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POLICY RESEARCH and ANALYSIS**

Governance and Coordination in Management of Drought and Floods Disasters

Jesca K. Kinoti

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Abstract

Drought and floods are among the most common disasters experienced in Kenya. They cause devastating impacts on human communities, their socio-economic and environmental support base, with consequences being felt at the household, community, and national levels. This paper examines governance and coordination in managing drought and floods disasters in terms of preparedness, response, and recovery activities undertaken by different actors. Governance and coordination are important processes in the management of drought and floods disasters. Management of drought and floods disasters in Kenya had for a long time been undertaken without a coordination framework until 2018 when the Kenya National Disaster Management Policy (2018) was passed. The objective of this paper is to examine the role of various actors involved in managing drought and floods disasters, identify gaps in coordination among actors involved in managing drought and floods disasters and make recommendations on how to effectively manage drought and floods disasters. The overall study design was a survey involving both quantitative and qualitative methods of data collection. Data were obtained from households and key informants by use of a questionnaire and interview guide respectively. Statistical package for social science (SPSS) was used to analyze quantitative data while qualitative data was analyzed manually. The study findings indicate that there are several actors including national and county government agencies, non-government agencies, financial institutions and communities involved in drought and floods preparedness, response and recovery though their effort is not well implemented. To a large extent, some form of coordination among actors involved in drought and floods management exists, though largely based on an informal agreement among the actors. The agencies strongly felt that the coordination mechanisms in place were not strong in terms of sharing their objectives, resources, and ideas. Thus the different actors recommended the need to strengthen collaboration among all actors, building and strengthening capacity in terms of human, finances, policy environment and other resources in order to strengthen management of drought and floods.

Abbreviations and Acronyms

ALRMP	Arid Lands Resource Management Programme
CSG	County Steering Group
DRR	Disaster Risk Reduction
HFA	Hyogo Framework for Action
IDNDR	International Decade for National Disaster Risk Reduction
IFAD	International Fund for Agriculture Development
KCB	Kenya Commercial Bank
KFS	Kenya Forestry Service
KRCS	Kenya Red Cross Society
NDMA	National Drought Management Authority
NDOC	National Disaster Operations Centre
NEMA	National Environmental Management Authority
SDGs	Sustainable Development Goals
UNISDR	United Nations International Strategy for Disaster Reduction
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNWCDRR	United Nations World Conference on Disaster Risk Reduction

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1. Introduction

Kenya experiences a number of natural disasters, with drought and floods which are weather-related being among the most common. Drought and floods disasters have been persistent in Kenya over the years, with devastating consequences being felt at the household, community and country levels. The country's topography makes it more susceptible to natural disasters, with arid and semi-arid lands covering about 89 per cent of the total land mass and a home for about 36 per cent of the population (Owuor, 2015). Additionally, climate change has greatly contributed to drought and flooding problems. Equally, the policies for rehabilitation of the affected areas are poor and uncoordinated.

Drought is the most prevalent natural hazard in Kenya, affecting about 70 per cent of Kenya's landmass mainly in the Eastern, North Eastern, parts of Rift Valley and Coast regions (UNISDR and UNOCHA, 2008). The factors responsible for persistent drought in Kenya include increased destruction of forest due to charcoal burning, clearing forest for agriculture, poor management of catchment areas, cultivation on stream banks and steep slopes causing soil erosion, and inadequate policies for managing water and drought (Kenya Natural Hazard Profile by UNDP, (undated).

Floods are largely experienced along the plains in the Lake Victoria basin, especially in River Nyando and also at the Coast in the Tana River basin due to poor drainage system. Floods occur due to natural factors such as flash floods, river floods and coastal floods. They may also occur due to human activities such as deforestation and land degradation. This leads to sparse vegetation cover along the basin hence more water enters the river causing flooding (Department of Meteorology, United Nations Programme (UNDP, undated). In urban areas, flooding occurs due to poor planning resulting to dysfunctional drainage systems. The informal settlements are affected mostly by urban flooding due to poverty and the consequential low adaptability of their inhabitants, low quality nature of informal structures and fragility of locality, mainly along disaster prone river valleys (Owour, 2015).

Drought and floods have devastating impacts on human communities, their socio-economic support base, including environmental resources. For example, to mitigate the impact of the prolonged 2016/2017 drought, the National Drought Management Authority disbursed a total of Ksh 53,012,873 by October 2016 to various drought-affected communities through response activities to various drought-affected counties (www.ndma.co.ke). The 2018 flash floods left over 50,680 households displaced whereby approximately 271,000 people were displaced, 280 schools damaged, infrastructure destroyed among other damages

(UN Office for the Coordination of Humanitarian Affairs, 2018). The shortage of rains from 2018 through 2019 has increased food insecure population from 655,800 in August 2018 to 1,111, 500 in 2019, with the 12 most affected counties having a total of 865,300 food insecure people. Consequently, during February, March and April 2019, the National Government spent Ksh 1,351,196,000 for response in the affected communities (www.ndma.co.ke).

Management of drought and floods disasters in Kenya has for a long time been undertaken without a coordination framework until in 2018 when the National Disaster Management Policy of Kenya (2018) was passed. Consequently, it is envisioned that drought and floods disasters are to be coordinated within the existing general disaster management policy (2018). The policy has been formulated in line with United Nations International Strategy for Disaster Reduction (UNISDR), particularly the Hyogo Framework for Action (HFA) for Disaster Risk Reduction (DRR) and the Sendai Framework for disaster risk reduction 2015-2030 that echoes the importance of governance in disaster management. The policy provides for an integrated and coordinated disaster risk management that focuses on preventing or reducing the risk of disasters, mitigating their severity, improved preparedness, rapid and effective response to disasters and post-disaster recovery. The policy has provided a framework for coordination of all disasters from national through county to sub-county levels.

Governance and coordination are important processes in management of drought and floods disasters. Governance involves the existence of effective mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences (IFAD, 1999). Governance is very critical in disaster management since good governance is one of the fundamental factors influencing the size and magnitude of disasters when they occur.

Coordination entails putting together different elements of a complex activity into a harmonious and efficient relationship and to negotiate with others in order to work together effectively for benefit of those affected by event (www.scribd.com). Coordination can be undertaken in different ways, including: direct supervision, standardization of work processes, standardization of outputs and standardization of skills and knowledge and finally standardization of norms (Mintzberg, 1992). Both horizontal (within sectors) and vertical (across sectors) coordination is important to achieve optimal results in prevention, preparedness response and recovery stages in drought and floods management. A well-coordinated mechanism would contribute in addressing droughts and floods disasters in a more proactive manner with a focus on reducing risks and vulnerabilities to communities. It would also contribute in the reduction of duplication of efforts

in terms of time and resources (Government of Kenya, 2018). The methods used should, however, have been tried out, tested and be acceptable to stakeholders.

In the context of disaster management, there is limited literature to show how governance and coordination are applied in managing drought and floods. The purpose of this paper, therefore, is to examine how the two are applied in the context of disaster management in Kenya with a focus on drought and floods disasters. Furthermore, drought and floods disasters are predictable in most instances and this would assist in formulation of mitigating factors. More specifically, the paper identifies the role of various actors involved in managing drought and floods disasters, examines gaps in coordination among actors involved in managing drought and floods disasters, and makes recommendations on how to effectively manage drought and floods disasters.

2. Methodology

2.1 Study Design

The study covered 27 counties in Kenya that are prone to drought and floods. The overall study design was descriptive survey involving collection of primary data from households and institutions, in addition to desk review of relevant documentation. The institutions where primary data was collected include national and county government ministries/departments, international and local non-government organizations, community-based organizations and financial institutions (banks and insurance companies). The household data were collected from clusters designated by Kenya National Bureau of Statistics (KNBS). Desk review involved perusal of necessary documentation, including policy documents, county development plans, strategic plans, and relevant programme documents that could inform the study.

Purposive and random sampling technique was used in the selection of 1,500 households who were covered in the survey and purposive sampling in selection of key informants who were interviewed.

Data from households was obtained by use of questionnaire through face-to-face interviews and a key informant guide was used for the key informant interviews. The views of respondents relating to governance and coordination were captured by asking households to identify: the agencies implementing drought and floods preparedness, response and recovery measures in the respective communities, whether they are involved by the agencies in their undertakings, and ways in which they are involved among others.

To obtain data from key informants, respondents were asked to identify the existing coordination mechanism in their respective areas of operations, efficiency of the mechanisms in terms of timeliness and cost-effectiveness in service delivery and gaps in coordination among the actors, among other factors.

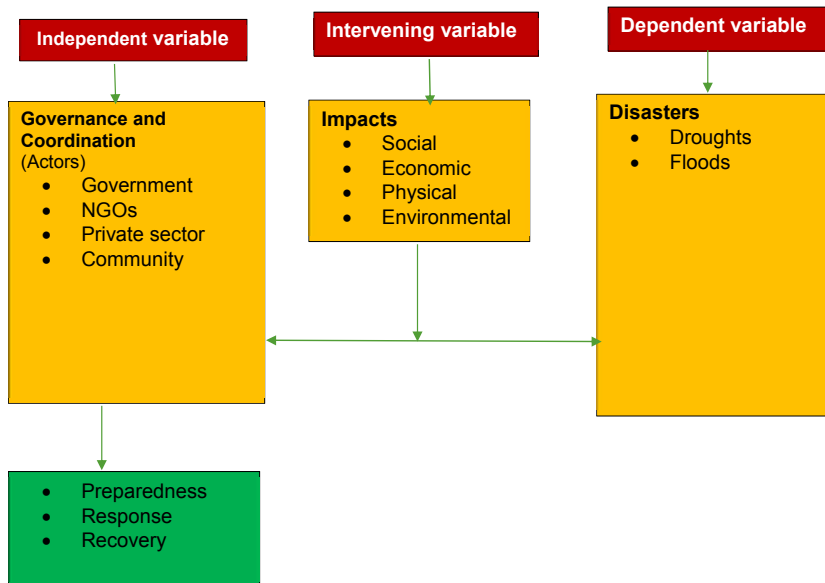
Data was analyzed by use of both quantitative and qualitative techniques. Quantitative data was analyzed by use of Statistical Package for Social Science (SPSS). Qualitative data was analyzed manually along thematic areas.

2.2 Conceptual Framework

The framework shows that various actors (government, non-government and private) are continuously undertaking preparedness, response and recovery initiatives to mitigate the impacts of drought and floods. The impacts which are social, economic, physical and environmental can lead to drought and floods.

On the other hand, the impacts, though mainly damaging, could lead to greater coordination among actors to mitigate the effects of drought and floods, which would be much more detrimental if not well addressed.

Figure 1: Conceptual framework linking governance and coordination, drought and floods and their impacts



Source: Author

This framework shows that to fully conceptualize issues of governance and coordination, the starting point is to examine the processes and institutions through which activities related to preparedness, response and recovery are undertaken. This involves identifying the actors and their roles, and factors that come into play to influence their actions. To achieve optimal governance and coordination, presence of relevant mechanisms in form of policies, laws and right structures to guide in preparedness, response and recovery measures is critical.

3. Governance Structures in Management of Drought and Floods Disasters

The United Nations International Strategy for Disaster Reduction Africa (UNISDR, 2004) defines *governance* as a set of instruments through which people living in a State, believing in common values govern themselves by means of laws, rules, and regulations enforced by State apparatus. Two aspects noticeable in the definition of governance is a system of values, policies, and institutions by which society manages its economic, political and social affairs through interaction among the State, civil society, and private sector. Second is the processes and institutions through which citizens and groups articulate their interests, exercise their legal rights and mediate their differences. The foregoing discussions shed more light on the legal and policy frameworks relating to managing drought and floods, and the actors undertaking the same.

3.1 Legal and Policy Framework Relating to Managing Drought and Floods in Kenya

The government's commitment to addressing the challenges of drought and floods is well anchored in both international and domestic instruments. Indeed, Kenya is part of global and regional efforts on disaster and climate change risk management, including the United Nations (UN) World Conferences on Disaster Risk Reduction (WCDRR). During the first UN conference held in 1994 in Yokohama, Kenya committed to the guidelines for action on prevention and preparedness, strengthening capacity to prevent, reduce and mitigate disasters and early warning. During the second conference held in Kobe, Japan in 2005 (UNISDR, 2005), Kenya adopted the Hyogo Framework for Action, 2005-2015 where commitments on building the resilience of nations and communities to disasters were made. During the third UN conference held in Sendai in 2015, States were called upon to take up the primary role in disaster reduction and engage stakeholders' in the disaster reduction process (UNISDR, 2015).

The Constitution of Kenya is the springboard for a coordinated system of disaster management. It contains elaborate provisions with considerable implications for sustainable development. These range from environmental principles to the right to a clean and healthy environment as enshrined in the Bill of Rights. The Constitution further espouses the protection of the environment and natural resources such as forests, game reserves, water catchment areas, including all rivers/springs, lakes, and wetlands. It accords that water resources/catchment areas, rivers, lakes, protected areas, and other water bodies are held in trust for the people by the National Government.

In view of the Kenya Vision 2030, the first medium-term plan 2008-2012 (Government of Kenya, 2008) recognized that land under forest cover would increase marginally from 3.47 per cent to 3.85 per cent, and the need to finalize the National Action Plan on Climate Change. The second medium-term plan (MTP II) emphasizes on the need to end drought emergencies, which is one of the key foundations for national development (Government of Kenya, 2013). The End Drought Emergency (EDE) programme framework is well aligned with the Hyogo Framework for Action (HFA). The HFA addresses disaster risks in their totality, while EDE framework focuses specifically on the risks posed by drought. The third medium-term plan (MTP III) integrates Sustainable Development Goals (SDGs) and climate change measures into programming and budgeting across ministries, counties, agencies, and departments.

Kenya has a Climate Change Act 2016 which provides for incentives geared towards encouraging innovations that are centered on climate change mitigation. It provides for the creation of a National Climate Council to be headed by the President, although it is yet to be constituted. There is also a National Disaster Management Policy (2018) in place. The policy provides a framework for integrated and coordinated disaster risk management from national to the county levels. It focuses on preventing or reducing the risk of disasters, mitigating their severity, improving on preparedness, response and post-disaster recovery. The country also has a Disaster Risk Management Bill 2018 already passed through the Senate and is awaiting the President's assent. Key in the bill is the establishment of a National Disaster Risk Management Authority and County Disaster Risk Management Committees. The National Disaster Risk Management Authority is tasked with overall coordination of disaster management at the country level, while the County Disaster Risk Management Committee is charged with responsibility of disaster management functions at the county level. The key provisions in the bill are the creation of a Disaster Risk Management Fund that will provide funds to be used in preparedness, mitigation, response and recovery measures, and the creation of offences and penalties to the offenders. In March 2019, the National Disaster Management Authority was launched.

3.2 Actors Involved in Managing Drought and Floods Disasters in Kenya

The Sendai Framework echoes the importance of stakeholder involvement in disaster management. While States have the overall responsibility of reducing disaster risk, it is a shared responsibility between governments and relevant stakeholders. In particular, non-State stakeholders play an important role as enablers in providing support to States, in accordance with national policies, laws,

and regulations (UNISDR, 2015). In concurrence, the International Federation of Red Cross and Red Crescent Societies (2000) noted that there is no organization working alone that can address the magnitude of the complexity of the needs associated with disaster preparedness and disaster response. Further, the Kenya Sector Plan for Drought Risk Management and the End Drought Emergencies second term medium-term plan (2013-2017) identify drought management as a cross-cutting issue that requires collaborative action by a range of public and private sector agencies at national, county and community levels.

Kenya benefits from robust actors ranging from government ministries and departments, non-government organizations and the private sector who have been consistent in undertaking disaster management activities related to drought and floods. The actors discussed in this paper have been classified as, government agencies (county and national levels), non-government (international and local agencies) and private sector (financial institutions, banks and insurance companies).

a) *Government agencies*

Kenya's early efforts relating to the management of drought and floods disasters date back to 1985 when short-term project-based interventions were being implemented. This commenced with the designing of drought contingency planning in Turkana in 1985 when the county was hit hard by drought (www.ndma.co.ke). The project was later extended to other arid areas in the 1990s. This saw implementation of the Emergency Drought Recovery Project (EDRP) from 1991-1996, which was a partnership between the Government of Kenya and the World Bank. The areas currently designated as counties that were covered by EDRP are Mandera, Marsabit, Tana River, Turkana, and Wajir.

The key lessons learned were that project interventions require consistency with local livelihoods strategies such as mobile pastoralism and being responsive to local priorities to reduce vulnerability and to build resilience to shocks. The other lesson learned was the need for a project to have a longer implementation period in order to have meaningful impact on the lives of the population in the target areas. These key lessons learned led to implementation of a community-based drought management initiative, Arid Lands Resource Management Programme (ALRMP I) jointly implemented by the Government of Kenya and the World Bank (Johnson and Wambile, 2011). During the first phase, ALRMP was implemented in ten arid districts (currently counties) which are: Baringo, Isiolo, Garissa, Mandera, Marsabit, Moyale, Samburu, Tana River, Turkana, and Wajir.

After successful implementation of ALRMP I, the second phase implemented from 2003 to 2010 expanded to include semi-arid areas of Ijara, Kajiado, Kilifi, Kitui, Kwale, Laikipia, Lamu, Makueni, Malindi, Mbeere, Meru North, Mwingi, Narok, Nyeri, Taita Taveta, Tharaka, Trans Mara and West Pokot. This was in a bid to foster economic growth and reduce poverty within the framework of Kenya's Poverty Reduction Strategy Paper (PRSP). The overt aim of ALRMP II was to enhance food security, increase access to basic services, and reduce individual vulnerability in drought-prone arid and semi-arid districts, currently designated as counties.

Given the persistent droughts that continued to heighten household food security, the government saw the need to strengthen the sustainability and quality of drought management in Kenya through the creation of National Drought Management Authority, instead of implementing the short-term project-based interventions (www.ndma.co.ke). The National Drought Management Authority (NDMA) is a statutory body established by the National Drought Management Authority Act 2016. It was initially established under the State Corporations Act (Cap 444) in 2011. It is represented by the Cabinet Secretary for the Ministry of Planning and Devolution, who is responsible for the general policy and strategic direction of the Authority. NDMA has established offices in 23 counties in Kenya considered as vulnerable to drought. It provides a platform for long-term planning and action, and a mechanism for solid coordination across government and non-government stakeholders (www.ndma.co.ke).

The agency that has been traditionally associated with coordination of floods management in Kenya is the National Disaster Operations Centre (NDOC). Currently, the agency is based in the Ministry of State for Provincial Administration and Internal Security. It is manned by officers from various ministries and departments of the government on a 24-hour basis. These include defense, Kenya Police, Ministry of Health, Ministry of Roads and Public Works, and Ministry of Agriculture, Livestock and Fisheries. The agency was initially established in 1998 following the adverse effects of *El Nino* rains that hit the country. Its main function was to monitor floods and coordinate logistics to assist the affected communities and to reduce the impact of the rains and widespread infrastructural and environmental destruction (www.interior.go.ke). During the bombing of the USA Embassy in Kenya in August 1998, NDOC played a pivotal role in coordinating response activities and this saw the country affirm the requirement to have a permanent entity to coordinate disaster management in the country. To date, the centre has been retained to monitor disaster events and mobilize a response to affected areas (www.scribd.com).

The National Environment Management Authority (NEMA), Kenya Wildlife Services (KWS), and Kenya Forestry Services (KFS) are identified in the Kenya National Disaster Management Policy (2010) as having a key mandate in disaster management. There are also line ministries at the county and national levels including those responsible for health, roads and public works, transport, trade, and industry and housing whose involvement in disaster management is key (Government of Kenya, 2010).

b) *Non-government actors*

The non-government actors including United Nation agencies, international, local non-government organizations, community-based organizations, and the private sector have significant capacity and resources to carry out disaster management activities at all levels. Some of the agencies have elaborate structures and professional human resources spread across the country. A good example is the Kenya Red Cross Society (KRCS) whose mandate for disaster management is well-established through an Act of Parliament. As an auxiliary of the national and county government, the agency has its offices spread across all counties up to the sub-county levels. KRCS works with communities, volunteers and partners to ensure they adequately respond to humanitarian needs in times of disasters (www.redcross.or.ke).

c) *Private sector*

The National Disaster Management Policy of Kenya (2018) recognizes the role of the private sector who include companies, media, individuals and professional bodies in assisting with available resources in terms of financial, human, technical know-how and equipment when disasters strike. Their role also includes advocacy, public education, sensitization and awareness about impending disaster. The financial institutions that include banks and insurance companies have a significant role in drought and floods prevention, response and recovery measures through the products that they offer to individuals and firms.

d) *Community*

Community involvement in disaster management and mitigation is widely acknowledged and in particular during the United Nations Conferences on Disaster Risk Reduction (WCDRR). During the first conference held in Yokohama in 1994, community involvement was acknowledged as key in allowing for valuable

insights into individual and collective perceptions of risk and development. During the second conference, the Hyogo Framework of Action promoted self-governance in risk reduction and endorsed the idea of community participation in sharing not only the future of risk knowledge generation but also disaster risk reduction policy formulation. In the Yogo Framework, as a general consideration, empowerment of both communities and local authorities is called upon to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk management (UNISDR, 2005).

Citizen's participation in selecting their government, freedom of expression and association are among the key governance worldwide indicators by World Bank (Kwame and Chowdhury, 2012). Furthermore, when disasters such as droughts and floods occur, they strike communities in their local setting where they command a big share of well-being (Food and Agriculture Organization - FAO, World Food Programme - WFP, and International Fund for Agricultural - IFAD, 2015). Thus, at the most basic level, community involvement is important to gain an understanding of the basic profile and structure of the community.

There are two main approaches used to achieve community involvement in disaster risk management: top-down approaches and participatory approaches. In top-down approaches, according to Mitchell (1998), objectives of activities to be undertaken are imposed on communities by decision-makers without meaningful consultation. Adopting a solely top-down approach to community involvement has major shortcomings in that it involves a greater concentration of authority, narrowly prescribed levels of discretion, a reliance on hierarchy and the imposition of managerial performance standards (Mitchell, 1998). Some examples of top-down techniques that may be used in disaster risk management include sample surveys, interviews, and public information presentations (Ireland, 2016). The participatory approach to community involvement, on the other hand, involves a greater degree of citizen power and control within the decision-making process. This approach allows the public a greater ability to affect the aims, objectives, and outcome of disaster management in their area. It also creates a sense of community ownership of disaster management and mitigation programmes, and the development of personal roles and responsibilities within management tasks (Fordham, 1999). Participatory techniques that may be used in disaster risk management activities include community working groups, community reference groups, workshops, public discussions, dialogue and submissions (Ireland, 2016).

4. Perception of Respondents on the Actors Involved in Managing Drought and Floods Disasters in Kenya

There are many organizations implementing activities relating to managing drought and floods in Kenya. Those that have been discussed in this section are the main ones identified by the respondents as being involved in activities related to drought and floods preparedness, response and recovery. They have been grouped in the category of government and non-government agencies and their mandate stated in tables 1 and 2. Perceptions of the respondents on the government and non-government agencies involved in managing drought and floods disasters were obtained from both the households and key informants.

The agencies reported were in the category of national and county governments. Some of the key government agencies that commonly reported were: Kenya National Drought Management Authority, Office of the Kenya County Commissioner, Kenya Meteorological Services and Kenya Forestry Services. The county departments were fisheries, livestock and agriculture, irrigation water and sanitation and Ministry of Health as shown in Table 1.

Table 1: Government agencies involved in drought and floods management

Category of agency	Institution	Mandate
National government agencies	Kenya National Drought Management Authority	Coordination of issues relating to drought risk management and establishing mechanisms that will end drought emergencies in Kenya
	Office of the Kenya County Commissioner	Coordination of disaster management on behalf of the national government. The role crosscuts in managing both drought and floods by establishment mandate
	Kenya Meteorological Services	Provision of weather meteorological and climatological services to key sectors such as agriculture, forestry, water resource management, and private sector
	Kenya Forestry Services	Sustainable management including conservation, and rational utilization of all forest resources
County departments	Fisheries, and livestock and agriculture	Improve the livelihood of Kenyans and ensures food security through the creation of an enabling environment and ensuring sustainable natural resource management
	Irrigation water and sanitation	Contribute to national development by promoting and supporting integrated water resource management to enhance water availability and accessibility
	Ministry of Health	Building progressive, responsive and sustainable health care system for accelerated attainment of the highest standard of health to all Kenyans

Source: Field data

The non-government agencies comprised of non-profit making development organizations and private institutions, specifically the banks and insurance companies. The information on non-profit making development organizations involved in drought and floods was obtained from households and the key informants. The key institutions that were identified by the households were: Kenya Red Cross, World Vision, Care Kenya and World Food Programme as shown in Table 2.

Table 2: Non-government agencies involved in drought and floods management

Category of agency	Institution	Mandate
Non-government organizations	Kenya Red Cross	Preventing and alleviating human suffering and saving lives of the most vulnerable
	World Food Programme	Emergency assistance, relief and rehabilitation, development aid and special operations
	Care Kenya	Save lives, defeat poverty and achieve social justice
	World Vision	Transform communities through community development initiatives geared towards resilience building
Financial institutions	Kenya Commercial Bank	Drive efficiency while growing market share in order to be preferred financial solutions provider in Africa with global reach
	Equity Bank	Offering inclusive, customer focused financial services that socially and economically empower the bank's clients and other stakeholders
	Agriculture Finance Corporation	Provision of customer-focused and sustainable financial services to the agricultural sector in Kenya
	First Community Bank	To operate as a responsible corporate citizen, foster growth for customers, employees, shareholders and the community through provision of innovative <i>Shariah</i> compliant financial solutions
	CIC insurance	To help people achieve financial security

Source: Field data

Views on the involvement of financial institutions in activities related to managing drought and floods disasters were obtained from the key informants. The key institutions that were reported as having a huge mandate in activities related to drought and floods were mainly Kenya Commercial Bank, Equity Bank and Agriculture Finance Corporation whose mandates are shown in Table 2.

4.1 Respondent Views on the Role of Government and Non-Government Agencies in Undertaking Drought and Floods Preparedness Measures

Preparedness entails development of capacities and knowledge by governments, professional response organizations, communities and individuals to anticipate and respond effectively to the impact of likely, imminent or current hazard events or conditions. It includes contingency planning, stockpiling of equipment and supplies, emergency services and stand-by arrangements, communications, information management and coordination arrangements, personnel training, community drills and exercises, and public education and must be supported by formal institutional, legal and budgetary capacities (United Nations International Strategy for Disaster Reduction - UNISDR and United Nations Office for Coordination of Humanitarian Affairs - UNOCHA, 2008)).

The findings on the role of government agencies in undertaking drought and floods preparedness measures are shown in Table 3.

Table 3: Role of government and non-government agencies in undertaking preparedness measures

Analysis of Threats/ Preparedness Measures		
Category of agency	Agency	Percentage
National government agencies	National Drought Management Authority	38.6
	Kenya Office of the County Commissioner	21.7
County departments	Fisheries, livestock and agriculture	15.0
	Irrigation water and sanitation	14.3
	Ministry of Health	10.1
Non-government organizations	World Food Programme	32.7
	World Vision Kenya	14.5
	Care Kenya	12.2
	Kenya Red Cross	7.9

Source: Field data

Generally, the findings in Table 3 shows that considerably, there is low level of awareness about involvement of both the national and county department agencies in preparedness activities as they were rated below 50 per cent as shown in Table 3.

From a list of more than ten national government agencies, institutions provided to the respondents, they associated preparedness initiatives with National Drought Management Authority (NDMA) and Office of the County Commissioner.

Although the National Drought Management Authority (NDMA) is established with a deliberate mandate to manage and establish mechanisms that will end drought emergencies, only 38.6 per cent respondents associated the agency with this role. This could be linked to the fact that NDMA works through county departments and other development partners in the county. For example, upon releasing the monthly early warning bulletin, NDMA convenes partners in the county under the County Steering Group (CSG), an information-sharing stakeholder forum convened by the governor with NDMA being the secretariat. It is expected that the partners would disseminate the information to the communities' appropriately. The officers from NDMA further clarified that despite working directly with communities through field coordinators and local leadership at the sub-county levels, they would not adequately serve an entire county. For example, the vast Baringo County was served by only nine (9) field monitors who work with communities on various activities. Prior to devolution, community feedback meetings would be held on a monthly basis, which improved the effectiveness in relaying the information by the agency and creating the visibility of the agency in the communities.

The flags available at NDMA website and flags hoisted in strategic places in the counties, such as the Chiefs camp, signify the status of drought as a key preparedness activity. The warning signs range from normal (signified by a green flag), alert (yellow flag), alarm (orange flag) and emergency (red flag). At the alarm stage, herders are encouraged to sell their animals or buy fodder for their livestock. During an emergency state, there is massive deaths of animals. The respondents, being local community members with low literacy levels and not well sensitized about the existence of the flags would not identify NDMA with the initiative nor link it with preparedness.

The key agencies such as the Kenya Meteorological Department (KMD) and Kenya Forestry Services (KFS), though having a huge mandate by establishment in drought and floods preparedness, and based on the reports from officers interviewed within the two agencies, were not mentioned by the respondents about their involvement. The officers reported some key challenges in their operations, which could be linked to this finding. For example, KMD reported that they would heavily rely on county departments and other development agencies to disseminate weather-related information. The agency had only one official deployed to cover the entire county and also with poor facilitation especially with transport to implementation of their duties. KFS, on the other hand, reported various hindrances in undertaking their mandate in forest conservation, including limited number of extension officers. Since the counties were formed in Kenya in 2013, the services of KFS were devolved as the case of many other government functions. The funds to undertake extension services stopped being allocated after

the elapse period of three (3) years transition which ended in 2015. The Chief Conservator provided funding for protection of forests that have been gazetted but not for extension services. The counties, though expected to take up the extension roles earlier implemented by KFS had not effectively taken these roles due to limited personnel to implement the role.

Among the county departments, their ranking in preparedness was identified as follows: fisheries, livestock and agriculture (15%), irrigation water and sanitation (14.3%), and Ministry of Health (10.1%). Their role was similarly minimally ranked by the respondents as the case with national government agencies. The views of respondents, however, do not concur with reports from county department officials. For example, fisheries, livestock and agriculture departments' officials reported that they worked with farmers on various activities including diversification of livelihood options including kitchen gardening, fish farming and beekeeping as opposed to traditional methods of relying on rain-fed agriculture and pastoralism as a way of life. In Mombasa County, for example, the agriculture department would procure seeds and other inputs such as fertilizer and distribute to farmers for free or at a subsidized cost.

The livestock department implements drought-resilient and sustainable livelihood projects that promoted disease control and fostered alternative livelihoods among the pastoralist communities. The department promoted herd diversification in terms of stocking drought-tolerant stocks such as goats, and pasture production during the rainy season for harvesting hay. In Laikipia County, the Governor had initiated "Farming as a profitable business" initiative where livestock from the community would be grazed in communal ranches and later sold. In Isiolo County, pastoralists were encouraged to form farmers associations to pool resources to strengthen their resource base during drought. In West Pokot, the department promoted pasture development by encouraging farmers in groups to grow pasture for animals to cushion them in times of drought. Farmer groups created hay banks whereby 100 acres parcel of land had been put on hay. Farmers were given seeds, trained on selective bush clearing, naturing growth of pasture and conservation of pasture through demonstration farms that had been set up. In Baringo County, the department had set up pasture demonstration sites, four (4) in Baringo North, and one (1) in Mogotio through working with farmers in the county. The respondents could not link the initiatives with preparedness for drought and floods for the same reasons as in the case of national government agencies.

The non-government agencies involvement in drought and floods preparedness activities were lowly rated, just like the case of the government agencies. However, more (32.7%) respondents associated World Food Programme with the preparedness role followed by World Vision Kenya (14.5%), Care Kenya (12.2%) and Kenya Red

cross (7.9%) as shown in Table 3. This could be linked to the fact that the agencies were continuously carrying out their mandate, which the respondents did not necessarily associate with drought and floods mitigation. Some of the key initiatives reported by the agencies' officials include promoting good agricultural practices especially in semi-arid areas for smallholder farmers and pasture conservation. Capacity building of farmers and issuing of inputs was also reported. Integrated health outreach and training on health-related land use management is conducted. World Vision, for example, reported that they would strengthen local communities' knowledge in disaster preparedness, which was implemented by use of a tool called Community-Owned Vulnerability Assessment (COVACA). Communities were empowered to assess events in their calendar to improve on early warning signs every year. In Makueni County, for example, World Vision had implemented asset creation programmes which entailed digging of terraces, holes for planting, farm ponds, drilling, and kitchen garden. Farmers were being sensitized and trained on rainwater harvesting and planting of drought-resistant crops.

Other non-government agencies, Action against Hunger (ACF) International and Kenya Red Cross nutrition division reported that they would support the Ministry of Health (MoH) to monitor nutrition status of communities in order to initiate appropriate health response in times of drought and floods. ACF International, for example, supported the Ministry in monthly and quarterly meetings in West Pokot County whereby the agency has succeeded in establishing a feedback mechanism on nutrition in all health facility level (dispensary, health centre, and sub-county and county hospital). The Food and Agriculture Organization (FAO) had initiated programmes through the county ministry of land to develop land use plans and enforce implementation of land use policy formulation to conserve pasture for pastoral communities.

The banks and insurance companies that reported that they would offer customized products for drought and floods mitigation were Kenya Commercial Bank (KCB), Equity Bank, First Community Bank, Agricultural Finance Corporation, and CIC Insurance. KCB, for example, offered interest-free loans to farmers for various functions related to mitigation against drought. Some banks such as Cooperative Bank in Embu, and National Bank of Kenya in Narok reported that they offer generalized products to households not necessarily linked to droughts or floods mitigation.

The banks offered various products mainly in form of loans to both households and firms for both crop and livestock production, and for running business enterprises. In view of drought and floods preparedness, the products that would be offered to livestock keepers include loans for foliage. This is where farmers would get finances in form of a loan to grow feed for animals, including star grass that could be fed

to the animals during drought period. Equity Bank in West Pokot through 'Kilimo Biashara' initiative would give loans to farmers to plant maize for silage so that during the drought period there would be animal feed.

In Isiolo County, '*Mifugo Loans*' which is a loan facility targeted at livestock traders was given to pastoralists. The security required for such a loan facility was livestock; no guarantors or other form of security was required provided proper assessments had been done.

The Kenya Commercial Bank promoted hydroponic technology in Baringo and Marsabit counties. Through use of appropriate technology, pasture would be grown without using soil within (7) days. In Marsabit County, over 200 farmers have been trained on hydroponic fodder production. The technology was being fostered to cushion animals during drought, whereby pasture would be grown within a short duration of time with minimal effort.

Animal fattening was being promoted by Equity Bank in West Pokot County where farmers would be given loans to purchase animals during the rainy season for fattening. They were required to repay the loans when one sold the animals instead of paying the loans through monthly deductions.

Dairy products were offered in form of banks financing the farmers for dairy herd improvement. This is where farmers who owned unproductive cows would be given loans to upgrade their breeds. They were also advanced loans for daily working capital to purchase animals feeds (hay, dairy meal) and supplements during a dry spell. The dairy farmers would be given loans to purchase machines (milking cans, milk ATM) and motorbikes to aid transportation of produce. This product was being offered by KCB in Elgeyo Marakwet.

The products offered to crop producers were mainly in form of loans to farmers to enable them acquire farm inputs. In Elgeyo Marakwet, for example, farmers would be financed for to purchase potato seeds and chemicals required to grow potatoes by the Kenya Commercial Bank. The bank had partnered with Techno Serve-Syngenta to get data on the input requirements by farmers based on the size of the farm and thereafter directly paid the suppliers so that the farmer only pick the inputs. Loans to purchase the seeds would be given to farmers, and repayment made after crop harvesting. For those in salaried employment, they would be deducted minimally as agreed with the bank, and the rest of the balance cleared after crop harvest. Agriculture Finance Corporation reported financing of farm input for drought resistant products such as coffee and mangoes in Embu County. In Homa Bay County, Equity Bank offered loans for water harvesting and storage facilities to farmers. A loan facility, '*Kilimo Maendeleo loan*' was advanced to 68 groups of farmers who had embarked on modern technology farming promoted by the bank

and the Ministry of Agriculture. Up to Ksh 12 million had been advanced in form of loans, benefitting about 1,000 individuals.

4.2 Respondent Views on the Role of Government and Non-Government Agencies in Undertaking Drought and Floods Response Measures

In the context of disaster management, response entails the provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. The views of the respondents on role of agencies in undertaking response activities in their respective communities is shown in Table 4.

Table 4: Role of government and non-government agencies in undertaking response measures

Management of Threats/ Response		
National government agencies	Office of the County Commissioner	67.6%
	National Drought Management Authority	22.7%
County departments	Ministry of Health	83.0 %
	Fisheries, Livestock and Agriculture	75.0%
	Irrigation Water and Sanitation	71.5%
	Kenya Red Cross	81.5%
Non-government organizations	World Vision	77.7 %
	World Food Programme	63.5 %
	Care Kenya	62.7 %

Source: Field data

High levels of awareness about both government and non-government agencies involvement in drought and floods response undertakings were well recognized by the respondents. More than 60 per cent of the respondents identified the agencies in Table 4 with response role, except that the NDMA was slightly lowly (22.7%) ranked. The Ministry of Health (83.0%) and Kenya Red Cross (81.5%) were identified as having the leading role in response followed by World Vision (77.7%), Fisheries, Livestock and Agriculture department (75.0%), Irrigation Water and Sanitation (71.5%), Office of the County Commissioner (67.6%), World Food Programme (63.5%) and Care Kenya (62.7%). This role was highly recognized since all agencies working within a county would be mobilized under the auspices of County Steering Group to undertake response activities in times of drought and floods. The office of the Commission Commissioner co-chaired the County Steering Group (CSG) chaired by the County Governor with NDMA as the secretariat.

Among the government agencies, the Ministry of Health was highly (83.0%) associated with response initiatives largely because drought and floods have huge health outcomes that attract intervention through a multistakeholder approach spearheaded by the Ministry. During drought and floods, the Ministry undertakes massive screening in affected areas and supplies commodities such as drugs and food supplements to avert possible progression into malnutrition. In counties such as Taita Taveta, for example, it was reported that the Ministry undertake mass deworming annually in February and May for all schools for common worm and bilharzia brought about by flooding. The NDMA was lowly ranked in response activities since the agency mainly worked through the county departments as opposed to working directly with the community during drought and floods disasters.

The county department of Fisheries, Livestock and Agriculture implements a variety of response activities, including: vaccination of animals whenever signs of a disease outbreak are visible in neighbouring counties or during an outbreak at a free or subsidized cost. The department in collaboration with NDMA rolls out livestock off-take programmes during droughts. Farmers are advised on the need to destock their animals and are also provided with avenues for the same through partners. In times of critical feed shortage, the department in liaison with partners provides feeds and water to animals. In Baringo County, the department mobilizes farmers to set up feeding stores. It was reported that strategic feeding stores of hay, four (4) in Baringo North, one (1) in Mogotio, and 1 in Marigat had been set up. The department has a drought contingency fund used to purchase livestock feeds, red cubes (survival mash) and hay when counties are most affected and vulnerable.

Among the non-government agencies, the Kenya Red Cross was recognized as among the leading agencies in undertaking response initiatives during drought and floods. This resonates well with her mandate stated in Table 2. The agency, being an auxiliary to the government's humanitarian services, works closely with the government and other humanitarian actors during disasters. The Kenya Red Cross officials reported that they had a response plan which was well articulated to ensure that steps were well implemented during droughts/floods emergencies response. A cash transfer programme targeting communities in times of drought was in place, where the affected communities would be bought basic foodstuff. In West Pokot, the Kenya Red Cross has built warehouses that would store food and non-food supplies required for response in times of drought. During an emergency, the Red Cross would respond through an integrated medical outreach where the areas affected were mapped, and communities mobilized for service delivery. The World Vision has a humanitarian emergency affair and an officer in

charge based at the headquarters. In the World Vision, overall budget, 2 per cent is allocated for disaster response.

Products for drought and floods disasters response by finance institutions were mainly offered by banks in form of loans to households. This was for the purpose of enabling them to recover from the loss and also access other related services such as support for animal offtake during drought. KCB in Narok County reported that they would restructure loan products in case of a drought and floods occurrence that would lead to loss of property. They also offered loan facilities for recovery from emergencies. In Embu County, Agricultural Finance Corporation reported that they would support livestock offtake in the county using resources from government to purchase the livestock. In Isiolo County, the First Community Bank would link livestock keepers with the Kenya Meat Commission (KMC) to sell their animals during drought. Kenya Commercial Bank (KCB) had rolled out an initiative dubbed AMAYA triangle in January 2018 within five counties (Baringo, Laikipia, Samburu, Isiolo, West Pokot) to support livestock value chain development in view of challenges posed by drought in the five counties. The target for the programme was Ksh 800 million and KCB through her Foundation had pledged Ksh 100 million. The initiative was also to contribute in curbing stock theft; each of the AMAYA counties was expected to tag their livestock.

4.3 Respondent Views on the Role of Government and Non-Government Agencies in Undertaking Drought and Floods Recovery Measures

Recovery entails restoration of the socio-economic institutions and structures of the affected society/community in readiness for reconstruction in terms of rebuilding of their life support systems and further development. It may be preceded by repatriation, followed by rehabilitation and reconstruction; providing a bridge between adequate satisfaction of immediate needs and the implementation of comprehensive vulnerability reduction programmes. At the same time, the recovery phase entails programmes designed to help communities to return to normalcy (United Nation office for Disaster Risk Reduction - UNDRR, 2007; National Council for Law Reporting, 2010).

Table 5: Role of government and non-government agencies in undertaking recovery measures

Developing survival capacities structures/ Post-droughts/floods		
National government agencies	National Drought Management Authority	38.57%
	County Commissioner	10.78%
County departments	Fisheries, Livestock and Agriculture	9.98%
	Irrigation Water and Sanitation	14.27%
	Ministry of Health	6.83%
Non-government organizations	Kenya Red Cross	10.59 %
	World Food Programme	3.81 %
	Care Kenya	25.05 %
	World Vision	7.9 %

Source: Field data

Table 5 shows that the role of all agencies in implementation of recovery measures was lowly ranked. Most agencies were ranked below 20 per cent except for NDMA (38.6%) and Care Kenya (25.1%). The agencies' officials interviewed reported that organizations were reluctant to undertake recovery measures since they were deemed complex and expensive to undertake. A key observation is that some of the initiatives reported as recovery measures largely overlapped between preparedness and response, an example being off-take of animals during drought and giving drought-tolerant crops to farmers. Another key observation is that the minimal recovery activities undertaken mainly satisfied the immediate needs of the communities as opposed to the agencies implementing comprehensive vulnerability reduction programmes.

The government agencies reported more involvement in undertaking recovery measures compared to non-government agencies. Across all the counties, the non-government agencies including those who were highly pronounced in carrying out drought and floods management activities, such as the World Vision, Kenya Red Cross Society, Action Against Hunger, Caritas, World Food Programme, and Food Agriculture Organization all claimed that they never undertook recovery measures since it would be an expensive undertaking. An exceptional case was however reported by World Vision in Makueni County where the agency reported to implement a drought recovery programme, '*Chakula Kwa Jamii*', though not sustainable, in partnership with the government/WFP. A monthly cash transfer of Ksh 2,500 was given to six clusters within the county and from 2015 to 2018, a total of 28,160 people had benefitted from the initiative.

There were few government agencies that reported being involved in recovery measures mainly, livestock and fisheries department, the Office of the Governor

and Ministry of Health. This was however not uniformly reported across all the counties. In Baringo County, for example, the Fisheries department reported that they assist farmers to restock the fingerlings after drought period or when fish ponds were destroyed by floods. The office of the Governor reported rebuilding of public facilities (a case of primary school swept by floods reconstructed), while the Ministry of Health supplies food supplements and offers free health care services to communities affected by both drought and floods. In Baringo County, the agency had a plan to implement a kitchen garden. The case of restocking fisheries was largely reported in West Pokot, Baringo, and Makueni counties. However, the county department of agriculture, livestock and education, County Commissioner, Kenya Forest Service, and National Environmental Management Authority reported that they had never undertaken any recovery initiatives. On the extreme end, some counties such as Tharaka Nithi, Elgeyo Marakwet, Embu, and Laikipia did not report any recovery initiatives related to either drought or floods.

In view of the fact that recovery entails long-term planning and huge resource investment (United Nation office for Disaster Risk Reduction - UNDRR, 2007), this would be an expensive venture in terms of planning and resource allocation for many agencies. Thus, many organizations found it difficult to undertake recovery measures but instead their efforts were focused on the response in terms of meeting the immediate needs of the community without minding whether they would return to normalcy or not. Some agencies reported that due to the frequency of drought and floods, there was no time to allow for adequate implementation of the recovery measures. Caritas, a Catholic Church development agency in Isiolo County, for example, reported that the interventions undertaken in times of drought and floods were short-term and not adequate to address the underlying causes.

The banks and insurance companies offer products for both households and firms geared towards recovery in times of drought and floods. The products were advanced in form of insurance cover to both livestock and crop producers. In Isiolo County, for example, Cooperative Bank had partnered with CIC Insurance Group to offer livestock insurance to pastoralist communities. Cooperative Bank in Kilgoris County indicated that the insurance cover product, though offered to farmers, was not well appreciated and utilized. In Homa Bay County, CIC reported that they offered both livestock and crop insurance. Sidian Bank in Isiolo County liaises with insurance agencies and provides insurance cover at a premium of 5.2 per cent. In the case of livestock insurance, CIC Insurance was restricted to those practicing zero grazing and covers death or emergency slaughter on a veterinary doctor's advice. Insurance cover is provided for animals on transit, whereby compensation is given if the death of animals occurred while they are on transit

and also at home in case of being struck by lightning, strong winds and swept by floods. However, cover is not be provided in the case of deaths resulting from droughts.

4.4 Respondent Views on the Role of Community Involvement in Undertaking Drought and Floods Measures

The views of respondents show that both government and non-government agencies minimally involved communities in drought and floods management activities. A significant (more than 50%) percentage of respondents indicated that they were never involved in activities related to management of drought and floods in their communities. Among the government agencies, the Ministry of Health recorded a higher (66.1%) percentage followed by NDMA (57.1%), Office of the County Commissioner (57.0%) and Ministry of Agriculture (52.3%) in terms of not involving communities in activities related to management of drought and floods as indicated in Table 6. A few respondents, however, reported minimal involvement in beneficiary identification, with NDMA and Office of the County Commissioner recording a slightly higher percentage (22.9% and 22.8%, respectively) compared to other agencies.

Table 6: Respondent views on involvement of communities in undertaking drought and floods measures

Institutions	Activities					
	Beneficiary identification	Needs identification	Information dissemination	Implementation short term and long-term risk reduction activities	Ownership and community control	None
NDMA	22.9%	8.6%	5.7%	5.7%	0.0%	57.1%
County Commissioner	22.8%	7.6%	5.1%	1.3%	6.2%	57.0%
Fisheries, Livestock and Agriculture	14.3%	14.3%	4.8%	11.9%	2.4%	52.3%
Ministry of Health	21.0 %	-	9.7 %	1.6 %	1.6%	66.1%
Kenya Red Cross	33.1%	18.3%	3.6%	3.0%	0.6%	41.4%
World Food Programme	12.8%	29.1%	5.5%	5.5%	1.8%	45.4%
World Vision	17.0%	4.0%	2.6%	5.2%	1.3%	70.0 %

Source: Field data

In comparison between government and non-government agencies, the households reported a slightly higher level of involvement by non-government agencies in drought and floods management activities. However, the non-government agencies were similarly ranked below 50 per cent in terms of involving local communities in drought and floods management activities with Kenya Red Cross recording 33.1 per cent, World Food Programme (12.8%) and World Vision (17.0%). The exceptional case was that of World Vision which was highly (70.0%) ranked by the respondents as indicated in Table 6. This could be attributed to existence of deliberate intervention by the agency to strengthen local communities' knowledge in disaster preparedness, which was implemented by use of a tool, Community Owned Vulnerability Assessment (COVACA). The low involvement of communities by most agencies in drought and floods management activities was in concurrence with the views of most key informants. It was noted that within the existing platform, CSG that coordinated the action of actors in most counties on issues drought and floods, was weak in involvement of local communities in decision-making processes. The community-based organizations were also lowly represented and, in some cases, they were not part of the CSG forum or other disaster management committees in the counties.

5. Gaps in Coordination Among Actors Involved in Managing Drought and Floods Disasters

5.1 Overview About Coordination Among Actors

In view of coordination, some of the key dimensions to consider is the type of decentralization an organization employs and the coordinating mechanism that is in place between organizations. The type of decentralization mainly employed in organizations is either vertical or horizontal coordination. Horizontal coordination concerns the internal relationship, the partnership inside an organization or a community, or the collaboration of an organization with competitors and non-competitors. Vertical coordination is described as a connection between two or more organizations that share their responsibilities, resources and performance information to serve relatively similar end customers (Kaynak et al., 2014; Mintzberg, 1992).

The coordination mechanism employed in organizations are direct supervision, whereby an individual is responsible for the work of others; standardization of work processes where the content of the work is specified; standardization of skills where the kind of training to do the work is specified; standardization of outputs where the results of work are specified; and mutual adjustment where coordination is achieved through informal communication (Mintzberg, 1998). At its best, coordination can eliminate gaps and duplication in service, determine an appropriate division of responsibility, and establish a framework for information sharing, policy agreements, programme collaboration and joint planning (International Federation of Red Cross and Red Crescent Societies, 2000).

To a large extent, some dimensions of coordination were noticeable among agencies involved in drought and floods management. Among the government agencies, inter-departmental consultation, which is a form of horizontal coordination, was reported. This was basically where different government departments within the county, such as livestock, fisheries, agriculture, water and sanitation, transport road and infrastructure would hold fora for information sharing. In Nairobi County, for example, the department of livestock reported that they hold multi-stakeholders meetings for consultation and information sharing.

The other form of coordination reported, which is also a type of horizontal coordination, was inter-agency coordination. This is where the actors involved in drought and floods management from the government, non-government and private sector at the county level convene under the auspices of a coordinating platform. The County Steering Group (CSG) was largely reported in many counties (Laikipia, Kajiado, West Pokot, Baringo, Isiolo, Samburu, Marsabit) as the main platform through which drought and floods activities were coordinated. Prior

to devolution, CSG was referred to as District Steering Group (DSG), a platform created by NDMA to coordinate droughts at the former district level. NDMA had suggested that the counties adopt the former DSG as CSG to coordinate developments activities within their counties, which was accepted. Despite the fact that CSG mandate was not directly linked to coordination of drought and floods in the counties, it was instrumental in mobilizing resources for response in times of drought and floods disasters. The CSG is chaired by the Governor, co-chaired by County Commissioner, and NDMA is the secretariat.

The nature of coordination mechanisms that exist within the CSG was mainly based on mutual adjustments, which entailed informal communication among the actors. They mobilize the county administration to mobilize resources and give support during drought and floods disasters. NDMA has recommended to the counties the need to formalize CSG through the county assembly, although this has not been achieved. Within the CSG platform, direct supervision is being provided by the County Governor who chaired the forum and delegates to County Commissioner when need be.

In some counties such as Mombasa and Nairobi, there were different inter-agency coordination platforms besides CSG that brought the actors together. The platform through which the agencies in respective counties coordinated their activities was the Disaster Management Committee, whose actors involved were mainly: Red Cross Kenya, National Youth Service, Military, Officer Commanding Station (OCS), Officer Commanding Police Division (OCPD), and non-government organizations. In Machakos County, respondents indicated that the Kenya Red Cross was in charge of coordinating drought and floods disasters in their county but could not identify the platform under which this took place. However, in some counties (Machakos, Elgeyo Marakwet, Voi and Taita Taveta), the respondents were not clear about ways in which activities relating to drought and floods were being coordinated. In Elgeyo Marakwet, for example, only the office of the County Commissioner reported presence of a County Disaster Management Committee within their offices, with almost all actors in security departments (Kenya Police, Administration Police, Directorate of Criminal Investigations, National Intelligence Service, Prisons, KWS, KFS) present and also the county departments of health, meteorology, ministries of works/roads. The County Commissioner was the convener and would do so when there was a need to respond to drought and floods disasters. Another forum in the county was the County Environmental Management Committee convened by NEMA and County Environmental Director that was reported by NEMA. The actors involved in this platform were KFS, KWS, National Youth Service, the business community, and a community-based organization. In other counties such as Tharaka Nithi and

Embu, the respondents indicated that there were no coordinating platforms for drought and floods intervention; instead, every agency runs their own activities in their respective areas of operation.

Some aspects of vertical coordination were reported in some counties. This was with regard to the presence of a system of relaying information related to drought and floods from the county level through sub-county administrators to the Ward levels. The Ward Administrators raise issues in their respective areas, which are then cascaded to the county level for action. For example, in Mombasa County, the Ministry of Agriculture had offered tractors for tilling the land. The names of farmers ready for/requesting for services are listed through the Ward administration and submitted to the county department. However, it was not clear how the county government coordinated with the national government in terms of information sharing, and resource allocation. In counties where NDMA was present, though coordinating issues of drought, it was assumed to be the arm of the national government despite the fact that the agencies did not report to NDMA.

5.2 Effectiveness of Mechanisms for Managing Drought and Floods Disasters

The aspects (stakeholder involvement, achievements, capacity to respond, adequacy of the available resources and measures of accountability in place to support the coordination) that assessed the level of efficacy differed among counties, with some counties reporting higher levels of efficacy than others. Among the counties (Baringo Isiolo, Samburu, Marsabit, Kajiado, West Pokot), the commonly agreed was that in terms of broad-based participation, all relevant actors, national government, county departments, and non-government organizations were part of the coordinating platforms, especially the CSG in their counties. Baringo County reported higher levels of efficacy in stakeholder involvement. The meetings were held on quarterly basis. In most counties, however, it was reported that CSG would meet on a need basis. This was however an exception with financial institutions who strongly recommended the need for a coordinating platform in respective counties that would link development agencies, county departments and financial institutions working with communities on drought and floods mitigation projects. They reported a key challenge in communities failing to repay loans and take up financial products such as loans and insurance availed by the institutions. This was an indication that the financial institutions lacked information about the existence of coordinating platforms, which was commonly reported across all the counties visited.

In counties such as Machakos, Elgeyo Marakwet, Embu, Tharaka Nithi, Voi, Taita Taveta and Laikipia, the drought and floods coordinating platforms were lacking and therefore did not succeed in bringing the actors in the county together for a common goal. Some respondents indicated that partners in some counties were not interested in collaboration unless when persuaded to join others. Some partners indicated that lack of NDMA operations in the respective counties was a huge gap owing to the fact that the agency had a clear mandate in drought management.

In terms of achieving the mandate in drought and floods preparedness and response, the mechanism had to some extent succeeded in building synergy among the actors despite the fact that resources limitation was a huge challenge. In counties such as Isiolo, success stories were recorded whereby through NDMA coordination, drought management plans had been developed. Similarly, in Samburu County, drought response plans had been developed, County Disaster Act 2015 legislated and Disaster Management Committee established, although it had not been operationalized. There was better coordination of drought activities, to some extent, although the regions continue being hit hard by drought. Notable is that both Samburu and Isiolo were among the counties where huge projects such as Arid Lands Resource Management were implemented in the 1990s and also remain among the areas covered by NDMA for drought mitigation projects.

The capacity to respond to drought and floods was however reported as inadequate whereby in some extreme cases death of people and animals were reported. In all the counties, the agencies reported that resources were limited to meet the vast needs linked to drought and floods, preparedness, response and recovery. The budget allocation by county government was inadequate. Further, the respondents argued that it was difficult to establish how much resources had been set aside by stakeholders for drought and floods mitigation activities, and how much and how it is used since every organization had their own accounting mechanisms. Partners complained of low funding against many competing needs. In the case of CSG, which was highly acknowledged as an effective platform to mobilize and share resources for response in times of disasters, the capacity to respond was deemed low due to limited resources. Since the platform was not legislated through the county assembly or backed by law, there was no budget allocation for drought and floods-related activities that would be implemented under the platform. CSG relied on the goodwill of both government and non-government stakeholders in their respective counties to mobilize resources for response during drought and floods disasters.

In view of accountability, this was not clear in terms of roles of each stakeholder. Organizations reported that at the CSG level, there were was no elaborate

accountability measures since each agency would be expected to account within their respective systems. Samburu County was, however, an exception where it was reported that feedback is obtained from beneficiaries during County Steering Group meetings regarding the activities that had been implemented after a response undertaking.

6. Conclusions and Key Recommendations on Effective Ways to Manage Drought and Floods Disasters

The recommendations in this study have been drawn from the views of respondents and they relate to the key actors involved in drought and floods management, including government, non-government, finance institutions, and local communities.

6.1 Conclusions

Drought and floods are predictable and to some extent non-avoidable. However, they continue being handled as emergency with heavy losses being incurred and making recovery an expensive undertaking. The ability of communities to bounce back and also restoration to normalcy is highly compromised.

Governance and coordination in terms of ensuring appropriate structures, policies, laws, and relevant institutions are in place, although there is a gap in their functioning. There is presence of actors ranging from government, non-government and private sector, all undertaking various functions related to drought and floods preparedness, response and recovery. Similarly, the policy environment in terms of Kenya being part of the global and regional effort on disaster and climate change risk management, and domestication of the same through relevant laws and policies is also in place.

Despite the presence of relevant institutions, policies and laws, there is a huge gap in terms of presence of an operational coordination mechanism which is well conceptualized in terms of content and functionality. The bulk of responsibility therefore rests with the government in ensuring this is in place. An oversight authority which is an independent body and not part of the policy implementation should be put in place to ensure a proper monitoring system from the county levels in order that laws and policies are well implemented, and ensure continuous improvement in terms of addressing the gaps identified in the course of implementation. The establishment of Disaster Management Authority through a bill that was introduced in Parliament in March 2019 is timely and upon receiving President assent, greater coordination is expected and over mitigation of impacts associated with drought and floods disasters.

The National Disaster Management Policy of Kenya (2018) which is well conceptualized in terms of providing a framework for an integrated and coordinated disaster risk management from national to the county levels is a good starting point. The Disaster Risk Management Bill 2018 upon assent will set a good framework for implementation of the National Disaster Management Policy.

Integration of the existing informal structures within the counties, such as the County Steering Groups in implementation of the structures created at the county level by the National Disaster Management Policy (2018) is important. Such structures, though being informal in their operations, have spearheaded disasters operations response, including drought and floods and therefore much experience could be picked and be part of the current implementation.

6.2 Recommendations

a) Government agencies

The key recommendations to government agencies are: first, the need for the government to review and strengthen policies and laws that relate to agricultural land use practices, pastoralism, use of water reservoirs, land tenure and forest conservation. In Samburu County, the respondents expressed the need by the government to control the number of livestock owners to reduce vegetation depletion. Some of the key recommendations from some counties hit hard by drought and floods was the need to finalize County Natural Resource Management Bill 3, mainstreaming climate change and drought emergencies into county planning, and finalization of County Disaster Risk Management Policy, among others.

Second is building and strengthening the capacity of the counties in terms of human, finances and other resources to invest in long term robust programmes to foster and strengthen drought and floods preparedness, response and recovery interventions. A respondent in one of the counties experiencing frequent food shortage echoed the need to dig adequate boreholes and water pans in the county to facilitate irrigation, since the county was endowed with fertile soil, water shortage being the only challenge. Various issues requiring continuous improvement include issues of qualified and adequate staffing, allocation of budgets in the County Integrated Development Plans, and development to carry out drought and flood preparedness and mitigation projects.

b) Non-government agencies

The key recommendations to the non-government agencies were: First, the need to invest in long term sustainable drought and floods mitigation projects aimed at empowering communities sustainably in areas of conservation agriculture, livelihood diversification and enterprises beyond the traditional rain-fed farming practices. In Machakos County, for example, respondents recommended

that World Vision, a key development partner in the region, should establish greenhouses in more schools to support kitchen garden in schools so that the same could be replicated to communities the pupils hail from.

Second, there is need to intensify collaboration with county government in projects being implemented to foster continuity of initiatives after the project's phase-out. Non-government agencies tend to phase out projects upon completion of funding cycle regardless of attaining project sustainability. On the other hand, there was an observation that county governments tend to initiate new projects instead of supporting continuity of projects that have been prematurely phased out by non-government agencies. This ends up duplicating efforts and leads to waste of resources.

c) *Finance institutions*

The key recommendation to financial institutions is: First, to intensify collaboration with other development agencies who directly work with communities to ensure productivity of projects financed to foster business growth and repayment of loans. Collaboration would also curb the challenges of few service providers, especially in banks to offer extension services to educate community members on available products and services from financial institutions.

Second, the institutions should promote financial literacy in ways that are comprehensible to local communities on the products and services and promote uptake of the same. This would address the issue of low levels of awareness on funding opportunities by the institutions because low literacy levels hamper uptake of information available on the existing information sharing platforms by financial institutions. Financial literacy would also break the myth where communities associated financial institutions services with losses as opposed to promotion of their livelihood. This is based on the earlier negative experiences especially of those who had failed to repay bank loans where tough measures would be taken against them or where members failed to be compensated by the insurance despite being under cover due to non-adherence to lenders' procedures.

d) *Communities*

The key recommendations to communities is to enhance capacity of communities to effectively adopt to droughts and floods coping strategies these being natural occurrence and inevitable. First, this could be attained through diversification of their livelihood options by promoting drought tolerant crops, venturing into other income generation activities that are not dependent on weather.

Secondly, there is need to enhance capacity at household level on various aspects including planning and investing on long term drought and floods mitigation projects and natural resources (water catchment areas, forests) management. This could be achieved through diversification of learning experiences for farmers, for example through demonstration plots and farmers' tours, and consistent follow-ups of training/capacity building programmes.

Finally, communities should be well integrated in projects run by both government and non-government agencies to promote collaboration in projects to ensure ownership and sustainability. This is especially the case for non-government agencies whose projects are constrained by donor funding cycle and end up being deserted prematurely. In such as case, communities could lobby county government to support the activities or further them at their levels.

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