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Disaster Management in Kenya

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Abstract: Disasters occur often and the most vulnerable are the poor who are exposed to various disaster risks. Majority live in developing countries where the level of disaster preparedness, resources and knowhow is still low. Kenya, like other developing countries of the world, is vulnerable to disaster risks resulting in deaths and loss of property worth millions. This study explores disaster management approaches using document reviews. The findings showed that Kenya has put up efforts towards disaster risk reduction though this has been inadequate. By integrating the findings of the present study with previous literature the author suggests recommendations towards effective approaches to build approach connectedness.
Key words: Disaster, Disaster management, disaster risk reduction,

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I. INTRODUCTION

Kenya has suffered from various types of natural disasters since independence which have threatened urban land area, resulted in loss of lives and livelihoods of most Kenyans. Kenya is a particularly disaster prone country and the disaster risks often affect the most vulnerable people disproportionately (Akali, 2013)Disasters result from a combination of factors which include the nature of the particular hazard or hazards; the extent to which people and their possessions are exposed to them; the vulnerability of those people and assets; and their capacity to reduce or cope with the potential harm. Disaster events can sometimes set back years of economic and social development gains, generate political instability and cause longlasting environmental damage.(Twigg 2015)

A disaster is a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk. Disaster Risk Reduction (DRR) refers to the conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development. Disaster Risk Management (DRM) includes but goes beyond DRR by adding a management perspective that combines prevention, mitigation and preparedness with response.Bass et al 2008.Twigg (2015) also defines disaster risk reduction as the development and application of policies, strategies and practices to reduce vulnerabilities and disaster risks throughout society where as disaster risk management is a systematic approach to identifying, assessing and reducing risks. Disaster management is a continuous process that involves activities at several stages or levels, that include :preparedness, response, recovery, assessment, prevention and mitigation With the completion of each cycle, new lessons are learnt, new measures are adopted and people are better prepared for the next disaster. natural disasters are violent upheaval, having its origin in natural processes, disaster management in turn can be understood as a combination of governmental, societal processes aiming to prevent the hazards that can trigger disasters, to respond to them, mitigate their impact and help communities recover afterwards.(Paltemaa,2017)

Disaster risk continues to increase dramatically in many parts of the world, arising from a combination of environmental hazards, climate change, environmental degradation, rapid and poorly planned urban development and insecure livelihoods. Newrisksarearising from existing and emerging economic and social processesandgrowingfasterthanexistingrisksarebeingreduced(IPCC,2012). While such hazards may be produced by the powerful and largely uncontrollable forces of nature, disaster management is human activity and occurs in widely different forms, which can be anything from the government spending billions on building large dams for water control purposes, to something as commonplace and small-scale as households purchasing insurance.

Disasters bring disruptions in the normal social life, create chaos, destroy social structure and contribute to replace social order. They provide a realistic weighing scale for testing the integration, stamina, and recuperative powers of large scale social systems and provide the socialscientists with advantages that cannot be matched in the study of human behavior in more normal or stable conditions.

Problem statement

Disasters have been a common phenomenon around the world. This has increased with the rising economic development, technological sophistication; and pressure from the increasing populations. Kenya has a complicated disaster profile dominated by natural and technological disasters. Generally, some of these include droughts, fire, floods, terrorism, technological accidents, diseases and epidemics. These have adverse socio economic, health and political impacts on the country. Like in most developing countries, disasters in Kenya disrupt people's livelihoods, destroy the infrastructure, divert planned use of resources, interrupt economic activities and retard development. Kenya has experienced a rise in the frequency of disasters over the past two decades. Most people have been affected, property and public utilities damaged, causing a general rise in the rate of economic losses. Disasters have become one of the main obstacles to achieving sustainable development in the country, Owuor (2015).If not contained, these occurrences have the risk of disrupting planned development activities and undermining realization of the Sustainable Development Goals among other national development programs as policy makers divert resources from planned activities to managing the unforeseen event. Although disaster occurrences are common events around the world, most African governments including Kenya react to them with little preparation. This paper seeks to understand the developmental approaches to disaster in developing countries with particular interest to Kenya.

Important to analyze DRM systems as stipulated by Baas et al 2008:

i. Natural disasters set back development gains
ii. Unsustainable development increases disaster risk
iii. Disaster losses may be considerably reduced by integrating DRM practices in development programmes
iv. Special long-term interventions may be needed to increase the coping capacities of the poorest and most vulnerable
v. Improved technologies can help prevent or mitigate damage caused by natural hazards:
vi. Disasters may become opportunities for building back better development practices

Phases of disasters

Pre-disaster activities those which are taken to reduce human and property losses caused by a potential hazard. Such risk reduction measures taken under this stage are termed as mitigation and preparedness activities. During a disaster (disaster occurrence). These include initiatives taken to ensure that the needs and provisions of victims are met and suffering is minimized. Activities taken under this stage are called emergency response activities.

After a disaster (post-disaster). There are initiatives taken in response to a disaster with a purpose to achieve early recovery and rehabilitation of affected communities, immediately after a disaster strikes. These are called as response and recovery activities. The Disaster risk management cycle diagram (DRMC) highlights the range of initiatives which normally occur during both the Emergency response and Recovery stages of a disaster.

According to Warfield (2008) disaster management aims to reduce, or avoid the potential losses from hazards, assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery. The disaster management cycle illustrates the ongoing process by which governments, businesses, and civil society plan for and reduce the impact of disasters, react during and immediately following a disaster, and take steps to recover after a disaster has occurred. Appropriate actions at all points in the cycle lead to greater preparedness, better warnings, reduced vulnerability or the prevention of disasters during the next iteration of the cycle. The complete disaster management cycle includes the shaping of public policies and plans that either modify the causes of disasters or mitigate their effects on people, property, and infrastructure. The mitigation and preparedness phases occur as disaster management improvements are made in anticipation of a disaster event. Developmental considerations play a key role in contributing to the mitigation and preparation of a community to effectively confront a disaster. As a disaster occurs, disaster management actors, in particular humanitarian organizations become involved in the immediate response and long-term recovery phases. The four disaster management phases illustrated here do not always, or even generally, occur in isolation or in this precise order. Often phases of the cycle overlap and the length of each phase greatly depends on the severity of the disaster.

Disaster Management Cycle

Mitigation

Mitigation efforts are attempts to prevent hazards from developing into disasters altogether or to reduce the effects of disasters. The mitigation phase differs from the other phases in that it focuses on long-term measures for reducing or eliminating risk. Mitigation measures can be **structural** or **non-structural**. Structural measures use technological solutions like flood levees. Non-structural measures include legislation, land-use planning (e.g. the designation of nonessential land like parks to be used as flood zones), and insurance. Mitigation is the most cost-efficient method for reducing the effect of hazards although not always the most suitable. Mitigation includes providing regulations regarding evacuation, sanctions against those who refuse to obey the regulations (such as mandatory evacuations), and communication of risks to the public. Examples: building codes and zoning; vulnerability analyses; public education.

Preparedness

Disaster preparedness involves preparation of a counter-disaster plan, forecasting and warning of the disaster, maintenance of resources needed during and after disaster, and training of the related personnel (Rahman, 2001). Disaster preparedness is embedded in the broader activities for disaster management. Preparedness is a continuous cycle of **planning, organizing, training, equipping, exercising, evaluation and improvement activities** to ensure effective coordination and the enhancement of capabilities to prevent, protect against, respond to, recover from, and mitigate the effects of natural disasters, acts of terrorism, and other man-made disasters.In the preparedness phase, emergency managers **develop plans of action** to manage and counter their risks and take action to **build the necessary capabilities** needed to implement such plans. Common preparedness measures include:

- communication plans with easily understandable terminology and methods.
- proper maintenance and training of emergency services, including mass human resources such as community emergency response teams.
- development and exercise of emergency population warning methods combined with emergency shelters and evacuation plans.
- stockpiling, inventory, and maintain disaster supplies and equipment
- develop organizations of trained volunteers among civilian populations.
- emergency exercises/training;
- warning systems.
- casualty prediction,

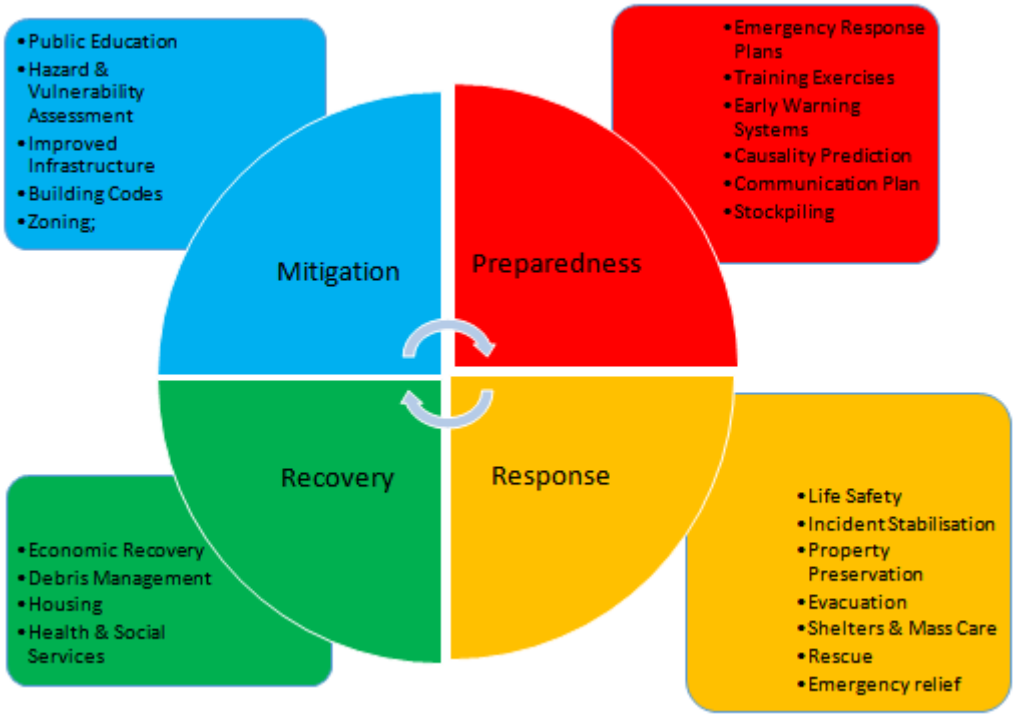
Response

The response phase includes the **mobilization of the necessary emergency services and first responders in the disaster area**. In involves efforts to minimize the hazards created by a disaster. This is likely to include a first wave of core emergency services, such as firefighters, police and ambulance crews. They may be supported by a number of secondary emergency services, such as specialist rescue teams. A well rehearsed emergency plan developed as part of the preparedness phase enables efficient coordination of rescue.

There is a need for both **discipline** (structure, doctrine, process) and **agility** (creativity, improvisation, adaptability) in responding to a disaster. Combining that with the need to onboard and build a **high functioning leadership** team quickly to coordinate and manage efforts as they grow beyond first responders indicates the need for a leader and his or her team to craft and implement a disciplined, iterative set of **response plans**. This allows the team to move forward with coordinated, disciplined responses that are vaguely right and adapt to new information and changing circumstances along the way. Examples: search and rescue; emergency relief.

Recovery

The aim of the recovery phase is to **restore the affected area to its previous state**. It entails returning the community to normal. Recovery efforts are primarily concerned with actions that involve rebuilding destroyed property, re-employment, and the repair of other essential infrastructure. An important aspect of effective recovery efforts is taking advantage of a 'window of opportunity' for the implementation of mitigative measures. Citizens of the affected area are more likely to accept more mitigative changes when a recent disaster is in fresh memory. Examples: temporary housing; grants; medical care.



Earlier approaches to Disaster Management

Alexander (1993) identified six schools of thought on natural hazards and disaster studies: the geographical approach, the anthropological approach, the sociological approach, the development studies approach, the disaster medicine approach and the technical approach. The **geographical approach** (pioneered by Barrows, 1923 and White, 1945) deals with the human ecological adaptation to the environment with special emphasis on the 'spatio-temporal' distribution of hazard impacts, vulnerability and people's choice and adjustment to natural hazards. Social science methods are widely used in this approach.

The **anthropological approach** (Oliver-Smith, 1979, 1986; Hansen and Oliver-Smith, 1982) emphasizes the role of disasters in guiding the socio-economic evolution of populations. Anthropologists adopting this approach search for reasons why communities in the 'Third World' fail to provide basic requirements for their people's survival. They also discuss the 'marginalization syndrome' caused by impoverishment of disadvantaged groups in 'Third World' countries.

The **sociological approach** (Dynes, 1970; Qurantelli, 1978; Mileti, Drabek and Haas, 1975; Drabek and Boggs, 1968; Drabek, 1986) discusses vulnerability and the impact of disaster upon patterns of human behaviour and the effects of disaster upon community functions and organization. Oliver-Smith (1996) developed three general themes as the major trends in anthropological research in disaster: behavioural response approach, social change approach, and political economic/ environmental approach. Oliver-Smith argues that disaster in developing world occur at the interface of society, technology and environment and is fundamentally the outcomes of the interactions of these characteristics. He has also reported that although occurrence of disaster is frequent, theoretical work in disaster research is limited.

The **development studies approach** (Davis, 1978; Knott, 1987) discusses the problems of distributing aid and relief to 'Third World' countries and focuses on refugee management, health care and the avoidance of starvation. The **disaster medicine and epidemiology approach** (Beinin, 1985) focuses on the management of mass casualties. It also includes the treatment of severe physical trauma and other diseases which may occur after a disaster. The **technical approach** (Bolt et al. 1977; El-Sabh and Murty, 1988) focuses on geophysical approaches to disaster such as studied in seismology, geomorphology and volcanology and seeks engineering solutions.

Major Approaches to Disaster Risk Reduction

There are two major approaches to disaster management namely: the sociological approach and the systems approach.

The **social/anthropological *approach*** highlights a series of coping mechanisms, which originate in a social and cultural context.

Twigg (2015) mentions that Indigenous knowledge is acquired through experiences of living in specific environments over a long period of time. It is passed down from one generation to the next and continually added to or modified in the light of new experiences or experiments, as well as in response to external change. However, it can also incorporate outside specialist knowledge of various kinds, such as weather forecasts. It is a form of social knowledge: acquired, shared, preserved and transmitted within communities. Indigenous knowledge is wide-ranging. It includes technical expertise in seed selection and house building, knowing where to find wild foods, economic knowledge of where to buy or sell essential items or find paid work, and knowledge of whom to call on for assistance. Indigenous or traditional knowledge is not static. People are constantly adding to, adapting and testing their knowledge and skills toBy learning how people perceive and respond to threats, interventions can be developed that build on the strengths of their existing strategies. This approach helps to make communities partners in the risk management process. It can also be cost-effective where it reduces the need for expensive external interventions. It is more likely to lead to sustainable projects because the work is based on local expertise and resources.

coping strategies include:

- economic/material
- technological
- social/organisational
- cultural.

The systems approach

Simonovic (2015) illustrates that the systems approach is a paradigm concerned with systems and interrelationships among their components. It uses rigorous methods to help determine the preferred plans and designs for complex, often large scale systems. It combines knowledge of the available analytic tools, an understanding of when each is appropriate, and a skill in applying them to practical problems. A systemic approach to problems focuses on interactions among the elements of a system and on the effects of these interactions. Systems theory recognizes multiple and interrelated causal factors, emphasizes dynamic character of processes involved, and is particularly interested in a system change with timebe it a flood, hurricane, or a disaster affected community. Traditional view is typically linear and assumes only one, liner, cause and effect relationship at a particular time. A systems approach allows a wider variety of factors and interactions to be taken into account. It states that disaster losses are the result of interaction among three systems and their many subsystems:

(i) the earth's physical systems (the atmosphere, biosphere, cryosphere, hydrosphere, and lithosphere);
(ii) human systems (e.g., population, culture, technology, social class, economics, and politics);
(iii) the constructed systems (e.g., buildings, roads, bridges, public infrastructure, and housing).

Development Approaches to Disasters

The sustainable development approach

The **sustainable development approach**is essentially a holistic approach promotive of sustainable human development concepts. It facilitates the promotion of the "culture of prevention" and the incorporation of disaster management in development planning. It has facilitated better understanding of the relationship between disaster, its various phases, environmental degradation, and sustainable development. As disasters cause harm and damage to people, property, infrastructure, economies and the environment, the goals of sustainable development are put to jeopardy. Disaster recovery and rehabilitation efforts require enormous funds that, amidst insufficient contingency funds, are taken out from other development programme that are planned or underway, thereby impeding development efforts. Therefore, it is important that disaster mitigation programmes are made an integral part of developmental programme. At the same time, efforts to enhance the capacities of communities and coping systems at various levels and sectors towards self-reliance and self-sufficiency in managing disasters effectively must be sustained. Understanding and identifying various types of vulnerabilities (human, social, economic, and environmental) as well as the nature of natural hazards are essential components of such efforts.

This view has facilitated the adoption of disaster mitigation programme at the local level, which included structural and non-structural measures to protect populations susceptible to natural hazards, e.g. earthquake-

resilient school structures. Also, in this regard, efforts in enhancing early warning and forecasting systems have flourished. As a desired consequence, investments and efforts for social and economic development are protected and sustained.

The disaster management framework

One of the more important conceptual frameworks the sustainable development approach has engendered is the disaster management framework that allows the development of a wide range of program activities to protect communities, property and the environment against disasters. In this framework, four component approaches constitute the comprehensive and integrated approach to disaster management, namely, the comprehensive approach, the all-hazards approach, the integrated approach and the prepared community approach.

a) The **comprehensive approach** to disaster management entails developing and implementing strategies for different yet complementing aspects of disaster management, i.e. prevention and mitigation, preparedness, response and recovery, in the context of sustainable development.
b) The **all-hazards approach** concerns developing and implementing disaster management strategies for the full range of probable disasters. This approach has been useful in establishing standard protocols for addressing similar problems in a community, arising from different hazards and emergencies. However, several hazards that cause disasters may require specific response and recovery measures as well as specific prevention programs.
c) The **integrated approach** ensures that all organizations, including government, private and community organizations, are involved in disaster management. There may be some factors that organizations would take into account in determining the extent of their involvement. However, this approach promotes multi-sectoral and intersectoral coordination and reduces duplication and inefficiencies.
d) The **prepared community approach** concerns the application of all the foregoing approaches at the community or local level. It emphasizes the important roles and responsibilities of the members of the community in establishing disaster management programs and systems, and ensuring self-reliance and self-sufficiency in times of disaster.

The developmental relief approach

It demonstrates the shift from the traditional relief approach, which tends to regard the affected people as helpless victims requiring external assistance, to the developmental relief approach, which regards them instead as active people with capacities despite the effects of the disaster. This shift necessarily entails the analysis of the capacities and vulnerabilities of affected communities, which shall define the nature of disaster assistance and the manner by which it is provided. This includes the analysis of the social, economic and demographic make-up of the community and its infrastructure. Through this analysis, specific relief and recovery requirements are determined and provided with the active participation of the community. Without this analysis, aid providers run the risk of extending inappropriate relief assistance that may lead to dependence, increased vulnerability and further social crises.

The tools for assessing relief requirements and analyzing capacities and vulnerabilities have to be further developed, fine-tuned, and promulgated among aid providers and disaster management practitioners. This will somehow facilitate local consultation and the provision of appropriate relief assistance through the existing social and political structures and systems. Consequently, it shall reduce the propensity of relief providers to assume the determination of priority needs and beneficiaries and the management of relief at the community level. It emphasizes the careful regard for existing strengths of the affected people and how relief could enhance these strengths and support local activities and initiatives toward reducing their immediate and long-term vulnerabilities.

The vulnerability reduction approach

The vulnerability reduction approach is a recent concept that complements existing approaches to disaster management. It views vulnerability as an interaction between a community, its environment, and hazards. This interaction can either result in sustainable human development or crises that can setback development.

The vulnerability of a community is characterized by its susceptibility or the degree to which it is exposed to the risk posed by hazards, and its resilience or the capacity to cope with harm. The vulnerability reduction approach addresses both susceptibility and resilience, by dealing with the causes of emergencies and disasters and strengthening communities at risk. It requires a number of coordinated activities including hazard and vulnerability assessment, prevention and mitigation, and preparedness for response.

Vulnerability assessment, which includes hazard analysis and risk assessment, allows the community to know how vulnerable they are and how hazards may affect them. Hazard mitigation, which includes measures to prevent hazards from causing emergencies or lessen their likely effects, protects the community from undue risks. Preparedness for disaster response, including planning and training, and contributes to preventing disasters by raising awareness to vulnerabilities and risks, thereby protecting the community and human development. The application of the vulnerability reduction approach entails multi-sectoral involvement, coordination and sharing of responsibility along with community.

Disaster reduction initiatives

The emergence of disaster reduction as a concept that integrates development-oriented strategies and recent innovative approaches to disaster management such as vulnerability and risk reduction has presented a new perspective in disaster management and also opportunities to address the important areas of concern that have been less focused on. The concept has also been applied in policy development, usually in the context of sustainable development and long-term socio-economic development strategies.

Policies towards Disaster Management in Kenya;

National Disaster Management Policy Kenya has prepared a draft National Disaster Management Policy. The overall goal of the Policy is to establish and maintain an efficient, effective and coordinated system for managing disasters,in order to minimize loss of life, resulting disruptions on population, economy and environment (Mortimore, 2009). The draft policy has adopted a multi-sectoral and multidimensional approach to disaster management where all the relevant Government Ministries and Departments, Agencies, non-Governmental Organizations, Civil Society organizations and International Partners are incorporated (GoK, 2008). The draft policy recommends innovative strategic options including National Disaster Strategic Plans, Strategic stockpiles of food items to add to the Strategic Grain Reserves, Disaster Trust Funds and District Contingency Funds, the Government of Kenya Fund and insurance initiatives. Therefore, efforts have been made to link with these policies, which include among others, various Government Development Plans and various policies, such as Sessional Paper No.10 of 1965 on African Socialism and its application to planning in Kenya; National Food Policies of 1981 and 1994; Poverty Reduction Strategy Paper (PRSP) of 2003; Economic Recovery Strategy for Wealth and Employment Creation of 2003-2007, the national vision 2030, the strategy for the revitalisation of agriculture 2004-2014, the national food & nutrition policy 2007, Gender Policy, the HIV/Aids policy, Social Protection Policy, the Arid & Semi-Arid Lands development policy, Urban development policy, and National Peace Building and Conflict Management Policy.

Linkages will also be made with existing relevant national legislation including The Environmental Management and Coordination Act No.8 of 1999, The Kenya Red Cross Society Act (Cap 256), The water Act (Cap 372), Grass Fire Act (Cap327), Petroleum Act (Cap 116), 4.2.6, The Explosives Act (Cap 115),St. Johns Ambulance of Kenya Act (Cap 259), Factories Act (Cap 514), The Local Authority Act (Cap 265), The Chief's Act (Cap 128), The Children's' Act, Police Act, The Prison's Act, and the various Acts creating the Armed Forces, The Acts creating Polytechnics and Technical Colleges, Educational Act, and The Universities' Charters Act.

The GoK (2009) mentions the following as necessary towards disaster management:

- The primacy of coordination, collaboration and communication
- Lesson learning and knowledge management
- Multidisciplinary and multisectoral approach
- Increasing partnerships and role of communities in Disaster prevention and Management
- Factoring of climate into disaster risk reduction
- Research and dissemination of information
- Regional and International perspectives
- Strengthening of Capacities for Disaster Management

National Platform for Disaster Risk Reduction (DRR)

The Platform is the coordination mechanism for mainstreaming DRR into development policies, planning and programmes in line with the implementation of the **Hyogo Framework for Action**. The Platform aims to contribute to the establishment and the development of a comprehensive national DRR system as appropriate in Kenya. The platform provides for: Establishment of baseline information for DRR, including disaster and risk profiles, national policies, strategies, capacities, resources and programmes; Identification of gaps, concerns and challenges and setting forth accepted priority areas in DRR; Advocacy for the urgent need for developing or adopting policies and legislations for DRR; Benchmarking progress made in promoting DRR

and its mainstreaming into developmentpolicies, planning and programmes; Development of result-oriented work plans of National Platforms for DRR to coordinate theDRR activities in line with the Hyogo Framework for Action (HFA); Coordination of joint efforts among members of National Platforms for DRR to reduce thevulnerability of people at relatively high risk; Monitoring, recording and reporting of disaster risk reduction actions at national andcommunity levels in line with the HFA; Documentation of lessons learned and good practices, and share the findingsat national, regional andinternational levels; and Working towards better integration of DRR into national planning, policies and programmes indevelopment and humanitarian assistance.

The Sendai Framework

The Sendai Framework which was adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on March 18, 2015 for the period 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks: It aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years. Its priority areas include:

(i)Understanding disaster risk;
(ii) Strengthening disaster risk governance to manage disaster risk;
(iii) Investing in disaster reduction for resilience and;
(iv) Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction.

Disaster response coordination in Kenya

Strategies during disaster response in Kenya

In the event of a disaster, responsible lead agencies are tasked to implement the followingstrategies and operational objectives;

a) Ensure a collaborative and coordinated response to the disaster among all thestakeholders.
b) Ensure food availability/security and good nutrition to affected populations in times ofdisaster.
c) Ensure Hygiene Promotion, Water Supply, and proper Sanitation.
d) Ensure Adequate Health Services and Health Systems Infrastructure.
e) Ensure availability of Shelter and planned Settlements as well as availability of Nonfood items to displaced populations following disaster.

The process of implementing Kenyan disaster response coordination is based on a set ofguiding principles (GoK, 2008). They include;

i. Promotion and protection of rights of all citizens: All state departments have enacted policy
ii. to address the needs of vulnerable groups.
iii. Kenya has developed a policy that aims to instill a culture ofindividual and collective efforts to enhance safety at all levels through DRR approach.
iv. To promote a culture of accountability andtransparency, popular/ public participation is embraced through devolution of resources and decision making.
v. The government has endevoured to promote adoption of an inclusive multidisciplinary and multi-sectoral approach.
vi. Climate/weather information (such as Early Warning, technical and scientific analysis) in disaster management has been mainstreamed into disaster management.
vii. Regional and International perspectives: The government promotes linkages with regional and international institutions, in order to facilitate collaboration in fostering joint initiatives for DRR and response.
viii. Strengthening of Capacities for DM: In view of the dynamic nature of disasters, the government and other stakeholders continue to strengthen capacities through training, mentoring and skills development at all levels.
ix. Mainstreaming Disaster Risk Information through Education: Preparedness and Risk Reduction information is widely disseminated and integrated into the curricula in schools and professional training requirements

Challenges in implementation as stipulated by (GoK ,2009) include the following:
Inadequate policy, legal and institutional frameworks Over the years

Disasters in Kenya have been handled without a coordinated disaster management policy, legal and institutional frameworks. In addition, disaster response activities have been poorly coordinated, due to lack of Standard operational procedures and Disaster Emergency Operation Plans. This situation remains a challenge that has led to duplication of efforts and wasteful use of resources. It also exposes disaster victims to greater risks and slow recovery. Similarly, in the absence of planned, coordinated action, prevention, preparedness and mitigation have not always been attained. Owing to lack of a coordinated policy framework, leading to strategic guidelines, the existing Institutional framework for Disaster Management is heavily weighted towards emergency.

Inadequate finances, human resources and equipment

The participating institutions charged with handling disasters in the country are faced with inadequate budgetary allocation and conditional donor support; such that the amount of money made available for the Disaster Management is far less than the realistic amount actually needed to manage successfully.

Inadequate information and data

Collection of data, analysis, and storage is not uniformly adequate, although in certain subsectors (such as in drought management) data and relevant information is plentiful and available for dissemination and use in Disaster Management. inadequacy of data and information, leads to poor planning, lack of institutional memory and improvement towards best practices. Similarly, this has resulted in lack of effective monitoring and evaluation of disaster risk trend analysis, and forecasts.

Weak disaster management capabilities within communities and institutions

The linkages on disaster management capabilities between local communities, on one hand, and district and national levels, on the other, have remained weak. In addition, the general degradation of traditional African socialism and livelihood systems has resulted in the progressive erosion of the traditional coping strategies. The Kenyan community has not been sufficiently sensitised on disaster management, especially, in on preparedness and coping mechanisms thereby, increasing vulnerabilities and potential impacts on the victims.

Inadequate integration and co-ordination Government

Ministries/Departments, Agencies, NGOs and Civil Society Organizations, the Private Sector, International Development Partners and UN Agencies have pursued a wide range of strategies and programmes to prevent and respond to disaster situations. However, these initiatives have been undertaken in a less consistent, less planned and less harmonious manner, virtually always reactive and uncoordinated, and without a coherent policy framework.

Inadequate Regional and International linkages

Disasters often go beyond national borders. However, Governments in the horn and Eastern Africa Sub- region including Kenya do not always factor in this aspect in disaster planning and response. This has led to some interventions, particularly of cross border nature to be ineffective. The need for national systems to link with other regional and international organizations has not always elicited the recognition of the importance it deserves.

Pathranarakul (2006) gives the following Success factors necessary for successful disaster management:
Effective institutional arrangement

The effective institutional arrangement is necessary for adopting the integrated approach. And lack of responsible governmental unit will lead to unclear line of authority and delay in decision-making process especially for emergency relief and rehabilitation. The principal responsible government department must be specified and the specific responsible unit must be fully authorized for disaster management in a national level.

Coordination and collaboration

The effective coordination and collaboration is also critical in successfully managing disasters. There are five different levels of coordination and collaboration among key stakeholders, namely international national, regional, organizational, and project level. Lack of coordination amongdifferent level of organizations, including governmental agencies, NGOs, International NGOs, donors can be problem.

Supportive laws and regulations

The supportive laws and regulations have positive impact on outcomes of disaster management. Therefore, supportive laws and regulations must be established and they must be enforced so that it will create enabling environment for managing disasters.

Effective information management system

Thisinformation is vital for planning, early warning, and rehabilitation andreconstruction. Therefore, effective information management system andsharing vital information among key stakeholders are necessary for successfuloutcomes of the disaster management.

Competencies of managers and team members

Disaster preparedness will notbe effective without the participation of the vulnerable community or targetbeneficiaries. The disaster managementplan managing disasters is usually done by individual project managers andproject team members. Their administrative, conceptual, and technical skills areimportant for planning, implementing, and managing disaster projects.

Effective consultation with key stakeholders and target beneficiaries

Participationof the clients or target beneficiaries is critical for ensuring successful outcomes.Effective consultation of the project planners with, and among, the key projectstakeholders, namely donors, local authorities, implementing agency, targetbeneficiaries in order to formulate an acceptable project strategy and action plan is crucial.

Effective communication mechanism

Project success is strongly linked tocommunication and co-operation between stakeholders. Trust resulting fromeffective communication between the task managers and the coordinator is thekey success factor whereas team cohesion is the second most important factorfor project success.

Clearly defined goals and commitments by key stakeholders

Aproject having clear and exact goal(s) with clearly stated purpose which isaccepted by all involved in the efforts, and with having their views areintegrated and a clear final date of completion is strongly and significantly relate to project success.

Effective logistics management

Disaster logisticsinclude people, expertise, and technology. Employing a new technology such asgeographic information system and remote sensing tools can enhance capacityto coordinate among organizations for more effective logistics management.

Sufficient mobilization and disbursement of resources

Lack of adequate resources and poor or no analysis of major riskfactors can lead to a number of problems resulting in termination andsuspension of the project. Adequate funds/resourcesis necessary for effective disaster management.

CONCLUSION

Kenya experiences of disasters cannot be avoided. Their severity has been escalated by climate change manifested through rise in atmospheric temperature and rainfall. The country has put measures in place to ensure effective disaster preparedness and response. However, there is a need to mobilize adequate resources and embrace modern approaches in disaster management strategies.

RECOMMENDATIONS

i. promote a disaster awareness and build capacities for disaster preparedness.
ii. Strengthen legal, policy and institutional framework on drrmanagement
iii. Create strong institutions and legal framework for effective disaster management in the country
iv. Promote linkages between disaster risk management and development establishing disaster relief trust
v. Strengthen disaster management institutions in the country
vi. Strengthen partnering with other agencies in the field of disaster preparedness and response regionally and internationally

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