

Drought Contingency Planning with Pastoral Communities

**A Community Managed Disaster Risk Reduction
Planning toolkit for Humanitarian Workers in the
Horn of Africa**



Institut für Auslands-
beziehungen e. V.



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Foreword

Natural and human-made disasters have been experienced throughout human history. In the last three decades both the frequency of their occurrence and the losses associated with them has increased. The incidence and magnitude of disasters today is widely recognised as posing a serious threat to the survival, dignity and livelihoods of countless individuals, particularly the poor. Hard-won development gains are also under threat, especially in the least developed countries (LDCs).

The awareness about the negative impact of climate change is generally growing in the region. Many people, especially those living in arid and semi arid areas, have already witnessed the change in the climate and its consequences on their lives, livelihood and the environment. Community Managed Disaster Risk Reduction (CMDRR) and Climate Change Adaptation (CCA) share common goals of reducing vulnerability of communities and achieving sustainable development. CMDRR is an essential part of adaptation – it is the first line of defense against climate change impacts, such as increased flooding or recurring droughts.

It is from this background that joint partnership between IIRR and the VSF Consortium (VSF-Germany, Suisse, and Belgium) embarked on a journey to facilitate contingency planning process, through the CMDRR pathway. Besides the customized CMDRR trainings conducted in the three countries, emphasis is laid on contingency plans as one of the outputs of the Participatory Disaster Risk Assessments (PDRA). Trained teams in Kenya, Uganda, and Ethiopia later facilitated communities to carry out PDRA and develop preparedness and mitigation plans. In Kenya, Bisan Biliqo and Dadachbula communities were targeted; in Uganda Lokoreto and Nawoikorot parishes of Napak district, and Loyaraboth, Tapac Musupo and Kakingoi communities in Moroto District were targeted whilst in Ethiopia, Besheda, Minogelti and Mirsha-kuluma kebeles of Hamer Woreda and Nayikaya, Lokoro, and Ocholoch Kebeles of Dassanach Woreda were targeted.

Risk analysis was carried out in the communities, and most-at-risk groups were identified and risk reduction measures planned through preparedness and mitigation plans. Contingency plans generated at the community level are expected to form the basis for district/regional contingency plans. Contingency plan validation workshops were later conducted bringing on board all stakeholders, including the local communities' representatives to review, refine, and validate the community contingency plans. This manual is thus the culmination of the participatory process that led to the production of refined community contingency plans.

Acronyms

ALRMP II	Arid Lands Resource Management Project
CBDRR	Community-Based Disaster Risk Reduction
CCA	Climate Change Adaptation
CMDRR	Community Managed Disaster Risk Reduction
CP	Contingency Planning
CSI	Coping Strategy Index
DSG	District Steering Groups
DRR	Disaster Risk Reduction
EWS	Early Warning Systems
GAM	Global Acute Malnutrition
GFDRR	Global Facility for Disaster Reduction and Recovery
HIV	Human Immunodeficiency Virus
ISDR	International Strategy for Disaster Reduction
IPCC	Inter-governmental Panel on Climate Change
KFSSG	Kenya Food Security Steering Group
LDCs-	Least Developed Countries
NGOs	Non-Governmental Organisations
PDRA	Participatory Disaster Risk Assessments
PPMEL	Participatory Planning, Monitoring and Learning
PRA	Participatory Rural Appraisal
UN	United Nations
VSF	Vétérinaires Sans Frontières

1. Conceptual Framework of the CMDRR Approach

1.1 Background

The Africa Regional Center of International Institute of Rural Reconstruction (IIRR) and the consortium of the Vétérinaires Sans Frontières (VSFs) have developed this field manual on how to prepare contingency plan using the CMDRR approach. The manual is intended to enhance the capacity of field workers facilitating disaster risk reduction measures at the grassroots level. It is meant for program staff and senior managers who would like to support disaster risk reduction efforts at the grassroots level, together with relevant policy and program framework that would have wider and sustainable impact. The scope of this manual is slightly different from the standard package that IIRR uses in its regional and customized trainings. The focus here is in the contingency plan preparation and response, which forms part of the risk reduction measures in CMDRR general framework.



The manual is divided into four main sections: the first part highlights the general background of Community Managed Disaster Risk Reduction (CMDRR). In this part, the rationale for CMDRR; the global framework that guides disaster risk reduction measures; evolution of various disaster risk reduction measures; and CMDRR as a participatory approach are embedded. The second section covers the core part of this manual - Contingency Planning (CP) using CMDRR approach. The section expounds on the meaning of contingency planning and the entire process of developing through participatory community process. The third section gives an in-depth understanding of various steps and relevant participatory tools that are used to facilitate generation of contingency plans. The fourth part highlights the key coordination aspects of a contingency plan. It identifies the need for functional relationship across the structures, sharing of reliable early warning information and general planning and implementation of a response plan.

1.2 Evolution of Disaster Risk Reduction (DRR)

Natural and human-made disasters have been experienced throughout human history. The Inter-governmental Panel on Climate Change (IPCC) has found that some extreme weather events have changed in frequency and/or intensity. These changes may already be contributing to the increasing number and intensity of disasters, making the need for effective disaster risk reduction (DRR) even greater and more immediate. In the last three decades, both the frequency of their occurrence and the losses associated with them has increased. Hard-won development gains are also under threat, especially in the least developed countries. For example, the 6.6 earthquake which hit Iran in 2003 killed over 40,000 people. In contrast, the 6.5 earthquake which hit Central California four days earlier took two lives and injured 40 people. It is the combination of an exposed, vulnerable and ill-prepared population with a hazard event that results in a disaster.

Disasters can be avoided. There are ways to reduce risks and to limit impacts, for example by addressing the root causes of people's vulnerability and increasing their capacity to cope. DRR comprises preparedness, mitigation and prevention. It aims to enhance resilience to disasters and is underpinned by knowledge on how to manage risk, build capacity, and make use of information and communication technology and earth observation tools. Effective DRR can reduce the loss of life and property.



In recent years, the focus has moved from mainly responding to disasters to implementing comprehensive DRR approaches. In 2005, 168 governments adopted the Hyogo Framework for Action 2005-2015: Building the resilience of nations and communities to disaster. The challenge now is to translate it into effective action at global, regional, national and local level. Many developing countries are putting considerable effort into implementation, but are constrained by lack of funding and capacity. The 2nd Global Platform for DRR, which took place in 2009 sought to sustain the Hyogo momentum and take stock of progress made. Growing international awareness is evident from initiatives such as the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR).

The awareness about the negative impact of climate change is generally growing in the region. Many people especially those living in arid and semi arid areas have already witnessed the change in the climate and its consequences on their lives, livelihood and the environment. Beyond the common hazards, the Horn of Africa region is also experiencing new hazards such as flood, invasive plant species, new species of pests and diseases as a result of climate change. There is a general consensus among politicians, professionals, and community leaders that climate change is real and something needs to be done to contain its negative impact. There is need to reinforce the disaster response capacity and DRR strategies in developing countries. Community managed disaster risk reduction (CMDRR) and climate change adaptation (CCA) share common goals of reducing vulnerability of communities and achieving sustainable development. CMDRR is an essential part of adaptation – it is the first line of defense against climate change impacts, such as increased flooding or recurring droughts.

It is from this background that joint partnership between IIRR and VSFs-Germany, Suisse, and Belgium embarked on a journey to facilitate contingency planning process, through the CMDRR pathway. Besides the customized CMDRR trainings conducted in the three countries, emphasis was laid on contingency plans as one of the outputs of the participatory disaster risk assessments (PDRA). Trained teams in Kenya, Uganda, and Ethiopia later facilitated communities to carry out PDRAs and develop preparedness and mitigation plans.

Reactive approach to hazard events has been replaced by proactive approach through disaster risk reduction. With this comes the era of hazard prevention and mitigation; vulnerability reduction by building individual capacity to survive; bounce back; and strengthening communities as functioning support systems.

The main incentive of a functional and effective DRR endeavor is communities being effective role models to others. Once learning transpires, they can move further with their development. Communities' collective learning of their disaster risk will prompt them to offer risk reduction measures. DRR initiatives of development organizations must take a look at the fundamental difference between community based and community managed DRR. It is crucial to distinguish varying DRR approaches. Every approach is based on the organizational choices on the way they want to do things. Below are descriptions of the two approaches:

- In Community Managed Disaster Risk Reduction (CMDRR) emphasis is on the interactive people's participation in the entire project cycle whilst in Community-based Disaster Risk Reduction (CBDRR), information from the community is gathered to determine interventions which are primarily dependent on external facilitators.
- The facilitation process is aimed at co-constructing the facilitators, the people and community. Its goal is to facilitate learning and positive change. In CBDRR, the process is aimed at gathering information in order to develop local plans and programs.
- Community implements the project while the external facilitator provides guidance. In CBDRR the facilitators implements the project while the community participates.

While CMDRR is aimed at facilitating and enriching the learning process with the community; between the facilitator and the community, as well as, through the other ladders of the facilitators' organization and other stakeholders, CBDRR is concerned with transferring technology to the community from the external facilitator.

CMDRR institutionalizes Participatory Planning, Monitoring and Learning (PPMEL) system as an approach and tool in strengthening the community organization's capability to finally manage and own the project. CBDRR to some extent is a link to external organizations' capability to manage the project. However, in the long run, self-reliance of the community organization is not guaranteed.



1.3 Why community managed DRR?

CMDRR is recognized as a process of bringing together people within a community to enable them to collectively address a common disaster risk and collectively pursue common disaster risk reduction measures. It is a process of mobilizing a group of people in a systematic way towards achieving a safer and resilient individual/community which takes place in a geographically-defined living area (or) in sector groups not necessarily living in same location. The end in view is a dynamic community that equalizes power relations, binds the group cohesively in the

- Disaster is localized and it happens in the community
- People in the community themselves are the affected and the first responders
- Communities are the foundation of the world

process of making decisions, deals with conflicts, resolves issues, and manages individual and collective task in addressing and bouncing back from hazard events.

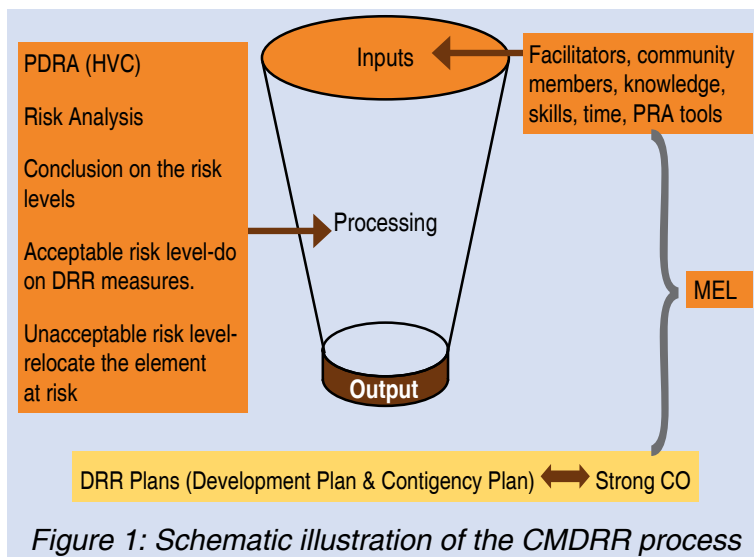
1.4 The CMDRR Model & Process

Community managed disaster risk reduction (CMDRR) is grounded on disaster risk reduction formulae which is used to qualitatively describe disaster risk and plan risk reduction measures.

$$R = \frac{H \times V}{C}$$

It shows that the risk (R) of suffering consequences of a disaster is determined by the presence of the hazard event (H), vulnerability conditions (V) and coping capacity (C). The above function presumes that there are three major criteria that could provide entry points in reducing the risk for disasters, thus guiding the design of interventions:

- Hazard events could be prevented or mitigated (if prevention is impossible). This will reduce the level of risk.
- Vulnerability of communities at risk could be reduced through e.g. temporary or permanent relocation to safe areas.
- Capacity of the individuals or communities at high risk areas could be improved through training on life saving skills for example in flood prone areas, or fall back areas in drought prone zones, etc.



Whereas the formula may not provide precise quantified level of risk, it can be used as conceptual guide in understanding the risks and ultimately designing appropriate risk reduction measures.



Viewing CMDRR as integral to development management makes it both a method and a process which intersperse with one another. The process of CMDRR evolves gradually through a conscious, deliberate and purposive method of people working together for a shared development path. Thus, it is not a consequence of an accident or coincidence. People plan and work for it to make it happen. CMDRR does not happen overnight. Done with utmost care, it is a slow and painstaking process of releasing and enhancing the inherent powers of people for self-development.

1.5 Why differentiate between Development Plan and Contingency Plan?

In community managed disaster risk reduction, the information generated through participatory disaster risk analysis (hazard, vulnerability, and capacity), assessments and determined risk levels facilitate generation of development and contingency plans. The development plan is a long term plan and focuses on addressing the underlying causes of vulnerability and building peoples' resilience against the prevalent hazards. Building disaster resilient states or communities is a stepwise incremental process that involves multiple institutions and stakeholders so that interventions aiming at vulnerability reduction are incorporated in long term development plans at all levels. Unfortunately, disaster or hazards do not wait until such resilience capacities are built and there is therefore an acute need to link or harmonize community managed disaster risk reduction with relief interventions. The degree to which these happen depends on the effectiveness of early warning systems (EWS), the feasibility of contingency plans, and the ability of the EWS to activate the contingency (response) plans and the preparedness that reduces disaster impacts on community. That is why it is important to have before the hazard strikes, beside the development plan, a contingency and preparedness plan in order to save lives and livelihoods.



2. Contingency planning

2.1 Basic concept of contingency plan

The concept of contingency planning is central to disaster risk management. Contingency plans deal with a potential future disaster or incident and translate actions into an increased readiness to cope with that potential crisis. In disaster risk reduction, the thrust of efforts of all stakeholders more so the vulnerable communities should be to prevent hazard occurrence where possible, or mitigate potentially damaging effects of hazard events.

Contingency planning is closely related to response planning, the only difference being the time when the planning takes place. In Response planning the crisis trigger the planning process and the plan focuses on the consequences of the actual crisis. Contingency planning on the other hand entails use of actual projections and probable scenarios in the event of crisis to develop the response plan. It is important to appreciate that the two complement each other. Planning during actual crisis is normally challenging and time consuming. Due to the need for swift action, proper assessment and coordination may not be done. Unless augmentation or step scenario building is incorporated upfront, a crisis will be inevitable. Where contingency plans and disaster management systems exists, the response to disaster would need just a rapid fact finding assessment. This is to verify assumptions in the scenarios used to develop the contingency plan and make necessary adjustments that translates the existing plan into an activated response.



The process of contingency planning results in either or both, an informal agreement on role of various stakeholders in the event of a disaster situation, or a formal written plan. It is important to note that among African communities, informal contingency plans have existed from time immemorial. For instance, pastoralist communities in the greater Horn of Africa activate various responses at different stages in progression of drought into emergency. Restricted or deferred grazing, herd splitting, killing of newborn livestock, restricted breeding of animals, negotiation for resources access across ethnic boundaries, relationship building with neighbours, and selective culling to reduce pressure on land are some of the activities undertaken at different stages. Indigenous early warning signs ranging from interpreting behavior of

domestic and wild animals, plants, and position of certain stars are used to predict hazard events and thereby triggering of contingent actions to minimize loss of both human lives and assets.

Even today by the time external actors come into disaster affected communities with relief responses, communities' own contingency actions have commonly long been activated. The challenge for humanitarian actors is how to build on existing community support system and strengthen rather than undermine them, thus create dependency in the long run. Ideally efforts should be made to understand informal traditional disaster contingency plans of the communities where community managed disaster risk reduction processes are being facilitated.

Also known as a worst-case scenario plan, backup plan, or a disaster recovery plan, the contingency plan is simply a secondary or alternative course of action that can be implemented in the event that the primary approach fails to function as it should. Plans of this type allow businesses and other entities to quickly adapt to changing circumstances and remain in operation, sometimes with very little inconvenience or loss of revenue. It is not unusual for organizations to have both a master contingency plan that is relevant to the entire organization, as well as plans that are geared toward rapid response in specific areas of the operation.

A contingency plan is often developed by identifying possible breakdowns in the usual flow of operations, and developing strategies that make it possible to overcome those breakdowns and continue the function of the organization. For example, if a business depends heavily on telephone communications to conduct business, the contingency plan may be to create a secondary wireless network that can be activated in the event that the public telephone lines are disabled by some type of disaster. Ideally, the cut over to the wireless network would be seamless, and not interfere with communications for more than a moment or two.

2.2 Partnerships in the Development of Contingency Plan

Effective DRR process requires broad partnership between the vulnerable communities, the government agencies at different levels, the civil society organization, the UN agencies, and private sector actors. The vulnerable communities should play central role in the plan development. Development of contingency plan should be part and parcel of disaster risk reduction process. The plan could be developed at different level using bottom-up approach. In communities where community managed disaster risk reduction process is facilitated, the information generated during risk analysis process should be used to help them develop their contingency plan. The importance of having the plan at this level is to ensure that community coping capacities are not undermined by detrimental strategized external support. The community contingency plan should specify at what point external assistance will be needed and how the community itself in an ideal situation would requisition it. Communities have their own thresholds in cases of livelihoods performance e.g. in cases of livestock prices, where the purchasing power at household level is totally undermined if a goat/sheep is sold at less than Kshs 1000(USD 12) in Northern Kenya. For cases of natural resources, distances and time taken to access the resources guide communities in determining thresholds. A good example is the range user association in Merti, Isiolo County in Kenya where strategic boreholes are only used for watering livestock if water is only accessible at certain distances. These thresholds would therefore provide a guide on the exact period of activating the shelf/contingency plan.

At smallest administrative levels e.g. county disaster contingency plans could also be developed. The key development actors working with different vulnerable groups or communities within the county, some community representatives and the different government department could use their experiences of and trend in hazard events to build scenarios around which to develop contingency plans.

In Kenya for instance, the arid northern districts have drought contingency plans. The plans were developed by the district steering groups (DSG) which bring together key government line ministries, active local and international NGOs, representatives of minority groups and religious agencies. The line departments facilitate development of scenarios on potential impact of drought on the key sectors e.g. livestock (production, marketing and health), water, human health, human displacement, human nutrition and agriculture production in agro-pastoral set ups. The early warning system guides the DSG in recommending activation of various contingent actions at different stages of drought. Rapid assessment missions are commissioned to verify the assumptions in the scenarios used to develop contingency plans shortly before contingent actions are set into motion.

Stakeholders' analysis is key in the process. It is important to assist the community in identifying their important institutions (both, intra and inter), and who can actively participate in making the contingency planning process a reality. Participatory stakeholder analysis is an essential part during the participatory disaster risk assessment (PDRA) process. Facilitators can always utilize PRA tools to enable the community appreciate the networks they enjoy within and without in terms of partnership. Community institutions and their own strata form the nuclei part of the network, while other institutions and organizations which are working in the community, play rather peripheral roles. The Venn diagram normally is the most commonly used tool to establish and strengthen such ties.

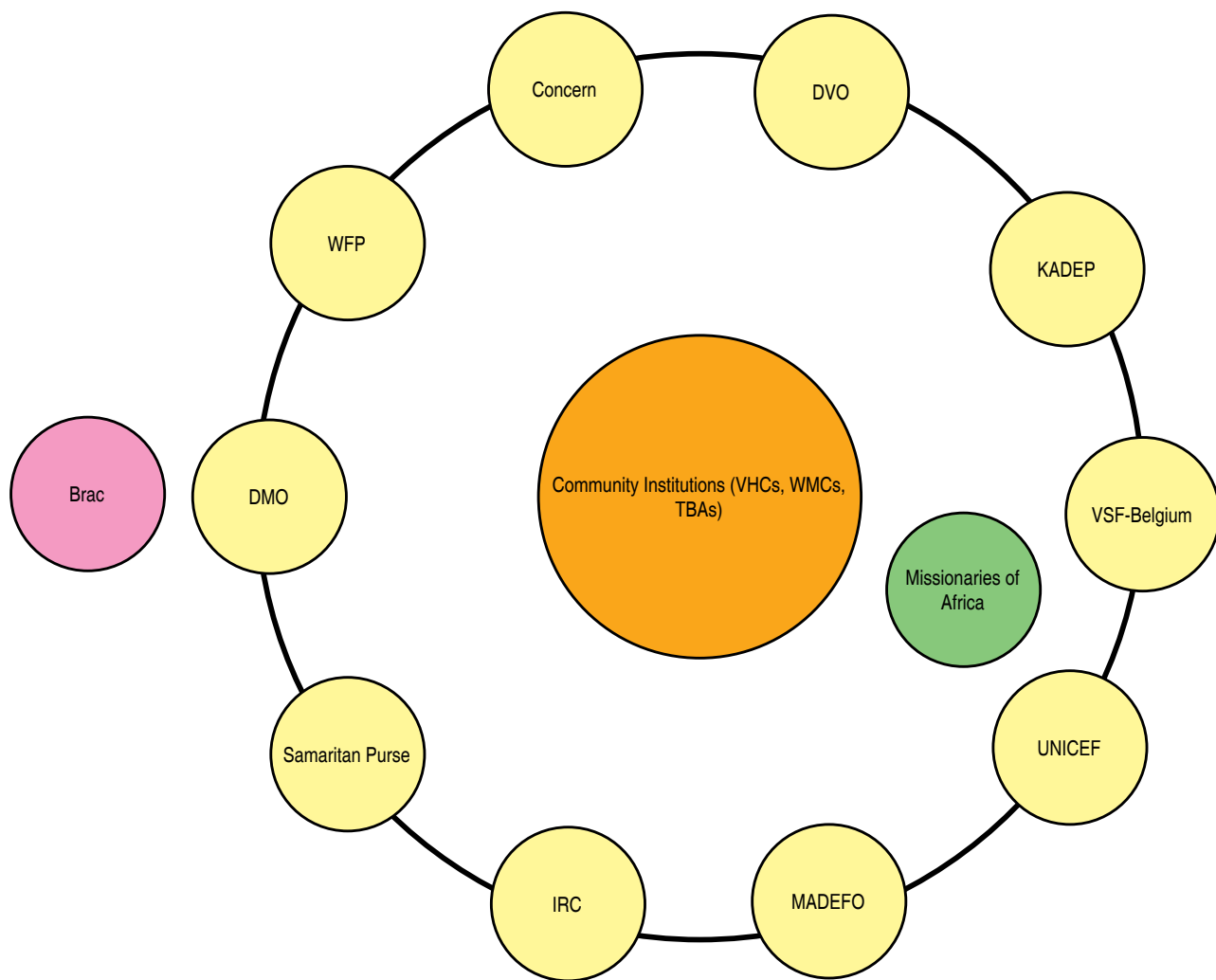


Figure 2: Venn diagram reflecting community's relationship with its partners in Loyarpoth and Tapach parishes of Moroto District in Uganda

In the above illustration, existing community institutions are at the core while other actors are assigned the size and position of the Venn by the community according to the relationship ties.



Table 1: Stakeholders analysis summary format

Stakeholder	What they are doing in the area	Resources/capacities they have in that area			
		Human	Financial	Physical	Social
Focusing on Intra					
Community Institutions					
Local Communities					
Local Government					
CBOs					
FBOs					
Resource user groups					
Focusing on Inter					
Central Government					
Research Institutions					
Cooperate Institutions					
Other NGOs (name)					

2.3 Developing the Contingency Plan

Community contingency planning is achieved through the participatory disaster risk assessment (PDRA) process. After determining the risk levels and identification of the most at risk, summary of risk is given and recommendations are formulated focusing on hazard prevention, mitigation, individuals' survivability and community readiness. The output of the entire PDRA process is a risk reduction plan (preparedness plan) and the hazard mitigation plan (contingency plan). Both plans have different objectives. The development plan focuses on medium to long term aims navigating communities towards resilience whilst contingency plan's objective is to save lives and livelihoods in shorter terms.

It is important for the facilitator to emphasize the inclusiveness of the process which starts right from the initial stages of the PDRA and which ensures proper community entry and immersion. It is important to have a target for community representation (about 30 percent of the community is recommended) ensuring that gender, and special category groups, youth, economic/livelihoods representation among others are considered. Depending on the seasonal calendar, the PDRA process up to the development of contingency plan should take between two to three weeks.

After generating the preparedness and contingency plans, the community shall take responsibility of their implementation, frequent review and updating process. Stakeholder analysis informs the necessary partnership for resource mobilization and implementation. Community organizations and other functional community institutions, including the local leadership, should be championing the implementation of the contingency plan.

The generated community contingency plans and those generated at the district/Woreda levels or administrative levels are characterized by an inter relationship. It should be emphasized that the community contingency plans shall form in an ideal case the basis

for administrative level contingency plans. Disaster risk reduction established structures can facilitate this role to ensure a community managed disaster risk reduction process. In Kenya for instance, discussions are in high gear to establish drought contingency fund kitty where community contingency plans can access financial resources. Pro-active role of community organizations to champion risk reduction measures implementation may facilitate local governments under the constitution to fund community contingency plans. To realize this it is expected that the community will be pro-active and forge partnerships with the government as a key partner in the implementation of its contingency plan.

2.4 Coordination and Preparation for Contingency Planning Process

Various stakeholders need to be recognized, their roles clarified and a lead agency identified to provide leadership. For instance, in Kenya, the district drought management unit provides leadership and coordinates the process. On the same score, the District Steering Group (DSG) established and strengthened by the Arid Lands Resource Management Project (ALRMP II) has been a key structure in decision making in Northern Kenya especially on matters regarding drought. District peace committees established in northern Kenya



and northern Uganda are another example of some of the key structures. The stakeholder analysis should thus be as comprehensive as possible so as to take stock of all stakeholders in community contingency planning process. The stakeholder analysis should be able to outline functional community institutions e.g. Range lands and water user association in Northern districts of Kenya, traditional governance structures e.g. the “dedha” council of elders among the Borana community in Kenya and Ethiopia among other examples. It is important to map out all stakeholders especially those along the value-chain of livestock and crop productions and involve all of them in contingency planning. It may be difficult to involve everyone at the starting of contingency planning but stakeholders can be involved at various stages of the process.

The stakeholders available within the community can be involved during the PDRA process and others during the validations, implementation, and monitoring and evaluation process. The most important thing is to identify the roles for various stakeholders and relevant structures for coordination. This will avoid overlaps of responsibilities hence minimize conflicts. At the district or Woreda level, all development actors including government agencies, non-governmental, research and learning institutions need to be involved for sustainable partnership. Sharing of plans across partners would ensure proper targeting hence effective response mechanism. Vertical and horizontal participation is pertinent with clear management framework. Participation should be anchored on key decision making structures.

2.5 Participatory Disaster Risk Assessment (PDRA)

PDRA is the process of gathering all relevant data about the community, such as physical characteristics (e.g., location, area, natural resources, climate, etc.), demographic features, economic and sociopolitical aspects of the community, environmental problems, etc. and

being able to determine the nature and extent of risk by analyzing the characteristics of hazards, the degree of vulnerability and the capacity of the community.

There are four main steps involved in participatory disaster risk assessment:

1. Hazard Assessment
2. Vulnerability Assessment
3. Capacity Assessment
4. Disaster Risk Analysis

2.5.1 Hazard Assessment

Hazard assessment identifies the most likely natural or man-made hazard or threat to the community, and seeks to understand its nature and behavior. In this case the focus of VSF is on drought hazard. But the nature and behavior of drought differs from place to place and we need to contextualize the hazard assessment. Many people refer to hazards as disasters. A hazard can only be called a disaster when it hits a community, and the effects are beyond that of the community's coping ability.

International Strategy for Disaster Reduction (UN-ISDR) describes a hazard as “a potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.”

Those based on nature: earthquakes, droughts, floods, avalanches, etc; those based on violence: war, armed conflict, physical assault, etc; those based on deterioration: declining health, education and other social services; environmental degradation, etc; those based on the failings of industrialized society: technological failures, oil spillage, factory explosions, fires, gas leakages, transport collisions. (Source: Bellers, 1999)

Hazard assessment involves: Identification of the hazard using brainstorming techniques, prioritization of the hazards using scoring matrix or ranking, Indicating hazard location on the social map (hazard map), characterization of the identified hazard using hazard assessment form, hazard source-force tree, hazard behavior storytelling, historical trend. Socio map can easily be enriched to capture the geographical location of particular hazards by the community. In hazard mapping, the community is facilitated to identify their boundaries with their neighborhood, then being able to mark specific areas that are prone to particular hazards. This is like a confirmation of the previously discussed hazard identification and ranking where community members have prioritized the common hazards within their boundaries. Within their villages, they should be able to locate the villages that are affected by specific hazards. Particular hazards are localized in specific zones which should be highlighted on the map depending on geographical scope of the hazard. Drought may be homogenous in terms of geographical coverage but the coping capacities of different groups differ. Vulnerability mapping can be combined with hazard mapping in the same map.



Figure 3: An example of hazard map in Lokoro kebele of Dassnach Woreda in Ethiopia



In the above hazard map, the part of Lokoro community that neighbors Hamer is exposed to natural resources based conflicts. Rangelands in these areas are prone to deteriorating conditions. This is due to over concentration of some areas and extreme isolation of areas in conflict zones, invasive species and bush fires which destroy valuable and traditional grasslands. Duga swamp area is prone to tsetse fly infestation and mosquito breeding. Hazard characterization facilitates an in-depth understanding of hazard. This is made easier by use of hazard force tree where the cause and origin of hazard is properly illustrated. Such patterns as migrations, increased demand for pastures and water resources, animal diseases spread corridors, livestock market routes, salt

lick zones for livestock, irrigation fields, among other key areas are identified much easily on the map and are deemed to be of significance to hazard characterization. They assist in providing more information regarding the hazard.

Clarification for various characteristics used to analyze hazard:

- Source/origin/cause: cause of the hazard. This helps us to know whether the hazard is preventable or could only be mitigated.
- Force: Helps to know what actually cause harm in the hazards and use the understanding on effects of the forces in designing mitigation measures.
- Warning signs and signals: scientific and indigenous indicators that shows hazard is likely to happen. This is used to help community establish early warning system by monitoring the signs and issuing alerts or public information in timely manner to community members before the hazard strikes.
- Forewarning: time between warning and impact, to know time lapse between appearance of signs and when hazard actually hit; used in public awareness to take precautionary measures for personal safety.
- Speed of onset: rapidity of arrival and impact – we can distinguish between hazards that occur without almost any warning (earth quake), and a hazard that can be predicted three to four days in advance (typhoon) to a very slow onset hazard like drought and famine.
- Period of occurrence: does it occur in a particular time of the year (wet or dry season)?
- Frequency: does hazard occur seasonally, once in a year or every five years? It is used to know recurrence pattern of the hazard and use it for preparedness
- Duration: how long is a hazard felt e.g days/weeks/months an area is flooded, length of military operations in the case of conflict etc. use this information to plan the length of your response.
- Effects/impact: to know the damage it causes on individuals and community. Use information for contingency planning, risk reduction.

Table 2: A hazard assessment form sample

Hazard Assessment form

Hazard: _____

Characteristics	Elements	Analytical Description of Hazard	Exposure Variables	
			How will it affect me?	How will it affect my community
Cause/Origin				
Force				
Warning signs & signals				
Forewarning				
Speed of onset				
Frequency				
Period of occurrence				
Duration				

2.5.2 Vulnerability Assessment

Vulnerability Assessment helps to identify what is exposed in both human and non beings, because of their location and time vis-à-vis hazard onset. There are two ways of defining vulnerability:

- Vulnerability is defined as a set of prevailing or consequential conditions, which adversely affect the community's ability to prevent, mitigate, prepare for or respond to hazard events (Anderson and Woodrow, 1989)
- It is the degree to which an area, people, physical structures or economic assets are exposed to loss, injury or damage caused by the impact of a hazard [Disaster Management: A Disaster Manager's Handbook, Chapter 2 and Appendix A. Disaster Mitigation in Asia and the Pacific, pp. 30-40]. This definition asserts vulnerability as equivalent to location and can be represented in this mathematical formula: vulnerability = the location of element at risk vis-a-vis the hazard (considering other factors like slopes).

Degree of Vulnerability = Location of element at risks : Distance + Time

The location of the element at risk (whether well or poorly built) determines the degree of exposures to hazard or the degree of vulnerability. This shows that whether rich or poor, all persons living in the same location have equal degrees of vulnerability to the impact of the hazard. Under this assumption, the socio-economic status has no bearing on the degree of vulnerability. Thus, vulnerability refers mainly to the location of element at risk and this becomes the main determinant in the degree of exposure to the hazard's impact.

In CMDRR, the second definition is preferred because it allows vulnerability to be determined by the most constant element in assessing disaster risk – the location and time of the element at risk vis-à-vis the force of the hazard. At the same time, it also gives weight to the economic, social and cultural conditions, which are viewed not merely as negative factors that increase vulnerability but as elements that increase or decrease the capacity to cope with the hazard's impact. It must also be stressed that vulnerability under this assumption is hazard specific. Thus, calculating the degree of vulnerability should always be made in relation to the hazard.

Like hazard assessment, vulnerability assessment has also got its own detailed steps:

- Identify the elements at risk (here we ask which element at risk is being affected by the hazard?) – if different sex and age groups, different productive assets and critical facilities are being affected differently, then we will divide them into different groups and do the vulnerability assessment separately. The element at risk could be divided into human elements and non-human elements (productive assets and critical facilities);
- Decide the level of vulnerability of the element at risk considering the proximity and time of the element at risk vis-à-vis the force of the hazard (where the element at risk would most likely be when the hazard strikes the community?)- Those that are closer are more vulnerable than those far from the epicenter of the force of the hazard. For some hazards (such as flood, volcanic eruption, conflict etc) it is easy to agree on different zoning of the specific area. This could be based on the distance from the epicenter of the force of the hazard and indicate it on the social map (prepared during hazard assessment). In case of drought, the force of the hazard is intensive heat from the sun and it covers the whole area. In this case all human and non-human elements at risk are equally highly exposed – their vulnerability level is equal. But that doesn't mean their risk level is equal; rather their risk level would be different due to different coping capacities. We also put the exact number of the various elements at risk under their vulnerability levels;
- Consider the numbers of element at risk being analyzed and why is it that they are in that location (is it because their house is located there, is due to their school, their farm or livelihood, or livestock etc).
- Though PDRA will facilitate generation of vulnerability assessment information, it's important for facilitators to incorporate other primary and secondary data sources for more comprehensive vulnerability assessment. Wealth ranking and daily routine are some of the key PRA tools used to determine vulnerability levels while facilitating PDRA at the community level. Communities are facilitated to define what wealth in their own context is, thereafter being able to classify into better off, middle, poor, and poorest categories. Daily routine stipulates different roles each member of the household is engaged in the whole day.

This tool often depicts increased workload among women, herders, girl-child, and others during the peak of drought and other hazards. Special category groups like the disabled, people living with HIV-AIDS, pregnant and lactating mothers, orphans, are captured in the PDRA with the relevant figures. Vulnerability mapping can be done by identifying and mapping these populations in their locations including the productive assets and critical facilities that are vulnerable. The map should therefore give location of the poorest, special category groups of pregnant and lactating women, children under 5yrs, disabled, widows, people living with HIV-AIDS populations among others. It will include their numbers as well as the productive assets and critical facilities and locations that are exposed to the hazard.

Secondary data should be used to complement vulnerability especially in areas with established early warning system (EWS), and where key food security indicators are under monitoring. Coping Strategy Index (CSI) is of greater importance here. Food security pillars of availability, access, stability and utilization form the basis for vulnerability assessment. In a community where there is consistency in primary data collection, computation of vulnerability is easier for international thresholds to be compared in determining vulnerability. A good example is Global Acute Malnutrition (GAM) for children under five years. Confirmatory nutrition survey can easily be done to assess their vulnerability levels. All these secondary information should inform the PDRA more while doing vulnerability assessment. The PDRA information including vulnerability should be updated often preferably seasonally in areas where drought frequency is high.

Table 3: A vulnerability assessment form sample

Hazard profile	Elements at risk	Location of element at risk vis-à-vis the force of the hazard			Why the element at risk is in that location
		<x	> x <y	>y	
	Human Elements	High vul.	Med. vul.	Low vul.	
	Children <5yrs	put their number	put their number	put their number	
	Children 5-18 yrs				
	Youth girls				
	Youth boys				
	Adult women				
	Adult men				
	Elderly				
	Pregnant and lactating				
	PLWHA1				
	Non-Human Elements				
	Cattle				
	Camel				
	Shoats (goats and sheep)				
	Donkeys				
	Critical facilities				
	Pasture/feeding forage				
	Ponds				
	Deep wells/hand-wells (water distribution points)				

X, and Y represent distance from the epicenter of the hazard.

2.5.3 Capacity Assessment

Capacity assessment identifies the status of people's coping strategies. This refers to the resources available for preparedness, mitigation and emergency response, as well as to who has access and control over these resources.

Capacities in the context of disaster risk reduction are analyzed as the interaction of forces of resources and the access to these resources by the different at-risk-groups and the overarching systems and structures in society that decrease or increase capacities to face hazards. Because the behavior of a hazard and degree of vulnerability determine the capacity needed to reduce disaster risk, capacities should be analyzed in relation to the hazard and vulnerability. Each individual, community, society or nation has latent capacities and they have to be tapped in order to increase the individual and community resilience. Efforts should aim at developing coping capacities of the individuals and the communities, and the organizations to develop resilience from any type of hazard.



Community Capacity Assessment identifies the strengths and resources present among individuals, households and the community to cope with, withstand, prevent, prepare for, mitigate or quickly recover from a disaster. Coping means managing resources in times of adversity. Like hazard and vulnerability assessment, capacity assessment has also got its own steps: - first, identify the existing capacities, the required capacities and the gap between the required and existing capacities that helps each community member to survive during the hazard; secondly identify the existing and required systems and structures in the community that helps individuals to survive during the hazard event; thirdly, summarize the assessment result in the capacity assessment form.

International Strategy for Disaster Reduction (ISDR) refers to capacities as a combination of all the strength and resources available within a community, society or organization that can help reduce the level of risks or the effects of a disaster. Capacity may include physical, social, institutional or economic means as well as skilled personal or collective attributes such as leadership and management. Similar definition of capacities are strengths and resources, which exist or are present in individuals, households and the community – enabling them to cope with, withstand, prepare for, prevent, mitigate, or quickly recover from a disaster.

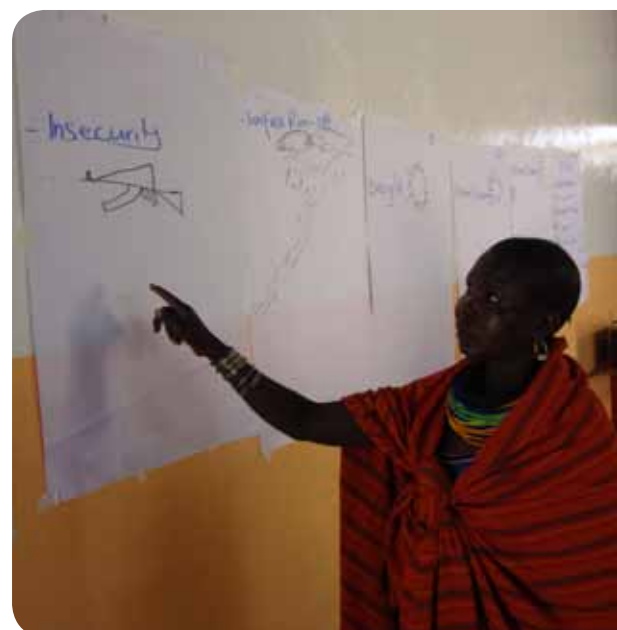
Table 4: A capacity assessment form sample

Elements at risk	Capacities		
	Existing	Required	Gaps
Individual survivability during the hazard event (for each element at risk identified during vulnerability assessment)	Number individuals who have the required knowledge, skills, attitudes, experience and resources that helps them to survive during drought (simply % of individuals who have a coping capacities to survive during drought)	Number of individuals required to have the knowledge, skills, attitude and resource to survive during drought	The difference between the required and existing capacity
Community readiness	The capacity of existing systems and structures that gives support for individuals to survive during drought	The required capacity of local systems and structures that help individuals to survive during drought	The difference between what is required and what is existing

2.5.4 Disaster Risk Analysis

Disaster risk analysis is the process of consolidating the findings of hazard, vulnerability and capacity assessments to draw conclusions and recommendations for disaster risk reduction. Risk analysis facilitates determination of risk levels, identification of the most at risk categories and recommendations to enhance the capacity gaps identified. The focus is on capacities to prevent, mitigate, enhance individual's survivability and strengthening community readiness systems. Risk analysis is an essential precursor to decision making in disaster risk reduction as well as in the formulation of development policies, strategies, plans, programs and projects. It is from the developed recommendations that strategies to enhance risk reduction measures are prioritized and subjected to situational analysis to understand the reasons behind the communities' inability to reverse the observable present state. This sets the stage for disaster risk reduction measures planning process.

The achievements in terms of output are the preparedness or community development plan which focuses on medium to long term strategies and the contingency plan which is directed at hazard's effects mitigation.



2.6 Scenario Building

Scenarios are descriptions of situations that could occur: they are sets of informed assumptions about a situation that may require humanitarian action. The interest of VSF is to respond to emergency needs triggered by drought when the situation unfolds, warranted by early warning system. There are different case scenarios: best case scenario, middle case (most likely case scenario) and worst case scenario. In CMDRR, it is preferred to focus

on most likely case (or middle case scenario) targeting those who have a capacity gap. This is because of the fact that it has the highest chance of being used and also to save contingency plan preparation time. These scenarios are informed by the risk analysis result which shows the various human and non-human elements that have capacity gaps.

Best case scenario – shows a situation whereby there is a mild drought without much impact on the lives and livelihoods of the people. They can live with it without external support

Middle/Likely case scenario – that element at risks (both human and non-human) having a capacity gap to cope with the situation is being affected by the drought

Worst case scenario – all the human and non-human elements are being affected and their traditional coping capacities no longer support them.

1824 of the children under five have no access to adequate breast feeding or alternative means for six months of the drought period

716 of children 5-18 yrs do not have adequate access to food for six months of the drought period

1850 of youth girls do not have access to food for six months of the drought period

707 youth boys do not have a means for adequate food for six months of the drought period

463 adult men have no access to food to survive for six months of the drought period

1792 of the adult women have no means of accessing food for six months of the drought period

613 disabled and elderly have no access to food for six months of the drought period

9620 cattle have no access for forage and water

10 of the camel has no means to cope

No animal pasture/feed for four months

No water for three months from the deep well

No water for four months from the ponds

Community institution unable to support 60% needy part of the population during drought

Members of the community institution lack knowledge of modern contingency plan

Local institution has no mechanism to raise 20,000 USD more resources locally and from external sources

The local market can't absorb 90% of the livestock and livestock products supply during drought

There is no effective system that can forecast drought occurrence earlier than five months

Table 5: Example of Middle Case Drought Scenarios (Arebore, South Omo, Ethiopia)

In CMDRR, middle case scenario is most preferred due to its frequent likelihood as experienced in particular hazards like droughts. Communities are able to draw scenarios based on the baseline of the previous droughts chronology. Community's own coping capacity has its own thresholds or benchmarks and communities are always able to underscore. Wealth ranking is a key tool in depicting changes in socio-economic status. Pastoral communities of Wajir and Merti in Kenya and those of Karamoja cluster in Uganda stated how their drought coping mechanism for men changes when the numbers of livestock herds diminish. They adopt manual labor, hence being unable to cope with new source of livelihood. Communities can therefore develop thresholds. For instance, the Hamer and Dassnach of Ethiopia highlighted that drought's worst case scenario is presented when more than two consecutive seasons fail to rain, meaning, one short and long rains plus the expected short rainy season. While the best case scenario is when both long and short rains set in good time and are characterized by good spatial distribution.

Pastoral economy also has its own benchmark where livestock prices are able to fetch the minimum prices, hence depicting undermined pastoralist purchasing power. In northern Kenya where drought early warning system has been operationalised, cereal-meat price ratio has been used to monitor pastoralist's purchasing power. High cereal-meat price ratio means a pastoralist household would have to sell high number of small stock in exchange of a kilogram of cereal. These are some of indicators used to assess certain levels of thresholds.

2.7 Response Strategies for the Likely Case Scenario

After defining the scenarios using the risk analysis result, the next step is to identify response strategies. A response strategy in this sense refers to what we want to achieve in our response intervention (objective of the response) and how we want to achieve this objective. The response strategy in a contingency plan serves this purpose and also acts as a bridge between the scenario and the plan that follows. The PDRA and other data sources complement each other to provide in-depth situational analysis and guide in formulation of response objectives. It ensures a clear focus of interventions directed at saving human lives and livelihoods. The early warning system should be reliable and provide timely and efficient information to trigger response. The early warning thresholds guide in triggering timely response thus minimizing the responding at the point of destitution. Communities have their traditional early warning systems as well as the conventional early warning systems that provide information.

There are currently several studies underway that identify at which benchmark EWS shall activate the contingency plans. The result of this is critical for the effectiveness of drought management. In established drought early warning system in Kenya for example, contingency plans are activated in between the alert/alarm stage of the drought cycle where all monitored indicators reflect worsening trends. At the community level, pastoral communities have their early warning indicators with respective thresholds guiding the contingent coping mechanisms. For example, utilization of certain water sources like the strategic dry season boreholes are only utilized when the water distances have exceeded 10km plus watering hours of livestock going beyond eight hours. At this point, the rangelands user association in conjunction with water user associations institute measures to utilize dry season grazing areas and strategic boreholes with a clear management function.



Table 6: A response strategy sample

Likely case scenario	Objective	Response/intervention
9620 cattle have no access to forage and water	Save 9620 cattle from dying in vain	Off-take for 5000 cattle, providing animal feed for 4620 cattle Vaccinating 4620 cattle
10 of the camel have no means to cope	Save 10 camels from dying in vain	Providing feed for 10 camels
No animal pasture/feed for four months	Replace the pasture with animal feed	Provide forage for the animals
No water for three months from the deep well	Create access to water for all human elements for four months	Water tracking for the total population
No water for four months from the ponds	Create access to water for all livestock	Water tracking for the livestock
Community institution unable to support 60% needy part of the population during drought	To strengthen the community institution so that it can help the needy communities	Capacity building for community institution
Members of the community institution lacks knowledge of modern contingency plan	Community institution improve their contingency plan	Training for member of community institution on contingency planning
Local institution has no mechanism to raise 20,000 USD more resources locally and from external sources	Local institution have a financial capacity to provide support for the needy	Capacity building for community institution on resource mobilization
The local market can't absorb 90% of the livestock and livestock products supply during drought	Create a market which absorbs the supply during drought	Creating livestock value chain
There is no effective system that can forecast drought occurrence earlier than five months	Community able to forecast drought earlier than five months	Capacity building of community institution

2.8 Implementation Plan

This is a stage whereby the selected response strategies are being put into detailed action plan. Once the response strategy and the scope of the intervention have been defined, planners can turn to the details of implementation, including emergency needs assessment, targeting, partnerships, monitoring and evaluation, reporting, logistics and security. In other words, they can start defining exactly how the programmes or responses will be implemented. The scope of intervention is guided by the information collected in regard to the hazard scope. Emergency profile matrix based on scenario building helps to guide provision of the hazard scope. Implementation plan should thus be as comprehensive as possible focusing on thematic areas of intervention identified as key in mitigating hazard effects. Implementation of response plan should be grounded on the following thematic areas:

2.8.1 Needs assessment and targeting levels

From the PDRA and other data collection instruments, especially from early warning systems and scenario building, the emergency needs assessment is informed on the level of vulnerability for human beings and animals. What are the eminent gaps that require sound planning? Emergency needs assessment will facilitate proper situational analysis by actual review of the existing local capacities that cope with the hazard. It also takes stock of the functions and critical facilities, while projecting the emerging demand for the

utilization and the facilities' ability to absorb the pressure. Thus, needs assessment and the identification of targeting levels, require a multi-stakeholder participation with clear objective of determining the hazard and vulnerability levels comparing them against the local coping capacities. Generated PDRA information in combination with the emergency needs assessment instruments shall be developed and used to guide the assessment. A checklist to guide and ensure the assessment is focused shall be developed upfront before embarking on the assessment.

Frequently, emergency needs assessment and targeting levels assessments have been driven by external forces, especially political influences. But if the objectives and frameworks are developed in advance, then such isolated incidences may be overcome. The assessment should therefore take advantage of the available primary and secondary data sources with clear instruments to collect the relevant data. Data collection, collation and analysis should be thorough and the assessment report developed prior to emergency response implementation such that the needs assessment and targeting levels are clear and agreed upon across all the stakeholders.

2.8.2 Partnerships in the response plans

While planning for emergency response, it is important to take stock of the kind of partnership required to operationalize the response plan. Identification of partners and aligning each partner's roles and responsibility in the emergency response plan is an important undertaking. Stakeholder's analysis that should have been done during the PDRA process informs the stakeholders or partners for the community. Review and update of the same is crucial with an update on each partner's current roles and the actual expected roles in the emergency response. Determining roles ensures agreements on specific tasks that may be assigned to the partner, and this is where leadership of the emergency response plan also takes shape with the support of the rest of partners. Clear communication needs to be instituted across the identified partners to ensure that the latest information in regard to the emergency response is accessible to all partners.

It is from the identified partnership that the coordination roles during the implementation of response plan are shared across the partners with specific roles being defined. Local leadership especially at the community level should be instrumental in strengthening local community institutions by empowering them in decision making. Administration representation at the local level for example is key in providing link between the community institutions and other partners especially the Government agencies. While at the district level, the experience has shown that it's important for the leadership of emergency response to be entrusted on the local administration available for purposes of facilitating a lead role in decision making as well as providing link with high Government authorities. Other partners thus play facilitatory roles with communities and their leaders being at the forefront in implementation of emergency response plan.

2.8.3 Reporting in the response plans

In the process of designing emergency response plan, analysis should be able to outline the emerging sectors as per the defined objective of the emergency response. Having done the needs and targeting levels assessments, thematic areas of intervention will be defined and the relevant data collected in terms of baseline. Baseline information guides the process of identifying the reporting needs or subsequent reports that will be necessary to be generated

in the process of emergency response implementation. This may be based on prioritized sectors or thematic areas then reporting frameworks needs to be commonly agreed. The reporting frameworks should include the contents of expected reports, then the channels of communications for the developed reports. This goes hand in hand with the developed coordination structures that may have been agreed upon in partnership and roles mapping.

Mechanisms for synchronizing these reports also need to be agreed upon across the sectors identified and across all the partners. Reporting of emergency response implementation is important so as to facilitate integration of monitoring and evaluation frameworks. The reports will inform the partners on the progress made in emergency response and hence aide in strategic decision making. Indicators that can be monitored will also have to be identified to assess the impacts of the response within a given period. This will be derived from the available baseline reports and the impacts of response will be evaluated. Some of the reports are instrumental in the response process. A good example is the early warning reports that need to be consistent and timely, interventions progress reports, and impacts reports among others. Reporting may be easy at the district level but challenging at the community level especially in communities where illiteracy is high. Communities and their partners have to agree on the kind of reports that enable them to track the response performance. Participatory reporting process needs to be instituted to empower the communities share their reports. They have the capacity to report on the response by storytelling, most significant change is an important tool here, beneficiary stories, proportional pilling are some of the tools that guide focus discussion with communities for reporting. Local leaders such as the administration chiefs, elders, elected leaders, facilitate the community to generate reports on emergency response.

2.8.4 Logistics in the response plans

The needs and targeting levels guides in determination of the scope of interventions. This will have enabled mapping of the target populations, geographical coverage, and then the identified needs in form of thematic areas that require emergency response. Logistical arrangement will have been formulated on the basis of the scope of the response plan developed based on the intervention sectors, coverage, and duration. Logistical capacity assessment here is critical as it informs the planning process on the existing capacities in terms of logistics to match the emergency response requirements. Clear focus will have been determined on the nature of response operations that will be executed. Taking stock of the existing capacities focusing on human resources- identifying the key human resources capacities required, determining the gaps, and how to fill in the identified gaps. It's also important to match the specialized skills with the scope of the emergency response and how to bridge in the deficits. Communities often have been trained to give a hand to the response teams in the field. A good example is where the community animal health workers (CAHWs) and community human health workers (CHWs) are trained to provide basic support to the teams.

- **Transport:** The geographical scope of the emergency response and general geographical set up of the response planning should be comprehensive in order to guide and determine the transport requirements. The necessary transport capacity versus the deficit will have been determined and necessary planning arrangements made. Taking stock of the availability of reliable transport throughout the response period should be considered. What are the other existing local options for transport for areas that are inaccessible? The logistics planning should be able to stipulate the alternatives. For example in WFP

emergency operation (EMOP), some communities are not accessible by vehicles to deliver relief food, likewise to emergency vaccinations campaigns by VSFs and Veterinary services. Often load animals like donkeys and camels have been in handy to assist in accessible communities' access these services.

- **Security:** Existing security situation is critical for proper execution of the emergency response plan. This is quite important especially in pastoral areas where security situation is unpredictable. Surveillance mechanism should form part of the logistics arrangement in response plan with government agencies being on the lead. Security procedures should thus be stipulated and incorporated into the response plan. The rapid response mechanism, surveillance on security situation across the communities and their aggressors should be incorporated into the plan.
- **Mode of operations:** Depending on the thematic areas identified, the logistics plan should be able to outline the mode of operationalizing each sector. For instance in vaccinations campaigns, are mobile camps establishments feasible? If so, how many? If it is supplementary feeding for children with less than five years, is it establishment of wet feeding centers or dry rations distributions. The mode of operations for each sector needs to be clearly mentioned.
- **Infrastructure:** With clear needs assessment, the nature of the available infrastructure per sector should be considered. From the PDRA the critical facilities assessed provide this information for planning. The water sources, market facilities, livestock sale yards, slaughter houses, health facilities, schools, among others are considered for logistical arrangement.
- **Budgets controls:** Logistics plans are accompanied by the budgets as per the budget line item.

2.8.5 Monitoring and evaluation in the response plans

This component needs to be integrated into the emergency response plan. The baseline information collected from the PDRAs and other primary and secondary data sources provide the basis for tracking the progress and achievements of response objectives which is mainly to save lives and vulnerable livelihoods. Sound monitoring and evaluation thus needs to be developed and integrated into each sector based on the monitoring indicators agreed upon. Some organizations have developed management information systems to track the progress of interventions based on commonly agreed indicators. At the community level, it's always important for participatory monitoring and evaluation to be integrated into the community managed disaster risk reduction process but not as separate function.



In CMDRR, participatory monitoring, evaluation and learning empowers communities to actively participate in measuring, recording and reporting their progress in disaster risk reduction measures plan they developed. Monitoring without framework is the most commonly used in participatory monitoring and evaluation with communities. Communities may not be able to use the conventional monitoring with framework but rather prefer using

basic and simple monitoring without framework. They are able to give both qualitative and quantitative information for developed indicators. This is through storytelling, beneficiaries' stories, targeting and beneficiary information and most significant change stories among others. These are some of the tools that enable communities monitor selected indicators.

2.8.6 Early Warning System Information

Functional early warning system forms a key component of the emergency response. Both traditional and conventional early warning system should be able to guide on the hazards warning signs. They should depict the trends and vulnerability levels in both human and non human elements. Communities have their traditional early warning systems to monitor certain hazards like drought floods, conflicts among others. Over time for example in drought period, they have been able to know their shock absorption levels by monitoring specific indicators especially household's food economy situation.

Monitoring of market performance especially that of household's commonly consumed cereals, against small stock (goats and sheep), livestock prices is often used to determine pastoralists' purchasing power. Where the prices of cereals go up and goat or sheep prices fluctuates means pastoralists purchasing power is eroded. Malnutrition rates among the vulnerable groups are the other indicator used to monitor vulnerability. Credible early warning signs acceptable across all partners should be in place to guide on when to start and when to end the emergency response as per the reflected hazard stages. Pastoralists have their own channels to pass the early warning information. What is important is for partnerships to ensure early warning information is disseminated to the consumers early enough for decision making.

2.8.7 Coordination

Coordination is instrumental for success of emergency response, and should be designed upfront to ensure steering of planned implementation. Establishment and strengthening of emergency response coordination structures is supposed to be a preparedness measure along with updating and review of the contingency plans. Steering emergency response process demands a clear focused framework in delivering the plan. These structures should therefore be functional and able to work in harmony at all levels right from local to national level. At the community level, various community organizations should come together under an umbrella organization with clear leadership structures for easy management and coordination. Local leaders at times come together to work with community disaster committees to provide focus and direction. This is important as they facilitate the link between the committees and district structure.

At the county/district/Woreda level, administrators provide leadership to the formed structures to oversee response. In Kenya for instance, the District Steering Group (DSG) under the chairmanship of a local administrator is the key structure whilst at the national level, the Kenya Food Security Steering Group (KFSSG) under the chairmanship of Ministry of Special Programs representative under the Office of the President is the key structure. These structures are anchored on key decision making organs of the Government for easier coordination and management. A clear structure should thus be in place to oversee the management of emergency response and facilitate the entire process with clear communication channels and frameworks.

3. Conclusion

Contingency planning provides a roadmap to emergency response and where contingency plans were developed, potential emergency scope could be determined earlier and hence determining the response mechanism required. Contingency planning therefore facilitates identification and prioritizes preparedness measures to be put in place. In-depth analysis conducted during the PDRA, data collection and scenario building provides development of indicators that help in focusing mitigation measures to adverse hazard effects. Blended with credible early warning system, contingency planning enhances early risk reduction measures in good time before the point of destitution is reached. Contingency planning provides a clear framework for emergency response and identifies the coordination framework, thus ensuring achievement of stipulated emergency response objectives of saving lives and livelihoods.

As mentioned earlier, contingency planning is an output of participatory disaster risk reduction process which has both preparedness and mitigation. What is worth to mention is that contingency planning should equally be mainstreamed with preparedness planning into the entire development process. This has often been a challenge to many partners including the local communities whose coping capacities have often been overstretched by hazard onset, exposing them to extreme risks including loss of lives and collapse in livelihood systems. This situation has had detrimental effects as reconstruction of these livelihoods has often been in vain or at low phase of recovery. Contingency planning should therefore be integrated at all levels of management from the community level to the national level. Where possible, the necessary policy and institutional framework should be strengthened for future development in disaster risk reduction.

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5. Annexes

5.1 Capacities addressing vulnerability

Elements at risk	Time element	Capacities		
		Required	Existing	Gaps
Individual Survivability				
Children<5yrs	During hazard event	Consider, knowledge, skills, experience, attitude and resource controlled which can be used to cope with hazard once it occurs		
	Before hazard event	Consider, knowledge, skills, attitude and resources controlled which individual can use for preparedness		
Children 5-18 yrs	During hazard event			
	Before hazard event			
Youth girls	During hazard event			
	Before hazard event			
Youth boys	During hazard event			
	Before hazard event			
Etc	During hazard event			
	Before hazard event			
Community readiness	During hazard Event	What collective systems, support, structure networks does communities have to help its members cope with hazard once it hits		The difference between what is required and what is existing and why the gap is there
	Before hazard event	What collective systems and support network does communities have that can be used to prepare for hazards		

5.2 Risk analysis form

Summary of drought Hazard:					
Element at risk	Individual Survivability Gaps	Degree of Risk			Community readiness capacity gaps
		Most	Medium	Low	
Human Element					
Children <5yrs					
Children 5-18 yrs					
Youth men					
Youth women					
Adult men					
Adult women					
Disabled					
Pregnant/Lactating mothers					
Elderly					
Non-Human Element					
2.1 Productive Assets					
Cattle					
Camel					
Goat					
Sheep					
Pasture					
2.2 Critical Service providing Facilities					
Deep well					
Shallow well					
Pond					

Summary: - Human elements (who is the most at risk, medium at risk and low at risk?), same questions need to be answered for the productive assets and critical facilities.

5.3 Contingency planning information checklist

For completeness of the PDRAs, additional data should be generated to fill in the identified gaps. To aid in primary and secondary data generation a checklist provides a guide to facilitators. The checklist should be able to guide in identifying thematic areas of interest that would enrich the PDRAs output of DRR and Contingency plans. With the checklist, the methodology and relevant instruments that would facilitate additional data generation will easily be developed.

The checklist should therefore encompass:

5.3.1 Demographic information

Human population disaggregated into:

1. Gender: male and female
2. Age brackets: children under 5yrs, school going/herding ages (6-18), youth (18-35yrs) adult (35-60yrs), elderly (60 yrs and above)
3. Geographical distribution: Average numbers per household, location, village, Sub-county, ward/parish institution, and county.
4. Geographic information on boundaries for villages, parishes, sub-county, county and other administrative levels including natural features. Vulnerability, resource mapping benefit from geographic information.

5.3.2 Socio-Economic

Consider the key livelihoods, Livelihood zoning and the population that practice

1. Pastoral
2. Agro-pastoral
3. Agriculture
4. Petty trade
5. Formal and informal employment
6. Others (Specify)
8. Wealth ranking (participatory approaches should be adopted to facilitate this) develop categories and populations in each category.

(i) Rich/better off (ii) Middle (iii) Poor (iv) Poorest

5.3.3 Productive assets

1. Livestock by disaggregating into species and population per species
 - (i) Cattle
 - (ii) Camels
 - (iii) Goats
 - (iv) Sheep
 - (v) Poultry
 - (vi) Pigs
 - (vii) Others (Specify)

2. Crop land (The acreage under each crop variety)

(i) Maize	(ii) Beans	(iii) Vegetables
(iv) Wheat	(v) Fruits	(vi) Others (Specify)
3. Business enterprises(Give numbers where possible)

(i) Shops	(ii) Food kiosk	(iii) Tailoring
(iv) Carpentry	(v) Drug shop	(vi) Others (Specify)

5.3.4 Critical facilities

It's important to consider proximity to these facilities by determining the distances, and access to those that are operational.

1. Livestock production/marketing

(i) Holding grounds	(ii) Crushes and sale yards
(iii) Cattle dips	(iv) Weighing scale
(v) Grazing fields (accessible for wet and dry season)	
2. Agricultural

(i) Granaries	(ii) Farm machinery and implements
(iii) Maize/Cereal/Posho mills	
3. Water sources

(i) Boreholes	(ii) Traditional and shallow wells
(iii) Rivers	(iv) Ponds
(v) Roof/rock catchments	
(vi) Others (Specify)	
4. Education

(i) Schools (Early childhood centers, primary and secondary)	
(ii) Tertiary/higher institutions	(iii) Others (Specify)
5. Health

(i) Health centers/dispensaries	
(ii) Health service providers (CHWs)	
6. Infrastructure

(i) Roads	(ii) Bridges
(iii) Communication centers (Radio stations)	

5.3.5 Institutional/Structures arrangements

Inventory of formal and informal structures in decision making

1. Informal/Local institutions

(i) Council of elders	(ii) Traditional seers
(iii) Traditional governance council	(iv) Youth groups
(v) Traditional peace committees	(vi) Natural resource user groups
(vii) Others (specify)	

2. Formal structures
 - (i) Government structure (Administrators)
 - (ii) Local authority
 - (iii) Community development committee (CDC)
 - (iv) Coordination at sub/county level
 - (iv) Others (Specify)

5.3.6 Early Warning system (EWS)

Consider the existing traditional and conventional EWS in place and where possible determine phase classification or threshold.

1. Traditional EWS: What are the key indicators?
 - (i) Environmental indicators (including migrations and displacements)
 - (ii) Food security indicators
 - (iii) Human/wildlife conflicts
 - (iv) Human and animal Health
 - (v) Others (Specify)
2. Modern EWS

Key monitoring indicators should be incorporated just like traditional data. However, modern should have more secondary data sources including technologically generated information. The indicators are the same but data collection cover both primary and secondary sources. Here, satellite images and meteorological information information may be incooperated into the EWS.

5.3.7 Stakeholders analysis

This can be developed at local/community level of planning and at the management level/ county. At all levels, stakeholder analysis should be able to identify the key stakeholders and their specific roles and location.

1. At community level
 - (i) Government agencies
 - (ii) Community Based Organizations (CBOs)
 - (iii) NGOs
 - (iv) FBOs
 - (v) Others (Specify)
2. At County/planning level

(i) Government agencies	(ii) INGOs	(iii) NGOs
(iv) CBOs	(v) FBOs	(vi) Others (Specify)

5.3.8 Coordination

Established structures should be able to outline the roles played by various stakeholders and their coordination especially during emergency response phase. In other countries

there are sector working groups that are responsible for emerging issues in their sector. In Kenya for example, Kenya Food Security Steering Group (KFSSG) is replicated at the districts as District Steering Groups (DSGs) and has sectoral working groups in line with thematic areas identified. This is critical for purposes of mainstreaming the necessary policy issues and feeding decision making process.

- (i) District/County Committee
- (ii) District/County Disaster Committee
- (iii) County Council Committee
- (iv) Community disaster Committee

5.3.9 Resources and their sources

Access to essential capitals should be outlined; considering natural, socio/cultural, human, and financial capitals which are considered to have a bearing to individual entitlements. Access and control to either or all of these capitals determines the coping capacities an individual or community has.

5.3.10 Existing contingency plans

Existing contingency plans at the district and even at the community level that may have been developed by different stakeholders provide a baseline on the emergency response. Review and updating of contingency plans ought to be often in order to provide response framework during the hazard event. It is therefore important to take stock of the contingency plans and their actual gaps that need to be improved.

5.4 Community questionnaire

- A. District/County___
- B. Division/Subcounty___
- C. Location/Kebele___
- D. Parish/Community___
- E. Livelihood Zone ___

1. Socioeconomic Information		
1.1	Wealth ranking: What percentage of community members fall under the following categories? Give in approximate percentage	Rich/Better off ___ middle ___ Poor ___ Poorest ___
1.2	What is the main livelihood of your community? Consider the main livelihood. Proportional pilling can be done to determine the percentages where most of livelihoods are assumed to bear the same weight, as community may explain.	Pastoral ___ Agro-pastoral ___ Agriculture ___ Petty trade ___ Formal and Informal employment ___ Others(Specify) ___
2. Productive assets		

2.1 Livestock	What is the estimated livestock population per species in your community?	Cattle ___ Sheep ___ Goats ___ Camels ___ Poultry ___ Pigs ___ Others ___
2.2 Crops	Give average acreage of crop coverage in your community (Ac)	Maize ___ Beans ___ Vegetables ___ Sorghum/Millet ___ Others (Specify) ___
2.3 Natural Resources	What are the average numbers or acreage of your natural resources.? Identify the relevant unit of measures for particular natural res.	Forests (Wood/non wood products) ___ Salt licks ___ stones or gravel ___ Grazing land ___ (v) Others ___
2.4 Enterprises	Give numbers of operational business enterprises in your community	Shops ___ Food kiosk ___ Tailoring Carpentry ___ Drug shop ___ Garage ___ Others(Specify) ___
2.5 Critical facilities	Give numbers and distances to the operational livestock production/marketing infrastructure	Holding grounds ___ Crushes and sale yards ___ Cattle dips ___ Weighing scale ___ Grazing fields (accessible for wet and dry season) ___
2.5.1 Agriculture	Numbers and distances to functional Agricultural facilities	Granaries ___ Farm machinery and implements ___ Maize/Cereal/Posho mills ___
2.5.2 Water sources	Numbers and distances to functional water sources	Boreholes ___ Traditional and shallow wells ___ Rivers ___ Roof/rock catchments ___ Ponds ___ Others (Specify) ___

2.5.3 Education	How many education facilities are functional? What are the average distances to these institutions	ECD centers ___ Primary schools ___ Secondary schools ___ Tertiary/higher institutions ___ Others (Specify) ___
2.5.4 Health	Numbers of operation health facilities and average distances to access these centers	Health centers/dispensaries ___ Health service providers (CHWs) ___ Maternity ___
2.5.5 Infrastructure	Numbers of basic infrastructure	Roads ___ Bridges ___ Communication centers (Radio stations) ___ Others(Specify) ___
3. Institutional/structure arrangements		
Inventory of formal and informal structures in decision making		
3.1 Informal	Which of these local institutions are functional in your community? How many in numbers are functional?	Council of elders ___ Traditional seers ___ Traditional governance council ___ Youth groups ___ Traditional peace committees ___ Natural resource user groups ___ others (specify) ___
3.2 Formal	Which of this institution is the main in decision making process in your community?	Government structure (Administrators) ___ Local authority ___ Community development committee ___ Coordination sub/county level ___ Others (Specify) ___
4. Stakeholders analysis		
4.1	Which organizations are your partners in development process? How many in number?	Government agencies ___ Community based organizations (CBOs) ___ NGOs ___ FBOs ___ Others (Specify) ___
5. Traditional Early Warning System		

5.1 Indicators	Which are your key traditional indicators of monitoring hazards?	Environmental indicators (Including migrations and displacements) _____ Food security indicators _____ Human/wildlife conflicts _____ Human and animal Health _____ Animal behavior _____ Observing stars _____ Others (Specify) _____
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5.5 Secondary data questionnaire

To be administered at the county level (Administration unit)

District/County Name _____

Division/Subcounty _____

Location/Kebele _____

Parish/Community _____

Livelihood Zone _____

1. Demographic information		
1.1 Population	What is the total population of the administrative unit? What is the population of smaller administrative units? Disaggregate the population. How many people are there in each of the following categories in each community?	Children under 5yrs, _____ School going/Herding ages (6-18) _____ Youth (18-35yrs) _____ Adult (35-60yrs) _____ Elderly (60 yrs and above) _____
1.2 Distribution	What are the average numbers for male and female in each of these units?	Village _____ Parishes _____ Sub-county _____ County and other administrative levels _____
2. Stakeholders analysis		
2.1	Which are the key organizations in planning at the county/district level (decision making level)?	Government agencies (e.g. Arid lands project, Water board, KMC,) _____ INGOs _____ NGOs _____ CBOs _____ FBOs _____ Others (Specify) _____

2.2 Coordination	Which are the decision making organs/institutions in your county/district in regard to disasters?	District/County Committee ___ District/County Disaster committee ___ County Council committee ___ Community disaster committee ___ Others specify ___
3. Resources		
3.1	Which devolved funds do communities have access to? And who coordinates the funds disbursement?	Government agencies(Specify) ___ Local government ___ Constituency development fund ___ Contingency fund ___ Others(Specify) ___
4. Contingency plans		
4.1	Which other organizations have developed disaster contingency plans in your county?	Government departments(Specify) ___ NGOs(Specify) ___ CBOs ___ Local Government ___ Others(Specify) ___

NB.

The questionnaire is a tool that enables the facilitator to generate as much data as possible. Where the questionnaire is limited other approaches should be engaged. In addition to the above data generation tool, consultation with other development agencies is important so as to collect more secondary data. Updated maps are required in order to do hazard/vulnerability mapping borrowing from the community's generated mapping. Use of GIS skills to map these areas identified by communities as hazard prone localities is important. Other desk studies should also assist in wider scope of secondary data sources.

(Footnotes)

1 PLWHA – People living with HIV/AIDS

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