

## **HUNGER AND ENVIRONMENTAL DEGRADATION IN THE HORN OF AFRICA: The Need for Survival Strategy<sup>1</sup>**

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### **INTRODUCTION**

The Horn of Africa, which includes Ethiopia, Eritrea, Somalia, Sudan and Djibouti, is the primordial home of *homo sapiens* and an early outpost of human civilisation as recent archaeological findings confirm. The Horn is a region of great geographical diversity, rich in natural resources and inhabited by different ethnic groups who are engaged in different economic activities. Although no serious and detailed agronomic, hydrologic and land resources investigations have been undertaken, it is assumed that the abundance of rainfall, water and arable land would provide food self-sufficiency and surplus production.

However, the Horn is one of the poorest regions in the continent; and droughts, hunger and war often affect it. Except for the more privileged classes, hunger affects millions of poorer farmers, pastoralists and urban dwellers; and the international communities are responding with emergency food aid from time to time. Food aid saves life, but it has also prolonged hunger as long as environmental degradation is not alleviated. Environmental degradation disturbs the traditional balance between people, their habitat and political, cultural as well as the socio-economic systems in which people live. The mass-media image of hunger in the west tends to portray hunger in the region as a consequence of droughts, wars and floods.

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But droughts and floods are the meteorological phenomena that do not always bear direct relationships to hunger. The confusion between drought, war and hunger obscures our understanding of the root causes of hunger and delays the findings of its possible solution in the Horn.

The purpose of this paper is to: explain the meaning of hunger, identify the root causes and impacts of hunger, develop the on going debate on the impact of poverty on food security and propose hunger and drought coping strategies. The paper is based on the author's field investigation and observation carried out in some parts of the Horn as well as discussions with local population and officials. It attempts to provide some basic factors that have led to the environmental degradation facing the Horn of Africa today and to propose sustainable use of the natural resources through the conservation of the natural and human landscapes and habitat - biodiversity.

This paper deals mainly with the type of hunger where a chronic relentless condition keeps people from working productively and thinking clearly, decreases their resistance to diseases and which can be intensely painful. Such prolonged hunger results in permanent damage to the body and mind and ultimately, if it goes on long enough, it kills.

Hunger is classified both as endemic and epidemic by nature. Endemic hunger (hidden hunger) results from food deficiency and under nourishment. It leads to hunger-related diseases and slow death. Social and political factors, as well as the difficulty of measuring calorie-intake level obscure endemic hunger. Epidemic hunger (famine/open hunger) is collective and results from lack of food, which leads to many deaths. Even though millions of people have been killed by endemic hunger, less attention is given to it compared to epidemic hunger. Presently about 12.5 million, out of 67 million, in Ethiopia, 2.3 million, out of 4.3 million, in Eritrea, as well as millions more in the Sudan and Somalia continue to face starvation despite a rapid response from individuals, national and international organisations.

## THE ROOT CAUSES OF HUNGER

The root causes of hunger is poverty (poverty of knowledge, material/financial, moral and ethic). Poverty is a phenomenon, which results from the amalgamation of social, political and economic factors (human environment). The interaction of these factors over a long period of time produces a deleterious effect on the bio-physical environmental balance. The latter exacerbates the following factors:

1. Climate change to human induced droughts and floods through destruction of the natural, human and animal ecosystems;
2. Political and price instability;
3. Incidences of diseases such as Malaria, HIV/AIDS and other water-born diseases;
4. Regional wars and various types of conflicts; and
5. Migration flows as environmental, political and economic refugees.

Climate change-related factors, which are mainly associated with tectonic movement, seismicity and volcanic activity, carbon and nitrogen cycle as well as sea temperature changes in the southern hemisphere/El-Nino and La-Nina events resulting in droughts and floods have been recognised as forcing factors that contribute to the insecurity of human existence (Hutchison, 1991). Through traditional institutions, the people in the Horn had climate variability coping mechanisms through diversification of assets and activities. Such coping mechanisms were considered as important factor and management tool in shaping risk perception and risk responses in the region (Niamir-Fuller, 1998). In recent decades, however, the natural climate variability has caused environmental change or increased the number of severe droughts and damaging floods. Normal floods, for example, had been utilised by the local population in various different farming activities, but the region is presently affected by abnormal floods mainly due to lack of environmentally sustainable land-use systems, proper conservation and utilisation of the natural resources and El-Nino-related events.

These events have become one of the causes of epidemic hunger in the Horn, due to the biophysical and human environmental changes in the region. El-Nino and La-Nina are characterised by unusually warm and cold ocean temperatures/warm and cold events, respectively. These events are recognised as significant factors in the regional climatic variability of the world and held responsible for bringing tremendous changes in the incidence of rainfall and drought in many parts of the world including in the Horn of Africa. The latter was one of the regions that have been affected by heavy and prolonged rainfall, which led to the destructive flooding in the 1980s and 1990s. This was followed by an outbreak of diseases of which the Horn of Africa was the hardest hit region. Following the cool sea surface temperature, drought related severe forest and bush/grass fires also occurred in the region although animal and plant species, as well as micro-organisms, seem to have lived in harmony with fire regimes. In Ethiopia, for example, the pastoralists and farmers use fire for re-growth of young green shoots of grasses/shrubs and food crops, respectively. However, this fire-adapted ecosystem is now disturbed by the rapid growth of population, unplanned settlement/resettlement morphology, large-scale farms and unsustainable post-fire management of the land (Mengistu, 1998). In general, flooding and fire events destroy the crops and kill thousands of animals and people and threaten millions with starvation in the Horn of Africa<sup>2</sup>.

Under these circumstances, the economic and social factors, widespread poverty and poverty-related population explosion have increased and the natural resources are being damaged through deforestation, extensive fuel-wood gathering, over-grazing and over-cultivation. Such short-sighted land-use activities have led to degradation and depletion of natural resources, soil moisture scarcity and compaction, agro-chemical pollution and desertification, incidence of insects, animal and human diseases as well as conflicts between and among land-users and the natural resources and the

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<sup>2</sup>More Technical information on the global patterns of precipitation and temperature related to abnormal climatic and flooding data can be found at the National Atmospheric System Agency, National Oceanic Atmospheric Administration, Tropical Atmosphere Ocean and other operational satellite and observatory centres. For further information, see also my own publication, Mengistu, 2001.

users. These situations led to ethnic and political unrest and policy changes, which weakened the capacity of the traditional institutions.

## **TRADITIONAL INSTITUTIONS AND THEIR HUNGER SURVIVAL STRATEGIES**

Traditional institutions (informal and indigenous institutions) played important roles in conserving the natural resources, preserving culture and settled resource-use and land disputes. They were the basis to avoid border/resource use conflicts before catastrophic consequences set in; they helped to restore the hunger and drought and promoted survival strategies; as well as improve local conflicts and regional wars. These institutions were also famous in terms of resource distribution, sustainable utilisation of the natural resources such as water utilisation, periodical hunting and grazing activities. In short, through traditional institutions the local people in the region adopted drought coping and hunger-survival strategies before harvesting months (pre-harvesting seasons) and in time of hunger (post-harvesting seasons). So far, today there is hardly any institution that has an emergency and concrete action plan to promote peace, regional integration, environmental conservation and mobilisation of the people for effective and long-lasting development activities.

Due to policy changes, traditional institutions have lost their roles; they no longer help to alleviate drought, flood and hunger, nor does responsive and responsible leaderships/good governance or autonomous apolitical development agency replaces them. Even wealthier community members in the past provided a support structure for the poor and contributed to the alleviation of hunger but now deepening poverty is eroding this traditional coping mechanism. Consequently, these countries produce little or no food, which lead to endemic and gradually to epidemic hunger. Such factors disrupt the environmental balance and in the balance of payments. As a result, every country is now dependent on or supplemented by food aid.

The following survival strategies, which are listed below, are briefly described in an interrelated manner:

1. preservation of grains, pulses, *enset*, pumpkin, taro, etc. through well built and carefully constructed storage systems;
2. gathering roots and tubers, hunting wild animals and fishing techniques ;
3. sustainable utilisation of natural resources;
4. maintenance of weekly/daily open market centres, which are located between the pastoralists and the farmers' settlement geographical locations or the different agro-climatic zones;
5. population and livestock seasonal movement to better economic zones;
6. border dispute and conflict resolution strategies and regional responsibility;
7. strong culture, pride and dignity;
8. balance between the interrelationship of land, people, livestock and wildlife; and
9. creation of employment opportunities.

Although the geography of the Horn is rich in agricultural land, water, livestock, wildlife and a great deal of tourist attractive sites, the population and civilisation of the region could deteriorate further if the traditional resources allocation, conservation and utilisation methods are not put in place. Traditional survival systems such as private and communal grain and non-grain storage and communal work programmes were used as part of hunger coping strategies but they have now almost disappeared. What is observed in the region today is subsistence-based (self-sufficient) economy and traditional market, for example, are replaced by profit-maximising and modern market economy, respectively.

The smallholders and pastoralists are in no position to adopt or afford advanced technology such as post-harvesting, storage and food processing techniques and methods as well as modern marketing system. Regulation of market operation to control farmers and pastoralists did not work in the past and will not work in the future as long as the role of the traditional/local marketing system is not maintained. Presently, Structural Adjustment and Economic Liberalisation Policies try to capture the local market when most of the people are not economically integrated. Rather, the poor farmers, pastoralists and urban dwellers are exploited through unfavourable market forces. Market integration could lead to the increased division of labour, crop specialisation and the integration of the rural to global marketing system, if policies are in favour of the terms of trade for traditional commodities.

Through credit services, training, environmental education, financial and appropriate technology, well thought out land-use planning and formation of partnership between the farmers, pastoralists, private sector and governments can help improve the chances for growth and greater job creation, and all this can eradicate poverty and hunger. Previously, employment opportunity was created through institutional infrastructure. Since the communities controlled land, individuals within a given region were entitled to own plots in different agro-ecological zones to plough and graze their animals. When people were not restricted by land-use and ethnic policies as well as by widespread wars, the people in the Horn had opportunities to move within and outside their own home region or across international boundaries to utilise natural resources, find seasonal or permanent employment or to settle in the less populated and productive areas or regions. Some adopted the new culture and settled permanently and others returned to their own regions or villages willingly. Through traditional institutions, the communities developed watering sites for their animals and small-scale irrigation systems as one of the drought coping strategies. In short, such traditional resources use and the periodic needs to cross both ethnic and international boundaries, as drought and hunger coping strategies, were ignored. As concluded by Hutchison (1991:100) 'life sustaining relationships between the people of the Horn and their environmental and economic support systems is everywhere breaking

down'. As a result the region, in my view, has become the geography of a beggar zone.

Presently, we can only observe the process of transformation of traditional food security by the state or international welfare agencies and the traditional market centres by feeding centres, which are financed through international donor agencies. Since one country's problems in the Horn spread to other areas in the region and since there is no real economic and social border, there is a need for genuine leaderships/good governance at all levels, who are responsive and responsible to the need and aspirations of the people. Such leaderships/good governance should have knowledge and commitment to: a) the conservation and utilisation of the natural resources; b) avoid past personal idiosyncrasies; c) iron out differences; and d) maintain respect for one another. Due to the absence of such leaderships/good governance, poorly planned and unsustainable land-use practices, industrial establishment and exploration of minerals, the drought and hunger coping foods (e.g. planted trees and wild foods, fishery sites, wildlife and their habitats) as well as grazing fields and watering sites have further deteriorated.

Not only leaderships/good governance and poor planning have historical responsibility for the death of millions of people and environmental degradation in the region but also the academics and business communities should be the blame. As has been observed, especially in the last 30 years, the poor in the Horn have been exploited in many ways. When the rural and urban poor produced plenty of products, the non-producers consumed and made profit more than the producers. When the situations are not conducive, some of the non-producers run overseas and others remain to exploit the rest. Emergency food and other aid are also shared among the producers and non-producers, people from the drought and non-drought areas. Our recent studies in Ethiopia show that, through 'Food for Work Programme' (FFWP), food aid distribution centres were established in many urban centres. However, they have neither improved the peoples' way of life nor alleviated environmental problems. Since food aid is distributed through international food aid, FFWP has depressed local prices and created adverse supply disincentives for local farmers. Furthermore, food aid is encouraging



corruption and nepotism, pulling massive numbers of population from hunger and food surplus agro-ecological zones to the unprepared urban centres. Despite the existence of various restrictive policies, administrative controls and other obstacles put in the way of migrants, many would go to considerable lengths to achieve their objective of gaining a foothold in towns and cities. Flight from rural poverty and conflict led to massive migration flow towards unprepared urban centres. This has already created overcrowding, crime, depletion of natural resources and facilitates the spread of diseases (Mengistu et al., 1999 and Sjöberg et al., work in progress).

In short, although food aid has saved many precious lives, yet it has killed a working spirit, created dependency syndrome. We should not wait until another catastrophic famine occurs or wait until we see emaciated bodies of our people; the carcasses of livestock or until aid giving organisations come and rescue the Horn from catastrophic hunger. We have to take action today and learn to avoid ideological and personal differences and rise up together and to make sure that the people from the Horn would have sufficient and adequate food through environmental conservation measures, genuine democratisation and concrete development action. By doing so, we would restore traditional institutions, confidence, responsibility, pride and dignity in the people as well as to live in harmony with one another which leads to permanent peace, political stability and self-sufficiency in food. To translate the above mentioned ideas into concrete operation, a program of action is outlined below.

### **THE NEED FOR PROGRAM OF ACTION**

In order to banish hunger and poverty from the Horn of Africa, the following actions are urgently required:

From the moral, ethic and human rights' point of views, international funding organisations should come up with financial aid package (similar to the Marshal Plan in Europe). Their funds should go directly to the locally, regionally and internationally accepted co-ordinating body or New Agency. The New Agency should be recognised as autonomous and apolitical co-

ordinating body that only concentrates on seeking solutions to the problems of poverty and hunger through the conservation of the natural resources, effective management of the economy, mobilisation of the human resources and the introduction of the physical and social infrastructure in the region. The New Agency would implement the new development plans and strategies with the co-operation of the African Union, international organisations, the Horn of African Diaspora, mobilisation of individuals, institutions, business and NGOs in the region and abroad as well as the restoration of previous constructive local institutions.

Committed, responsive, responsible, correct and well-trained leaderships/good governance, who can understand the role of natural resources, traditional institutions, local, regional and international co-operation and who can create deeper understanding between and within nations and nationalities are urgently needed. The responsible governments would ease the artificial barriers that restrict citizens and allow people to move freely between regions within their own country's domain and even between countries. Such measures will create understanding between and within nations and relationships with international organisations and the New Agency. The latter would invite and encourage individuals, institutions or business communities, government and NGOs that live inside and outside the region to contribute in cash or in kind or through transfer of knowledge aiming to eradicate the root causes of poverty and hunger. It would also convince international financial institutions and donor countries to contribute to long-term financial package in the form of development aid and debt relief, etc. Debt relief and aid must be redirected into the conservation of the natural resources particularly in the land-water sectors in the region realising the goal of eradicating poverty and food insecurity.

Through the New Agency, the Horn of Africa would: a) be a political and food security region; b) be a training centre where the Horn of Africa can manufacture its own civilised, creative, broadly-thinking mind, efficient and disciplined leaderships/good governance<sup>3</sup>; c) bring attitudinal change of the

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<sup>3</sup>Knowledgeable, broad-minded, committed and genuine individuals who are carefully selected within the region and from different parts of the world will administer the training centres.

people towards natural environment, local, regional and international relations, etc.; d) rehabilitate its natural, human and animal ecosystems; e) avoid ethnic conflicts, health problems and shortage of transportation; f) introduce appropriate and sustainable technologies, rural-urban industries, effective family planning, off and on-farm employment opportunities, effective protection and preservation of natural habitats and wildlife species, cultural sites and food items as one of the land-use options. Based on nutritional studies, adopting healthy and economically viable food culture, as well as sustainable utilisation of water should also be considered as one of the most important hunger avoiding components.

In the past, the crucial role played by water in food security and employment has been given too little attention in the region. If the Horn try to implement the Poverty Reduction Strategy Papers (PRSP), water should be a key issue. Through the New Agency, sustainable water utilisation, as a source of drinking water, ecosystem services, health improvement and means of drought mitigation is possible. Water, in the form of irrigation projects, should be given special priority as a key element in the fight against poverty and food insecurity. As the UN recently warned that unless Africa confronts the problem of proper water management, it will never escape the poverty trap or develop the food security system (quoted by UNECA, 2002). Furthermore, the role of water in other sectors such as fisheries, sanitation, industrial use, hydropower energy, ecology and disaster management should also be taken into consideration. Sustainable water use can alleviate damaging flooding or El-Nino-related flooding problems, which occur along the Nile region in the Sudan and the Rivers Awash and Shebele in Ethiopia and Somalia, as well as from the Baro-Akobo and Blue Nile River Basins in Ethiopia (For flood management measures, see Mengistu, 1999).

In order to alleviate current and future El-Nino and La-Nina-related flooding and drought problems and incidences of forest and bush/grass fires, the New Agency, with the collaboration of scientists from the Horn, Horn African Diaspora and with international assistants, such an unexpected climate change and weather variability can be predicted and minimised by: a) well-planned and well-managed land-water resource conservation and

development strategies; b) political stability and early warning system; c) well developed Information Technology (IT) and long-term meteorological data; d) well-thought out land-use planning and environmentally accepted resettlement schemes, appropriate technology and farming systems; e) utilisation of water resources and local environmental monitoring techniques; f) capacity and awareness building concerning natural resource protection measures through environmental education to encourage community participation, health and family planning.

In short, the New Agency will ameliorate the flooding problems through the building of water reservoirs in the various agricultural and human settlement and resettlement sites, which will serve to collect and save sufficient water during good rainy seasons to provide supplies when the rains fail. Through water storage techniques and methods, people in the Horn would be acquiring new income generating and employment opportunities. Moreover, the land-users can turn gullies into gardens, divert water from rivers and harvest runoff water from roads into their fields for annual and seasonal crops, which will improve their standard of living.

The New Agency can also adopt water-harvesting and river harnessing culture on household, village and community levels. In order to mitigate drought and promote food security, small and medium-scale irrigation, dams and water-harvesting programmes are appropriate for the Horn as most of the previously built large-scale water projects have not led to food security. Preliminary observation of the six large-scale irrigation projects (Omo Rati, Alwero, Meki-Zway, Gode, Tana Beles and Borkenna), constructed by the socialist government in Ethiopia, for example, were mismanaged despite hundreds of millions of dollars spent on planning and construction purposes. Similarly, Adams et al. (1983) contend that in order to mitigate drought and promote food security, governments in Africa have adopted river basin planning and large-scale irrigation projects, but many of these projects have not improved the problem of food security, due to poor planning and design as well as lack of stakeholders in policy formulation and project management.

Many factors such as political, financial, social and other factors account for the mismanagement of irrigation projects. Through the New Agency with the collaboration of the local communities/traditional institutions, such kind of irrigation and water harvesting projects could be implemented on a sustainable basis and people in the Horn would be acquiring new income generating, employment and investment opportunities, which will improve the standard of living. Based on Asian experience, Chamber (1998) contended that irrigation could improve the lives of the poor in general and food security in particular if careful planning and appropriate management is employed. Water can also be considered as a source of energy.

Since the activities of the New Agency would be based on local and regional hydro-geological and ecological knowledge, one of the indispensable food security components in the Horn is the development of energy. The energy from bio-mass sources such as dung, crop residues and woody bio-mass are the most contributing factors to the ecological imbalance and for food insecurity. Alternative energy from other sources such as bio-gas, solar, wind, geo-thermal, coal and natural gas are the prerequisites for food security and are economically viable and environmentally sustainable. In general, sustainable alternative energy can:

- a) be one of the solutions to the environmental degradation;
- b) supply the local people with improved and alternative technologies;
- c) create off and on-farm employment opportunities and information networking;
- d) explore mineral resources and develop agricultural-based industries;
- e) encourage the development of sufficient fodder for the pastoralists and farmers, sustainable population settlement and resettlement schemes, township and village enterprise programmes;
- f) provide environmental education and be indispensable for the utilisation and distribution of water, food storage and transportation;
- g) alleviate water contamination and poor sanitation; and
- h) encourage eco-tourism through wildlife and its habitats conservation strategy.

The New Agency would conserve wildlife as one of the land-use options and income generating sources. Wildlife conservation can be achieved through community/traditional institutions-based sustainable utilisation of natural resources or habitats. If habitats (wetland, waterfall, conservation of

the natural landscape, etc.) are conserved and the local people are involved to participate in the project process, wildlife can: a) contribute to the recovery, maintenance and improvement of ecosystems; b) provide food, medicines, ornaments, and cash, in the form of eco-tourism; c) create jobs in the wildlife sector; and d) enhance regional development. Since wildlife in the region has no border and since they are the local, regional and global assets, we all have great responsibility to protect these precious species. Even though wildlife used to be and still are one of the food and income generating sources in the region, they are presently seriously declining due to: a) wars, widespread poverty, endemic-epidemic hunger; b) unsustainable land-use activities in refugee settlements and resettlement schemes; c) mismanagement of natural habitats, deforestation and extent of fires; and d) lack of responsible traditional institutions/organisations and biodiversity conservation measures (Mengistu, work in progress). Although attempts are made to help human refugees, neither local nor national nor international organisations have tried to protect wildlife from being destroyed along the conflict zone and during bush and forest fire occurrences. The New Agency with active participation of local people and institutions, national and international organisations as well as the Horn of African Diaspora must introduce emergency wildlife protection measures.

## CONCLUSION

The people in the Horn have suffered and will continue to suffer unless the root causes of hunger are addressed quickly and adequately. Through sustainable utilisation of the natural resources, water and energy based development (sufficient and adequate food production, income generation and livelihood) is possible. Such development requires proper methods and well thought out strategies for balancing ecosystem resilience and human activities in the region. Besides, useful traditional institutions have to be restored and various types of conflicts (between different political groups, natural resources and their users as well as between and among ethnic groups) in the region have to be resolved if poverty and hunger are to be banished. The author of this paper strongly believes that through the New Agency, responsive and responsible leaderships/good governance will emerge; individuals, national and international organisations together with

opinion leaders, traditional institutions, NGOs and Horn of African Diaspora would be attracted; and through the conservation of the environmental and economic support systems, through physical infrastructure, economic competence/market integration, political, social and economic security, respect, dignity and healthy relationships with others, the living conditions of the people would be improved within a short period of time in the region.

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