

TECHNICAL BRIEF: Community Managed Disaster Risk Reduction (CMDRR) - Cordaid’s strategy for building resilient communities in dryland areas of East and the Horn of Africa¹

By Safia Abdi, Cordaid, June 2011

Summary

Responses to hazard events in the drylands tend to be reactive, with agencies waiting for the disaster to happen before they take action. Development efforts also often distance themselves from providing responses to disasters. But with the number of disasters now increasing—as a result of climate variability, change and uncertainties, and other social, economic, political, environmental and demographic factors—there is an urgent need for a shift in thinking. A more proactive approach to hazard events is needed for both emergency interventions and for long-term development planning—an approach that promotes the safety and resilience of communities and nations as a part of their sustainable development.

As a relief and development organization Cordaid has been implementing emergency response and development programmes for several decades. From 2000, Cordaid began linking its relief and development work in the drylands of the Horn and East Africa using the Drought Cycle Management (DCM) approach. DCM recognises drought as a normal occurrence in dryland areas, and provides a programming framework that promotes adjustments of activities according to the different stages of the *inevitable* drought cycle—the normal, alert/alarm, emergency and recovery stages. In 2004, Cordaid evaluated its Drought Cycle Management approach, as well as its other programmes that link relief and development. A key recommendation was that Cordaid should widen the types of hazards it addresses— beyond drought—and adopt a more holistic Disaster Risk Reduction (DRR) approach. Together with the International Institute for Rural Reconstruction (IIRR), Cordaid then developed a training manual: *“Building Resilient Communities: A Training Manual on Community Managed Disaster Risk Reduction (2007).”* The manual has been used ever since to train staff and partners to work on DRR with communities in the Horn of Africa and beyond.

This technical brief clearly explains “the why” and “how” of using a community managed approach to disaster risk management, and introduces some of the instances in the Horn of Africa where it has been put to good effect to create resilient communities. It also identifies key lessons learnt for other practitioners, and provides some recommendations for building on the approach. The manual itself should be referred to for more specific details and case study examples.

Community Managed Disaster Risk Reduction

Community Managed Disaster Risk Reduction can be defined as *“a process of bringing people together within the same community to enable them to collectively address common disaster risks, and pursue common disaster risk reduction measures. It is a process that mobilises a group of people in a systematic way towards achieving a safe and resilient community. It envisions a dynamic community that is cohesive in making decisions, deals with conflicts,*

¹ Edited by Vanessa Tilstone, MEL Manager and Helen de Jode, consultant, REGLAP



resolves issues, manages collective and individual tasks, respects the rights of each individual, demands their rights and addresses and bounces back from hazard events” (Binas, 2010).

At community level two broad DRR approaches are often used: **community based** and **community managed** DRR. Cordaid recommends the *community managed* approach, where communities are supported to identify, plan, implement, monitor and evaluate activities to help reduce disaster risks. This approach builds on the communities’ own strengths; and the entire process is self-managed, contributing to enhanced ownership of the processes and its outcomes. A *community based* process, depends largely on external actors who gather information from the communities, and then plan and implement the interventions and transfer technologies themselves. There are some actors who claim that CBDRM is similar to CMDRR and this paper will not dwell on this debate but shows how CMDRR works.

Basic philosophies and principles for CMDRR

The CMDRR approach advocates for the building of resilient communities as a building block for resilient nations. Although its emphasis is on the community, it also recognises the need for governments and other actors to assist. The approach is guided by the following principles:

- Communities have accumulated local knowledge in addressing hazard events.
- Communities are survivors, not victims.
- Basic rights are the foundation of human safety.
- Community organisation is the key to successful disaster risk reduction initiatives.
- Communities must take responsibility for their members who are most at risk (i.e. the poor or those with less capacity to cope, or the most affected).
- The community should decide whether or not they are in a state of disaster, and whether they can cope on their own or need external assistance.
- Resilience is not merely accumulated physical assets or secured livelihoods, it is also the individual person’s will and ability to survive, and to claim his/her rights as a member of a just and equitable society.

The Disaster Risk Reduction Formula

The framework that guides disaster risk reduction is:

$$\text{Disaster Risk} = \frac{\text{Hazard}^2 \times \text{Vulnerability}^3}{\text{Capacity}^4}$$

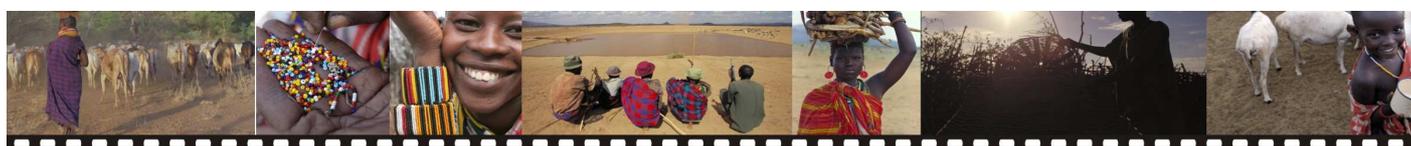
This is a qualitative framework that can be used to assess disaster risk levels and guide risk reduction planning measures. It shows that the risk of suffering consequences of a disaster is determined by the presence of the hazard event and vulnerability conditions in combination with inadequate coping capacity.

According to the framework, disaster risk can be reduced by planning and implementing risk reduction measures. This depends on the conclusion of the risk analysis. There are basically two conclusions: acceptable risk or unacceptable risk. If the risk level is unacceptable, it means the elements at risk will hardly survive and there is only one choice- permanently relocate the elements at risk. Acceptable risk means the elements at risk can survive in their current locations given that risk reduction measures are implemented in the following key capacity areas: -

² Hazard is defined as “a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage” (UNISDR, 2009)

³ Vulnerability is defined as: “The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.” (UNISDR, 2009). Cordaid further limits the definition of vulnerability to “the degree of exposure/proximity of element at risk to the hazard” (Binas, 2010)

⁴ Capacity is defined as “the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals” (UNISDR, 2009).



- *Prevention of hazards:* These are measures that impede the occurrence of the hazard, e.g. quarantine measures to prevent contagious diseases. (In the case of natural hazards this is not always possible.)
- *Mitigation of hazards:* These are measures that reduce or moderate the impact of hazards before they arise e.g. flood walls, soil and water conservation to reduce run-off in case of flash floods.
- *Reduction of vulnerabilities to hazards* by enhancing individual survivability e.g. increasing capacities that help individuals to survive during hazard event and bounce back after the event. E.g. Livelihood diversification in the case of drought, swimming skills for flood event, etc.
- *Reduction of vulnerability* through strengthening community organizations (systems and structures) that help individuals to survive during hazard event and able to effectively bounce back after the hazard. E.g. search and rescue system, credit and savings, early warning, market information etc.

The four basic minimums of CMDRR

1. Participatory Disaster Risk Assessment and Analysis (PDRA&A)

PDRA&A is the process of gathering all relevant data about the community and its individual members and use it to determine the nature and extent of risk by analyzing the characteristics of hazards, the degree of vulnerability and the capacity of the community/individuals to cope. The PDRA&A is done in the specific village and/or community, since each hazard affects different areas/communities differently. Participatory rural appraisal tools are used for effective community participation, for example: the hazard source-force tree, proportionate and pair-wise ranking, Venn-diagrams, social and resource mapping, storytelling, historical trends and vision mapping. The PDRA&A has the following four steps:

Step 1: Hazard Assessment:

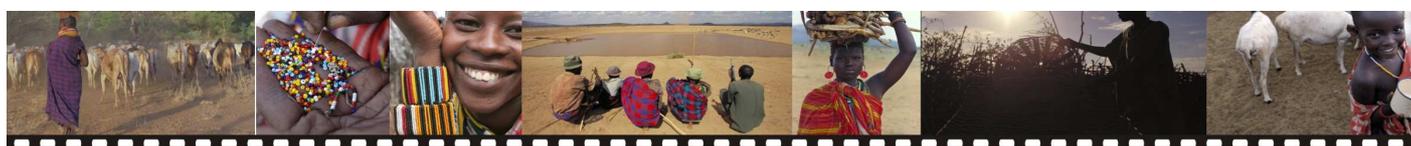
Often people refer to a hazard as a disaster, but by using the following definition it is easier to differentiate the two: A hazard only becomes a disaster when it affects a community unable to cope with its effects. If the community is able to cope a hazard event will come and pass—without becoming a disaster. The objective of a Hazard Assessment is to clearly define the nature and behaviour of the hazard. A Hazard Assessment covers the following:

- Identification of all the hazards that the community is exposed to.
- Ranking the hazards in order of importance - based on frequency, scale of potential damage (geographically and in relation to the population affected), duration over which the impact is felt, etc.
- Analysis of each specific hazard to establish its distinct characteristics.

Based on the characteristics of the hazard, information can be built up on risk management/reduction, as shown in the table below:

Table 1: Hazard characteristics

HAZARD CHARACTERISTIC	HOW TO USE INFORMATION IN DRR
Cause/origin	To know whether the hazard is preventable or only mitigation is possible.
Force	To understand the scale of the hazard, and how it causes harm, in order to design mitigation measures.
Warning signs & signals	To help the community to establish an early warning system by monitoring the signs and issuing alerts or public information in a timely manner, so that preparedness actions can be carried out before the hazard strikes.
Forewarning	Provides information on the time span between the warning signs and its impact. This information indicates what type of preparedness measures can still be carried out as the impact approaches.
Speed of onset	This covers hazards that occur without almost any warning (earthquakes); hazards that can be predicted three to four days in advance (typhoon); and slow-onset hazards like drought. Each requires different types of mitigation measures and contingency plans.
Frequency	To know the recurrence pattern of the hazard based on scientific data as well as the communities' experience.
Duration	For understanding the length of time during which the impact is likely to be felt to help in planning emergency response measures and lobbying for mitigation measures.



Step 2: Vulnerability Assessment

In a Vulnerability Assessment the location of people and assets at the time the hazard is likely to strike is assessed as the key determinant of their vulnerability—or degree of exposure. The assessment helps understand how different individuals/assets are exposed to varying degrees, and the underlying reasons for their location in unsafe areas. It covers:

1. Identifying the elements at risk divided into human elements (by gender, sex, socio-economic situation, etc) and non-human elements (productive assets and critical facilities).
2. Deciding their level of vulnerability—considering the proximity of the elements at risk vis-à-vis the hazard.
3. Analyzing why the element at risk is in that location.

The summary of the assessment will show vulnerability levels (high, medium and low) of various elements at risk in that specific community/location.

Step 3: Capacity Assessment

The community Capacity Assessment identifies the strengths and resources present or missing among individuals, households and the community to manage resources in times of adversity. Capacity is defined as the strengths and resources that are available to reduce risk levels and/or hazard impacts. They may include physical, social, institutional or economic means, as well as skilled personnel or collective attributes—such as leadership and management. Capacity also refers to strengths and resources that exist for coping with, withstanding, preparing for, preventing, mitigating, or quickly recovering from a disaster.

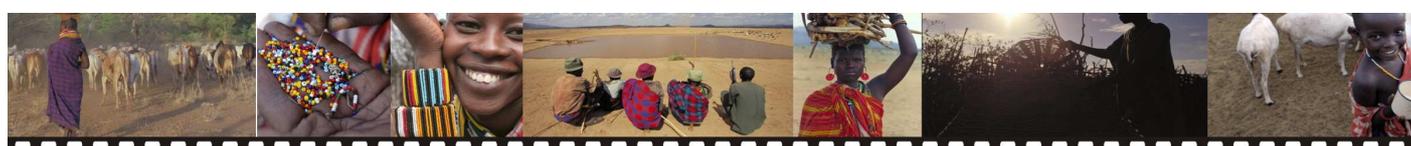
In the context of disaster risk reduction, capacities are analysed in terms of how strengths, attributes and resources can increase or decrease the disaster risk. Because the behaviour of a hazard and the degree of vulnerability determine what capacity is needed to reduce disaster risk, capacities are analysed in relation to the hazard and vulnerability. In relation to hazards it is necessary to look at mitigation and prevention capacities, and in relation to vulnerability, it is the individual survivability and community readiness before and during a hazard event.

Step 4: Disaster Risk Analysis

Disaster Risk Analysis is a systematic process of consolidating the findings of hazard, vulnerability and capacity assessment to determine the risk levels for various elements at risk. It contributes to the community’s awareness about potential disaster risks it was unaware of before, and enables the community to define their community action to reduce disaster risk. It is an essential precursor to decision-making in disaster risk reduction, as well as the formulation of development policies, strategies, plans, programmes and projects.

Table 2: Framework for disaster risk analysis

Community profile: <i>This information is obtained during community entry and social mapping.</i>							
Hazard Profile: <i>Here the hazard is described based on the hazard assessment findings.</i>							
Elements at risk	Hazard		Vulnerability		Degree of risk (often this is based on the assessment and communities view)		
	Prevention capacity gaps	Mitigation capacity gaps	Survivability capacity gaps	Readiness capacity gaps	High	Medium	Low
Adult males							
Male youth							
Female youths and adults							
Under 5's							
People with disabilities							
PLWHA							
Female elders							
Male elders							



Summary of Findings: <ul style="list-style-type: none"> The risk levels for different categories of people and their numbers.
Conclusion Agree for which elements at risk (amongst the most at risk ones)their risk level is acceptable and which ones it is not acceptable.
Recommendations: Identify risk reduction measures for the most at risk groups, moderate and low risk groups. For those whose risk level is unacceptable, the recommendation will be permanent relocation. This recommendation demands simple to complex decisions where highest authorities of the land have to be consulted and agreed upon. For acceptable risk, identify relevant and feasible DRR measures with respect to hazard prevention and mitigation and individual survivability and community readiness based on the capacity gaps already identified. It also includes recommendation about relevant community organisation and how to establish participatory monitoring and evaluation system.

2. Developing Disaster Risk Reduction Measures

The disaster risk assessment and analysis only generates general recommendations on measures for hazard prevention, mitigation and vulnerability reduction. A second stage is necessary to select the best DRR strategy to deliver the DRR measures in the most efficient and effective way. The various strategic options need to be identified and subjected to criteria, including the communities' own capacity to implement it, the feasibility of the activities and the possibilities of partnership in implementation. The DRR measures are presented as development plans and contingency plans.

The Community Development Plan becomes the activities/interventions that are identified for implementation before the hazard event and focuses on addressing the root causes of the hazard and/or vulnerability. The objective of the development plan is to strengthen and increase the resiliency of the community to the hazard. This could include livelihood, health and education activities, or setting up systems and structures to get ready for hazard events.

The Contingency Plan entails an "analysis of specific potential events or emerging hazard situations that might threaten the community or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses to such events and hazard situations" (IIRR, Cordaid 2007). The Contingency Plan provides communities with a guide to what their operational needs are, and the actions needed to manage the hazard events to ensure that they do not turn into disasters. The main steps in the creating a Contingency Plan include:

Step 1: Coordination and preparation of stakeholders - to promote responsibility and assigning of roles.

Step 2: Context analysis - to help develop priority actions based on experiences and projections.

Step 3: Building of scenarios - which are detailed sets of assumptions about the likely impacts of a hazard. Information generated during the disaster risk assessment is used, e.g. from the *Hazard Assessment*: forces and effects, early warning signs and signals and duration of the hazard; from the *Vulnerability Assessment*: elements at risk and their numbers; from the *Capacity Assessment*: the organisations/institutions and social support networks and an estimate of the local coping capacity and gaps.

Step 4: Compilation of the contingency plan - detailing key intervention areas with clear objectives, targets, activities and resources required, responsibilities for implementation and the timeframe for implementation.

Step 5: Regularly revision of the contingency plan based on lessons and changes in the context.

The objective of the contingency plan is for community systems and structures to save more lives and reduce the damage. Both the Development Plan and the Contingency Plan are task functions that become the basis of measuring the progress in implementation of DRR measures.

3. Building a strong community organisation

The development and contingency plans have to be implemented by the community with or without support of other development actors. It is imperative that the community forms a functional organisation, or strengthens an existing one, to implement the disaster risk reduction plan and undertake further measures to build resilience. The community organisation must include persons most at risk and must be owned by the greater community. The organisation will implement, monitor, evaluate, learn and engage in lobby and advocacy for/with the larger



community. The facilitating organisation should build the capacity of the community organisation in relation to organisation development and DRR task accomplishments.

4. Participatory Monitoring, Evaluation and Learning (PMEL)

The community should measure the impact of their efforts by developing mechanisms for monitoring, evaluation and learning. This requires reinforcing the community’s decision-making, management and administrative capacity, and by promoting critical reflection and learning from the beginning of the process till the end. This is essential to improve the effectiveness and quality of the work and to continue the search for solutions towards achieving a resilient community. Carrying out periodic self-evaluations ensures ownership and identification of corrective actions by key players. Self-evaluation opens up space for reflection and communication among individuals at the community level.

A resilient community

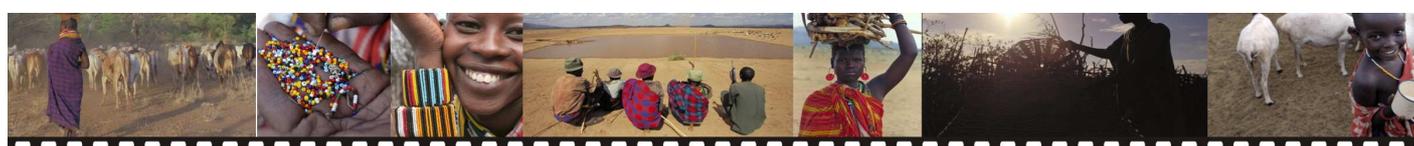
DRR measures aim to build up resilience to a variety of external shocks, and the ability to adapt to changes in climate or other externalities. It is important when working with communities to understand what resilient and adaptive communities look like as part of helping them to develop a vision for themselves. A self evaluation, facilitated by Cordaid with partner and community organizations in November 2010, came up with the following ideal characteristics of a resilient community:

- Effectively and independently manages, monitors and evaluates CMDRR;
- Has an effective CMDRR organisation that coordinates various sub-committees;
- Mobilises its own resources for CMDRR;
- Has the skills to access additional external resources for CMDRR;
- Fully decides its own development agenda;
- Has full insight into the external environment and links effectively with external stakeholders;
- Fully includes and addresses the needs of the most at risk in CMDRR;
- Ensures equal participation of both men and women in CMDRR decision making;
- Documents and learns from its CMDRR experiences;
- Effectively lobbies and advocates for its entitlements and rights;
- Claims its rights from its entitlements and rights;
- Has established full food security;
- Manages its resources in a sustainable way, including but not limited to natural resources;
- Has established a strong position in the value chains that it is part of;
- Has diverse livelihood options.

It is important to keep sight of the community’s vision in planning and reviewing progress. The following matrix can provide a vision map of DRR measures.

Table 3: Matrix map to provide a vision of DRR measures

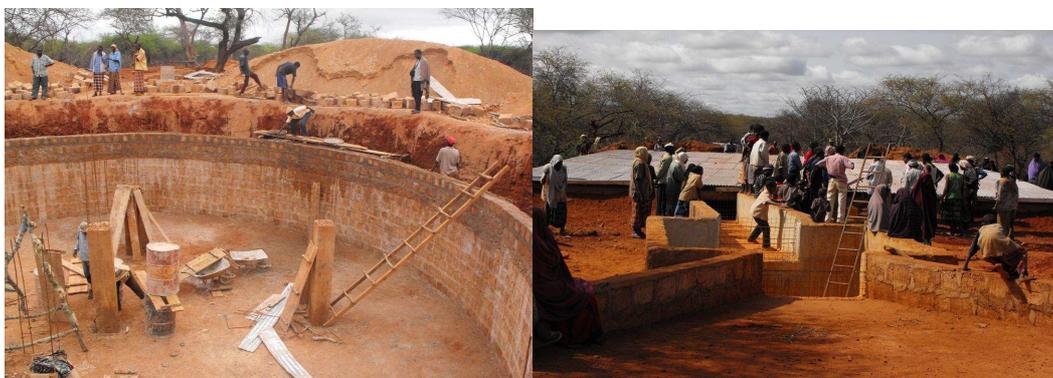
DRR objectives	Activities	Outputs	Outcome	Impacts
Hazard prevention				Hazard prevented
Hazard mitigation				Hazard impact reduced
Survivability -before hazard -during hazard				Individual resilience & Individual survival and bounce back
Community readiness -before hazard -during the hazard				Community systems and structures function to make the community resilient Community saves more lives and reduces loses



Since 2006 the CMDRR approach has been facilitated by about 20 Cordaid partner organisations in Ethiopia, Kenya and Uganda. The approach has had a number of impacts so far:

1. Identification and implementation of activities that have increased resilience to disaster:

- I. In the 2011 drought, water harvesting efforts in Marsabit, Moyale, Samburu, Isiolo and Mandera districts in Kenya, extended water availability for an average period of three months into the drought for 66,000 people and 70,000 heads of cattle. In the same period extensive migration was observed from southern Ethiopia and northern Kenya to Isiolo district in Kenya, where water and pasture was still available. Conflict over resources had been recognised as a drought related hazard by communities, and peace-building activities that were included in their contingency plans were activated early on in the drought, thus avoiding conflict over resources.
- II. In Hodod Samaro, Ethiopia, the community managed to reclaim 1618ha of reserve pasture, through enclosures and clearing of bushes, which fed 6472 cattle for two months in a time of drought, including migrating cattle. Out of the total reclaimed area of 1618ha of rangeland 1208ha was reclaimed by the community without the need for any external financial support.
- III. In Web, Ethiopia, three traditional wells (*ellas*) were rehabilitated to increase their efficiency, and promote the effective utilisation of water through improving the access path to improved cattle troughs. One *ella* now provides access to water for 1200 heads of livestock per day as compared to 400 previously.
- IV. In Mandera West the Constituency Development Fund (CDF) and Arid Lands Resource Management Project (ALRMP) had funds available to construct underground water tanks. The communities were able to construct 3 underground tanks of 800,000 litres each capacity to collect run-off rainwater for use when surface water in ponds and earth pans are exhausted. Water was provided to 9600 people for 2-3 months into the dry season, and the walking distance to collect water was reduced from 30km to an average of 2km.
- V. In Marsabit Mountain, Cordaid's partner organization PISP constructed rooftop water harvesting tanks of 60M³ capacity, as well as sanitation facilities for 8 primary and secondary schools. This intervention has ensured continuity of learning.

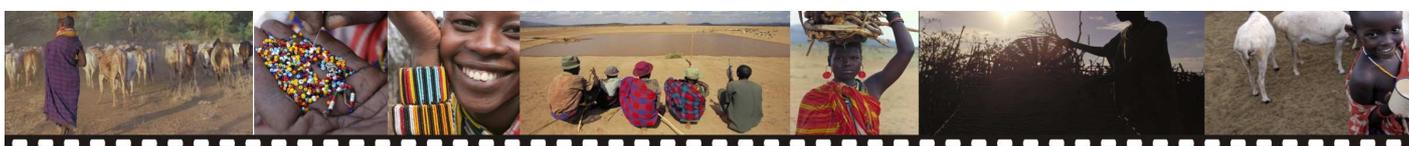


Photos: Burduras, Kukub, Burashin, Mandera, Kenya - underground tanks under construction and upon completion

2. Enhanced community understanding of the risks they are exposed to and their role in reducing risk

*"Thanks to the CMDRR process, our community learned to define our problem and understand where we are and how to solve it and where to go". "We can see the development of our community in another way. The partner organisation contributed to open our mind."*⁵

⁵ Cordaid (November 2010) CMDRR self-evaluation.



3. Increased confidence to solve their own problems

Many communities have carried out activities without external support, as a DRR committee member in Web, Borena stated: *“The community has learnt how to manage their resources and can continue without AFD [the facilitating partner]”*. With the introduction of complementary new technologies, communities were also able to scale up their activities such as expanding the rangelands and improving deep wells. *“Today we are happy because we are able to reproduce the design of this technology. We have people trained and we can replicate it without the support of the partners.”* Malka Kuna, Mandera.

4. Strengthening community organisation

CMDRR has been effective in promoting broad based community organisation, including traditional structures, as well as representatives of marginal groups. In Turbi, Marsabit, Kenya the community DRR committee built a DRR centre, which will serve as a meeting place, as well as an information and training centre. *“The CMDRR process helped the community to rehabilitate a traditional system lost over time”*. *“We are taking pride on the newly revived practice in managing our own resources such as rangelands and water ponds”*. (Web community in Arero, Ethiopia)

Lessons Learnt and Recommendations

Lessons Learnt:

CMDRR requires a radical shift in thinking by the donor organisation, the facilitating partner organisation and the community. The process and facilitation of CMDRR, including learning, requires a long term commitment and sufficient time should be allowed for CMDRR to be internalised by all.

Continuous training is necessary for frontline staff

When implementing a new approach, frontline staff must be given the right knowledge and tools to deliver. Cordaid invested in training its teams and its partners’ staff over a number of years. It takes considerable time to develop the knowledge and skills to ensure that staff do not dominate but effectively facilitate the process.

Learning and documentation has to be consciously planned

Cordaid organises annual learning workshops during which different aspects of the approach are discussed. If there are weaknesses and challenges, tailor-made refresher courses are organised to help build upon good practices and abandon bad ones. Documentation of experiences through write-shops and case stories is necessary to help others learn from experiences. Monitoring and evaluating progress will provide evidence of change and impact.

PDRA is not a one-time process

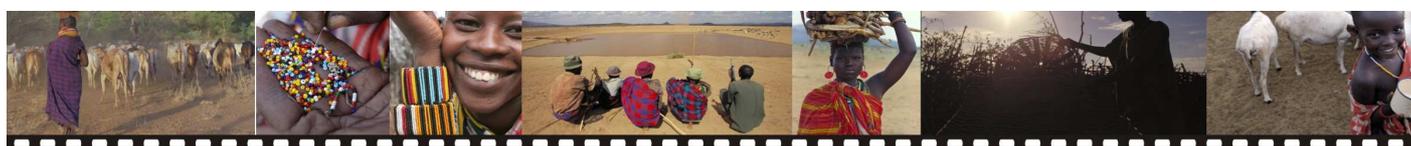
Over time the context, actors and the hazard characteristics will change, and thus as disaster risk reduction measures are implemented there is need to continuously review the progress towards task accomplishment. In terms of DRR projects, and the ultimate vision of safer and resilient communities, this means that flexibility is required for changing plans. The first PDRA process is in fact a baseline upon which progress is measured over time. All Cordaid partners are encouraged to organise annual reviews of community action plans and re-plan activities.

Multi-stakeholder participation in PDRA enhances broad based partnership

Ideally all stakeholders, including the government, civil society organisations, and organised groups within the specific community are expected to be involved in assessment, implementation, monitoring, evaluation and learning. This enhances collaboration and partnership, ensuring maximum progress towards the vision of safer and resilient communities.

The PDRA process has to be facilitated to completion

If the process is flawed, the final product will have flaws as well. The process facilitators must be diligent. If the process and assessments are rushed the result is incomplete and action plans ineffective.



Participatory tools are essential

Illiteracy among communities of the East and Horn of Africa is high, and therefore visual Participatory Rural Appraisal tools are appropriate to enhance participation and promote sharing of indigenous knowledge.

Future Recommendations:

Mechanisms for risk transfer need to be explored

Risk Transfer is “the process of formally or informally shifting the financial consequences of particular risks from one party to another, whereby a household, community, enterprise or state authority will obtain resources from the other party after a disaster occurs in exchange for ongoing or compensatory social or financial benefits provided to that other party” (UNISDR, 2009). In most of Cordaid’s target communities, informal risk management mechanisms exist between families and community networks. However, with increased disaster events like drought, which affect all the communities almost equally, such systems can no longer cope. It is therefore imperative for Governments and other actors to create contingency funds and other forms of insurance.

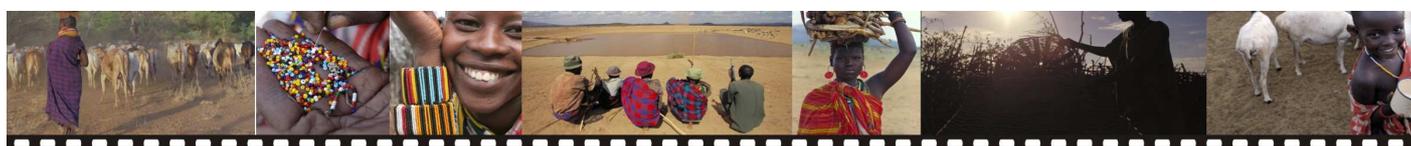
There is a need to link to more comprehensive advocacy efforts

Despite successes in building the capacity of CMDRR committees to demand resources from local government, high level policy advocacy work needs to take place to ensure wider support for this type of appropriate investment and commitments. Building advocacy capacity within communities so that they can secure support from the Government and other stakeholders, and ensure their needs are communicated and responded to, is particularly crucial in Arid and Semi Arid Lands (ASAL) Areas—given the political and economic marginalisation of these communities and their low social and economic resource base for mitigating disasters on their own. Capacity for advocacy needs to be built by developing skills and relationships to influence key stakeholders, and for understanding the policy context and the resources available. It also requires linkages with regional and national advocacy organisations to ensure that demands are fed into policy discussions at all levels. Linkages with other CMDRR committees to share experiences and advocate together is essential also.

There is a need to plan at cross border and at landscape level

The main livelihood of pastoralists is based on livestock, which requires mobility across districts and international borders. Thus CMDRR plans cannot be restricted to the local area and should be linked to other CMDRR plans in neighbouring areas. This is best done by communities carrying out an initial analysis at community level and then meeting with other communities to jointly plan on issues relating to the use of common and dispersed resources. This may require reciprocal resource agreements, or joint CMDRR committee meetings.

It is important to acknowledge that the CMDRR approach is evolving, and there are aspects that need improving. As a new approach, more impact assessment and documentation of lessons learnt is important: This not only enriches the approach, but demonstrates its impact and enhances wider adoption. With climate change and increased climate variability, the need for integration of climate change and DRR interventions is paramount to avoid interventions that result in mal-adaptation. Effective risk transfer mechanisms are also vital to spread risks. Policies, legislative and institutional frameworks for DRR are equally important to guide practice and ensure financial commitment by governments and other development partners. It is anticipated that with the integration of DRR, climate change adaptation, policy support and environmental sustainability, the vision of safer and resilient communities and nations and sustainable development can be attained. But to do so the community needs to be the driver of change: development practitioners need to hand over the stick and become the facilitators instead.



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EUROPEAN COMMISSION



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