to food is as important to food security as the level of access. Vulnerability is concerned with the measurement and characterization of the probability – likelihood – of a fall in consumption/income below some acceptable level in the future. Vulnerability and poverty/food insecurity are often used interchangeably because vulnerable groups are likely to belong to the population below the poverty line.

A vulnerability map/profile used to estimate parameters of vulnerability should describe hazards, degree of defenseless against hazards, and the difficulties faced in coping with them. The main objective of the vulnerability profile is to identify areas and population groups that are vulnerable to particular hazards/risks and the causal factors for such vulnerability.

One can measure food security at the country, region, community, household, or individual level. However, food security at its most basic involves access to food by all individuals and needs to be monitored at the level closest to consumption by individuals – at the household or individual level. Measuring food security at this level requires intensive household surveys. Accordingly, a household survey was the primary source of the data used in this profile.

Data from the household survey and secondary sources have gaps that make a profile based entirely on them incomplete. We also need qualitative data regarding subjective perception of members of the community. Key-informant interviews and community group discussions can identify and measure these efficiently and effectively than

information from household surveys. Finally, RRA is one more source of data when different sources serve in triangulation and thoroughness.

1.2 Methodology

Both probability and non-probability sampling techniques were used based on the nature of the instruments for primary data collection. The subjects of key-informant interviews and participants in community group discussions were selected using purposive sampling techniques.

Data for the study was generated from primary and secondary sources. Primary data was obtained from a survey, while secondary data is secured from Government and non-government organizations in the region, CSA, and NMSA.

During the survey period [1992 E.C], Ebinat had 33 peasant associations and 45,212 households, out of which eight peasant associations, and 815 households were included in the sample. A total of 745 women aged 15-49, and 558 children under-five were also part of the sample. Key informants totaling 120 (15 from each kebele) were selected and eight community groups were formed for focus group discussions.

Instruments of data collection included: a household questionnaire, community group discussion (CAD) and key informant interview forms (KINFO), and secondary data tabulation sheets (SDTS),

For data collection, 26 individuals who have at-least completed grade 12 were recruited and provided training in data collection methods, interview and group discussion techniques. The majority of them had previous experience in data collection and, above all, adequate local knowledge. A total of 26 people have participated in the data collection process. The survey was conducted between March and April, 2000.

The SPSS+ format is used for data entry. Both descriptive and uni-variate statistical techniques were used throughout this study. Descriptive analysis which include means, variance, percentages and ratios were employed for examining and explaining variables.

The response rate was remarkable. Questionnaires were addressed to 815 households and all but one is returned. Nearly 91 percent of the women were interviewed and data was collected for about 98 percent of the children. An interview was conducted with 116 key informants though the intention was with 120, while a discussion was also held in eight peasant associations, as planned, with 48 community elders and leaders.

1.3 The Study Area

Ebinat is located between 11⁰ and 12⁰ north latitude, and 37⁰ and 38⁰ east longitude. It extends for about 75 kilometers in the north-south direction and about 62 kilometers in the east-west direction and it has a compact shape.

The topography of the Wereda consists of gorges and rugged terrain (40 %), mountains (45 %), and plain land (15%) and it is divided into three agro- climatic zones: Dega, (15 %) Weina-Dega, (35 %) and Kolla (50 %).

Rainfall in the wereda is erratic, and torrential with a unimodal pattern that starts at the end of May and lasts to mid September. Most peasant associations do not get sufficient

rainfall in any year. In addition to its frequency, drought tends to affect a large part of the population at the same time. Furthermore, the episodes of drought appear to be severe.

More than 90 percent of its population lives in rural areas engaged in predominantly subsistence agricultural production. If viewed in the context of its climate, the wereda appears to be suitable for agricultural activities. The situation is completely different, however. Agriculture is predominantly rain-fed. Irrigation has not yet received much attention though the wereda has many perennial and intermittent rivers. Above all, a significant portion of the land is so degraded of natural and human factors and most households produce hardly sufficient for their own consumption. The situation is further aggravated by natural calamities. Of all the calamities, drought and the resulting food shortage are the major challenging problems causing misery among the population, however.

2. Demographic Characteristics

The Wereda population was 195,298 in 1994, which increased to 213,293 in 1999 growing at an average rate of 2.2 percent per annum. About 2.2 percent of the wereda population in 1994 was migrants. All migrants live in urban areas of the wereda, and about three-fourth of them originate from rural areas.

Ebinat, in 1999, took about 17.4 percent of the zonal area and housed 11 percent of the population. Crude population density was about 78 persons per/km² in 1994 and increased to 86 persons per km² in 1999. During the same period, agricultural density of the wereda, increased from 124 to 135 persons per square-kilometer.

The sample survey includes 684 male-headed households (84 percent of sample) and 130 female-headed households (16 percent of sample). Total fertility rate is estimated to be 7.3. Average household size is 4.2. About 75 percent of household heads are illiterate, with higher rates among female than male.

Dependency ratio in 1994 was estimated to be 85, while it was found to be 106 during the sample survey. Inter-generational competition for resources and the difficulty faced by the active labor force in meeting food requirements is increasing.

Under-five mortality for our sample is 278 per 1000 live births (285 for females and 269 for males). The infant mortality rate is 185, while child mortality is estimated to be 113 per 1000 live births. Life expectancy at birth is estimated to be 40 years (39 years for females and 40 years for males).

3. Community Livelihoods

3.1 Land size and Livestock

About 60 percent of the land in the wereda is cultivated. Almost all cultivated land is under annual crops and no land is under fallow since peasants have abandoned fallowing due to shortage of land. About 7 percent of the total area is 'wasteland', and about 15 percent is covered by bush.

Households that own no land account for about 11 percent of the total households in the sample, and those with less than half a hectare constitute 18.9 percent.

The average land size 0.98 hectares/household. Data obtained from RRA suggest that the proportion of landless households has remained roughly constant. In addition to the continuous decline in land size, there has been increasing fragmentation of land. More than 70 percent of the sample households reported to have more than two parcels, all of which were put under cultivation during the same period.

Survey data indicates that 37 percent of sample households own no oxen. The oxen less proportion is higher among female headed households [86.2 %] than their counter parts [about 27%] and, keeping other factors constant, is highly vulnerable to food insecurity.

3.2 Crop Production

The major crops grown in the wereda are teff, wheat, sorghum, peas and beans and haricot bean. The survey result also indicates that cereals are the most dominant crops grown in the area accounting for more than 70 percent in 1999.

Comparison of total crop production and annual food need of the sample households clearly shows the severity of food deficits. Production per capita was 87 kilograms, which is very low compared to the recent DPPC standard of 180 kg per person per year.

Assuming whatever produced during Meher 1999 is available for household consumption it could sustain the population only for six months. As far as food stock is concerned, more than half of the households [61.2%] considered their stock as insufficient for the remaining period of the year, while 33.4 percent were out of stock during the survey. Only 5 percent of the households seem to support their families in terms of food until the next harvest period. Households in Kolla seem more likely to be in a better position so far as food security is concerned.

3.3 Income and Wealth

The amount of income households earned is very small: the average income obtained was about Birr 129 for both off-farm and non-farm activities. About 21.3 percent of households had members engaged in non-farm activities and about 25.2 percent of households had members engaged in off-farm activities (mostly in food for work programs).

Of the total households of the wereda, as viewed by discussion groups, about 30 percent of the population in Dega, 49 percent in Weina-Dega, and 49 percent in Kolla is either 'poor' or 'very poor, while the wereda average is 43 percent. Moreover, almost all discussion participants agree that the proportion of the wealthy among the population has declined significantly, while the share of 'poor' and 'very poor' households has been increasing during the last 30 years.

4. Preventive Health, Morbidity and Malnutrition

Antenatal care in general and Tetanus Toxied injection in particular is reckoned to be important to the health of pregnant women and their children. The survey result indicates that about 24 percent of the women aged 15-49 reported to have received antenatal care, and only 10 percent have received TT2 injection.

Nearly all [99%] have delivered at home attended by relatives and traditional birth attendants. Only 0.8 percent have delivered at a health facility, which is very small as

compared to the zonal figure [3%] and the regional average [5.5%] during the same period.

About 62.6 percent of the children had vaccination cards, 77.4 percent are vaccinated against TB, 44.8 percent against polio, and 64.0 percent against measles. About 15 percent of the children were fully vaccinated.

Prevalence of stunting among children is very high (62.8 percent of children were moderately/severely stunted); whereas the prevalence of severe stunting is 36.7 percent in Dega, 35.7 percent in Kolla and 31.1 percent in Weina-Dega areas.

The weight-for-height results show that 16.1 percent of children are wasted and about 4.9 percent are severely wasted. About 68 percent of the children are underweight and about a quarter are severely underweight.

The prevalence of chronic under nutrition was highest for women in the age-group 15-19 years. Adolescents (aged 15-19 year) had higher percentages of moderately/severely malnourished women than the other age groups. While 10 percent of the women in general were undernourished.

About 45.4 percent of women aged 15-49, reported having been sick during the two-weeks preceding data collection, and about 23.8 percent of them sought medical advice/treatment., out of which 89 percent got assistance from health institutions and 11 per cent from traditional healers.

About 63.8 percent of the children under five were reported ill in the two weeks prior to the survey. Fever, diarrhea, cough and vomiting are the most common symptoms. Among children reported ill, only about 10 percent were treated in a health facility.

5. Social Services and Infrastructure

5.1 Education

Between 1995/6 and 1998/9, enrollment ratio [children aged 7 to 14 years] increased from 13.6 percent to 36.9 percent. All the ratios [student teacher, student-classroom and student-school] are found to be very low. And the low enrollment in this particular case is not due to shortage of schools. It is rather attributed to inaccessibility/poverty of the community.

Illiteracy computed from our survey data was 83.6 percent (79.1 percent for males and 88.5 percent for females).

Schools are available in all sample peasant associations; there are two schools each in two PAs (Niquara Cheberghe and Aderseghe Abina) and one in each of the remaining 6 peasant associations.

The performance of the education sector is however presumed to be unsatisfactory. Low school participation and high drop out rates particularly marked among girls and under utilized institutions, to cite few, are major symptoms in this respect. The low economical status of the community, un suitable location of schools, shortage of teachers, books and other facilities are some of the major constraints, which need to be addressed.

5.2 Health

In 1998/9, the number of health facilities was 10 and the ratio of health facility to population in the wereda was 1:29801 for health stations and 1:104297 for health posts and the over all coverage is calculated to be 48.9 percent.

The number of women who have heard of any family planning method and the number of family planning methods known by women of childbearing age is negligible.

Elders noted that people used to travel long distances in search of medical services. They are now relieved particularly in mother and child care services, which are being provided in their localities. This does not necessarily indicate their adequacy and efficiency, however. The number of institutions, according to discussants, is not adequate to start with. Lack of medical staff, the unaffordable price of drugs, shortage of drugs, lack of road transport, medical equipments particularly for delivery, location of facilities that lacked centrality are cited as constraints to the performance of health services.

Despite the physical availability of health institutions, the health status of the population is low as evidenced by high infant mortality, under-five child mortality, low maternal and child care as well as the high prevalence of diseases.

5.3 Agricultural extension, Credit and Veterinary Services

The number of households involved in the program increased from 1.1 percent in 1995/96 to 13.9 percent in 1999. The program covers 0.15 percent of total cultivated land 1995, which later on, in 1999, increased to 2.77 percent in 1999. Some of the major activities undertaken in the extension service include construction of check dams, terracing, cut-off drains and area enclosure. Terracing is the most dominant practice:

In 1996 there were three veterinary programs during which about 18 percent of the households were beneficiaries. The program in 1999 has increased to 8, while the beneficiaries took about 28 percent of the households during the same period.

The other important extension service available in the wereda is credit facility. In 1998/9, a total of 6,973 households obtained credit from WOA, ACSI, and co-operatives. Much of the credit is being used for purchasing modern agricultural inputs.

All peasant associations are within three hours return walking distance to weekly market. A total of 65.2 percent of the people have access to a weekly market in their locality. Market service, which is vital in providing information on marketing, is not so far incorporated in the extension program.

Most of the pre-harvest prices are higher than the post harvest prices. And prices food crops are generally fluctuating from time to time. The prices of cattle and goats have been declining since 1995/6., however.

5.4 Sanitation and Potable Water Supply

Only 3 housing units have roofs covered with corrugated iron sheets. About 98 percent of the housing units have no windows, 88 percent did not have a toilet. The 1994 census indicates that only 12.3 percent of the wereda population had access to clean water, while 41 percent of the sample households get safe water from protected sources.

5.5 Road and Communications

The Wereda is almost devoid of transport and communication infrastructure. Access to roads, measured in terms of road density, is too low even by Ethiopian standards. The wereda capital has a manual telephone service, which is limited to inter urban calls. Interruption is so frequent, for it is a backward and outdated technology. Ebinat town is the only beneficiary of postal service in the wereda.

6. Disaster Types and History

Ebinat Wereda has been suffering from frequent and severe disasters for many years now. Drought, epidemics, pests and flood are reportedly the major disastrous events.

Drought, which was usually followed by excessive food shortages and epidemic, has been the most serious disaster responsible for the loss of human and animal populations.

Drought is said to have occurred on the average every 2 to 3 years particularly after 1966. The degree of drought severity is reported to be different from year to year and place to place. The types of households who are most affected by drought include: those without oxen and livestock, with large family size; those who did not have grain and/or cash reserves, which live in Dega as well as female headed households. The elderly, the handicapped, children and nursing mothers are often the ones hard hit the most during such moments.

Crop pest/disease is an important hazard, too. According to elders pest attack has always been severe during the period of drought. Insects and pests were also cited as one of the major contributors to food shortages households faced in the last ten years. Interview results also indicate that pest attack is higher in kola areas. Lack of pest resistant seeds and the ever-increasing price of insecticide, among other things, are termed responsible for the overall severity of pest attack.

Severe human and animal epidemics have also occurred repeatedly. A human epidemic is reportedly a major hazard in Ebinat because of the low level of environmental or individual hygiene and preventive public health services. Epidemics both human and animal appear to be severe in kola areas as compared to those in Dega and Woina Dega. Usually the most affected are very poor families, the illiterate, malnourished children and mothers as well as the elderly.

Malaria is at the top of the disease list followed by pneumonia, intestinal parasite, skin disease, eye disease, sore throat, dyspepsia, anemia and malnutrition. Children under 15 appear to suffer most. Lack of preventive knowledge, poor sanitation, lack of safe drinking water and lack of access to health facilities are believed to have caused the epidemics in the wereda.

Information on veterinary services suggests that infectious livestock diseases are widespread. Lack of adequate health infrastructures, lack of medical equipment and medical personnel, shortage of drugs and inaccessibility are some of the factors that further worsened the situation.

Floods are also common among those who live near riverbanks, at bottoms of mountains and on rugged terrain.

Households' resilience to drought and epidemics has declined since the last 30 years. The decline is further attributed to asset depletion, population increase, animal epidemics, pests, declines in farm size and farm output, unfavorable land for agriculture and lack of opportunities for non-farm activities. Elders also noted that the overall vulnerability of the society to famine has increased instead of declining.

7. Causes of Vulnerability to Disasters/Risks

Rapid population growth combined with backward technologies result in undue pressure on natural resources and lead to chronic vulnerability. Participants of community group discussions asserted that family size and the number of farming households is rising. Population increase is also identified as a major factor behind over utilization of land, environmental stress and migration in search of livelihoods in other areas.

The rate of soil erosion in the wereda varies from 31 tons per hectare of land per year to 200 per hectare per year. There was severe soil erosion in all AEZs since the 1970s. Most household heads agree that the quality of soil is deteriorating.

Deforestation is a serious problem and it has been increasing. The depletion of firewood has currently led to the extraction of roots, which in turn critically affects the soil since it disintegrates the already fragile layers. Ebinat has been virtually stripped of vegetation. Moreover, reforestation is very minimal.

Shortage of grazing is the most widespread problem reported. Most land used for grazing belongs to the peasant association or are communally owned. The survey result also indicates that communal areas are located on highland slopes and valleys, which are the main grazing areas in the wereda. Repeated use of highland slopes and valleys for grazing is much likely to increase the degradation of the already depleted land. The area considered as communal is in most cases wasteland, unprotected and highly affected by degradation.

Ever-increasing population size, increasing degradation of the environment, low and erratic rainfall, high level of illiteracy/little knowledge, entirely rain-fed subsistence agriculture, depletion of resources/asset base of the society are considered as the root causes of vulnerability to different disasters. Others include: rudimentary agricultural technology, low reproductive health care & low family planning awareness and utilization/KAP; poor access to infrastructure and social services.

8. Coping Strategies

Climatic variation in rain-fed agriculture is not only a common phenomenon but also induces a number of undesirable consequences in the income and nutritional patterns of households. Households adopt a variety of coping strategies to offset the effects of production shortfalls and market uncertainties:

Nearly all have reported having adopted at least one coping mechanism. The most prevalent mechanisms for coping with food insecurity were decreasing the number of meals per day (frequently adopted by 76.7 percent of households) and decreasing the quantity of meals (frequently adopted by 75.1 percent of households).

The other prevalent coping mechanisms were borrowing food or money, sale of livestock, eating wild food, participation in food-for-work and employment-generation schemes, and not eating food during some days

Not to take food, use of unwanted food and wild fruits, sale of fire wood, withdrawing children from school, job search outside the community, migration, sale of agricultural tools and ornaments are other mechanisms reportedly used rarely by households to cope up with problem. As far as timing is concerned, most respondents reported to have used the aforementioned strategies only when the problem is severe.

Food aid is also used as one of the important coping mechanisms . The wereda needed food aid every year, and the difference between good and bad harvests is reflected only in the volume of food aid needed. Generally, food aid takes the form of food-for-work programs.

B. CONCLUSIONS

The problems identified could be classified as those that are amenable to policy intervention in the short and medium term and those that are either not directly controllable or that can be influenced only in the long run.

Following are some of the areas of intervention, most of which have emanated from discussions and interviews conducted with the community that need to be looked into so as to address the causes of vulnerability:

1. Reduce Population Growth

The disparity between population growth and resources has been wide enough and has aggravated the incidence of poverty and food insecurity. Reducing population growth is thus important among others to mitigate the problems associated with it and for alleviating poverty as well. From the discussion it seems that households have learnt from their own experiences about the impacts of large family size, and thus there now seems to be fertile ground to carry out family planning programs. It is therefore important that great attention needs to be drawn to the provision of reproductive health care services. As part of the same effort, family planning programs should also be strengthened so that people could either delay pregnancy or give up childbirth once and for all. Creating awareness among the community and availing different methods of contraception that could easily be accessible, locally acceptable and affordable by the peasant community are probably the major activities in this respect.

2. Promote Women's Status

The issue of women empowerment has received much attention, as they constitute more than half of the population. Experience also provides evidence that development is hardly possible without their participation in every walk of life. Promoting the position of women in the society is thus a matter of urgency that should not be put aside.

Improving women's access to resources and education are equally important not only for enhancing their involvement in every walk of life but also to reduce high child and maternal mortality. It is therefore suggested that public expenditure on health needs to be increased in the future. A particular emphasis to maternal and childcare would increase the survival of children on one hand and lead to fertility decline on the other.

3. Initiate and implement Resettlement Programs

The agricultural land in Ebinat is presumed to be degraded owing mainly to population pressure, intensive cultivation and erosion. The continuous decline in farm size is also

another dimension of the problem, which the community is very much worried about. In this regard, elders have cited resettlement as a viable strategy to ease population pressure. People now seem willing to move where they could be able to farm, produce more and lead a better life. Therefore, resettlement needs to be considered as an issue of priority. It is however important to make adequate assessment and preparation long before such an action is carried out.

4. Further Investment in Human Resource

The population issue appears crucial not only because of the problem of pressure on resources and the effects on the environment, but also because people are the most important agents of development. It is their health, education and over all well being, which determine how much can be done and how. Investing in the poor is therefore vital to ensure that they can be productive and participate fully in the economy. Non-formal education needs to be considered in this respect.

5. Improve Agricultural Production

An improvement in the agricultural sector is a prerequisite not only for maintaining a minimum basic living standard for population but also because financial resources for promoting industrial development in the future may have to come largely from agricultural production. Techniques that could assist households to improve agricultural production should therefore be put in place, some of which include: crop diversification, selecting the appropriate variety of crops [i.e., drought and diseases resistant, early maturing and high yielding] and promote traditional pest management.

Equally important is also the change of emphasis from rain-fed to irrigated agriculture. There are rivers and small streams in the woreda that could be put into maximum use without even using modern irrigation systems. Great attention should therefore be drawn in this respect to assist the peasantry so as to increase production and further improve food security.

Improvement in Agricultural production needs, among others, improvements in farming practices and the use of improved seeds, fertilizers, pesticides and farm implements, all of which are hardly possible without effective financial facilities. Furthermore the price for agricultural inputs is often beyond the reach of the poor. Therefore credit institutions that are well adapted to local situations and further tuned to the interests of the community are necessary.

The expansion of the livestock population beyond the capacity of land has resulted in overgrazing and environmental degradation. One of the solutions to the problem could be to reduce the livestock population so that the ecosystem could be restored to a balanced state. On the other hand, an improvement in the livestock sector is important in light of the vital role it plays in the lives of rural communities. Proper grazing practices, forage production, adequate and timely supply of drugs at affordable price or free of charge, and the introduction of hybrid cattle are some of the areas that need due attention if the present state of livestock rearing is to be changed for the better.

6. Expand Basic Services and Infrastructures

Lack of access to basic services has always been suggested as factors increasing the susceptibility of the poor to hazards of all kinds. Rural people particularly children

always suffer from diseases like diarrhea and other waterborne diseases simply because of lack of access or the non availability of potable water supply.

The health status of the population is low which is reflected in high infant mortality, under-five mortality as well as low maternity and vaccination coverage. The provision of health care services would therefore reduce not only the susceptibility of the poor to diseases but also the economic and health cost of illness and injury. Other services such as health, education, roads, marketing and distribution facilities have also a paramount importance in improving the overall standard of the population. The most important thing in this respect is not only the physical availability but also the quality of the service in terms of providing adequate and trained personnel, equipments, and materials. This justifies the need to improve the coverage and quality of education and health services as well as potable water supply as a means to poverty reduction. Emphasis to primary and adult education is extremely important.

7. Environmental rehabilitation

Unsustainable resource consumption has resulted in soil depletion, forest destruction and environmental stress. The integration of conservation with farming activities is probably an important step to protect the environment and further improve the productivity of land. The question of sustainability is equally important as well. Any conservation program needs to be designed in such a way that the maximum benefit goes to the community, and meet the urgent needs required for the very survival of the community.

8. Create Income Generating Opportunities

In a more or less risky agricultural climate, households with more diversified off and non-farm income are less vulnerable to food insecurity. In areas like Ebinat the poor has only his labor as the main source of income, which is largely dependent on the availability of employment opportunities. It is therefore important to make the poor have access to income generating activities so that they, among others, could augment their household income and further widen their coping mechanisms. It is also important to note that income generating activities can be very effective provided those involved have the necessary skill and access to resources and markets, among other things.

9. Introduce Alternative Sources of Household Energy

The traditional use of dung as manure has now become a history, for people have given up that practice for a number of reasons. One way of promoting the use of dung as fertilizer to replenish soil fertility would be the introduction of other sources of household energy to the rural community.

10. Promote linkages and coordination between stakeholders

And finally, drought, the subsequent food shortages and diseases are not of recent origin. They have been with the society perhaps for a generation or more. They are the working of various factors, too. If the society is to come out of the vicious circle of poverty and be at least food self sufficient in the long run, if not in the immediate future, more attention should be given to rural development in general and food production in particular. Every effort in the agricultural sector also needs to be integrated and coordinated with other sectors of the economy.

Addressing the problem therefore needs commitment on the part of government [from adopting appropriate strategies to providing every support at the right time], a holistic approach as well as the full participation of the community at large.