

THE CHALLENGES OF MANAGING DROUGHT IN MANDERA COUNTY, KENYA

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ABSTRACT

Drought incidences in Kenya are more frequent and resulting impacts more severe as the years go by. The drought experience is cyclic and in most cases predictable given the technological advancement and early warning systems. The impact of disasters such as drought are becoming more pronounced and severe. many interventions have been put in place by various stakeholders with little or no effect, for example approximately 2.5 million Kenyans are in danger of starvation from April 2017 due to the failed rainfall. The short rains of October to December are also insufficient which worsens the drought situation in Kenya. The impact of drought is ongoing in various counties including Garissa, Mandera, Wajir, Isiolo, Laikipia, Kajiado and Tana River. The impacts of disasters needs continuous preparedness and mitigation in order to improve community resilience as drought occurrences are inevitable. Communities have been affected due to lack of preparedness despite many interventions by governments and other stakeholders. These can be attributed to many challenges and short comings in dealing with this frequent disaster. There are many challenges in the management of drought in Kenya including Climate change, conflicts, poor policies and lack of proper coordination among various players among others. An understanding of these challenges is critical in order to best tackle the impact of drought through strengthening capacities and resilience of communities through their participation.

Keywords: Drought, challenges, mitigation strategies community participation, stakeholders.

Introduction

Drought is a temporal reduction of water or moisture availability to significantly below the normal or expected amount for a specified period, thus causing impacts such as loss of livestock and crops which people depend on. While drought occurs less frequently than other hazards, when it does, it generally affects a broad region for seasons or years at a time (Kibuuka et al., 2004). This has severe consequences for it impacts on peoples livelihood more than any other disaster does. The risk associated with drought for any region or community is a product of the exposure to the natural hazard and the vulnerability of the society to the drought event. In this context, vulnerability is considered as the conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the

impact of hazards (World Bank, 2006). Exposure to drought varies spatially and temporally and there is little, if anything, that can be done to alter its occurrence (World Bank, 2006).

The consequence is that droughts in Sub-Saharan Africa now cause significant humanitarian problems and localized degradation. This in turn causes long term consequences among pastoralists, since they must sell animals cheaply and cannot afford to re-stock if not a large proportion of their herd die.(see Fig. 1 below)



Plate. 1: The carcass of a cow that died of starvation in the Kitengela rangelands, near Nairobi National Park, in the great drought of 2009 (photo on Flickr by Jeff Haskins).

For a long time governments, international agencies and NGOs had a perception that drought is essentially a humanitarian problem as a result policies to deal with long term consequences of drought are inadequate. It is also essential to understand precipitation and temperature trends, including changes in variability, because these key meteorological variables may indicate potential changes in the frequency and severity of future drought episodes (Hellmuth et al., 2007).

In Kenya, drought is a recurrent phenomenon which worsens rural poverty situation. In the last decade alone, drought periods in 91/92, 95/96, and 98/2000,2005-17 on yearly basis have been recorded. For instance, in march ,2011 an estimated 1.4 million pastoralists were affected by famine due to consecutive drought seasons. In July 2011 , an estimated 4 million people were seriously affected by famine and majority of them were unable to meet food needs until September 2011, (FAO,2011),These phenomena have had the cumulative effect of reducing household food availability, purchasing power, and coping capacity, impoverishing the rural population (GOK/KFSM, 2001). Frequent droughts are the norm, the most recent having occurred during the months of April to September 2017and currently persists in some parts of the country like Isiolo, Garissa, Wajir, Marsabit, Laikipia, Kajiado and Mandera.

Statement of the Problem

The region of Northern Kenya, with an area of 250,000 km² is arid and semi-arid. Rainfall is highly variable from year to year and drought is recurrent. Pastoralism is the dominant livelihood activity, given that agricultural potential is low. Farming is only possible in the few localities with high and medium agricultural potentials, especially around the rivers Tana and Daua.. Economic survival of the peoples of the region depends on management of many species of livestock: camels, cattle, donkeys, sheep and goats. This has been the most dominant source of livelihood among the pastoral communities but now seems increasingly inadequate to insulate them from ravages of drought. Each consequent drought results in dislocation of people , conflict between households over reduced quantities of grazing land, water and other natural resources and in the extreme, death by hunger and malnutrition despite hand-outs of famine relief by governments and donors. While development programs might alleviate problems of food insecurity, improved rural development and reduced poverty levels on a sustained basis, direct effect or impact in reducing losses is lacking and therefore, an urgent need to integrate proper drought management and coping strategies in development planning in Mandera county in order to ameliorate its consequences.

This involves strengthening pastoralist's resilience through sustainable livelihoods-focused approaches tailored to the different stages of the drought crisis. In addition, a sustainable livelihoods-based response requires long-term engagement and flexible funding mechanisms which go beyond the division between humanitarian and development assistance frameworks and instruments as well as understanding the challenges faced to come up with the best approaches in the management of the recurrent drought. However, these strategies and challenges have not been incorporated or integrated with development planning, and so a vast population is exposed to the ravages of nature (drought) and its negative effects. This paper

therefore delves into the challenges faced by the communities and other stakeholders in the management of drought in Mandera County.

The Study Area

Location and Size

Mandera County is one of the four districts in North Eastern Region of Kenya, the others being Wajir, Garissa and Ijara. Located in the Northern tip of Kenya, Mandera County lies between latitude; $2^{\circ} 11' N$ and longitude; $39^{\circ} 47' E$ and $41^{\circ} 48' E$ (Figures 1 and 2). The district borders Ethiopia to the North, Somalia to the East and Wajir Counties to the South west of Kenya. The County covers an area of 25,871 km².

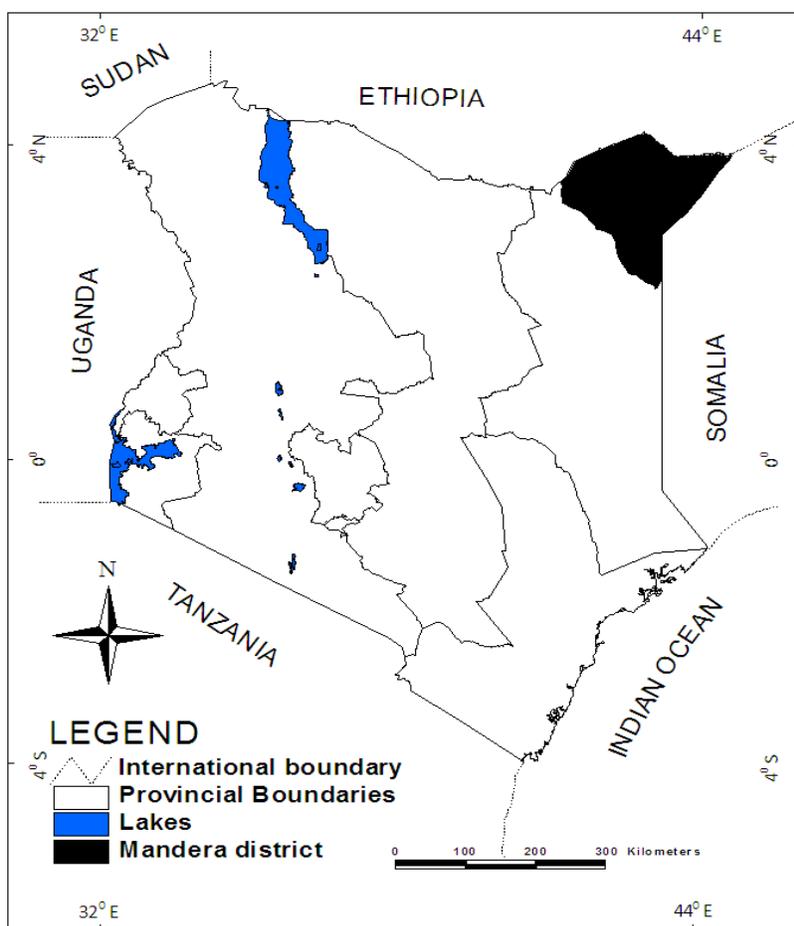


Figure 1: Map of Kenya showing the location of Mandera District.

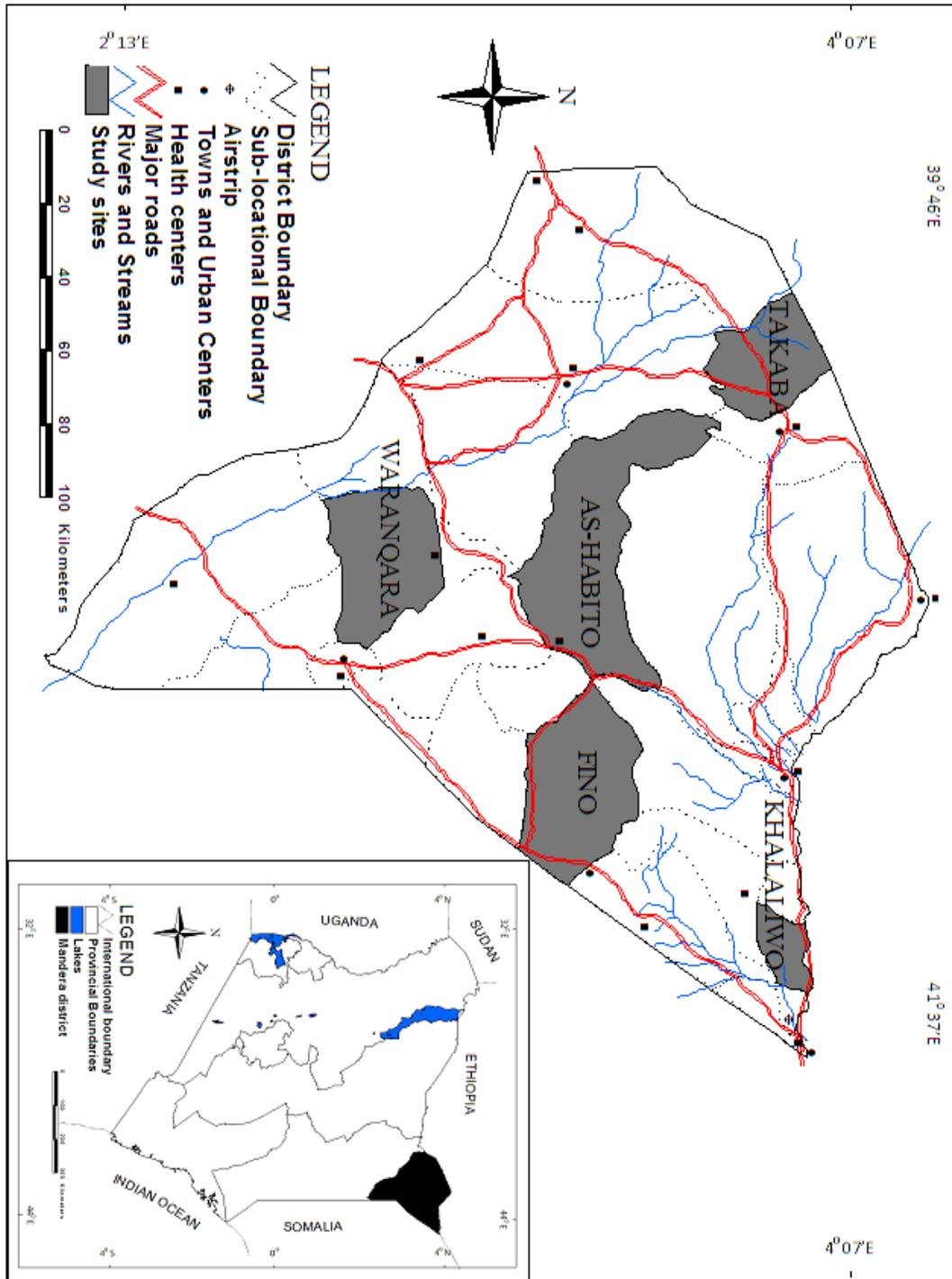


Figure 2: Map of Mandera District showing the study area

Topography

The district is characterized by low-lying rocky hills, which are located on plains that rise gradually from the south around Elwak to Malkamari area in the north. These hills rise to between 400m and 970m above sea level. There are few pronounced physical features including the seasonal Daa River, which passes through the district's boundary with Ethiopia. The river rises from the Ethiopian highlands flowing eastwards through Malkamari, Rhamu and Mandera into Somalia at Border Point One. The district is characterized by dry river beds (lagas), which get filled by runoff water in the rainy season but dry up as soon as the rain ceases. The waters from this river as great can be utilized for irrigation to produce food and hay to utilize during drought period.

Climate

Rainfall is scanty and erratic with an average of 255mm. The long rains occur in the months of October and November. Rain-fed agriculture is practiced in only a few areas of the district namely, Takaba and Banisa due to their proximity to Ethiopian highlands. The other areas of the district experience high evaporation rendering agricultural activities impossible. The district falls under ecological zone five (V), which is characterized by very low unreliable rainfall of about 255mm per year and very high temperatures with a maximum of 35°C-39°C, and a minimum of 22°C -24° C. Most of the district is range land except for irrigable land lying along river Daa (GoK, 2008).

Soils

Most parts of the county have sandy soils which hold water during the rains, however friable reddish soils of varying texture that are non-stony, deep and moderately fertile can be found on hilly areas like Elwak, Rhamu and Fino divisions. Soils in most parts of the district are sandy and difficult to till except for a few areas where crops like simsim, millet, maize and sorghum are grown under rain-fed conditions. With the use of technology the soils in the district can be improved to be more productive thus utilized for planting trees and food crops.

Hydrology

Mandera county is not well endowed with surface or sub-surface water resources. The only surface water is Daa River (see plate 2).



Plate 2: Women fetching water from River Daua near Khalaliyo

The river is seasonal and has water for nine months of the year. This water can be utilized for irrigation to produce food for people and fodder for the animals. The county mainly depends on ground water resources for its water supply except in the western part comprising Dandu, Takaba and Banisa divisions where constructed dams and pans constitute the main sources of surface water.

Vegetation

Mandera county has no forests. The common vegetation found in the district includes shrub-land and bush-land with scattered slow growing tree species (commonly short *Acacia tortilies* species). Plate 3 shows typical vegetation that can be used to provide fuel wood, construction materials for houses (Manyattas), carving materials, dyes and medicines. For instance, *Azandrachta indica* (Muarubaini/ Qarerow) is used for curing certain ailments like malaria. Some parts of Takaba and Banisa divisions in the district have been earmarked for hill afforestation and gazettement. This has not been realized as yet (GOK 2008). It is important for the local communities to safeguard their environment by using these resources sustainably and conservation what they have and strive to improve by maintaining and improving on the vegetation in the county.



Plate 3: A typical vegetation cover in Mandera district

Challenges

Policy and institutional framework for drought management

Lack of proper and specific policy and institutional framework is one of the major challenge in the management of drought. A national policy on climate change is yet to be developed and various policies are sector based within various institutions such as Water, Wildlife and Forest departments.

According to International management perspective policies are deliberate government statements which are meant to manage drought vis-à-vis living standards of pastoral communities. According to UN 2008, various strategies can be adopted to improve preparedness. Preparedness should mostly be managed through the development of climate predictions and early warning systems, as well as mitigation measures. There is need for proactive strategies to manage and reduce impacts of drought in this region which calls for policies and institutions specifically meant to address the drought issue.

The United Nations report (UN, 2008) emphasizes the need to integrate drought management plans and coping strategies with national development and budgetary frame works. However, Government and NGO focused more attention in urban areas where it is possible to substitute pastoral activities with other income generating activities at urban areas. The rural areas equally

need specific initiatives that addresses the problem of drought contrary to the traditional relief supply program.

Krause (2005) however observes that many drought affected developing countries are still encountering difficulties in integrating drought management plans and coping strategies with national development and budgetary framework. This is due to weak institutional structures, lack of technical and in depth understanding of the effects. In fact, drought risk reduction policies and practices should sufficiently take into account social factors such as gender, age, social and economic capacities, women, children, the elderly and the poor are essentially vulnerable to effects of drought (Krause, 2005).

Inadequate Funding

The management of disasters and especially drought faces inadequate funds or resources allocation as the major challenges. This in turn causes other challenges including lack of drought contingency planning, un timely interventions and poor co-ordination. This can be attributed to the fact that disaster management is not included in the mainstream economic planning by various governments including Kenya.

Top- down Approach/Management

Top-down approach disaster management and planning is a common phenomena as opposed to the bottom-up approach which can be very effective in terms of public participation. The communities should play the greatest role of being in the forefront giving directions and ideas on what is best for them. The advantage is that public participation is adaptive, allowing for adjustments in activities in line with the results obtained and lessons learned. Community members understand their problems, needs and opportunities better than outsiders. For example, according to HECA, 2008 feed distribution interventions in livestock-based livelihoods, but its character as a top-down approach, and its palliative, rather than systemic, impacts, seem to put it on a different plane to well-designed mitigation activities such as emergency purchase, negotiation of emergency grazing access or veterinary care. It may be that feed distribution lacks a multiplier effect or has a weak benefit to cost ratio,

Water Scarcity

Water scarcity is a major hindrance to livestock production in pastoral areas. This is mainly due to the harsh conditions as well as large population of livestock dependant on the limited amount of water in a given area. As such government and donors provide water as a priority to the pastoralist through the construction of earth dams, water points, wells and boreholes. However

Omiti, 2000 cautions that care should be taken to avoid environmental degradation of water development programmes, while ensuring that degraded rangelands are rehabilitated and zoned to provide continuous feeds for the livestock. The installation of new boreholes to provide water for livestock results in a shift in traditional herding patterns, thus causes overgrazing and degradation of pastures normally used at the end of the dry season, this therefore, undermines pastoralists' ability to cope during a prolonged dry season or drought

Diseases

According to Omiti (2000) one of the major constraints to livestock production in pastoral areas is the presence of disease and iniquitous disease vectors particularly ticks and tsetse flies. The effect and impact of diseases are more intense during drought. It is therefore prudent to liberalize animal health care. Such interventions should begin by understanding 'paternalistic' knowledge and know-how (Nyangito and Omiti, 2000). Liberalization of the animal health services as a whole can only be beneficial and successful in an environment where all other institutions are properly functioning to provide the necessary assistance and therefore, reduce the death of the livestock.

Food Security

Food insecurity is another major challenge and consequence of drought which needs to be addressed. Food security is embedded in the broader concept of livelihood security at individual, household, community and national levels, and implies a secure, efficient and equitable food system to ensure sustainable livelihoods for all people (Davies and Leach, 1991; Maxwell, 1991). According to the World Health Organization (WHO, food Security is achieved "when all people, at all times have physical and economic access to adequate/sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." Food security is a major challenge in Kenya due to various factors including cyclical drought and poor food production systems. (Capital FM, Kenya, 2017)

In Mandera county food insecurity is caused by drought. Pastoralists here are extremely exposed to acute food insecurity when a drought decimates their herds. Increased poverty has also led to increased vulnerability to food insecurity.

Food security can be realized by ensuring that there is reliable capacity by communities, nations and regions to produce and store food. It also entails equity in access to food and productive resources for all individuals and groups and sufficiency in food quantity or ability to cope with insufficiency (Barraclough 1996; FAO 1990). This is lacking in Mandera district thus the people are food insecure mainly due to drought.

Recommendation

The following measures are necessary to address the drought menace and therefore, attain food security in Kenya and Mandera county in particular, the improvement of social and economic environment. This can be done by preventing and resolving conflicts peacefully and creating stable community; conflict alongside drought is a major cause of food insecurity. It is important to encourage and promote private, public, individual and collective efforts for sustainable development. There is need also to eradicate poverty and inequality, through improving physical and economic access by all, especially in rural areas. This can be attained through intensified and diversified food systems and technology and by combating environmental threats to food security, through integrated approaches. Also needed is the development of participatory and sustainable agriculture to ensure food and agricultural trade that is conducive to food security while preventing and preparing for natural disasters and man-made emergencies like wars. Also important is building and supporting community organizations which include farmers, pastoralists and women groups for developing local community based capacity for food security and environmental management.

Proper rainwater harvesting techniques can provide enough water for domestic, industrial and irrigation uses. Rain water harvesting is one of the best options available to fight drought in this region.

Finally, it is important to have optimal allocation of public and private investments for food security and public participation at all levels of drought management. Active citizen participation is necessary as it empowers communities thus leading to resilience. This requires a deliberate policy put in place especially for the arid and semi-arid regions to overcome effects of climate change such as drought which is lacking due to lack of prioritization of drought/disaster management both at the national and the county level.

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