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Drought in the Horn of Africa: challenges, opportunities and responses

Note by the secretariat

Executive summary

1. Drought has severe adverse effects on sustainable development in developing countries and regions: it causes agricultural production to fall, leading to food shortages and food insecurity, which in turn give rise to famine, water scarcity and loss of human life. Rather than responding successfully to the common sequential droughts that afflict the Horn of Africa, communities are devastated by them.

2. The year 2011 has been exceptional in that the Horn has been wracked by the worst drought that it has experienced for 60 years. That, and the cumulative effect of successive years of poor rains, coupled in some cases with conflict and civil unrest, are threatening the livelihoods of millions of people who, as a result of the severe food crisis, find themselves in urgent need of humanitarian aid.

3. The cross-border flow of refugees seeking better conditions has put pressure on the limited resources and services available. With high levels of both severe acute malnutrition and under-five mortality in combination with pastoral conditions that are projected to worsen, local cereal prices will continue to rise, and harvests will be below average.

4. Action must be taken to halt the drought and meet immediate needs, but any response must also be forward-looking and seek to build long-term resilience and tackle the root causes of the area’s vulnerability. Securing lasting food security in the Horn requires attention to be paid to numerous issues besetting the region, including conflict, preservation of humanitarian space, nutrition, disaster risk reduction, provision of health and education services, and adaptation to climate change.
Background

1. Drought is defined as a natural phenomenon that occurs after a prolonged period of abnormally low precipitation. Droughts occur in virtually all climatic zones, but their characteristics and impacts on society vary significantly by region and country.

2. The Horn of Africa is the African region most vulnerable to drought. The year 2011 has been exceptional, with the worst drought for 60 years besetting Djibouti, Ethiopia, Kenya, Somalia and Uganda and causing the Horn of Africa to experience the most severe food crisis in the world. Over 12 million people are severely affected and in urgent need of humanitarian aid, and there is no likelihood of this situation improving until 2012.

3. Following the below-normal 2011 spring rains in the Horn, the food security of pastoralists and populations in marginal farming areas deteriorated sharply. In addition, shortages of grazing resources for livestock resulted in abnormal migrations, whereby pastoralists travelled long distances and grouped animals in areas with limited remaining pasture and water. This caused livestock health and market prices to fall markedly, with milk production declining significantly for most affected households.

4. While famine is currently affecting only Somalia, large areas of Djibouti, Ethiopia and Kenya are also suffering from severe food insecurity as a result of the drought and high food prices, and are seeing significant inflows of refugees fleeing the drought in Somalia. Towards the end of 2011, food security levels in the worst-affected areas of Ethiopia and Kenya are expected to move from “emergency” to “crisis” levels.

I Causes of drought

5. The underlying cause of drought is climate change. The impacts of drought are exacerbated by human activities such as deforestation, overgrazing and poor cropping methods, which reduce soil water retention, and improper soil conservation techniques, which lead to soil degradation. Some of these causes are discussed below.

6. The phenomenon of La Niña primarily accounts for the decline in rainfall in Kenya, Uganda and the Horn. The region usually has two rainy seasons per year: the first between March and May and the second in November and December. The rains at the end of 2010 were well below average and the first rainy season of 2011 also failed to live up to expectations. Consequently, several million people are facing food and nutritional insecurity until the second rainy season of 2011.

7. Deforestation contributes to global warming and is a major cause of the greenhouse effect. Recent calculations suggest that carbon dioxide emissions from deforestation and forest degradation contribute some 12 per cent of total carbon dioxide emissions, with estimates ranging from 6 to 17 per cent. Forests store carbon and can be either sinks or sources, depending upon environmental circumstances. Deforestation may cause carbon stored in soil to be released and also lessens the land’s capacity to intercept, retain and transpire rainfall, affecting groundwater systems.

8. Unsustainable land use is another key issue. Since most African countries’ economies are heavily based on agriculture, much of the problem of desertification in rural areas stems from poverty-related agricultural practices and other land-use systems. Inappropriate farming systems, such as continuous cultivation without adding supplements, overgrazing, poor land management practices, lack of soil and water conservation structures, and high incidence of uncontrolled bushfires, lead to land degradation and aggravate desertification. These factors prevail in many parts of the region.

9. The effects of poverty must also be considered. High population growth increases pressure on limited and fragile land resources. Without alternatives, the poor are forced to exploit land resources, including fragile land, for survival (using the land for food production, medicine, fuel, fodder, building materials and household items). Given that most drylands in Africa are also poverty hot spots, the risk of desertification is high in many of those areas, as the poor inevitably become both the victims and willing agents of environmental damage and desertification.
II. Challenges facing the Horn of Africa as a result of the drought

10. The complex impacts of drought extend to many economic sectors and reach beyond the area experiencing physical drought, as water is essential to people’s ability to produce goods and provide services.

11. The impacts may be direct or indirect and felt at the economic, environmental and social levels. They may take the form of reduced crop, rangeland and forest productivity; increased fire hazards; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitats. In addition, they may manifest themselves in the form of reduced income for farmers and agribusiness, increased food and timber prices, unemployment, reduced tax revenues as a result of reduced expenditure, increased crime, foreclosures on bank loans to farmers and businesses, migration, greater insect infestations, spread of plant diseases and increased wind erosion. Some of these impacts are discussed in greater detail below.

12. One key issue is the failure of crop production and losses of livestock, as the most direct impact of drought is reduced crop production stemming from inadequate and poorly distributed rainfall. Livestock sales act as a buffer in times of hardship, as farmers disinvest by selling these assets to purchase food. Where crops have been seriously affected by drought, pasture production is also likely to be reduced, although output from natural pastures tends to be less vulnerable than crop production to drought. Low rainfall causes poor pasture growth and may also lead to a decline in fodder supplies from crop residues. Insufficient levels of fodder in villages bring about increased deaths among stock, especially where immigrant herds put further pressure on limited local pastures. Some 10 million people across the Horn of Africa are going hungry as the livestock on which they depend die off as a result of the drought.

13. In terms of famine, malnutrition and food insecurity, drought is a major cause and consequence of poverty and resource depletion, which threaten economic growth. The crisis is currently afflicting some 3.6 million people in Kenya, 4.5 million in Ethiopia, 80,000 in Djibouti and some 3 million in Somalia. Child malnutrition rates in the worst-affected areas are more than double the emergency threshold of 15 per cent and are expected to rise. One in three children have suffered from severe food shortages, imperilling their lives. In parts of the famine-affected areas, malnutrition rates are at 50 per cent, with the highest death rates exceeding six per 10,000 per day. Staple prices currently stand at 68 per cent above the five-year average.

14. Drought is linked to conflict, as competition for the already limited natural resources in arid areas increases when drought occurs, given the low available water and crop yield. During drought, movement of pastoralists increases as they are forced to compete for the same scarce resources, causing conflicts between communities. There is a history of pastoral communities fighting for scarce resources in the Horn and, although most conflicts have been manageable, they are exacerbated and become more entrenched by drought. Drought-affected people often migrate, putting greater pressure on resources and resulting in conflict spreading to other areas. There is often conflict between farmers and cattle herders, as currently seen in several parts of the Horn.

15. Lack of water also poses problems. Under normal circumstances less than 20 per cent of Ethiopia’s population enjoys access to safe drinking water. In Wajir, Kenyan pastoralists travel an average distance of 25 km to gain access to water, while in Turkana, also in Kenya, women have to dig more than 6 metres into dry riverbeds to find water. The importance of fresh drinking water becomes even more evident when drought strikes a major population centre, as it means less irrigation for crops, less drinking water, less water for hygiene and less hydroelectricity.

16. Drought leads to health problems. More than 5 million people in Ethiopia are at risk of cholera, with the Ethiopian authorities confirming World Health Organization reports of cases of acute watery diarrhoea caused by crowded, unsanitary conditions. Drought also increases the risk of the spread of infectious diseases, most particularly polio, cholera and measles.

17. Drought causes loss of biodiversity. The Horn is home to some 220 mammals and 100 species of freshwater fish. Adverse effects on fish and wildlife are usually evident during drought. Specifically, drought-induced increases in water temperature along with decreased dissolved oxygen levels can lead to fish crowding, stress and death in lakes, ponds, rivers and streams.
III. Short-term strategies

18. The current situation in the Horn is of great concern for all involved in the humanitarian sector at the global and local levels. As a short-term response, humanitarian organizations are mobilizing emergency food supplies to alleviate the suffering of the affected. In addition to food supply, the following are important issues to be considered:

(a) **In the health sector**, emphasis needs to be laid on the provision of essential drugs to treat diarrhoea, malaria and acute respiratory diseases. Immunization campaigns should be undertaken for measles, polio and meningitis in drought-affected areas. Potential cross-border migration flows should be taken into consideration when assessing the requirements for therapeutic feeding centres and health services;

(b) **In terms of nutrition**, emphasis needs to be laid on the provision of therapeutic and supplementary feeding to malnourished children, of micronutrient supplementation to children, pregnant and lactating women, and of appropriate technical support for nutritional surveillance. It is also important to adopt standard nutritional support norms and practices;

(c) **In the water sector**, emphasis needs to be laid on the rehabilitation of existing damaged water sources, the drilling of new boreholes and the provision of water containers such as water bladders and jerry cans, of water purification tablets and of appropriate human resources for technical support, coordination and the strengthening of field logistics.

IV. Long-term strategies

19. While the international community focuses in the short term on ensuring that emergency aid reaches the needy, longer-term and sustainable plans and solutions to prevent this situation from recurring should be developed to make the Horn of Africa more resilient and secure in terms of food. Governance, infrastructure and agricultural reforms all form part of any comprehensive solution.

20. **In terms of government commitments**, Governments must be assisted to mainstream programmes and policies to adapt to climate change into national and sectoral development plans. Commitment to preparing agricultural development strategies for growth is an important step, but these strategies and associated investment plans must be implemented swiftly through substantial increases in public and private national and international investment. Governments should also work with subregional centres of excellences, national platforms and relevant national institutions to establish or strengthen existing systems and networks for drought monitoring, early warning and drought impact assessment. In particular, there is a need to encourage the establishment of multidisciplinary institutional mechanisms in countries to support effective disaster risk reduction implementation, involving ministries of environment and of finance and planning. Another way is to work at the international level with the donor community to deal with the contentious issue of the externalization of disaster response and its separation from mainstream development priorities by ensuring strategic links between the two.

21. **There is a need to develop and strengthen systems for monitoring, early warning and adaptation to drought and desertification.** A drought early warning system is designed to identify climate and water supply trends and thus to detect the emergence or probability of occurrence and the likely severity of drought. Effective systems must integrate precipitation and other climatic parameters with water information, such as streamflow, snowpack, groundwater levels, reservoir and lake levels, and soil moisture, into a comprehensive assessment of current and future drought and water supply conditions. This information can reduce impacts if delivered to decision makers in a timely and appropriate format and if mitigation measures and preparedness plans are in place. Owing to the frequent occurrence of drought and the profound impacts associated with it in the Horn, Governments should pay more attention to the development of national strategies or policies to reduce its economic, social and environmental consequences. A critical component of any strategy is a comprehensive drought monitoring system that can provide early warning of the onset and end of drought, determine its severity and deliver that information to a broad client base in many climate-sensitive and water-sensitive sectors in a timely manner. With this information, the impacts of drought can be reduced or avoided in many cases.

22. **Rural development strategies** that span a wide range of sectors need to be initiated to deal with drought and desertification through balanced exploitation and management of natural resources, sustainable agricultural production and diversification of activities and rural income. With regard to the
last-mentioned, this may include improving farming skills; improving the supply, replication and dissemination of technologies; ensuring access to land and tenure security; resolving problems of drought-prone regions; improving agricultural marketing systems; promoting rural finance; and developing the rural energy sector and rural telecommunications.

23. **Reform of the agricultural sector** is necessary. Governments should ensure that policies and strategies increasingly lay emphasis on sustainable agriculture, thereby promoting better land management practices and redressing problems related to resource degradation. For example, the Ethiopian food security strategy recognizes that soil, water and vegetation are the main asset base of both the farming community and the country’s economy as a whole, and without which the achievement of food security is unlikely. Many Governments have developed national action plans for integrated soil fertility management, but in most cases their implementation is constrained by a lack of adequate funding. Governments should also support adoptive agricultural research programmes for producing water-stress-resistant crop varieties and new techniques for saving agricultural water, in addition to new irrigation methodologies.

24. In terms of **forest policies**, deforestation has increased the degradation of water catchments and reduced the reliability of springs. Governments must develop new forest policies to reverse this trend. There is a need to encourage the development and sustainable management of natural forests on private land, encourage tree growing on farms and develop innovative mechanisms for the delivery of forestry extension and advisory services.

25. There is a need to **strengthen research institutions** by linking scientists, practitioners and policymakers in an effort to understand how climate change influences vulnerability in the region and the multidimensional role of the environment in the context of disasters. This includes incorporation of environmental monitoring, including ecosystem baseline indicators as part of early warning and preparedness, and a move towards holistic approaches for disaster risk reduction, environmental management and adaptation to climate change and preparedness with others agendas and related themes.