A STRATEGY TO MAINSTREAM CLIMATE CHANGE AND RELATED DISASTERS INTO MENTAL HEALTH POLICIES AND PROGRAMMES IN ISIOLO COUNTY.

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ABSTRACT
The research on epidemiology on mental disorders related climate change disasters is inadequate to advice effective management and integrated implementation of the Paris agreement, Sustainable Development Goals and Sendai framework in the county. The objective of this research is to develop a strategy to mainstream climate change and related disasters into mental health policies and action plans in Isiolo County. Published and unpublished sources; questionnaires among focused group discussion selected sample size (N=24), Key Informants (N=35) and household socio-economic survey (N=288) were utilized to gain insight on current proposed and existing policies and programmes. These were compared to identify the linkages and existing gaps to be able mainstream mental health and extreme climate disaster risks in policies and plans in structure model framework. The study established that major health and non-health interventions during disasters included: provision of food and medicines (50.9% responses), support by Council of Elders (27.1% responses), restocking (10.2%) and minimal rehabilitation services (11.9% responses). The humanitarian programmes in rural areas is higher than in urban areas because the biggest risks of weather-related extremes lie in rural areas of which is expected to be pragmatic in future. The actor's involvement to manage disaster risks in context of climate change extreme events on mental health is dismal. The model of inclusivity and integration suggests overlapping and complementary practices of preparedness, response, and recovery. An alternative and participatory Climate Change Disaster Adaptation Model was devised to strengthen institutional coordination mechanisms and monitoring to improve adaptation and resilience building approaches. Climate change and health strategic interventions require a nexus approach, consisting of trans-disciplinary team. The inclusion of the improved climate adaptation planning and sectoral integration in relevant new and existing policies adaptation action plan to focus on development of planning processes and strategies that apply to environmental psychology by use of CCDAM model is proposed.

***KeyWords**: Climate Change, Disasters, Vulnerability, Mental Health, Policies and Strategies.*

1.1 INTRODUCTION
The research paper examines the cognate between climate, natural disaster and mental health and assesses the efficacy of the existing and proposed policies and strategic actions during crisis catastrophic situations. The role and effectiveness in management of mental health challenges in the light of climate change are also evaluated in this chapter. Systematic review of data and meta-analysis of attestation on the efficiency and effectiveness of programme intermediation was done during the key informant interviews, focused group discussions and household survey. On this basis, a context-specific and practical framework for actions that would lead to the intended outcome of this research is presented.

On this basis, the paper provides a schema for augmentation of eclectic, blended and end-user services requiring high skilled personnel. It presents interconnected systems model of networking between national and county planners aims to provide linkages between disaster reduction, adaptation and mitigation, environmental management policies and programmatic interventions to deal with extreme climate change related disasters impacting mental health (Sunkel, 2012) of the vulnerable communities.

1.2 MATERIAL AND METHODS

Proposed and existing policies and strategy interventions were examined from already published and unpublished sources to search and compare keywords such as; climate change, extreme climate events, disasters risks and mental health, then followed by the interpretation of the underlying context (Barbara, 2009). Key Informants Checklist was utilized among 35 KI using Think Aloud Protocols (David et al., 2016) or expertise research for policy makers to be able to identify policy gaps and the necessity to link them up for the holistic approach of dealing with health and environment issues. The sample key informants were probed using KI checklist to gain insight on current policies, programmes using interview questionnaires. The questionnaires from socio-economic household survey (N=288) were reconstituted into categories, patterns, themes, concepts and propositions to derive meaningful conclusions to induce cognitive explanation on policies and interventions (Greene et al., 2011).

The researcher worked alongside the participants to seek new directions and ideas using various group dynamics methods. (Charles, 2012). The workshop was conducted for the main stakeholders in area of study. Participants for the forums included the government and private, civil society organizations (in the area of health and environment) and religious institutions. The participatory assessments of health and environment priorities were used to advice policy process need to input in prevention, response and recovery on mental health related to extreme climate events (Delbert, 2002). The Focus of shared agenda was information to change conditions in a particular situation through various mitigation action plans. The disaster risk assessment was obtained by specifying the events/consequences ‘C’, and measure of uncertainty ‘Q’ and K denoting knowledge that Q and C’ exists (IPCC, 2014; Aven, 2014).

An advanced analytical technique of research analysis that required larger information bases and data sets, sought the truth about the problem of disasters and how they affect mental health. These were codified through routine exploration and accepted standard of scientific behaviour. The policy or structure model was assessed to come up with a framework to be used to manage complex multiple evaluation policies and their relationship to practice.

A reflexive monitoring and responsive evaluation identified gaps and omissions to come up with comprehensive policies and programs interventions that include mental health component. The steps stipulated in rationalist model include seeking intelligence; identification of the problem, assessment all options and relating consequences to values, and selecting the preferred option in the pool of problems and opportunities gathered. The end result was to come up with policy hierarchical structure to deal with mental health programmes precipitated by extreme climate events disaster risks.

1.3 RESULTS

1.3.1 Policy, Legal and Institutional Frameworks

The response to effect of climate related extreme events on mental health is rare and preparedness is neglected. The national institutions are developing a solid base to tackle mental health to align with comprehensive mental health action plan 2013-2020 (WHO, 2013). There are international, national and local ‘systems thinking’ to influence policy and research aimed at promoting mental wellbeing and motivate action on climate change induced extreme events. Effective and efficient institutionalized mechanisms for mental health and psychosocial support interventions (MHPSS) to deal with mental disorders arising from adverse climate change related extremes are a priority to affected communities.

1.3.1.1 The Kenya Health Policy 2014-2030

The Kenyan Constitution spells out the need to cater for vulnerable populations within the society so that they enjoy the rights to health as per national and international obligations and commitments. The emergency treatment of the mentally ill is an essential and undeniable right. To this end, the Kenya Health Policy (2014-2030) contributes immensely towards achieving universal health standards in line with global commitments of SDGs, Africa Union Agenda 2063, the Constitution of Kenya 2010 (article 43,1a) and Kenya Vision 2030, the Kenya Mental Health Policy 2015-2030.The need to strengthen mental health systems in Kenya is critical in this policy. The policy direction issues are consonant with this research study objective which has highlighted priority actions as follows:

The organization of Mental Health Services is vested in National Government.

The Kenya Board of Mental Health shall provide overall oversight in mental health (established under the Mental Health Act Cap 248).

The Directorate of Mental Health shall provide overall institutional leadership and coordination of mental health in the country in conformity with the Constitution.

The policy recognizes and appreciates the global initiatives targeting non-communicable diseases including the emerging mental health concern. The disaster prone ASAL environments are said to be facing a unique health risk which contributes to unacceptably high levels of stunting (35%), which are not addressed.

1.3.1.2 Disaster related policies

The 2010 Final Draft Policy for Disaster Management in Kenya institutionalizes and provides mechanisms for addressing disasters. This is in pursuit of reducing vulnerabilities to risks by establishing and strengthening disaster management institutions, partnerships, and networks. It also assists in mainstreaming disaster risk reduction efforts to help communities' cope with potential disasters associated with climate change by enhancing resilience, knowledge, skills and experience.

The National Disaster Management Centre, under the auspices of the Ministry of Interior and Co-ordination of National Government, was established by a Presidential Directive Letter ref. no.CAB/NSC/14/2/32 on 8th August 2013. Consequently, the Centre together with the stakeholders formulated a Draft National Emergency/Disaster Plan and Standard Operating Procedures (SOPs) that were adopted on 17th June 2014.

The National Disaster Management Centre coordinates national disasters and emergencies as per the Disaster Management Policy and related legislation. The Disaster Risk Management is ingrained with emphasis on emergency preparedness to ensure access to emergency care service by the affected persons. The County Mental Health Council shall provide overall oversight to mental patients at County level. This is remarkably a gap within the health and particularly disaster management policy.

1.3.1.3 Climate change policies and strategies

The Climate Change Act 2016 was passed to address the adverse effects of climate change and concretize steps to domesticate SDGs and the Paris Accord. The Act provides mechanisms and measures to reduce vulnerability and improve resilience by adopting environment and risk management practices. The Act provides for creation of a Climate Change Council, headed by the President, who gives policy direct on research and training. Also, the Climate Change Directorate is responsible for stakeholder's collaborations, mainstreaming and documentation of climate change initiatives as per the Climate Change Action Plan.

Also, application of the 2018-2022 Climate Change Action Plan (NCCAP) details are slowly being disseminated to counties due to the two-tier government setting requirements. The policies, the strategic actions and the related by-laws have to be aligned to each other. Isiolo County is undergoing reenergized strengthening and mainstreaming climate change into the County Integrated Development Plan (Policy Brief, Issue 2018, 2).

1.3.2 Strategic Interventions

1.3.2.1. State and non-state actors

During the consultative workshops and focused group discussions held on 17th December 2015. The following were identified as vital stakeholders at the National and County levels:

Directorate of National Disaster Operation Centre (NDOC), under Ministry of Interior and Coordination of National government

Directorate of National Disaster Management Unit (NDMU), under State Department of Special Programmes, Ministry of Devolution and Planning

The Principal Secretary of Ministry of Health

The Principal Secretary of Agriculture, Livestock and Fisheries

The Principal Secretary of Environment, Water and Natural Resources

The Principal Secretary of Lands, Housing and Urban Development

Other ministries that may be co-opted on need basis

Kenya Red Cross Society and other agencies on invitation

UNOCHA and other UN agencies on invitation

The National Disaster Operation Centre (NDOC, 1998) is the national focal point for coordinating responses to disasters in the country. The Centre operations are supported by expertise drawn from different Ministries, Departments, Agencies and Civil Society Organizations who are not committal for there is no bidding legal structure. The main County level unit's State and Non-State Actors (NSAs) which need to be devolved, listed by the key informants and FGD are as follows:

Ministry of Interior and Co-ordination of National Government: directly executed by NDOC, then to the County Commissioner, Kenya army and other personnel.

Ministry of Devolution and planning, State Department Special Programmes, directly executed under NDMU, yet to be devolved

National Drought Management Authority (NDMA)

Water Resources Authority (WRA)

Ministry of Health

Ministry of Education

Kenya Meteorological Department (KMD)

National Environment Management Authority (NEMA)

Ewaso Nyiro North Development Authority (ENNDA)

Japan International Cooperation Agency (JICA)

Civil society Organizations: Red Cross Society, World Vision, Food for the Hungry and Action Aid

1.3.2.2 Programmes for droughts and floods

The major intervention prevalent in is mostly humanitarian aid. The State and Non-State Actors normally offer short term interventions to save life and alleviate human suffering during and shortly after natural disasters have occurred. The adaptation interventions (advocacy, extension programmes) are implemented by a number of agencies, with the major player being the national government through the National Disaster Management Authority, Kenya Meteorological Department and National Environment Management Authority. The mechanisms facilitating linkages, integration or mainstreaming of climate change information and data within the county planning processes across all sectors is needed.

1.3.2.3 Social interventions for climate related disasters

Most Isiolo County communities live with climate-related hardships and chronic poverty in an emergencies-oriented environment. The study indicated that loss of livelihoods due to climate-related disasters are common and have the potential to cause a greater risk of development of mental illness and other social problems at both family and community levels. There are, however, various drought and flood related interventions in place as presented in Table 1.1.

Table 1.1: Social and Humanitarian Programmatic Interventions

Type of intervention	Implementer
a) Food Interventions Provision of timely food aid to vulnerable households Expansion of Cash Transfers/Food to those who are Food Insecure Food assistance to conflict affected areas Enhanced livestock market subsidy	Currently supported by Kenya Red Cross Society and ACFs County and national Government
b) Non-food interventions Livestock off take-slaughter / destocking Repairs of the broken water pumps during drought Drilled reserve boreholes in Sericho, Iresaboru, Dogogicha Pre-positioning of fast moving spares in strategic boreholes and fuel subsidy to strategic boreholes Peace building and conflict resolution intervention in Belgesh, Hawaye, Kinna, Garbatulla, Delbeq, Kom, Barchuma, Sabarwawa and Bassa Purchase of livestock feeds to the core breeding herds Mass screening and medical outreaches	County Government and National Partners/LVIA/NDMA/County Government Peace Committees and Forums, County National Governments/NDMA/ FAO/ Caritas Isiolo County Government, ACFs, AAK, KRCS, Government Doctors of the World, UNICEF and NDMA

1.3.3 Floods Interventions in Isiolo County

The humanitarian organizations such as Red Cross, Food for the Hungry (FH) and Action Aid deal directly with vulnerable populations to support them in terms of awareness creation, improvements of infrastructure, and resource management capacity when exposed to the risk of climate change. Conversely, clarity about all of these may provide a unifying focus for practices, which can take into account food, health and water needs. From the data analysis of household survey, FGDs and workshops, psychological interventions as part of adaptation and resilience interventions during drought or floods related crises are very limited. The study community, therefore, recommends consideration of the same for improved future planning interventions.

1.3.4 Policy and Programmatic Gaps: Results from the Field Study

1.3.4.1 Level of awareness of policies and programs

The Key Informants (KIs) stated that vulnerability to disasters is caused by wider environmental, social and economic factors that affect communities' health systems in the study area. However, only 42.3% of the KIs acknowledged the existence of policies and interventions related to health and disaster management but noted that they were fragmented due to failure to mainstream the aspects of climate change, disaster management and mental health. A paltry 19.2% of the KIs reported that there were no such policies and interventions in existence, while 30.8% said that they were not aware of them. This means that half of the KIs confirm the absence of any effective policies and intervention opportunities at the grassroots level.

The researcher ascertained that there are only two psychiatric nurses serving the whole County. The Global Health Observatory (GHO) data in 2011 painted a grim picture of 0.19 psychiatrists, no nurses, 0.01 social workers, and no psychologists working in mental health sector per

100,000 people in Kenya. According to GHO on mental health, there are existing governance tools such as legislation and plan of action, but cited that implementation of mental health policy is still lagging behind. The International Observatory on Mental Health System (IOMHS) cites capacity of partner organizations and networks crucial in provision of evidence based planning, implementation and monitoring mental health activities scale up.
All stakeholder forum participants who were engaged during the field work period had limited knowledge of mental disorders due to the challenge of low awareness and capacity. Nine (45.8%) KI respondents reported that there are specific policies and programmatic interventions on mental health, disasters and climate change. While 20.8% and 33.4% of the KIs agreed on inclusivity of mental health in health services, and on establishing urgent linkages between health and environment issues for holistic management approaches, respectively.

1.3.4.2 Inclusivity of policies

The inclusivity of the policies and programmes were reviewed, where 35.7% of the respondents asserted that they were not inclusive and 3.6% said they were inclusive. However, 60.7% did not understand the inclusivity rationale, hence omitted the question from their responses. The need for inclusion of mental health in policies across the sectors was evident in cross analysis of the outcome in HH survey, FGDs, and KIIs.

1.3.5 Management of Mental Health during Disasters

1.3.5.1 Regional and international obligations

The 65th World Health Assembly (WHA) adopted resolution WHA65.4 on the global burden of mental disorders concern is exposure to humanitarian emergencies that lead to mental health problems. The WHA asserts that multi-sectoral comprehensive coordinated response is necessary to address Non-Communicable Diseases (NCDs) from the health and social sectors at country level.

1.3.5.2 Co-ordination of mental health prevention and care during disasters

The study showed that among 24 institutions where KIs represented, 45.8% agreed there are policies that address mental health, though fragmented, 20.8% asserted there are none and 33.4% noted that they are not aware. The study further found that mental health interventions have not been wholly identified in Kenya as a major health problem, either in urban or rural populations, hence targeted interventions are few. The major programmatic (health and non-health) identified during disasters included: provision of food and medicines (50.9% responses), support by Council of Elders (27.1% responses mainly in rural settings), restocking (10.2% - responses rural settings only) and minimal rehabilitation services (11.9% responses mainly urban setting). The humanitarian intervention in rural areas is higher than in urban areas because the biggest risks of weather-related extremes lie in rural areas of which is expected to by pragmatic in future. The quality of care during emergency periods are compromised more in rural areas due to remoteness.
The household survey respondents were aware of programmes and existing relevant policies that included: Mental Health Policy (27%), Poverty Reduction Policy (18.2%), Climate Change Policy (9.1%) and Malaria awareness programme (9.1%). The researcher noted the need for Mental Health Action Plan to enable align the processes of implementation in regard to the relevant existing policies and programme interventions.
The Mental Health Unit is the only government institution offering mental health services in the whole of Isiolo County. The other government institutions that deal with climate change adaptation programme activities include: Ministry of Agriculture, Livestock and Fisheries; Ministry of Environment and Forestry; Ministry of Water and Sanitation; National Drought Management Authority; and other agencies. Their activities are sector-oriented with some weak

collaborative links between relevant stakeholders. The local institutions, such as the Mental Health Unit, have little autonomy, and simply implement the policies of their parent Ministry

1.3.5.3 Mental health interventions and cultural sensitivity

The efforts made by various Ministries, Departments, and Agencies (MDAs) highlights those communities at-risk due to natural disasters. There has been keen interest and capacity to partner with government to reduce the disaster risk and help communities adapt to climate change challenges. This can be enabled by psychiatric and counselling psychologists working hand-in-hand with other health professionals. Psychological interventions to reduce distress for the mentally ill are scanty or there are no implementers as shown in Table 1.2. The stigma associated with mental illnesses is high, with only Isiolo Referral Hospital offering limited services.

Table 1.2: Psychological and psychiatric interventions

Psychological/psychiatric interventions	Implementer
a) Treatment and or rehabilitation	MOH, Isiolo Referral hospital
psychotherapy: counselling and (or) bio-psychiatric approach	
psycho-education treatment	None
provision of social support	Provided by council of elders
rehabilitation activities	Minimally provided
survival skills, occupational and vocational training	
sheltered employment activities	
b) Advocacy	None
Public education: coordinate sensitization and awareness programmes by use of various tools;- media and Information Education Communication (IEC) materials	No psychiatric, psychologists, doctors, social workers

Provision of mental health and related services is necessary to stabilize individuals during times of duress. The study found that the services are being offered at different levels and small scale. The services at national level are at Kenyatta national hospital, Mathari hospital, other level five hospitals in the counties, Chiromo lane hospital and rehabilitations for Alcohol and Drug Abuse (ADA). These mainly specialize with ADA-related interventions, but other mental disorders interventions related to natural disasters are yet to be factored in programme interventions at county level. The co-ordination is a big challenge due to the number of services which need integration (see Table 1.2). This was very explicit in the household socio-economic survey where only 23.2% respondents agreed that there are mental health services available while 74.7% said there are none.

The study found that 54.5% household respondents asserted that programmes were not integrating mental health services and 18.2% suggested the need to provide services directly to mentally ill persons in the communities. The responses to the question on the integration of mental health services was higher due to long distance the communities walk to reach the Isiolo Referral Hospital and the need to localize health services.

1.3.5.4 Risk and emergency management based on Isiolo County Study findings

The study result showed that 67.1% of HH respondents ascertained that there is an urgent need for a risk and emergency management model to deal with emergencies of natural disasters. The multi-disciplinary approach entails chain prevention and care services programmes interventions delivered by various para-professionals (community health workers) and professionals (psychiatrists, psychologists). Case managers are coordinators of integrated psycho-social risk management programmes to reduce costs, enhance holistic patient care, and improve outcomes.

1.4 DISCUSSION

The research study considered the new policy environment and explored both threats and opportunities for integration of prevention and care mental health services, disaster-related interventions to extreme climate events driven by global warming. There is need to focus on mental health which has been given priority in policy at global and national level and provide nexus to health and environmental issues. Interconnected partnerships can address the areas of social prevention and care services for the mentally ill and vulnerable. The appropriate mental health intervention during natural disasters are nonexistence in country and specifically Isiolo County especially psychiatric/psychological services.

1.4.1 Challenges in implementing Mental Health Related Policies and Programs

The WHO mental health policies and action plans have been minimally embraced in some Middle and Low Income Countries (MLICs) especially the concept of community-oriented policies. For instance, South Africa and Uganda are ahead of Kenya because they have comprehensive mental health policies covering all domains. The challenges noted in MLICs are that implementation of mental health is being hampered by limited budgetary allocation, low technical know-how, surveillance and research. These underlying problems apply to and have slowed the implementation of the new national mental health policy in Isiolo County. The community mental health prevention and care are dismal in Isiolo County. There is therefore need for more integrated community-based mental health services (de-institutionalized) to help the very needy pastoral communities in Isiolo. This will improve accessibility, availability and prompt response during emergency and disasters.

The provision of mental health services is inadequate because of constrains insufficient appropriately trained skilled staff. The research study established that there are scanty psychiatric or psychologist personnel in Isiolo County; the whole population is being served by two psychiatric nurses. Limited access to mental health services is driving the need to develop different approaches to deliver services through community based mental health prevention and care (psychosocial-pharmacological interventions).

There is limited coordination of natural disaster at national and county level. This is attributed to shared roles between the two levels of government. The resource allocation to disaster management programme interventions in devolved government is not yet being utilized for the purpose due to late disbursement and capacity challenges. There are loosely created multi-sectoral mechanisms on disaster preparedness, response and recovery at national level. The mechanisms rarely include psychological/psychiatric aspect as precautionary measures and assistance to people who are affected by natural disasters especially at the county level.

The major policies for MDAs (interior and coordination, special programmes and initiatives, health, environment and natural resources) overlap in services delivery hence the necessity for mainstreaming. Globally, almost all countries are undergoing policy making processes and transitioning to initial implementation stages of integrating mental health, climate change and disaster policies, action plans and programmes interventions.

The Ministry Interior and Coordination of National Government; National Disaster Operation Centre is usually in constant conflicts with National Disaster management unit, Ministry of Devolution and Planning. This has sometimes paralyzed operations of emergency and disaster management because the two ministries and agencies coordination is difficult. The ownership of the disaster problems involving widespread losses warranting external interventions is usually responded too due to confusing roles. The NDOC and NDMU have been omitted in the structure of government making the situation more complex in implementing policies and programs related to climate change, natural disasters and mental health, all of which are crosscutting issues. The devolved system of governance is a huge challenge with established new and merged ministries, who have different responsibilities. The humanitarian activities carried out by county commissioners during disasters as directed by NDOC need to amalgamate the roles of NDMU at devolved level. Besides, the following implementation of devolution, having by laws in the counties hinders implementation various upcoming programme interventions

The interviews conducted in six zones (Oldonyiro, Garfasa, Garbatulla, and Merti, Kinna, and Isiolo town) and field studies in other forums identified that the State and Non-State Actors in Isiolo County are not integrating and mainstreaming resilience and adaptation programmes to climate change related disasters affecting mental health across the County. The strategy, structures and actions of execution of the above are not yet well spelt out due to inadequate awareness at the grassroots levels. Isiolo County has not yet developed its own disaster, mental health and other related policies and strategic plans or cascade the existing ones from the national level, to enable service delivery to grassroots groups.

Climate change concerns appear to be one of the drivers behind the changes in intervention approaches, such as resilience, disaster risk reduction and adaptation, which are gaining momentum among humanitarian actors (Mosberg et al., 2017). Few and random reactions to disasters, are common practice especially by the National and County Governments. These existing power structures determine who and where the resources are channelled to benefit the vulnerable groups and communities. Mosberg (2017) asserts that power and politics plays a major role in social interventions.

The glaring challenges noted by the stakeholders during Focused Group Discussions were evidence of violation of human rights (stigmatization, discrimination, maltreatment and marginalization) of people with mental and other social disabilities, and poor access to mental health services at local government facilities. The causes and types of mental disorders were not known to most of the key informants and the stakeholders who participated in the FGDs. Further, the public health system had only two practicing nurse psychiatrists in the whole of Isiolo County who were able to grasp the nature of mental disorders associated with climate change. A meta-analysis of available evidence showed that mental health diagnosis tools were not available to differentiate disorders from transient states of demoralization or grief, or from various physical illnesses. Besides, cultural taboos alienated the mentally ill; hence many of them were confined in their homesteads. The mentally ill are perceived as a curse, hence ostracized and most of them are mistreated in their homes, community and health centres.

1.4.2 A Framework for Mainstreaming Mental Health Issues into Policies

According World Health Assembly, the member states need to embrace mental health action plan to achieve universal health coverage; stresses on prevention interventions. The study established that there are four main areas stipulated by WHO: more effective leadership and governance for mental health; provision of eclectic, coordinated mental health and psychosocial services at community level; promote prevention, mitigation, response and recovery implementation strategies and strengthen information systems, evidence and research. This is in line with the World Bank and the UN Partnership Framework agreement signed in May 2018 that shifts from crisis response and recovery to risk reduction and prevention.

Besides, UN encourages all stakeholders to take action to strengthen and clarify the legal and institutional frameworks that have roles for state and non-state actors need to be clarified through policy and strategic action plan documents. By laws and regulations that directly link climate change and mental health issues in Isiolo County are non-existent. Mental health response to climate change disaster events is in need of strong links for multiple deliveries of services. Support is essential from international, national, regional and local level to enhance disaster precautionary and response capacity during emergencies.

Mental health interventions are therefore in two tiers:

Inclusion in primary health care: the specialized professionals; the psychiatrics, doctors and nurses, and mental health psychologists can handle complex cases of mental health cases.
Community Based Mental Health Care: basic mental health interventions can be handled by first level providers who have general mental health training of non-specialists health worker (NSHWs): teachers, counsellors, Community Health Workers and other para-professionals. The second level are professionals with health roles (OPHRs): teachers and community level workers who play a significant role in promotion and detection. The use of non-specialist interventions is cost effective and has high impact outcomes (Lesley, 2016; Van et al., 2013).
To reduce the mental disorders, effective and efficient of programmes / interventions require elaborate communication strategies to link up the players in all sectors. This also calls for frequent inventory of services provided and their accessibility to the poor, disadvantaged and vulnerable during disaster. This will enable measuring of the synergy exhibited throughout in management of the disasters. A database on empirical research for climate change related extreme event impact on mental health relationships is necessary to inform strategic interventions to reduce risks.
The study established the limited nature of multi-disciplinary linkages among the main crosscutting issues warranting mainstreaming of climate change, hydro-meteorological disasters and mental health. The major policies, action plans and programmes have to be aligned to be able to develop effective precautionary and support services for mentally ill affected by natural disasters.
According to Paton et al. (2017), if societies make a choice to co-exist with a hazardous environment, they must translate the outcomes of the in choices into action to effectively mitigate or reduce the risks and facilitate their ability to cope with, adapt to, recover from, and learn from disaster experiences. Disaster risk reduction conceptualizes how constituent policies, strategies and practices intended to manage risks arising from interactions between people, environment and natural systems hazards including climate (Twig, 2015).
The Kenya Mental Health Policy 2015-2030 is a blue print on mental health services which have been neglected for many years. The integrated policies and action plan provide a framework for planning action and development with explicit reference to managing the impacts using DRR and climate change adaptation. Mental health mechanisms relating to floods and drought are not yet devolved from national to county level in Kenya. The study has revealed the need to have in place a national disaster management policy so that vulnerable communities under climate change risks can be shielded from exposure risks. Further, both national and county governments should develop and mainstream Mental Health and the draft Disaster Management Policy and practices for public and private sectors. The Disaster Management Action Plan provides an important step towards ensuring that the actions outlined in the Policies are addressed systematically and effectively. This will ensure rapid progress towards implementing mental health precautionary and supportive services at community level.
In order to implement robust mental health services during natural disasters, it must initially be mainstreamed in policy planning and budgeting processes both at the national and county level. A good example of such entails embedding mental health policies and initiatives in County Integrated Development Plans (CIDPs) as well as Sector Plans linked to the annual budget process. The national government has been implementing the multi-year medium term expenditure framework (MTEF) since 2000/01. This provides the framework for linking the mental health and disasters related to climate change into strategy, planning, policies and the budget process, in order to make them effective in the management of mental health and its delivery to affected persons and communities, down to the local level.

1.4.3 A Framework for Mainstreaming of Mental Health Initiatives into Interventions

Planned adaptive mental health and psycho-social strategies for individuals and communities are needed to address climate change–related impacts. Responses should include providing mental health interventions during acute impacts of extreme events to reduce the vulnerabilities contributing to the severity of mental health conditions in the community. This will promote building of resilience and empower the communities to deal with indirect impacts, and act on systems and policy levels to address broad psychosocial impacts. There is also need to establish an MTEF Sector Working Group to assist in the mainstreaming of the mental health initiatives in sector plans. This is echoed in Sendai Agreement (United Nations, 2015) where adaptive and transformative processes in reconstructing developmental levels of psycho-social, economic and environmental capital are enshrined to build resilience.

The major tools used by counsellor psychologists and psychiatrics to measure interventions is flow chart to record presenting problems and action taken and dynamic analysis of disaster interventions. The World Health Organization through its Mental Health Gap Action Programme (MHGAP) recommends psychological and pharmacological interventions to community care providers for people exposed to adversity. The manual on Problem Management Plus (PM+) recommends effective delivery low version Cognitive Behavioural Therapy (CBT) and Interpersonal Psychotherapy (IPT) interventions. These will help people with mental disorders: depression, anxiety, adjustment and other disorders related to exposure to adversity (WHO, 2016; Patel et al., 2016). This true for emerging evidence of psychological impacts from any form of disaster exceeds physical injuries by 40:1 (Links, 2017).

The County Health Department is responsible for County health facilities, promotion and provision of Comprehensive Mental Health Care Services including emergency services and effective mental health referral system. This will alleviate the violence and drug abuse rated high in Isiolo County MOH Strategic Plan 2017/2018. The main programmes to amalgamate are disaster risk reduction, adaptation and mitigation strategies to avert emergencies and disasters impacts on mental health. This can enable mainstreaming of three major cross-cutting components; climate change, disasters and mental health in MDA. The multi-sectoral approaches to mainstream prevention, preparation and response at community will ensure rapid and fast provision of the services to a very vulnerable population.

A paradigm shift has emerged as a key priority in disaster management. The Community-Based Disaster Risk Management (CBDRM) is taking prominence from a response-oriented reactive management approach, a comprehensive approach with prevention, preparedness, and mitigation and response components. The community centred approach was endorsed by an international forum constituting of 168 countries dubbed "Hyogo Framework for Action 2005-2015" who emphasized on building the resilience of nations and communities to disasters". This was superseded by the Sendai Framework (SF), 2015-2030 also emphases on building the resilience of nations and communities to disasters. The SF provides comprehensive action-oriented policy guidance based on holistic understanding of disasters, as induced by human vulnerability to natural hazards (Tsegaye, 2016). Thus, the local community needs to be at the centre of disaster management and in achieving progressively higher levels of resilience to disasters.

The Division of Diseases Surveillance and Epidemic Response Unit under the Ministry of Health provide leadership on preparedness for human disease outbreaks and the Division of Health Emergencies and Disaster Risk Management is responsible for responses. There is need to strengthen both departments at all levels since health is a devolved function. A multi-disciplinary team, under the Ministry of Interior and Coordination of National Government is able to execute mainstreamed components of mental health and disasters. The natural disaster risks are impacting all ministries, departments and agencies of the government and private sector, hence the importance of drawing officers from public and private sector.

The National Disaster Operation Centre role is to coordination emergencies and disaster management, under Ministry of Interior and National Coordination of National Government. The Centre initiatives tend to be ad hoc, uncoordinated and mostly on short term basis. This is because the ministry of Devolution and planning coordinates targeted policy priorities and initiatives as per the constitution imperatives. The emergencies and disaster management coordination at devolved level is a prerogative of Ministry of Devolution and Planning. Also, National Disaster Management Unit under State Department of Special Programmes and initiatives, Ministry of Devolution and Planning has a big role to play in emergency and disaster management. NDMU is executive arm established to coordinate strategic plan for emergency and disaster interventions in consultation with other organ of the government. A systematic structure towards a comprehensive holistic national and county response strategy can be adopted in the Policy/ National emergency/Disaster Plan draft, 2014, spearheaded by the President of the Republic of Kenya. This will give a clear command structure to be able to implement natural disaster and mental health related programme interventions.

1.4.4 Effectiveness of Policies and Interventions in Management of Mental Health

The coordination and strategic approach is essential to align policies and support interventions at the grassroots levels. Thus, the inability of the County communities to access mental health services is a real problem that requires policy attention. A devolved disaster prevention and response operation to counties is necessary to be able to support the communities throughout the continuum of disaster management since environmental and social risks associated with climate change are increasing. According to the research study, Isiolo County mental health practices are under-established. The mental health policy is yet to be devolved and its mainstreaming in other sectors especially during disasters related to climate change is limited. There are insignificant achievements in implementation because mental health concerns have not been embedded in the County Integrated Development Plan.

Mental health interventions are cross-cutting issues that call for multi-disciplinary and inter-sectoral approaches in policy implementation by relevant State and Non-State Actors under stewardship of the Ministry of Interior and Coordination of National Government. The mental health, climate change and disaster policy issues cut across different sectors hence, the need to integrate and mainstream in all health and climate change response policies and action plans. This is in line with implementation of strategic plans on mental health taking shape at internationally e.g. Guyana 2015-2020 and New South Wales 2014-2020. Further, there is increasing attention globally and nationally for long term adaptation and resilience strategies to reduce vulnerabilities of communities affected by climate change risks. However, humanitarian approaches to strengthen resilience and deal with reduction of shocks and stressors are minimal at local levels. The Kenya Disaster Management bill, March 2018, a supplementary Senate bill, establishes the Disaster Risk Management Authority (DRMA) and County Disaster Committees who will provide the coordination framework. The bill need to envision removal of grey areas in disaster prevention and response initiatives when the DRMA at national level coordinates the National Disaster Management committee (NDMEC) which will design emergency and disaster interventions under direct leadership of the President and Cabinet Minister in the Ministry of Interior and Coordination of National Government. Also, under NDEMC is the National Disaster Coordination Committee chaired by the Permanent Secretary, Special Programmes up to the communities at Sub County Disaster Management Committee headed by Sub County Administrators. This will ease process of coordination of natural disaster and resilience programme intervention at all levels.

The committees comprise of International and National institutions to be able to link and coordinate systems and processes of disaster prevention and response mechanisms. The national team institutions actively involved in disaster prevention and response initiatives are Kenya Red Cross, St. John's Ambulance and AMREF. The United Nations urgencies team are spearheaded by United Nations Environmental Programme who is responsible for coordinating emergency and disaster interventions. The role is executed under the umbrella of the United Nations Disaster Management Team (UNDMT). The team comprises of World Health Organization, UN Office for Coordination of Humanitarian Affair (UNOCHA), United Nations Children Fund (UNICEF), the World Food Programme (WFP) among others.

The WHO has developed a comprehensive mental health action plan in line with the global comprehensive Mental Health Action 2013-2020 guidelines. There are three WHO recommendations that are important for development of policies and strategic plans:

To de-institutionalize mental health care

To integrate mental health into general health care

To develop community mental health services

In reference to WHO guidelines, the Kenya Mental Health Policy stipulates that there is need to coordinate mechanisms of mental health during the three phases of disasters (preparation, responding and recovery). The policy states that the national government in conjunction with county governments shall provide mental health services. The structural provisions for mental health services include:

Establishment and integration of mental health disaster management teams

Protection of vulnerable groups against disasters - those with mental disorders and in conflict, children, elderly and women

Establish, in nearest health facility, inpatient and outpatient facilities for all cadres of the population.

The main approaches to be embraced included reduction of stigma and discrimination, and reintegration of patients into workplace and society.

1.4.5 Sustainability of Linkages

Mechanisms to ensure sustainability need to be incorporated in the governance structures in the national and county government to successfully manage the collaborations. The capacity building component is necessary to equip the County personnel with skills and knowledge to identify climate change threats and how they are impacting mental health. The multi-sectorial coordination is being hampered by insufficient involvement and coordination of the stakeholders. The county should be the key implementation body for actions under the mental health policy through national coordination stipulated guidelines. To lid of duplication that lead to wastage, synergies among intra- and inter-governmental policy coordination is advocated. A key aspect of implementation going forward should be the integration of climate change, mental health and disaster actions into annual budget process linked to the County Integrated Development Plans and sector plans.

The designed programmatic interventions by National Disaster Management Executive Committee have to cascade to all levels of government. The designed strategic plan may improve the quality and effectiveness mental health services in the whole continuum prevention, response and recovery pre, post and after natural disaster. However, the new health policy should include environment issues to broaden interpretation of the concept of health and a focus that goes far beyond the traditional ‘reach’ of the MOH and social services. This is still a gap because emergency services are in want regardless of escalated disaster risks which are a source of violence and high ADA prevalence as indicated in Isiolo MOH Strategic Plan 2017/2018.

A case specific research is necessary to advice adaptation and mitigation roadmaps at national and sector specific innovative responses mainstreaming of climate hazards (Tan et al., 2013). The mainstreaming of mental health and disasters implementation must take into account other relevant policy initiatives that are being implemented. The State Department of Special Programmes is the focal department hosting disaster management policy through NDMU. The major relevant ministries that need to mainstream DRM and mental health aspects into their policies given in Table 1.3.

Table 1.3: Key Ministries, Agencies and Departments to mainstream mental health and disaster-related programmes

Disaster/Hazard	Focal- Ministry of special programmes	Department/state agency
Natural Disasters Natural Disasters Natural Hazard	Ministry of Interior and Coordination of National Government Ministry of Devolution and Planning Ministry of Environment and Natural Resources	Disaster Risk Management Authority National Disaster Operation Centre The State Department of Special Programmes and Initiatives- National Disaster Management Unit Climate change Council-CC Climate change Directorate Ecosystem vulnerability-DSRS
Natural Hazard	Ministry of Agriculture Ministry of Water and Irrigation	NDMA- Drought WRA- Floods
Biological hazard	Ministry of Health	Division of health emergencies and disaster risk management- Mental Health

The service interventions are possible when they are integrated in legislations, policies and strategic plans. The disaster risk management can be effective through coordination across governance structures from international, to regional, national and sub-national levels. This is emphasized by other international processes: Hyogo Framework for Action, 2005-2015; the Sendai Framework for Disaster Risk Reduction 2015-2030 and Africa Risk Capacity. Further research on related policies and systems to integrate effective management of mental health programmes to increase access of services is a priority in Isiolo County.

Non-communicable (mental disorders) diseases are critical priorities in community and health facilities should increase treatment coverage. National and county programmes or management plans for mental health are essential preparation for any operation to be effective. The interventions available now remain far from being sufficient, hence a need for a generic model. This is because choices of intervention vary with phases and types of disaster emergencies. For instance, severe mental disorders require psychotropic medicine for each therapeutic category (antipsychotic, antidepressant, mood stabilizer, anxiolytic and antiepileptic). The coverage of disasters during floods and drought, the resources and mental health services requirement estimate will enhance planning and design of interventions.

This enabled development of trans-disciplinary model of inter-linkages which was used to illustrate practical ways of integrating relevant policies and programmes to mainstream mental health in crisis related to extreme climate event situations. The connection between the policies with respect to effectiveness and efficiency across Ministries Departments and Agencies (MDA's) was assessed to mainstream mental health practices related extreme climate events.

To enhance resilience of pastoral communities, institutions have to be strengthened during disasters and emergencies events. The key stakeholders such as NDMA, MOH and MENR have to strengthen coordination mechanisms of climate change events (drought and floods), and mental health. The Climate Change Disaster Adaptation Model (CCDAM) recognizes that climate change and disasters are emerging issues to be mainstreamed and integrated in all MDAs. Mental health service delivery models should incorporate inclusivity and integration in DRM continuum of preparedness, response, and recovery. The disaster management need to operationalize localized action for resilience building and vulnerability reduction.

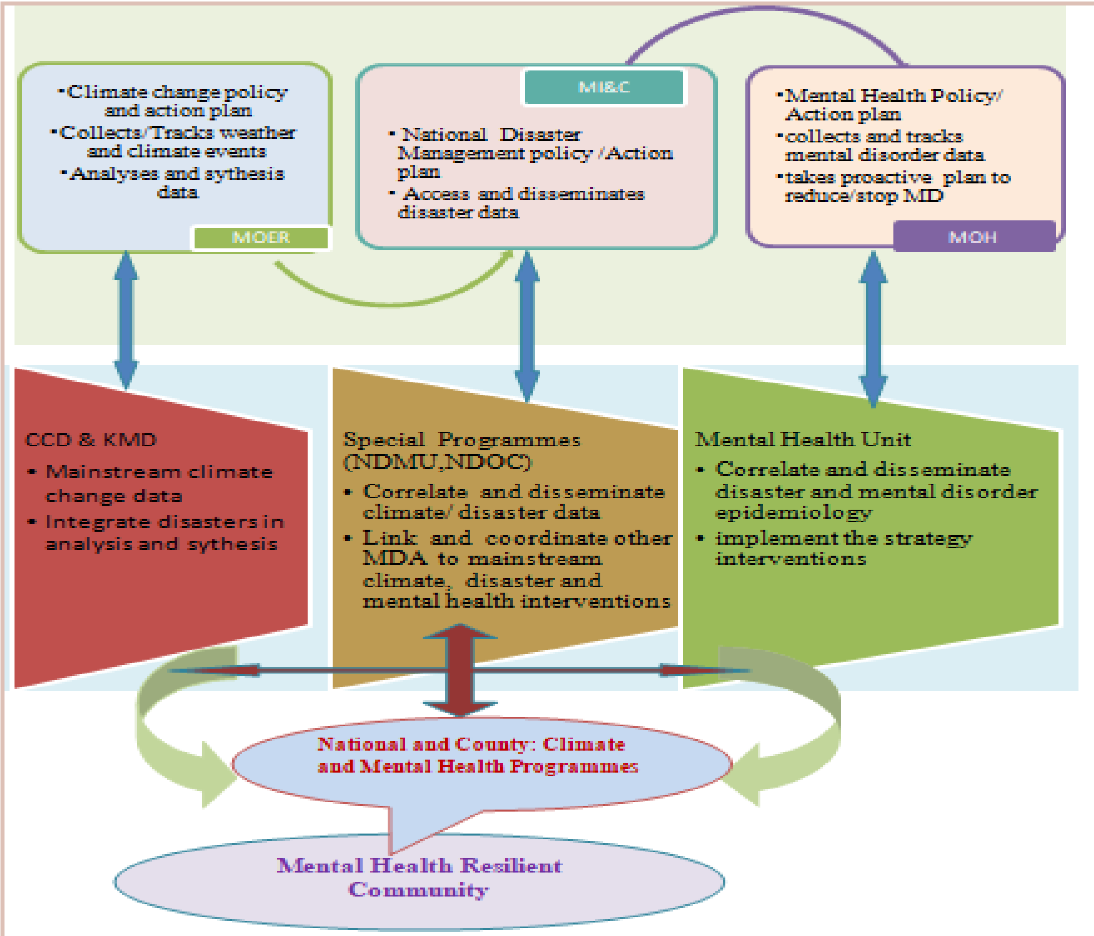

Figure 1.1: CCDAM model to help pastoralist communities' deal with mental health and gain resilience

Meticulous approaches or strategies are critical to address mental health threat related to climate change (Figure 1.1). All-inclusive preparedness plans include early warnings for severe weather events and related disasters, and health surveillance for communicable and non-communicable illness. Besides, there is need to identify the vulnerable groups early for psychological first aid, psycho-education for professionals and community care givers, identify shelter facilities, evacuation plans and available transport and provision of alternative source e.g. energy and water. Also, it is necessary to equip health facilities to deal with surge capacity and other humanitarian basic provisions. These action points will enable health professionals and mental health community care givers to contribute to climate change related disaster effects and work to reduce the vulnerability.

The UNFCCC report 2018 highlights ways to have effective and functional monitoring and evaluation of Paris agreement on national climate change adaptation actions; goals/indicators in relation to the SDGs and the Sendai framework. The report emphases on strengthen linkages * National Designated Authority* among relevant stakeholders on the three agendas to improve inter agency coordination mechanisms to build capacities, political oversight, enhance cost effectiveness and reduce reporting burden at all levels of the government. The insufficient statistics disaggregation on climate change disaster risks information and mapping is a major impediment on knowledge management for eventual adaptation programmes designs, planning and implementation.

There is an avenue to integrate and mainstream mental health services with culturally acceptable models (**Error! Reference source not found.**) of interventions during crisis situations in resource limited settings like Isiolo County. This study recommends establishment of community-based health champions, who will be trained in non-specialist health prevention and care settings to provide assessment and management of people with Mental, Neurological and Substance Use (MNS) as per Mental Health Gap Action Programme (mhGAP) WHO, 2017 Manual.

1.5 CONCLUSION

There is need for comprehensive mental health approaches that connect climate impact to practical solutions which encourage action to build mental health resiliency. Strengthening institutional and legal frameworks will enhance preparedness for effective response and recovery programmes. Emergency and disaster preparedness will significantly be improved through scaling up funding and broadening the stakeholders' base. This can be achieved when nations significantly and markedly increase the ambition to fulfil their obligation to attain their nationally determined contribution as per Paris agreement and 2030 agenda for sustainable development. This is essential to help developing nations to avoid crisis from climate change and vulnerability thereof to the most vulnerable population. The need for urgent climate change all-inclusive approaches at all levels and sectors coordination action to provide safer, healthier and more resilience future generation (UN Climate Change Secretariat, 2019).

Besides, the executive roles of coordinating agency, NDMU have to be strengthened because the respondents were not aware of the existence of NDMU. The concise roles of the actors need to be linked up to their contingency plans to ensure continuous monitoring, evaluation and learning. The strategic plans mechanisms in all MDAs need to link climate change related disaster and mental health. Action is imperative to reduce the burden of mental health which is on rise. Strategies should include interventions dealing with both psychological problems (e.g. stress, fear, feelings of helplessness) and, where possible, practical problems (e.g. livelihood problems, conflict in the family) can be addressed. Mental health and psycho-social resilience building has to be driven locally, hence "Community based‟ approaches having a strong relevance for Disaster Risk Reduction (DRR) and Climate Change Adaptation (CBDM, 2014).

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