



**Malteser
International**
Order of Malta Worldwide Relief

Building Resilience of Rural Communities in Myanmar

Handbook for field practitioners



Acknowledgments

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1 Introduction

Myanmar's rural population are extremely vulnerable given their low human development and high dependence upon natural resources for their livelihoods (including agriculture, fisheries and forestry). This has led to environmental degradation including deforestation and poor land use management practices, diminishing water sources and high rates of food insecurity and sickness etc. These pre-existing vulnerabilities combined with the large number of hazards affecting Myanmar including cyclones, floods, earthquakes, tsunamis, fires, storm surges, droughts and landslides have resulted in a high risk rural society. In addition, climate change and its associated impacts are already, and will likely continue to exacerbate the situation further through more frequent, intense and widespread extreme hazard events including cyclones, floods and droughts, and through increased temperatures, rainfall variability and sea level rises.

Myanmar has taken steps to addressing risk to hazards including climate change at the national level through the development of Myanmar's Action Plan on Disaster Risk Reduction (MAPDRR) and the National Adaptation Program of Action on Climate Change (NAPA). However, in many cases rural communities are either not aware or have not yet benefited from the policies, strategies and actions outlined in these two documents. Communities are also those best placed to identify strategies and solutions to their problems as they are at the front line of hazard impact. It is therefore essential that urgent action is taken at the local level in partnership with communities, government, civil society and other stakeholders to implement actions identified in the NAPA and MAPDRR and increase the resilience of rural communities to hazards including climate change.

This Handbook outlines a process whereby Malteser International staff and their partners can work in partnership with rural communities and local governments to address risk to hazards including climate change and increase community resilience. Firstly the Handbook outlines hazards, their associated impacts and sources of vulnerabilities facing rural communities in Myanmar. It then provides example actions and measures for inclusive disaster risk management and climate change adaptation at the community, township and state level. The Handbook then presents the case for an integrated approach to resilience building which embeds climate change adaptation strategies within a disaster risk management approach. The steps and tools for this approach are then described, before outlining how community resilience plans should be integrated into development plans at township and state level.

Key Concepts

These are adapted from UNISDR's (2009) definitions and include:

Risk is the combination of the likelihood of an event occurring and its negative consequences.

Hazard is a potentially damaging event, phenomenon or activity that may cause loss of life, injury, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. They can be natural or human induced, rapid onset or slow inset.

Vulnerability is the characteristics and circumstances of a community including human, social, physical, economic, political and environmental factors that make it susceptible to the damaging effects of a hazard. It therefore differs between individuals, households and communities.

Capacity is the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to anticipate, cope with and respond to a hazard or hazards.

Disaster is a serious disruption to a community which involves widespread human, material, economic or environmental losses and impacts and overwhelms the ability of a community to cope using its own resources.

Disaster Risk Management (DRM) aims to avoid, lessen or transfer the negative effects of hazards through activities and measures for prevention, preparedness, mitigation, response and recovery.

Climate Change is a change in the climate that persists for decades or longer, arising from either natural causes or human activity.

Adaptation means avoiding or reducing vulnerability to the changes we are, and will continue to experience including adapting to climate related hazards and changing conditions e.g. fluctuating temperatures and rainfall.

Resilience is the ability of countries, governments, communities and households to resist, absorb, accommodate to and recover from the effects of a hazard and adapt to longer term changes in a timely and efficient manner.

2 Risks and the Impacts of Hazards including Climate Change

This section outlines the hazard profile of Myanmar and associated impacts of these hazards including climate change at the local level. In addition, the section outlines underlying sources of vulnerabilities and examines the importance of knowledge, attitudes and perceptions

2.1 Hazard Profile of Myanmar

Myanmar is one of the most disaster prone countries in the world due to its exposure to multiple hazards including earthquakes, tsunamis, cyclones, storm surges, floods, landslides, drought, fire and forest fires, the last seven of which are climate related. Data provided by the Relief and Resettlement Department from 2000-2001 to 2009-2010 outlined that fire constituted approximately 73% of reported disaster events, followed by storms (12%), floods (11%) and others including earthquakes, tsunami and landslides (4%). Cyclone Nargis which occurred in 2008 was the worst disaster in the living memory of Myanmar with 84,537 lives lost and 2.4 million people affected (Department of Meteorology and Hydrology (DMH), 2009). Hazards including climate change are outlined in further detail below:

- **Cyclones:** Myanmar is prone to cyclones with April, May and October to December considered cyclone months as per the records for the last 100 years. In the last four decades eight major cyclones have hit Myanmar including Sittwe cyclone in 1968, Patheingyi cyclone in 1975, Gwa cyclone in 1982, Maundaw cyclone in 1994, Mala cyclone in 2006, Akash cyclone in 2007, Nargis cyclone in 2008 and Cyclone Giri in 2010 (DMH, 2009).
- **Storm Surges:** The coastal regions of Ayeyarwady region and Rakhine State are prone to storm surge. During Cyclone Nargis, 90 per cent of deaths were caused as a direct consequence of the storm surge (DMH, 2009).
- **Floods:** In the past floods have led to loss of life and property, damage to critical infrastructure, economic loss and health related problems such as outbreak of water borne diseases when lakes, ponds and reservoirs get contaminated. Nearly all rain falls between mid-May and October, during which flooding is common. The riverine floods are common in the river delta, while the flash floods and landslides are frequent in upper reaches of the river systems, which are normally the mountainous areas. In the cities and towns, localized floods occur from time to time (DMH, 2009).
- **Landslides:** Landslides of various scale occur in mountainous regions especially in the Western, Southern and Eastern Highlands of Myanmar. The Western ranges have experienced all types of landslide and earth movement including rock falls, rock slides, soil avalanches, and mud flows. Due to sparse population, the direct impact of landslides in this region damaged infrastructure rather than human settlement (DMH, 2009).
- **Dry zone/Droughts:** The dry zone of Myanmar is located in the central part of the country in Magway, Mandalay and Sagaing Regions (lower part) across 54 Townships in 13 Districts and covers approximately 10 per cent of the total area of the country. It falls under arid to semi-arid zone and the average annual precipitation is below 40 inches (DMH, 2009).
- **Fires:** Fire hazard is the most frequent hazard in Myanmar. The high incidences of fire cases are concentrated mainly in Yangon, Mandalay, Ayeyarwady, Sagaing and Bago, all of which account for 63 per cent of the total fire cases. January to May is the high season for fires and average annual fire cases are 900 leading to loss of life and property (DMH, 2009).

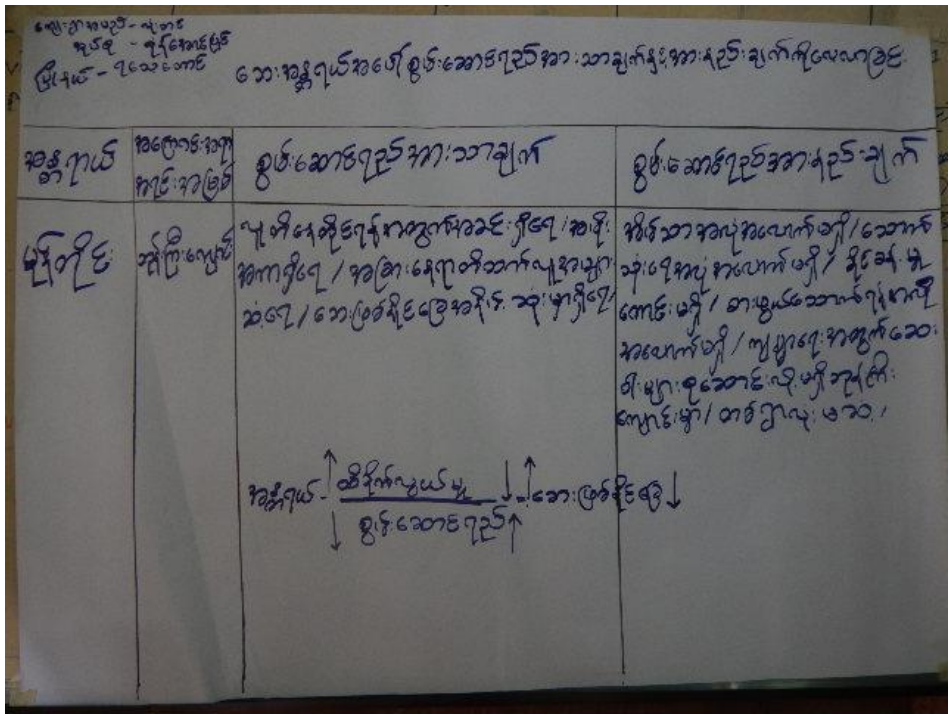
- **Forest Fires:** The forest fires in Myanmar are normally surface fire, most frequent during the dry season, starting around December until May. It occurs in almost all States and Regions though sporadic, however more common in upland regions namely Bago, Chin, Kayah, Kachin, Mandalay, Rakhine and Shan. Forest fires cause a haze problem with negative effects on nearby communities (DMH, 2009).
- **Tsunami:** The 2,400 kilometers coastline of Myanmar can be divided into three regions namely Rakhine coastal area in northwest, Ayeyarwady Delta in middle, and Taninthayi coastal area in the south. The intensity of the tsunami in terms of run-up and the extent of the inundation was comparatively lower than other countries during the 2004 Indian Ocean Tsunami as indicated by the computed tsunami amplitudes. The amplitudes are slightly larger off the Ayeyarwady delta, because the shallow delta extending offshore added to the height of the tsunami wave (DMH, 2009).
- **Earthquake:** Myanmar can be divided into three seismically active regions: the Northwestern Region, the Central Lowland and the Shan Plateau-Yunnan Region. During the 20th Century, at least 18 large earthquakes have occurred along the Central Lowland where the well-known Sagaing Fault (1000 km) passes through. Another large seismogenic fault called Kyaukkyan Fault about 500km long is in the western part of the Shan Plateau. The largest measured earthquake in Myanmar is 8.0 on the Richter scale and occurred on 23 May 1912 on the northern segment of the Kyaukkyan Fault. Myanmar was hit by an earthquake of 6.8 Richter scale on 24 March 2011 in Shan State (DMH, 2009).
- **Climate Change:** Over the last six decades, communities in Myanmar have **already experienced** a general increase in temperature and total rainfall (note: notable decreases are occurring in certain regions e.g. Bago Region), a decrease in the duration of the south-west monsoon season and increases in the occurrence and severity of extreme weather events (Ministry of Environmental Conservation and Forestry, 2012). **Future projections** include a general increase in temperature, an increase in clear sky days exacerbation of drought periods, an increase in rainfall variability during the rainy season, increased flooding from the late onset and early withdrawal of monsoon events and an increase in the occurrence and intensity of extreme weather events including cyclones, floods, intense rains, extreme high temperatures and drought (Ministry of Environmental Conservation and Forestry, 2012).

2.2 Impacts of Hazards including Climate Change and Sources of Vulnerabilities

The potential impacts of hazards including climate change upon interaction with communities is not uniform across a society. The risk of a specific community is therefore an analysis of vulnerability and its interaction with a hazard or hazards divided by the specific capacities a community has, hence a hazard could lead to a 'disaster' but not necessarily.

$$\text{RISK} = \frac{\text{HAZARD} \times \text{VULNERABILITY}}{\text{CAPACITY}}$$

Figure 1: Risk equation explained to participants of a focus group discussion in Rakhine State, Myanmar (Photo: CERA).

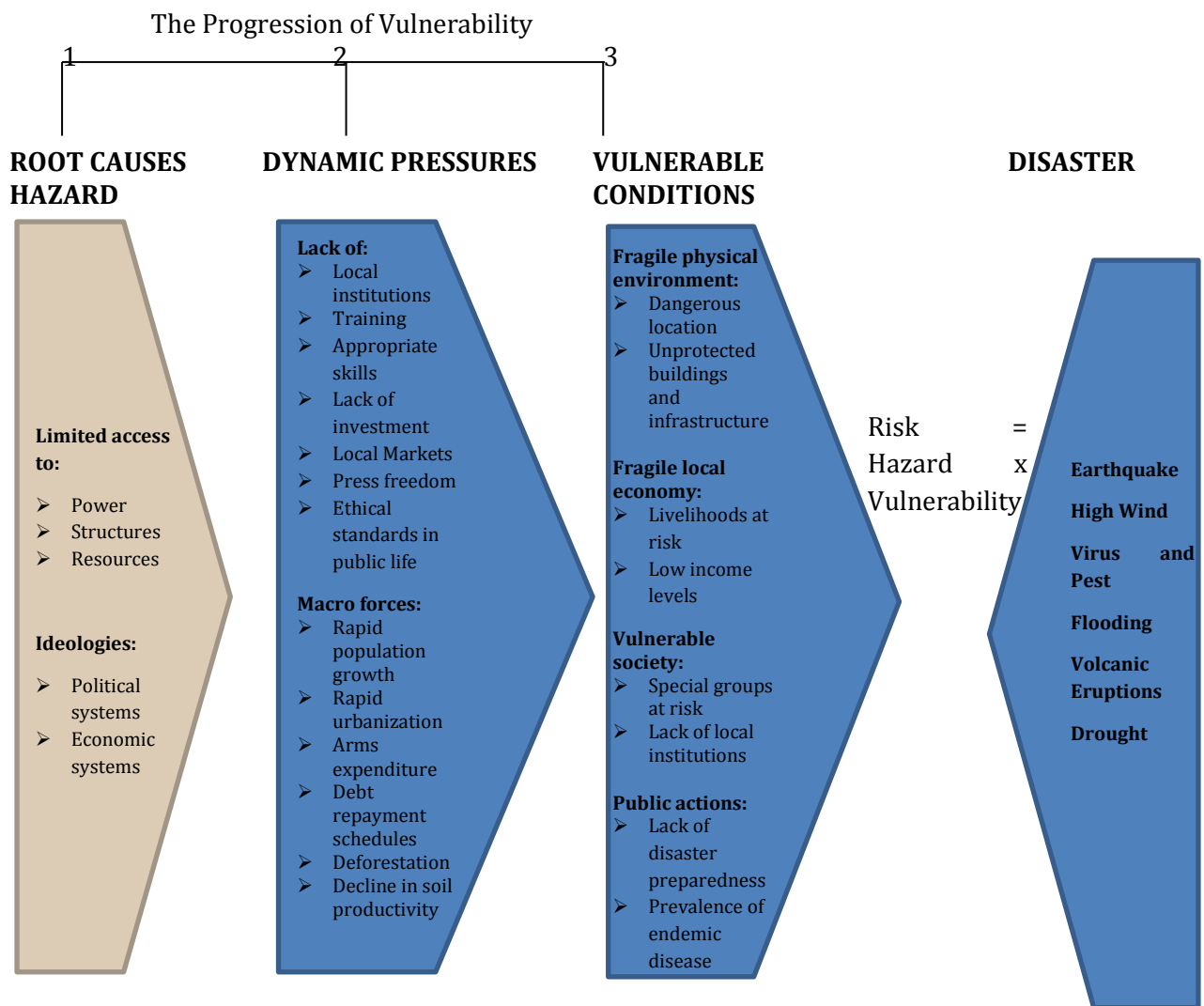


Those most affected tend to be marginalized geographically as they live in marginal, hazard prone areas, marginalized socially because they are poor and marginalized politically because their voice is not heard. People’s lives rely on a number of different elements to survive including for example housing, water supplies, social groups, livestock, savings, jobs, agricultural land etc. If these elements are ‘at risk’ there is the potential for far greater damage to be inflicted upon by a hazard or hazards. Some elements are at risk because they are unable to withstand the impact of a hazard due to:

- Economic reasons – e.g. fragile livelihoods, no credit or savings.
- Natural reasons – e.g. dependence on limited natural resources, unstable land etc.
- Physical reasons – poor structural design, housing location, inadequate protection of assets.
- Individual reasons – lack of skills or knowledge, vulnerable groups, sickness etc.
- Social reasons – disorganized community, poor leadership, lack of public information and awareness, disregard for appropriate natural resource management, limited official recognition of risks etc.

These are called ‘vulnerable conditions’ and exist because of pressures acting upon individuals and communities. Often we are not aware of these pressures and they are difficult to challenge but they are ‘structures and processes’ that contribute to vulnerable conditions. For example national and local government (structures) may be encouraging mass deforestation with poorly thought out development plans (processes) which has led to an increase in vulnerable conditions for nearby communities. In turn, ‘structures and processes’ are underlined by ‘root causes’ occurring at national and international levels – e.g. economic, demographic and political processes, which reflect the distribution of power within a society. Figure 1 outlines this progression of vulnerability in what is called the Pressure and Release Model (Wisner et al. 2004).

Figure 2: Pressure and Release Model (Wisner et al. 2004).



Vulnerability can vary significantly within a community and over time. Vulnerable individuals and/or groups within a community e.g. women, children, elderly, people with disabilities (PWDs), ethnic groups etc. need to be carefully considered in analyzing vulnerability. The social and economic impacts of hazards including climate change will therefore vary depending upon the vulnerability (and capacity) of a specific individual, household or community, and its interaction with a hazard or hazards. If pre-existing vulnerability levels are high the impacts of hazards upon individuals, households and communities are often severe and result in a spiral of deprivation which is difficult to escape from e.g. loss of livelihoods may lead to food insecurity, which may lead into increased sickness, but loss of livelihood has resulted in loss of income, therefore healthcare is not affordable etc. Social and economic impacts of hazards exacerbate pre-existing 'vulnerable conditions'.

The impacts of hazards including climate-related hazards will often be felt immediately with clear long term effects. However, other climate change impacts including sea level rise and temperature and rainfall fluctuations may have a gradual impact upon communities over a period of time including but not limited to (DMH, 2009; Ministry of Environmental Conservation and Forestry, 2012):

Impacts of above normal or intense rainfall:

- In November and December, paddy harvesting seasons coincide with above normal rainfall in many areas. Harvested paddy could potentially be damaged leading to increases in post-harvest economic losses.
- In addition to the normal annual floods, flooding could occur due to unusual rainfall intensity causing damage to flood protection embankments and polders.

Impacts of insufficient rainfall:

- Fewer rainy days are expected due to the late start and early ending of the rainy season. This affects rice varieties that are grown for one hundred days.
- In some areas the start of the winter cropping season might be delayed due to insufficient rainfall.
- Minimal rainfall during the post-monsoon period to sustain rice farming.
- Insufficient water inflow for storage in structures.
- Difficulties in pumping water from rivers might be encountered.
- Insufficiency of water in some areas.
- Reduced water level in fishponds could result in high pollution levels and saline concentrations, thereby lowering yields.

Impacts of sea level rise:

- Salt water contamination could occur on cultivable coastal areas.
- Higher salt concentration in the soil may occur in coastal areas of Rakhine which could affect crop production.

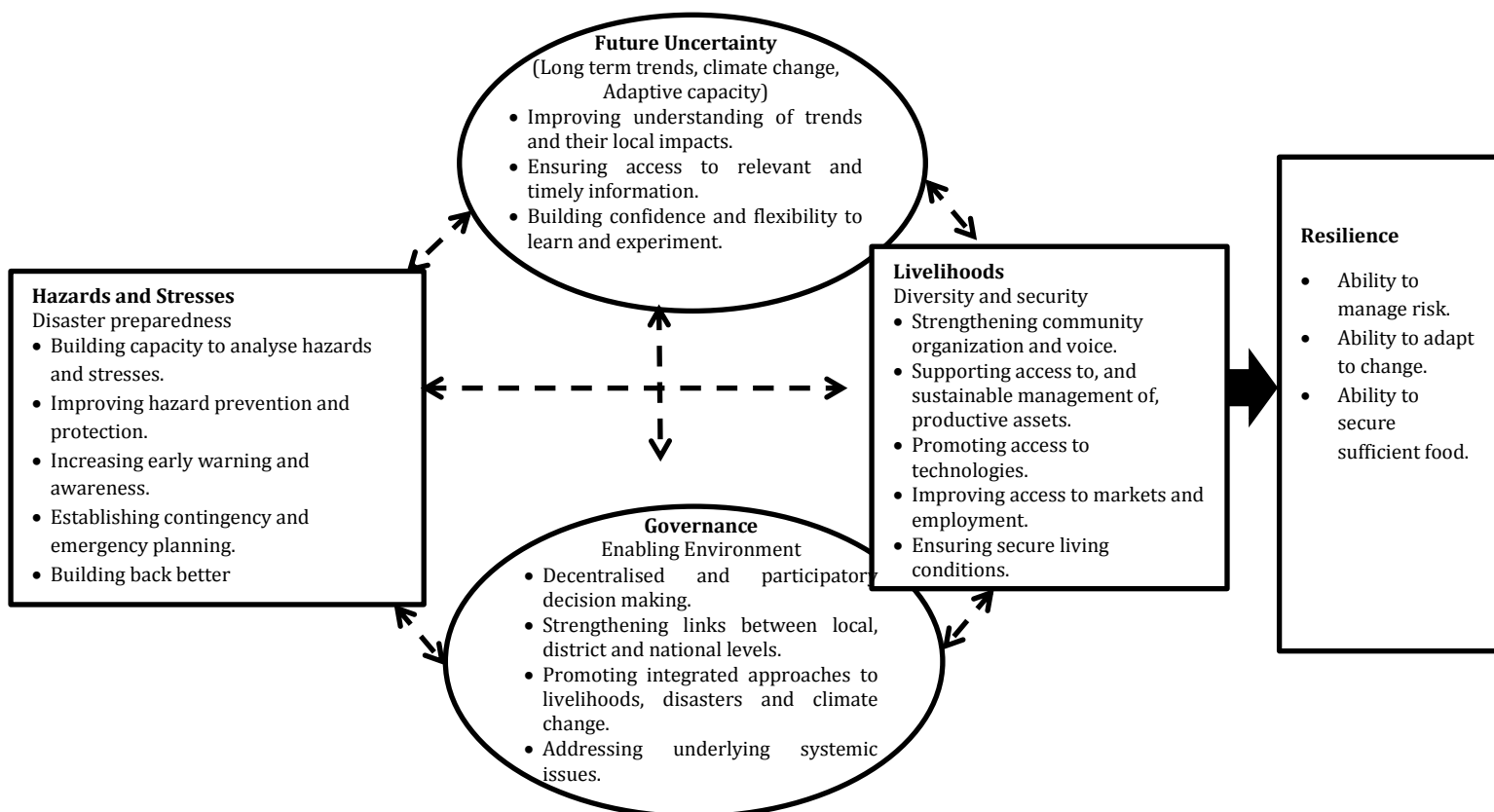
Impacts of higher temperatures:

- Changes could occur to aquatic biodiversity and habitats.
- Migration of marine species due to higher water temperatures.
- Rise of disease amongst fish species may occur due to changes in temperature or duration of cold/hot temperatures.
- Increased human health concerns due to changes in temperature or duration of cold/hot temperatures.
- Increased temperatures could lead to an increase in vector-borne diseases e.g. dengue and malaria.
- Higher temperatures could result in decreases in the amount of oxygen in water, and hence aquaculture production, especially for shrimp, would likely go down.

2.3 Building Resilience to hazards including climate change

Considering the wide ranging impacts of hazards including climate change across all sectors of society it is essential to approach resilience building in an integrated fashion. Resilience is the ability of countries, governments, communities and households to resist, absorb, accommodate to and recover from the effects of a hazard, and adapt to longer term changes in a timely and efficient manner. Building resilience involves addressing people's susceptibility to, and ability to cope with, the various hazards and stresses that affect them, which ultimately involves addressing underlying vulnerable conditions and associated processes outlined in the PAR model in Figure 1. Practical Action (2011) outline this process in their Vulnerability to Resilience Framework (V2R) in Figure 2 below.

Figure 3: From Vulnerability to Resilience Framework (Pasteur, 2011).



The V2R Framework is a practical tool which draws on existing approaches and is designed to help practitioners and policy makers to understand, analyse and address the multiple factors contributing to vulnerability in order to build community resilience to hazards including climate change as well as other shocks and stresses (Pasteur, 2011). The V2R framework assists in identifying key questions which need to be asked to safeguard communities and their assets.

Box 1: Key Questions asked by the V2R Framework (Pasteur 2011).

Aspect of Analysis	Questions to ask
Potential risks (hazard or stresses) that might affect the project or intervention.	Has an analysis of possible hazards been carried out? Has action been taken to reduce risks i.e. prevention, protection, early warning, awareness raising and emergency planning? Is any project work (construction, livelihoods etc.) disaster proof?
Relationship between livelihood related interventions and risk.	Has the potential impact of hazard events on livelihood interventions been assessed and minimized? Are livelihood interventions leading to increased risk?
Effects of potential long term trends, including climate change in relation to the intervention.	What are the local impacts of potential trends? How can information about these trends be made available to people over time? How will people adapt if trends do affect this intervention? What resources or institutional support are available?
Improving the governance environment in support of resilience building.	Are people able to influence decisions affecting risk reduction and resource access? Do policies support integrated resilience building? Are there good links between national, district and local levels?

In summary, climate change interventions should be embedded within a disaster risk management (DRM) approach covering all hazards. This in turn should be embedded within overall 'resilient' development interventions – thereby contributing to resilience building. The mainstreaming of resilience building in this way will contribute to ensuring long term sustainability and reductions in losses from hazards including climate change.

2.4 Knowledge, attitudes and perceptions

Community-based DRM and climate change adaptation (CCA) require personal investments such as pooling money for emergencies, participating in community meetings for assessing risk and making decisions, and developing and implementing community plans. The process requires community members to take on a more long-term perspective for their well-being. This is difficult as a community may consider every day concerns or problems such as livelihood issues, sickness, family issues, or crime as more immediate threats. Seasonal hazards such as flooding that arrive with monsoon rains will be important as the season draws near or is occurring but will lose importance as time elapses after the season has ended. Hazards that occur infrequently or climate change impacts that may or may not happen in the future are often considered to be remote by communities.

Therefore the choices of a community to manage their risk to hazards including climate change will be affected by:

- each member's knowledge regarding risk and climate change.
- attitudes towards specific possible actions for addressing risk (willingness to implement these and whether they are feasible).
- specific perceptions of how severe the risks are and whether they are an immediate versus long-term threat.

Knowledge, attitudes and perceptions will ultimately influence the decisions and behaviours (practice) for DRM and CCA. Taking the time to understand people's perception of risks is a component of coming to a common understanding of risk in a locality. This is a basis for identifying appropriate and adequate resilience building measures that the community will want to implement and sustain.

Box 2: Knowledge, Attitudes and Perceptions about Disasters and Climate Change in Rakhine State

Source: unpublished study by MMRD (2013)

In September 2013, a study of 336 households in 12 villages in Rakhine State was made to set a baseline description of household-level awareness and attitudes in relation to disaster risk and climate change, and to determine communities' resilience based on their coping strategies. The study was part of a project for strengthening disaster risk reduction and community-based management of the mangrove forest ecosystem supported by Malteser International. The data collection method was a survey that was administered from house to house.

The respondents consisted of 54% females and 46% males, with more than half having only primary school education. Most respondents were engaged in some form of livelihood or work, either as day laborers (22%), farmers (16%), fishers (14%), or owning a business (17%). Their households had an average size of five members, and 86% were headed by men.

The survey showed that a majority (84%) of respondents were aware of the hazards in their state, and named cyclones, floods, strong wind, landslide, forest fires and saline water intrusion. Most respondents (88%) believed that something could be done, and mentioned disaster preparedness measures at household level such as strengthening their houses, moving to a safer place, preparing supplies, among others. However, disaster preparedness was not as well established at community level. Respondents said that their villages were not taking any steps, did not have dedicated institutions for disaster preparedness, and had no risk reduction plans.

Nearly all (98%) agreed that some people are more vulnerable than others, identifying the old, the young and women as the most vulnerable of the population. Nearly all (97%) agreed that in times of disaster, men are better positioned to lead disaster management efforts.

The survey showed lower awareness about what to do about climate change or willingness to address it (84%), even though all respondents mentioned observing changes in the last five years such as high temperatures, floods, storms, drought, heavy rain or strong wind.

3 Integrating Disaster Risk Management and Climate Change Adaptation at community, township and state level

This section describes inclusive disaster risk management (IDRM) and climate change adaptation (CCA) and their importance for building community resilience before outlining an integrated approach to resilience building.

3.1 What is inclusive Disaster Risk Management and why is it important?

Disaster Risk Management (DRM) aims to avoid, lessen or transfer the negative effects of hazards through activities and measures for prevention, preparedness, mitigation, response and recovery – all actions essential to assisting people to cope with hazards and their associated impacts.

Disaster Prevention refers to actions that avoid the adverse impacts of hazards and could include such strategies as dams or embankments and relocation to avoid areas at risk from hazards. However, complete prevention is often not possible and the task often transforms to mitigation.

Disaster Preparedness refers to actions that enhance the capacity of governments, professional organizations, communities and individuals to respond to an existing or imminent hazard or hazards. Such actions may include the establishment of community disaster management teams, stockpiling emergency response materials, early warning, skills training etc.

Disaster Mitigation refers to actions that reduce the direct impact of a hazard or hazards. Mitigation measures encompass structural techniques such as improving drainage systems for rainwater or building bridges and non-structural techniques such as improved environmental policies and public awareness.

Disaster Response is “the provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected” (UNISDR 2009). It is mainly focused on immediate and short-term needs, and evolves into the subsequent recovery stage.

Disaster Recovery consists of recovery programs to restore and where appropriate, improve facilities, livelihoods and living conditions of disaster-affected communities. Recovery tasks should be based on strategies and policies, set with clear institutional responsibilities, and include efforts to reduce disaster risk factors and apply the “build back better” principle.

Inclusive DRM is a process of empowerment and capacity building which aims to ensure all members of society are able to participate effectively in decision making processes that affect lives (Malteser International (MI), 2013). There is a special focus upon people with disabilities (PWDs) as PWDs have been identified as being those most left out from benefitting from humanitarian and development initiatives, as well as being considered most vulnerable during

disasters (MI, 2013). IDR as outlined in Myanmar Independent Living Initiative's and Malteser International's guidebook on disability inclusive disaster risk reduction (2014) should:

- Ensure barriers to inclusion are fully understood, addressed and removed. No assumptions are made regarding capabilities.
- Persons with disabilities are empowered to participate in all DRM activities and decision making. Their capacity to participate and act effectively before, during and after a disaster has been built through training and skills building. They have been provided with assistance, rehabilitation, livelihood support and other support as necessary. Appropriate communication channels and activity venues, known by and physically accessible to all, are used.
- Policies, plans, laws, standing orders and other institutional arrangements clearly take into account the needs of PWDs. Specific action is taken to ensure inclusion, through awareness raising, advocacy or other means.
- National and community level early warning systems are understood by everyone.
- Community-level DRM Plans are designed with participation from PWDs or changed as necessary.
- Community evacuation shelters are safe, accessible and known by all.
- Everyone is familiar with search and rescue services, and these take into account the specific needs of PWDs.
- Plans for aid distribution include provisions for PWDs who should be identified prior to the emergency wherever possible.

However, there are a number of barriers to the inclusion of PWDs within DRM processes, especially community based disaster risk management (CBDRM) actions. Examples of these with recommended solutions are outlined in Box's 3-6 (taken from Malteser International's Manual on Disability Inclusive Community-Based DRM: 2013).

Box 3: Thought and attitude barriers

Examples:

- The attitudes of parents who refuse their children to study together with an intellectually-disabled child in the same class.
- The common prejudice which states that PWDs cannot do anything so there is no point in inviting them to community meetings (e.g. for performing a hazard, vulnerability and capacity analysis (HVCA) or making a DRM plan).

Recommended solutions:

- Organize awareness-raising workshop on disability inclusion for communities so that members have the right understanding regarding PWDs and their right to participate.
- PWDs need to be encouraged warmly in order to overcome their lack of confidence. One way to do so is to increase their confidence by helping them to prepare the contents to talk before participating in village meetings. In the meeting, the facilitator encourages them to speak by directly asking them questions, using pictures to help them to answer more easily.
- Train facilitators on disability inclusive community based DRM so that the facilitators can help community members to remove such barriers.

Box 4: Physical environmental barriers

Examples:

- Meeting room on the second floor is not accessible to PWDs.
- Meeting location is too far for person with wheelchair to attend.

Recommended solutions:

- Select another accessible meeting room or ask people to assist if cannot find accessible room.
- Try to find a meeting space as close as possible for persons with physical impairment.

Box 5: Information barriers

Examples:

- Facilitator is only talking verbally when they are giving instructions.
- No assistance for people with visual impairments when they are drawing a hazard map.

Recommended solutions:

- Write down instructions on a large paper if they can read. If they can understand sign languages, try to have a sign interpreter.
- Ask an assistant to describe what is being drawn for people with visual impairment so that he/she can follow.

Box 6: Policy and institutional barriers

Examples:

- PWDs cannot become teachers in mainstream schools or village DRM committees as their condition is considered 'unfit to teach/participate'.

Recommended solutions:

- Collectively work on advocacy to change public policies for PWDs.

3.2 What is Climate Change Adaptation and why is it important?

Climate change is already happening and will likely get worse as greenhouse gas emissions are continuing to rise (IPCC, 2014). CCA means avoiding or reducing vulnerability to the changes we are, and will continue to experience. Adaptation focuses upon two key areas:

1. Adapting to climate-related hazards e.g. cyclones, floods, drought, landslides, which are expected to increase in frequency and intensity due to climate change.
2. Adapting to changing conditions including fluctuating temperature and rainfall patterns and sea level rise which could have a positive or negative impact upon livelihoods.

This involves changes to the things we do, or the way that we do them. For example this may involve:

Reducing exposure: implementing actions that reduce exposure to hazards such as planting mangroves to protect homes from cyclones.

Reducing sensitivity: implementing actions that make people or livelihoods less sensitive to climate change impacts such as diversifying or changing the crops we plant or better managing water sources where there is less rainfall.

Increasing adaptive capacity: implementing actions that increase capacity to manage the negative impacts of climate change and/or take advantage of any opportunities which may arise, such as increasing access to seasonal forecasts and scientific data to assist with agricultural planning.

Locally specific adaptation responses based on local analysis are critical, and they need to take into consideration the different roles, access to resources, responsibilities and knowledge base of women, men and children (and associated vulnerable groups such as PWDs).

As with all hazards, vulnerability to climate change is determined by physical, human, natural, social, financial, political and cultural factors. Effective adaptation is therefore not only limited to actions that respond directly to climate-related hazards. To be sustainable, adaptation must also address underlying causes of vulnerability such as gender inequality, inequitable access to resources and services, and weak governance. Hence there are a lot of synergisms between CCA, DRM and sustainable development. To ensure a focused CCA response which is embedded within a wider sustainable development agenda there are two ways to address CCA:

1. Implement targeted community based adaptation initiatives – i.e. projects and programs which are specifically designed to target climate change.
2. Embed adaptation initiatives into other development sectors which are climate sensitive such as DRM, agriculture, water etc. (embedding adaptation into DRM is basically just ensuring that climate change is taken into account).

Embedding CCA initiatives into the wider development agenda for an area is particularly important as it; a) minimizes the risk that development initiatives inadvertently increase vulnerability to climate change – called maladaptation; b) maximizes the contribution development activities make to people’s capacity to adapt, thereby increasing the effectiveness of development activities; and c) it can reduce the risk that climate change poses to development activities, thereby increasing the sustainability of development initiatives.

3.3 Measures and Examples of IDRM actions at community and township/state levels

This section provides an overview of IDRM actions which could be taken at the community, township and/or state/region level. It is by no means an exhaustive list but it outlines example actions and indicators for each stage of the DRM cycle. Table 1 outlines actions and indicators for IDRM at the community level. Table 2 outlines actions and indicators for IDRM at the township and state/regional level.

Table 1: Example IDRM actions and indicators at the community level

DRM Phase:	Example Actions:	Example Indicators:
Disaster Prevention	1. Community members and facilities relocated to safe areas within locality.	1. No. of members/households relocated without impact e.g. loss of land for livelihood.
Disaster Preparedness	1. Participatory hazard, vulnerability and capacity (HVCA) assessments.	1. a) % of households who can describe at least five main issues identified from the HVCA. b) level of involvement of vulnerable groups e.g. PWDs.
	2. Community risk reduction action plans put into operation and updated annually.	2. a) % of households aware of risk reduction action plans and their contents. b) No. of action plans reviewed through an inclusive process and updated annually.
	3. Village disaster management committees and taskforces.	3. a) % of committee members undertaking hazard(s) monitoring/demonstrating skills in carrying out relevant response tasks. b) level of representation of vulnerable groups. c) committed, accountable and effective community leadership of DRM planning which ensures inclusivity of all members.
	4. Early warning systems and evacuation plans capable of reaching the whole community.	4. % of community members who receive early warning messages from at least one source.
	5. Capacity building and awareness raising activities geared to community needs and capacities.	5. a) % of community members who took part in awareness raising activities and are able to describe at least x measures to reduce their vulnerability and increase their capacity. b) No. of community members who have received training in.....and are now actively implementing actions identified to increase their capacity.
	6. Building accessible shelters with ramps	6. a) No. of accessible shelters available. b) % of vulnerable groups e.g. PWDs aware of their location and have plans as to how to access them in an emergency.
	7. Safe evacuation routes identified, maintained and known to community members.	7. a) % of evacuation routes maintained. b) % of community members aware of evacuation plans and their route to safety.
	8. Community emergency funds established to implement IDRM including response and recovery activities.	8. % of emergency funds being actively managed and used to the benefit of the community.
	9. Volunteer search and rescue group	9. Possession of appropriate technical expertise for appropriate search and rescue actions at local level.
	10. Stockpiling supplies and relief goods	10. No. of communities with sufficient supplies for relief goods and plans for storage, maintenance and where necessary distribution.
	11. Inclusion/representation of vulnerable groups in community decision making and management of IDRM.	11. Level of active involvement of vulnerable groups in community IDRM processes.
Disaster Mitigation	1. Natural resource management practices that reduce risk e.g. reforestation, soil management	1. a) No. of households adopted sustainable natural resource management practices. b) % of households aware of linkages between poor land use practice and

	<ol style="list-style-type: none"> 2. Structural mitigation measures (e.g. embankments, gabions, water harvesting tanks, flood diversion channels etc.) in place and built using local materials, labour and technologies where possible. 3. Adoption of hazard resilient construction and maintenance practices. 4. Adoption of physical measures to protect key domestic assets e.g. raised internal platforms and storage and productive assets e.g. livestock shelters. 5. Community-based seed banks 6. Capacity building and awareness raising activities e.g. in safe construction, land use management etc. 7. Use of local knowledge and local perceptions of risk as well as other scientific knowledge, data and assessment methods. 8. Livelihood diversification including on-farm and off-farm activities. 9. Diverse asset bases (income, savings, property) to support crisis coping strategies. 10. Construction of resilient infrastructure e.g. bridges, health facilities, schools etc. 	<p>increased hazard impacts.</p> <ol style="list-style-type: none"> 2. No. of structural mitigation measures in place and their impact on different community groups. 3. a) % of households implementing hazard resilient construction practices. b) level of support provided to vulnerable groups less capable of implementing hazard resilient construction practices. 4. No. of households implementing physical measures. 5. No. of seed banks in place and plans as to their maintenance and use. 6. No. of trainings which have taken place and identification and application of knowledge obtained as a result. 7. a) % of activities implemented utilizing local knowledge, scientific knowledge and/or both. b) External agencies value and use local knowledge. 8. a) % of households implementing on farm and off farm activities. b) Fewer people engaged in unsafe livelihood activities or hazard vulnerable activities e.g. rain-fed agriculture in drought prone areas. c) % of households adopted hazard-resistant agricultural practices. 9. % of households implementing strategies to diversify and protect assets. 10. No. of resilient infrastructure built/retrofitted.
Disaster Response	<ol style="list-style-type: none"> 1. Search and rescue skills 2. First aid skills 3. Evacuation and evacuation area management 4. Management of the dead and missing 5. Community managed disaster fund 6. Clear, agreed and stable IDRM partnerships between communities and local organisations e.g. local authorities, civil society etc. 	<ol style="list-style-type: none"> 1. % of adequate search and rescue operations carried out in training and in reality. 2. No. of community members trained in and using first aid skills. 3. Evidence of clear evacuation plans and plans for evacuation area management. 4. Evidence of plans to manage missing persons and the dead. 5. Disaster fund in place with plans available to, and understood by community members as to its use and purpose. 6. Roles and responsibilities of relevant stakeholders in disaster response outlined and known to the community.
Disaster Recovery	<ol style="list-style-type: none"> 1. Establishment of micro-finance fund 2. Participation in recovery programs e.g. cash for work, livelihoods, psycho-social support etc. 3. Development/Redevelopment of resilient and accessible infrastructure and public facilities. 	<ol style="list-style-type: none"> 1. % of community members able to access and utilize micro-finance fund. 2. % of community members able to recover quickly through participation in recovery programs. 3. No. of facilities/infrastructure rebuilt to a standard necessary to withstand subsequent hazard(s).

Table 2: Example IDRM actions and indicators at township and state/region level.

DRM Phase:	Example Actions:	Example Indicators:
Disaster Prevention	<ol style="list-style-type: none"> 1. Support township and state authorities to develop a relocation/resettlement strategy. 	<ol style="list-style-type: none"> 1. Relocation/resettlement strategy is sensitive to the needs of those most vulnerable, is fully inclusive and meets community requirements if relocated i.e. in terms of land for livelihoods, clean water sources etc.
Disaster Preparedness	<ol style="list-style-type: none"> 1. Strengthening and capacity building of DRM focal points within township and state authorities, especially with regards to IDRM e.g. in risk assessment, CBDRM, plan development etc. 2. Implementation of inclusive CBDRM. 3. Support the integration of community risk reduction plans into township development and/or DRM plans, and township plans within state plans. 4. Support the communication (and/or assistance with development) of township and state multi hazard preparedness and response plans with local communities. 5. Support ongoing monitoring and assessment of hazard(s) 6. Strengthen linkages between community leaders and township authorities (and township authorities with state authorities). 7. Undertake capacity building activities for local authorities on IDRM e.g. integration of plans, hazard monitoring, search and rescue training etc. 8. Availability of assets to support the township, state and communities in preparing for hazard(s) e.g. communication lines, vehicles etc. 9. Establishment and implementation of school disaster preparedness program. 10. Public awareness program on IDRM. 	<ol style="list-style-type: none"> 1. a) % of township/state authority personnel attending trainings and able to outline five key messages and/or incorporating lessons learnt within their work. b) No. of knowledge exchanges between townships and/or states organized to facilitate learning and knowledge exchange on IDRM. 2. No. of communities undertaking an inclusive CBDRM process in partnership with authorities and supported by other stakeholders. 3. a) No. of trainings delivered regarded plan integration and implementation. b) % of community plans integrated into township plans and subsequently township into state/region plans. 4. Level of knowledge amongst community members regarding the township and state's preparedness and response plans and their relevance/use to them. 5. Level of information and knowledge available to state/township devolved to the local level regarding hazards. 6. a) No. of meetings held between community leaders and township authorities regarding IDRM. b) % community involvement in IDRM processes at the township level. c) No. of joint trainings between township and state authorities. 7. No. of trainings delivered and level of participants knowledge. 8. No. of assets available and plans in place for their quick deployment. 9. Support given to local authorities in establishment of a disaster management curriculum for schools. 10. No. of advocacy and awareness raising materials developed and distributed to x no. of people.
Disaster Mitigation	<ol style="list-style-type: none"> 1. Support to the construction and maintenance of shelters enabling access for those most vulnerable e.g. PWDs. 2. Assistance with sustainable land use planning to protect against hazard impacts. 3. Support to the implementation of structural measures to reduce hazard impact e.g. water and drainage management, erosion control etc. 4. Support to hazard resistant construction especially with regards to schools and health care facilities. 	<ol style="list-style-type: none"> 1. No. of shelters constructed which ensure access for all. 2. No. of land use plans in place and % implemented. 3. a) No. of structural mitigation measures implemented b) % households/communities benefitted. 4. a) No. of public hazard resistant structures built and accessible for those most vulnerable including PWDs. b) Trainings delivered on hazard resistant construction.

	5. Use of small grants to assist communities in implementing mitigation measures.	5. No. of small grants available and % of people benefitting.
Disaster Response	1. Strengthening emergency support functions. 2. Provision of necessary equipment.	1. a) Level of support to township and/or state authorities for emergency support functions. b) Roles in emergency response for all stakeholders clear. 2. Supply of equipment and plans in place for use and maintenance.
Disaster Recovery	1. Support township and state authorities to repair/rebuild schools, roads, bridges and other infrastructure to a hazard resistant standard. 2. Support to the implementation of township and state managed recovery programs increasing community resilience.	1. No. rebuilt to a hazard resistant standard and accessible by all. 2. No. of recovery programs implemented and % community benefitted.

3.4 Measures and Examples of climate change adaptation actions at community and township/state levels

This section provides an overview of CCA actions which could be taken at the community, township and/or state/region levels. It is by no means an exhaustive list but it outlines example actions and indicators for reducing exposure, reducing sensitivity and increasing adaptive capacity at community level (Table 3) and township/state level (Table 4).

Table 3: Example CCA actions and indicators at community level.

CCA:	Example Actions:	Example Indicators:
Reducing exposure	<ol style="list-style-type: none"> 1. Planting mangroves to protect homes from cyclones. 2. Supporting implementation of IDRM plans including evacuation planning. 3. IDRM community funds 4. Providing access to early warning messages. 5. Building capacity to analyse risks and respond to hazards. 6. Improving shelter to withstand hazards for people and assets e.g. livestock. 7. Protection of assets. 8. Household reserves in place e.g. food stored, seed banks, water availability, fodder and water for livestock etc. 	<ol style="list-style-type: none"> 1. a) No. of mangroves planted. b) % of households protected. 2. a) No. of households who are aware of IDRM plan, its contents and applicability to them. b) Vulnerable persons e.g. PWDs involved in planning process and plans in place to assist them where necessary. 3. a) Funds available at community levels to support all stages of the IDRM cycle especially those most vulnerable. b) Mechanisms in place to adequately manage and where necessary distribute these funds. 4. a) % community members including those most vulnerable who have access to early warning messages. 5. No. of community members including vulnerable groups trained in the analysis of risks and the development of associated responses. 6. a) % of households with access to cyclone shelters b) No. of vulnerable persons/groups with access to adequate shelter. c) % of households with cyclone resistant housing. d) % of households with adequate shelter for livestock and/or safe evacuation routes identified. 7. % households implementing asset protection strategies. 8. % of households with adequate reserves in place with protection from hazard(s).
Reducing sensitivity	<ol style="list-style-type: none"> 1. Implementing climate resilient agricultural practices and/or sustainable land use management. 2. Supporting livelihood diversification including on farm and off farm activities. 3. Establishing food and seed banks in places safe from hazards. 4. Establishing household and community savings schemes. 	<ol style="list-style-type: none"> 1. a) % of households adopting climate resilient agricultural practices e.g. conservation agriculture practices. b) % of households growing hazard resilient crops. 2. a) % of households diversifying livelihood strategies to become more climate resilient. b) No. of households established off farm climate resilient livelihood activities. 3. a) No. of food and seed banks established and mechanisms in place to ensure their sustainability. b) Amount of food and seeds stored for community use. 4. a) % of community members with access to savings. b) No. of households involved in savings and credit groups. c) % increase in savings per household.

<p>Increasing adaptive capacity</p>	<ol style="list-style-type: none"> 1. Facilitating access to climate information and forecasts. 2. Monitoring the climate. 3. Ensuring the participation and involvement of women and other marginalized groups in local planning processes. 4. Building capacity of local institutions to analyse climate risks and plan accordingly. 5. Reviewing and revising existing community and local government plans through a climate 'lens'. 6. Building knowledge and skills on adaptation strategies e.g. in climate resilient livelihoods strategies. 	<ol style="list-style-type: none"> 1. a) % of people with access to climate information. b) % of people with knowledge of future climate trends in area. 2. a) Mechanisms in place to monitor changes in rainfall, temperature and/or extreme events. b) % of people using seasonal forecasts/monitoring information to plan their livelihood strategies. 3. a) % of women, PWDs, elderly and other identified vulnerable people/groups who feel empowered in household/community decision making for risk reduction. b) % of women and other vulnerable groups who have independent sources of income and control over this. 4. No. of trainings delivered to local institutions and their ability to use this information. 5. No. of local plans reviewed and revised using a climate 'lens'. 6. a) Households are aware of how to adapt to climate change and have the skills to implement strategies. b) Women and vulnerable groups have access to knowledge and skills. c) Community information sharing uses appropriate messaging where required e.g. with PWDs.
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Table 4: Example CCA actions and indicators at township/state level.

CCA:	Example Actions:	Example Indicators:
Reducing exposure	<ol style="list-style-type: none"> 1. Township and state IDRM plans including contingency plans are in place. 2. IDRM plans integrated into local development plans. 3. Early warning system in place using appropriate communication systems. 4. Local government has capacity to respond to disasters. 5. Community and civil society organisations involved in planning processes. 	<ol style="list-style-type: none"> 1. a) No. of township plans and state IDRM plan. b) % of communities aware of these plans and their applicability to them. c) needs of vulnerable groups included in plans 2. a) No. of township IDRM plans integrated into development plans 3. a) No. of township early warning systems b) No. of communities including those most vulnerable with access to early warning messages. 4. a) Access to stockpiles of goods needed for a response. b) % government officials received training. c) defined and agreed coordination mechanisms in place between government, civil society and communities. 5. a) Joint planning processes occurring at township and state level. b) % vulnerable groups involved in planning processes and their needs met.
Reducing sensitivity	<ol style="list-style-type: none"> 1. Local governments are aware of the importance of sustainable natural resource management and the implementation of climate resilient livelihood strategies. 2. Local government extension workers understand climate risks and promote adaptation strategies. 3. Resources allocated for adaptation activities 	<ol style="list-style-type: none"> 1. a) No. of advocacy initiatives targeted at township and state authorities. b) No. of trainings delivered to township and state authorities. 2. a) Extension workers are aware of climate trends and are able to link these to livelihood impacts. b) Extension workers are integrating adaptation strategies into their work at the local level. c) Extension workers are sensitive to the needs of vulnerable groups and work to increase their capacity and reduce their vulnerability. 3. a) % of local government budgets allocated for adaptation activities and/or advocacy campaigns to encourage this. b) % of local civil society organisations involved in adaptation activities in partnership with township and state authorities.
Increasing adaptive capacity	<ol style="list-style-type: none"> 1. Disaster risk and climate information is available at the local level. 2. Local policies and plans take climate change into account and support adaptation. 3. Policies in relevant sectors have taken climate change into account. 4. Capacity building for local government officials on understanding risk and adaptation. 5. Views and needs of women and vulnerable groups integrated into plans 	<ol style="list-style-type: none"> 1. a) No. of local government officials trained in risk assessment processes, climate change and hazards. b) % of local government officials aware of the differing needs of vulnerable groups and how to ensure their inclusiveness within risk management/adaptation processes. c) % of communities accessing this knowledge and increased support from local government officials. d) Mechanisms exist for disseminating this information at the local level. 2. a) % of local plans and policies taking climate change into account and supporting adaptation. b) impact of plans upon local communities. 3. Policy documents incorporate analysis of climate change risks. 4. No. of training programs delivered for local government officials and evidence of use of knowledge. 5. a) % of plans incorporating views and needs of women and vulnerable individuals/groups b) women and vulnerable groups feel they have been adequately represented and their voices heard.

3.5 An integrated approach to resilience building

This section builds upon the processes of IDRM and CCA described above including specifically 'Community Based Disaster Risk Reduction' (CBDRR), 'Community Based Disaster Risk Management' (CBDRM) and 'Community Based Adaptation' (CBA) literature to outline an integrated approach to resilience building which addresses present and future community risk to hazards including climate change. The approach is not new but it ensures a holistic view of community risk which incorporates climate change and its associated impacts. The seven key steps for an integrated approach to resilience building within a community include:

1. Community Selection.
2. Situational Analysis (preparation) – aims to collect baseline data from primary and secondary sources and/or undertake baseline studies to undertake a situational analysis for a community i.e. getting to know the community.
3. Community Resilience Assessment. This follows the typical format for what has previously been termed 'Hazard, Vulnerability and Capacity Analysis (HVCA)' and used for CBDRR/CBDRM initiatives and the less well known 'Climate Vulnerability and Capacity Analysis (CVCA)' used for CCA initiatives, and aims:
 - a. to understand hazards (including climate change and associated impacts) to which the community are exposed to.
 - b. to understand the underlying drivers of vulnerability and change within a community and who/what is most vulnerable including people, livelihoods, infrastructure and resources.
 - c. to understand the existing capacities a community has access to and their effectiveness at addressing current and future risk.
4. Community Resilience Action plan and prioritization.
5. Building and training Village Adaptation Committees (VACs) and associated task forces.
6. Community Resilience Action Plan Implementation.
7. Participatory Monitoring and Evaluation (M&E).

The integrated approach to resilience building is:

Community Led and Participatory: the process follows the ethos of existing CBDRR/CBDRM and CBA practices which ensure approaches are people-centred, strengthen local capacities and adopt participatory methodologies (i.e. participatory assessment, planning, implementation, monitoring and evaluation). Communities are empowered to take action to address their own risk.

Builds upon existing work: the integrated approach described here is not new but rather aims to build upon existing work in DRM and CCA, and build synergisms between CBDRR/CBDRM and CBA. This is important not only to avoid duplication and obtain optimal benefits from scarce resources but also to add value to the respective projects and programmes from the lessons learnt from each perspective. In addition, at the community level no distinction is made between DRR/DRM and CCA.

Inclusive: the process follows existing fundamental principles of Malteser International's work in ensuring that all those who are marginalized or extremely vulnerable within a community are included within the integrated approach to resilience building. These may include, but are not limited to, people living with disabilities, elderly, children, women, ethnic or indigenous groups.

Strong coordination amongst multiple stakeholders is a key element of the integrated approach to resilience building which will contribute to finding fair and long-lasting solutions for all.

In addition, the integrated approach to resilience building will:

Respond to risks posed by current hazards including climate change impacts as well as future extremes - through building resilience to current hazards including climate change impacts, communities may respond to immediate needs whilst continually reviewing climate change projections for the future.

Encourage the use of scientific data and indigenous knowledge to aid problem-solving - use relevant and applicable scientific and technological approaches in combination with indigenous knowledge to identify innovative approaches to address hazards including climate change impacts. Contribute to building relationships between scientific institutions, government bodies and local organizations at a variety of levels.

Draw on expertise from a wide variety of fields - in addition to professionals from DRM and CCA communities, recruit experts where possible from the fields of ecology, hydrology, environmental sciences, geography, economics and many others.

Promote learning and sharing - effective community-based DRR/DRM and CCA will require flexibility to respond to changing climatic conditions, a willingness of community members to discuss their observations about their climate and environment and to want to address them, and a social ability to learn and adopt new practices, tools and techniques from other areas which may be of assistance.

Table 6 provides a summary of the seven step process, the tools to be used for each step and the final outcome i.e. resilience questions which should be answered as a result of using the tools. Detailed guidance for the seven key steps is provided below. Session guides for each of the tools to be used are provided in Section 4 (resilience assessment tools for Steps 1-3) and Section 5 (action plan development and implementation tools for Steps 4-7).

3.5.1 Step One: Community Selection

The **objective** of Step One is to identify the specific community or communities you wish to partner with in developing and implementing resilience building activities. Given Myanmar's exposure to hazards a resilience building programme will most likely be essential for all communities. However, in choosing the community or communities to work with you should consider:

- The severity of the community's exposure to hazards.
- The number of people who would benefit from the programme.
- The readiness of the community and its authorities to be part of the programme.
- The accessibility of the community.
- The safety of the project team.
- The lack of safe and accessible shelters for all.

Having an idea of the readiness and willingness of the community and relevant authorities to be inclusive is also helpful. Although it might not be a factor in deciding which community to choose, it will help in determining to what degree the explanation of inclusion would be needed.

Tools to be used:

Session Guide 1 – Rapid Assessment (**Section 4.1**)

3.5.2 Step Two: Preparation – Community Situational Analysis (collection of baseline data).

The **objective** of Step Two is to collect baseline data on a community which will enable you to obtain an in-depth understanding of their situation and therefore will be of value to you in undertaking the community resilience assessment in step three.

It is very important to **know the community** as much as possible before undertaking research and deciding on which tools to use. There will most often be a wide range of information available, both qualitative and quantitative. Examining these sources of information will enable an enhanced understanding of the community and their situation which will assist in providing context for the detailed resilience assessment undertaken with the community. There are two different sources – primary and secondary. **Primary sources** refer to raw data or information in its original form which has not yet been analysed by others – for example, this may include any baseline studies you decide to undertake, rapid assessments, project reports from community work, any original research and/or field research documents, interviews, photos etc. **Secondary sources** are those that evaluate and analyse primary sources so may include evaluation reports, government data analysis documents reviewing climate change and hazard scenarios etc. If you have previously worked with the community that you plan to undertake this process with you may already have some of this information and do not need to repeat it but review what is applicable for this program. Baseline studies and a review of primary and secondary sources will provide the baseline data (facts, numbers and descriptions) required for the assessment. This data will also allow you to measure the impact of any resilience measures put in place within a community post the resilience assessment process.

Preparation:

1. Review Table 6 and the assessment questions to assist you in determining what data should be collected and analysed before going to the community.
2. Determine how you are going to collect the data – do you need to undertake a baseline study with a community or is information already available within existing primary and secondary sources?
3. Research and collect all available materials on the community. Include materials which may not have a specific focus upon your community but may have relevance e.g. climate projections for Rakhine State should also be researched and collected.
4. Review all documents to reduce and classify that which is important for understanding the community situation and/or contributing to the resilience assessment process – remain focused on your objectives.

Tools to be used:

Session Guide 2 – Baseline Studies including Primary and Secondary Research (**Section 4.2**)

3.5.3 Step Three: Community Resilience Assessment.

Step Three has three key **objectives**:

1. to understand hazards (including climate change and associated impacts) to which the community are exposed to.
2. to understand the underlying drivers of vulnerability and change within a community and who/what is most vulnerable including people, livelihoods, infrastructure and resources.
3. to understand the existing capacities a community has access to and their effectiveness at addressing current and future risk.

Preparation:

1. Review Table 6 and the tools to be used to answer the resilience assessment questions.
2. Ensure the team is prepared and clear about their roles and how to facilitate the process
3. Organize an initial community meeting to introduce the program and determine a time and agenda to undertake the assessment - ensuring inclusion of all groups and the involvement of essential stakeholders' e.g. local government.
4. Schedules need to fit within community member's agendas as they will be busy. This may mean working at odd times and so plenty of time needs to be allowed to undertake the assessment and for discussion, and agreement.
5. Time within the community needs to be planned carefully to ensure inclusiveness of the process given that for example, women's schedules may be different from men. Know what tools, groups, who to facilitate and when and where, but also be aware of the need to be flexible to fit in with community agendas. The whole data collection process may take two to four days.
6. Prepare logistics for the team (transport, accommodation and food).

Community Resilience Assessment:

1. Undertake the assessment with the community as per the process outlined in Table 6 and using the Tools provided in Sections 4 and 5.
2. After each break in the schedule and/or day the team should gather to collate data and information collected in order to triangulate results, ensure answers to the final questions have been collected, draw conclusions and make recommendations.
3. If tools have been produced using local materials ensure photos have been taken and outputs re-drawn on paper. The original should always be left with the community.
4. Make sure all community discussion is also documented – this is just as important as the tool output itself!

Analysis:

Once the assessment is complete a large amount of data will have been collected related to the target community. This information must be carefully reviewed and analysed in order to determine appropriate resilience measures which would support the community to become more resilient to hazards including climate change and its associated impacts. A lot of the information should have been analysed and reviewed whilst in the field in order where necessary to immediately follow up on any identified need to check the facts or triangulate data gathered. After which:

1. Upon leaving the community meet as a team to synthesize the results and identify key messages and issues: What are the answers to the resilience assessment questions and what does this mean for the community?
2. Summarise the data and identify any gaps which may need addressing upon a return visit to the community to present the results.
3. Prepare a report that summarises and synthesises the results in a way the community will understand.
4. Report the results back and validate the findings with the community as part of the assessment process before moving onto Step Four and the development of resilience plans.

Tools to be used:

Session Guide 3 – Social, Resource and Hazard Map **(Section 4.3)**

Session Guide 4 – Transact Walk **(Section 4.4)**

Session Guide 5 – Seasonal Calendar **(Section 4.5)**

Session Guide 6 – Historical Timeline **(Section 4.6)**

Session Guide 7 – Environmental Trend Analysis **(Section 4.7)**

Session Guide 8 – Vulnerability Tree **(Section 4.8)**

Session Guide 9 – Focus Group Discussion – identifying those most vulnerable **(Section 4.9)**

Session Guide 10 – Venn Diagram **(Section 4.10)**

Session Guide 11 – Capacity Analysis **(Section 4.11)**

Session Guide 12 – Environmental Trend Analysis - Future **(Section 4.12)**

Session Guide 13 – Future Map **(Section 4.13)**

Session Guide 14 – Data Compilation **(Section 4.14)**

Session Guide 15 – Community Resilience Assessment Reporting Format **(Section 4.15)**

3.5.4 Step Four: Community Resilience Plans and Prioritization.

Once Step Three is complete the **objective** of Step Four is to identify actions that could be taken to minimise community risk to the issues which have been raised (some of these may already have been identified during discussions in the previous step). In partnership with community members you need to **prioritize resilience actions** that are most appropriate and will not now or in the future contribute to '**maladaptation**' or **further harm** to any element of the community and their environment.

This step enables the community to process the information and analysis they have completed from Step Three and determine positive steps forward in the **identification of solutions** to existing and future challenges. It is important that this includes options/activities for women and men including those groups who were identified as **most vulnerable** through the process in Step Three e.g. children, PWDs, elderly, indigenous groups etc.

To ensure the most appropriate resilience actions are included within the community plan all actions need to be **screened and prioritized**.

1. The screening process involves:
 - a. Separating those actions which are not addressing resilience to hazards including climate change impacts from those which are.
 - b. Detailed consideration of each specific action and the potential harm it may have now and in the future (e.g. on vulnerable groups, the environment, gender, conflict etc.) given the existing and anticipated hazards including climate change impacts.
 - c. Final review and evaluation of suggested actions – where necessary and/or possible this should be carried out with relevant experts and authorities to ensure the effectiveness of suggested actions at addressing resilience to current and future risk.
2. The prioritization process should involve a transparent set of discussions with community members in which the final selection of resilience actions are justified and appropriate resources have been allocated. These discussions should be documented and approved by the community.

Preparation - Action planning:

1. The process needs to be led by the community and build upon the analysis from steps two and three. Ensure the right people and institutions are involved in the process as it is important at a later date that the plan is integrated into existing community and local government processes.
2. Keep the program goals and priorities in mind when facilitating this discussion. You may need to remind the community what the program is aiming to address.
3. Using the list of options from step three undertake an initial screening process to separate those actions addressing resilience from those which are not.
4. Undertake a detailed consideration of each action and the existing or potential harm it may cause to the community and aspects of the community, now and in the future if implemented.
5. Where possible undertake a final review and evaluation of resilience actions in consultation with experts. This review can then be used with the community to prioritize options.
6. Apply prioritization tools with the community to determine which strategies are most appropriate and/or important to them. These may include impact-implementation matrix, pair-wise ranking, and/or matrix ranking/scoring methods as identified in Section 5.

7. For the final list of resilience actions to be implemented the community then need to consider timescales and what is needed to implement the identified resilience action. It is necessary to identify:
 - a. WHAT needs to be done to achieve implementation of the identified resilience action?
 - b. HOW are they going to do this?
 - c. WHEN are they going to do this?
 - d. WHERE will it be implemented?
 - e. WHY will it be implemented?
 - f. WHO will be responsible or involved - women and men/vulnerable groups etc.?

Tools to be used:

Session Guide 1 – Impact Implementation Matrix **(Section 5.1)**

Session Guide 2 – Pair wise Ranking **(Section 5.2)**

Session Guide 3 – Matrix Ranking/Scoring Method **(Section 5.3)**

Session Guide 4 – Template for Community Resilience Plan **(Section 5.4)**

3.5.5 Step Five: Building and Training Village Adaptation Committees (VACs) and associated task forces.

The **objective** of Step Five is to:

- 1.** Establish Village Adaptation Committees (VACs) (also known as Village Disaster Management Committees (VDMCs)) inclusive of task force teams for first aid, dissemination of early warning messages, evacuations and search and rescue.
- 2.** Train task force teams in first aid, dissemination of early warning messages, evacuation drills, search and rescue.

Village Adaptation Committees (VACs):

For effective participatory planning and implementation of resilience building actions it is important a VAC is formed inclusive of specialised task force teams. This would be the main body responsible for all activities related to resilience building. The form of organization can vary depending upon a community situation i.e. it could be newly formed or become part of an existing committee or organization. The objective of the VAC is to enable their community to become more resilient to hazards including climate change through the implementation of the community resilience plan. It is important specialised training is provided for the various task force team members in first aid, dissemination of early warning messages, evacuation drills and search and rescue. These trainings should be conducted in partnership with local agencies – for example the fire brigade, the Department of Meteorology and Hydrology (responsible for early warning) and Myanmar Red Cross Society. Communities will be able to implement the activities outlined in their plans through the organisation of their respective VACs. The VACs should include adequate representation from the community including women, men, children, elderly, PWDs, ethnic groups, community leaders etc. Myanmar Red Cross Society (MRCS) outline some key pre-determined criteria for the selection of members for the VAC:

- Well respected in the community.
- Willing and able to spare their time for communities when needed.
- Willing and able to move around the assigned sites.
- Have basic skills for communication and other relevant knowledge
- Motivated to do voluntary work.

Clear Terms of Reference (ToR) for the committee then need to be established. Key characteristics of a functional VAC include (MRCS, 2013):

- Members agree on common goals and objectives to build resilience within a community both short and long term.
- Members should include representatives of most vulnerable groups.
- Elected officers and committees/task forces/working groups formed perform IDRM including CCA functions.
- Members of the community-based organizations have agreed on community resilience plans, policies and procedures.
- Have agreed on how to pool resources for preparedness and mitigation activities.
- Have identified and networked with government and non-government agencies to tap financial and technical support.
- Well informed about developments affecting the community.

- Commitment and leadership in mobilizing the community-at large in implementation of the resilience plan.

In general VACs have responsibility for:

Box 7: Responsibilities of the VAC prior to a disaster occurring (adapted from Malteser International, 2014)

- Ensure everyone in the community knows about the Resilience Plan
- Organize community members to undertake resilience building activities in the Action Plan
- Gather the resources that the community cannot produce or access on its own
- Train community members on disaster preparedness
- Raise community awareness on what to do before, during, and after a disaster
- Keep an eye on hazard threats (including climate change), conduct drills, and draw lessons to improve the Plan
- Network and coordinate with other actors like Township and Village Tract Disaster Preparedness Committees, NGOs, and other communities
- Organize practice drills to see if the plan works and find areas that need to be improved.
- Review and update the Community Resilience Plan regularly.
- Create teams on specific issues, for example:
 - Search and Rescue Team
 - First Aid Team
 - Warning Dissemination Team
 - Evacuation Team
 - Shelter Management Team
 - Relief Distribution Team

Box 8: Responsibilities of the VAC during a disaster (Malteser International, 2014)

- Share warnings received from the Department of Meteorology and Hydrology or other sources. The warnings can be shared with the help of the Warning Dissemination Team using loudspeakers, announcements from monasteries, or banging wooden logs in a relay system.
- Evacuate the community with the help of the Evacuation Team.
- Conduct search and rescue with the help of the Search and Rescue Team.
- Provide first aid through the First Aid Team and coordinate with Health Department and other agencies for medical help.

Box 9: Responsibilities of the VAC after a disaster (Malteser International, 2014)

- Conduct an assessment of the damage, loss, and needs in the community
- Coordinate, plan and implement the delivery of relief and aid with township and village tract authorities and aid agencies.
- Help the social, economic and physical recovery of the community, for example by rebuilding houses.
- Be in touch with township and village tract authorities and aid agencies to help with the recovery
- Make sure that risk reduction activities are part of the rebuilding and recovery phase
- Review the community response, in particular how the VAC/VDMC and teams worked. This will strengthen the safety of the community and improve the response for future disaster events.

3.5.6 Step Six: Community Resilience Plan Implementation.

The **objective** of Step Six is to:

1. Start the process of implementation following any formal approval processes at the community level – lobbying and advocacy with local authorities.
2. Work with key community leaders and local authorities to facilitate integration of the plan into development plans at township and state level (Section 6).

Lobbying and Advocacy with Local Authorities

It is most likely that problems and concerns identified throughout the integrated approach to resilience building undertaken with communities will not be able to be addressed through the implementation activities of one organisation e.g. Malteser International and/or their partners. It is important that throughout the process facilitators work with community members to identify what they can do themselves and what they can do with external assistance in the form of human and/or financial resources, and where this assistance may need to come from. This may involve the need to advocate and lobby for assistance from the local government in order to fully implement a community Resilience Building Plan. This will also contribute to ensuring the sustainability of community resilience plans through the integration into wider development planning processes at township and state level (see section 6).

The process of undertaking an integrated resilience building assessment will have built the confidence of community members and hopefully enabled them to establish relationships with key figures such as local authorities. Using these relationships as a starting point alongside the increased confidence and capacity of the community, appropriate approaches to advocacy and lobbying can be identified.

3.5.7 Step Seven: Participatory Monitoring, Evaluation and Learning

The **objective** of Step Seven is to undertake community led participatory monitoring, evaluation and learning to ensure community resilience building plans are meeting community needs and achieving their objectives.

Once the plan has been developed the challenge becomes implementation. It is important that a community led monitoring, evaluation and learning process is developed which enables community members to monitor and evaluate progress towards community resilience and to provide feedback on whether implementation is meeting the expectations of different community member's, especially vulnerable groups. Suggested mechanisms could involve focus group discussions with key sectors of the community e.g. PWDs, key informant interviews and/or participatory ranking and/or scoring exercises (adapt 'tool session guide 3', section 5, p 82).

Table 5: An Integrated Approach to Resilience Building.

Steps for an Integrated Approach to Resilience Building:	Tools used to gather data, implement, monitor and evaluate:	Resilience Assessment Outcome (questions to be addressed):
Step One: Community Selection.	1. Rapid assessment.	1. Selection of community(s) for resilience building program.
Step Two: Situational Analysis including baseline data collection.	2. Baseline Studies and Primary and Secondary data collection (to be complemented by tools used in Step Three).	2. Community baseline data including but not limited to: <ol style="list-style-type: none"> a. Location and population b. Identification of vulnerable groups and areas c. Hazard information including climate change impacts d. Livelihoods and land use e. Community structure and leadership f. Community resources, assets and organizations g. Access to education, healthcare, infrastructure (markets, roads etc.). h. Political and security issues.
Step Three: Community resilience assessment: <ol style="list-style-type: none"> a. Understanding hazards including climate change. 	<ol style="list-style-type: none"> 3. Social, Resource and Hazard Map 4. Transact Walk. 5. Seasonal Calendar 6. Historical Timeline 	<ol style="list-style-type: none"> 3. What hazards and climate change impacts occur in the community and how often? Which ones are the community most concerned about? <ol style="list-style-type: none"> a. Past b. Present – any observed changes from previous conditions? c. Future – what is anticipated? 4. How are land use patterns changing and are there any links between this and increased hazard impact? 5. Which households and/or groups in the community are impacted upon more than others and why? <ol style="list-style-type: none"> a. Do these households and/or groups rely on specific assets and/or livelihoods more than others? 6. Do community members have access to disaster risk plans, have they identified evacuation routes, do they receive timely early warnings etc. and does the local government have the capacity to respond to disasters?
<ol style="list-style-type: none"> b. Understanding the underlying drivers of vulnerability and change and who/what is most vulnerable including people, livelihoods, infrastructure and resources. 	<ol style="list-style-type: none"> 7. Environmental Trend Analysis 8. Vulnerability Tree 9. Focus Group Discussion – identifying those most vulnerable. 	<ol style="list-style-type: none"> 7. Review impacts of change experienced in the community in terms of: <ol style="list-style-type: none"> a. Natural and social resources: <ol style="list-style-type: none"> i. Is the environment being degraded and what are the drivers of environmental degradation? ii. Are scaled-down climate projections available? If so, what are the observed and predicted impacts of climate change for the region? iii. Do local institutions have access to information on current and future risk including climate risks? iv. Do local plans or policies support climate-resilient livelihoods? v. Do local government and NGO extension workers understand climate risks and promote adaptation strategies? b. Economic and physical resources <ol style="list-style-type: none"> i. Is infrastructure hazard resistant? ii. Do community members have access to savings and credit? iii. Are there opportunities to diversify livelihoods and obtain alternative income sources? c. Human and political resources <ol style="list-style-type: none"> i. What opportunities are available for employment, education and healthcare and are they available to all? ii. Are there any current threats to peace and stability?

		<ul style="list-style-type: none"> iii. Are there currently risk reduction plans in place and are they of benefit? iv. Are local planning processes participatory? v. What assistance does the local government provide? <p>8. What livelihood groups and/or economic sectors are most vulnerable to hazards including climate change impacts?</p> <p>9. How do those most vulnerable typically recover from hazard events including climate change impacts and are there negative consequences?</p> <p>10. Do women and other marginalized groups have a voice in local planning processes and access to critical livelihood resources?</p>
c. Understanding the existing capacities a community has access to and their effectiveness at addressing current and future risk.	<p>10. Venn Diagram</p> <p>11. Capacity Analysis</p> <p>12. Environmental Trend Analysis – future projections.</p> <p>13. Future Map</p> <p>14. Data compilation</p> <p>15. Reporting Format for Community Resilience Assessment</p>	<p>11. How well is the community prepared to anticipate and recover from hazard events including climate change impacts which are occurring now and may occur in the future?</p> <p>12. What current knowledge exists within the community regarding hazards including climate change?</p> <ul style="list-style-type: none"> a. What local and/or indigenous knowledge is available? b. What understanding do community members have regarding climate change and future scenarios? c. What do they understand about resilience planning and adaptation options and are they motivated to engage in the program? <p>13. What are the existing coping capacities and how have these evolved from the past e.g. food storage techniques, relocation to higher ground etc.?</p> <p>14. What sources of information do the community have available to them to assist in addressing hazards including climate change e.g. agricultural extension workers, climate forecasting and information, early warnings etc.?</p> <ul style="list-style-type: none"> a. Are there any other institutions, networks and/or groups involved in resilience planning with the community and what activities are they doing or would they engage in and with what resources? <p>15. What are the existing capacity and resource needs and/or gaps to address hazards including climate change impacts?</p> <ul style="list-style-type: none"> a. What financial, social, physical, political, cultural, human and natural resources do the community have? b. What new capacities may be needed to address changing circumstances due to climate change? <p>16. Do local institutions (governmental and non-governmental) have the capacity to monitor and analyze information on current and future climate risks and distribute this to the community?</p>
Step Four: Development of community action plans for resilience and prioritization.	<p>16. Impact-Implementation.</p> <p>17. Pair-wise ranking</p> <p>18. Matrix Ranking/Scoring</p> <p>19. Template for Community Resilience Plan</p>	<p>17. What are the priority resilience actions identified by the community and how have these been determined – production of the final Community Resilience Action Plan.</p>
Step Five: Building and training Village		<p>18. Establishment of VACs and trainings in first aid, search and rescue, and evacuation simulations.</p>

Adaptation Committees (VACs) and associated task forces.		
Step Six: Community Resilience Plan Implementation.		19. Plan Implementation and Lobbying and advocacy with local authorities.
Step Seven: Participatory Monitoring, Evaluation and Learning.	20. Focus Group Discussions 21. Key Informant Interviews. 22. Participatory Ranking/Scoring (adaptation of Tool 17 – Matrix Ranking/Scoring)	20. Community-led Participatory Monitoring, Evaluation and Learning.

4 Tools for Situational Analysis and Community Resilience Assessment (Steps Two and Three)

This section provides step by step guides to the tools needed to complete Steps Two and Three of the integrated approach to resilience building. Each session guide outlines the key objectives of each tool, provides a facilitation guide, outlines key questions for learning and discussion once the tool is complete, provides recommendations for inclusive participation and where appropriate an example of the complete tool. The session guides are provided in order of use for the integrated resilience assessment process but they can also be extracted and utilized individually where necessary.

4.1 Tool Session Guide 1: Rapid Assessments

Objectives:

- To undertake a rapid assessment of a specific community to assist in determining community selection for a resilience building project or programme.
- Understand the challenges facing a community and what's been done to address these.

Facilitation Guidance:

There are many formats for rapid assessments which are designed to be just that – rapid and quick thus not necessarily fully inclusive but providing a rapid situation analysis upon which to determine priorities and action i.e. in this case community selection for a resilience building programme.

Annex 1 contains a format for a rapid assessment developed by the BRACED program in Myanmar (Webb, 2014) for their Resilience Programme:

Learning and Discussion:

To assist in analysing the information collected, ask yourself the following questions:

- What, if any, specific priorities have community members identified?
- Do these differ within and between different community groups?
- What are the existing community capacities and are these adequate?
- What are the major trends?
- Is there an identified need for resilience building activities?

Where necessary the information should be synthesised and shared with community members during initial community meetings and during use of other tools such as the mapping and transect walk exercises. What are their views on it? Does it accurately reflect their situation? Is this what they think is happening in terms of climate change and hazard impacts?

Inclusive Participation:

Rapid assessments are not fully inclusive as they are focused on broad community preparedness and in many cases are undertaken with a small select group of community members – often the VAC or VDMC to quickly determine a hazard profile for a community. This needs to be taken into account when utilising this tool to determine community selection and/or as baseline data.

4.2 Tool Session Guide 2: Baseline Studies including Primary and Secondary Research

Objectives:

- To develop an overall situational analysis for a specific community (this could be used to measure future project or program progress).
- Understand the challenges facing a community and what's been done to address these.

Facilitation Guidance:

Prior to undertaking this process you need to determine your information needs and what/how this information will be used i.e. to provide a general situational analysis upon which to determine appropriate resilience building actions or whether the data gathered will also be used as a baseline upon which project/program progress could be analysed against. **Baseline studies** come in many different formats and are more in depth and designed to be more participatory and inclusive collecting a wide variety of quantitative and qualitative data upon which project progress can be measured against. The collection of **primary and secondary data** relies solely on existing sources.

Scientific information on hazards including climate change is generally available at the country level. This can assist in the identification of what hazards and climate change impacts are affecting specific communities. It is important to analyse this information and re-package it carefully such that it can be shared with community members throughout the process of undertaking a detailed resilience assessment.

In Myanmar a good starting point would include:

- Myanmar's National Adaptation Program of Action to Climate Change (NAPA).
- Myanmar's Action Plan for Disaster Risk Reduction (MAPDRR) and its successor (in progress).

Further information could be obtained from for example:

- NGO Project reports.
- Local government reports and statistics.
- Meteorological data on current climate trends.
- Seasonal forecasts.
- Maps showing topography, agro-ecological regions, infrastructure, etc.
- National Communications to the United Nations Framework Convention on Climate Change (UNFCCC).
- National census and poverty data.
- Research reports and academic papers.

Most of these resources can be found on the internet and through national meteorological services. It is unlikely that downscaled climate forecasts will be found for the specific community in which you wish to undertake a resilience assessment; therefore it is important that you gather information from all documents and not just those about the community itself. For example, wider area or country risk maps may prove potentially useful in identifying any links between climate change impacts, other hazards and environmental degradation e.g. if a

community is located downstream they are most likely to be impacted upon by issues further upstream.

Steps may include:

1. Decide upon the information you want to collect and which you feel is important for determining community resilience – is a full baseline study necessary (see Table 6)?
2. Make a list of potential sources of information e.g. from the community, libraries, organizations, the internet, people, local government etc.
3. Collect the information and/or undertake the study.
4. Analyse the information – look for any information gaps that remain after a review of all materials. These may form the basis for further exploration within the community resilience assessment (Step 3). This information can also be used to assist with discussing issues with the community and interpreting information gathered using the other tools.

Learning and Discussion:

To assist in analysing the information collected, ask yourself the following questions:

- Has any new learning arisen as a result of the collection of baseline data and/or my review of primary and secondary resources?
- What, if any, specific priorities have others identified?
- What are the major trends?
- Is there any conflict within and between information analysed and/or with other sources of information (e.g. in step 3 you could compare this with results from use of community tools such as the maps and transact walk)?

The information should be synthesised and shared with community members during initial community meetings and during use of other tools such as the mapping and transact walk exercises. What are their views on it? Does it accurately reflect their situation? Is this what they think is happening in terms of climate change and hazard impacts?

Inclusive Participation:

Remember to review primary and secondary literature with an inclusive lens – who is most vulnerable and how have they been affected? Likewise a baseline study should also ensure that all members of a community have been involved and consulted - Have all members of the community been included in measures to address community resilience and/or other programs and if not, why not? What could be done to ensure a more inclusive program addressing the needs of all individuals and groups within a community?

4.3 Tool Session Guide 3: Social, Resource and Hazard Map

Objectives:

Mapping of community structures, resources and hazards is a useful tool for participants to visually identify what exists in their community and how it is impacted upon by shocks and stresses. The three maps can be completed individually or together starting with social aspects, followed by resources and finally the identification of hazards. The individual objectives of each include:

The **objectives of a Social Map** are to develop a comprehensive understanding of the physical (community infrastructure) and social aspects (identification of key leaders, vulnerable groups etc.) of community life.

The **objectives of a Resource Map** are to depict various aspects related to the natural resource management of a locality e.g.

- Topography, terrain and slopes
- Forest, vegetation and tree species
- Soil-type, fertility, erosion and depth
- Land and land use, tenure, boundaries, ownership, communal area
- Water, water bodies, irrigation and drinking water sources, rivers and drainage
- Watershed development, soil and water conservation measures etc.
- Agricultural development, cropping pattern, productivity etc.

The **objectives of a Hazard Map** are to identify areas which are particularly hazardous and why.

Facilitation Guidance:

This activity should take approximately 2 to 3 hours including discussion time (normally a morning or afternoon). Please allow for more time depending upon the abilities of participants and/or if multiple or large groups are producing a map. It is easiest to start with a social map, moving onto a resource map and then the identification of hazards. Suggested materials consist of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks, leaves etc. Steps include:

1. Fix the location and time for the exercise in consultation with participants – divide into groups of male and female (and other groups where deemed necessary e.g. people living with disabilities).
2. Explain the purpose of the exercise to the participants i.e. that you would like them to build a map of their community and ask participants to choose a suitable place (ground, paper, chalkboard) and medium (sticks, leaves, stones, pens, chalk etc.) for the map.
3. First, ask the participants to draw the prominent physical features or main landmarks of their locality, followed by community boundaries.
4. Ask community members to discuss social issues first – draw the location of settled areas (the map does not need to show the location of every house but just the general area where houses are located), key facilities such as places of worship, community meeting houses etc. Are there areas and/or people who can be identified as more vulnerable than others? Who/Where are community leaders situated?

5. Then discuss resource issues – health clinics, schools, forested areas, agricultural land, water sources etc.
6. Once social and resource issues have been decided upon ask the participants to identify the areas at risk from different types of hazards e.g. hazards including climate change, illnesses, conflict, etc.
7. Watch the process alertly. Listen to the discussions carefully. Take notes in as much detail as possible.
8. Do not rush things. Avoid chipping in, try to ‘hand over the stick to the community’, that is, involve them deeply and actively. Let them have total control and initiative. Have faith in them and show it too.
9. Keep track of who is actively involved, which sections of the community they belong to and who is being left out. Take proactive steps to involve those left out of the process to ensure inclusivity.
10. Your role is limited to facilitation. Intervene only when necessary, especially when the participants are going through a rough patch.
11. If you have something to add or clarify, wait for just the right moment. Do not disrupt the process. Ask them ‘what about...?’, ‘what does this symbol mean?’ etc.

Learning and Discussion:

1. Once the maps are complete facilitate a discussion and analysis among both male and female participants and others present – ask the male and female participants respectively to present their map to the other group and discuss any differences which may arise.
2. Interview the map; ask probing questions on aspects you are not clear about; ask for more information if necessary.
3. Points of discussion for the social element of the map could include:
 - a. What is the population? Broken down into men, women and children? Age brackets?
 - b. Who are the influential community members and what is their role?
 - c. What clubs and/or societies exist within the community and what is their role?
 - d. Who are the most vulnerable community members and what support is provided? Is this helpful?
 - e. What coping capacities exist?
 - f. What are average income levels and main sources of income for men and women?
 - g. What is the literacy rate and level of education for women and men?
 - h. Is there access to health care for women and men?
 - i. What is community nutrition like for women, men and children?
 - j. How many men and women are in wage employment?
4. Points of discussion for the resource element of the map could include:
 - a. What land is available and who owns it or has access to it (including women and men)?
 - b. What is the extent of subsistence agriculture and/or cash cropping?
 - c. What environmental constraints are there for men, women and children?
 - d. Do women and men in the community have access to transport and markets?
 - e. What is the level of infrastructure like and who has control/ownership over it?
 - f. What types of livelihoods are there for women and men?
 - g. Who has access and control over resources?

5. Points of discussion for the hazard element of the map could include:
 - a. Have there been any recent disasters and what has been the impact on men, women and children?
 - b. Is there any existing hazard maps or disaster plans? How are they used?
 - c. What hazards have been experienced?
 - d. Are the hazards different now from 10/20/30 years ago and how?
 - e. Are there places in the community that are safe from hazards for people to evacuate to?
 - f. What members of the community are most at risk from different hazards and why?
 - g. What strategies are in place to currently cope with these hazards e.g. food storage, livestock shelters, income diversification, housing construction etc?
6. Note any observations by community members which may be in line with meteorological data for the area and communicate this information in order to validate their observations – this can also provide an opportunity to present predicted future trends for the hazards which have been identified.
7. Write all the discussion down – this is just as important as the map.
8. If the map has been drawn on the ground or a chalkboard then copy it onto a large sheet of paper (better still ask a participant to copy it). Do not miss any details or change them – photograph too. Leave the original or a copy with the community and keep a copy for yourselves.
9. Triangulate the information generated with others in the locality who were not involved in the initial mapping exercise.

Inclusive Participation:

The final maps developed by men and women provide a discussion point to analyse risks, capacities and vulnerabilities within a community. The maps produced are also useful tools in determining solutions to the problems identified. However, in doing so it is important to ensure the inclusion of those most vulnerable. Risk is not uniform within a community and it is important to ask key questions to determine those most vulnerable and identify suitable strategies to reduce risk. Suggested questions could include:

- Do vulnerable groups have access to resources?
- Are vulnerable groups more affected when disasters occur?
- What types of people live in the areas that are affected by disasters?
- Do vulnerable people have the same ability to access shelters, evacuation routes, community services and infrastructure? What are the limiting factors for different vulnerable groups (and within groups)?
- Do plans exist with special mechanisms to support more vulnerable people?

Photo 1: Mapping example on paper from Rakhine State, Myanmar (Photo: CERA).

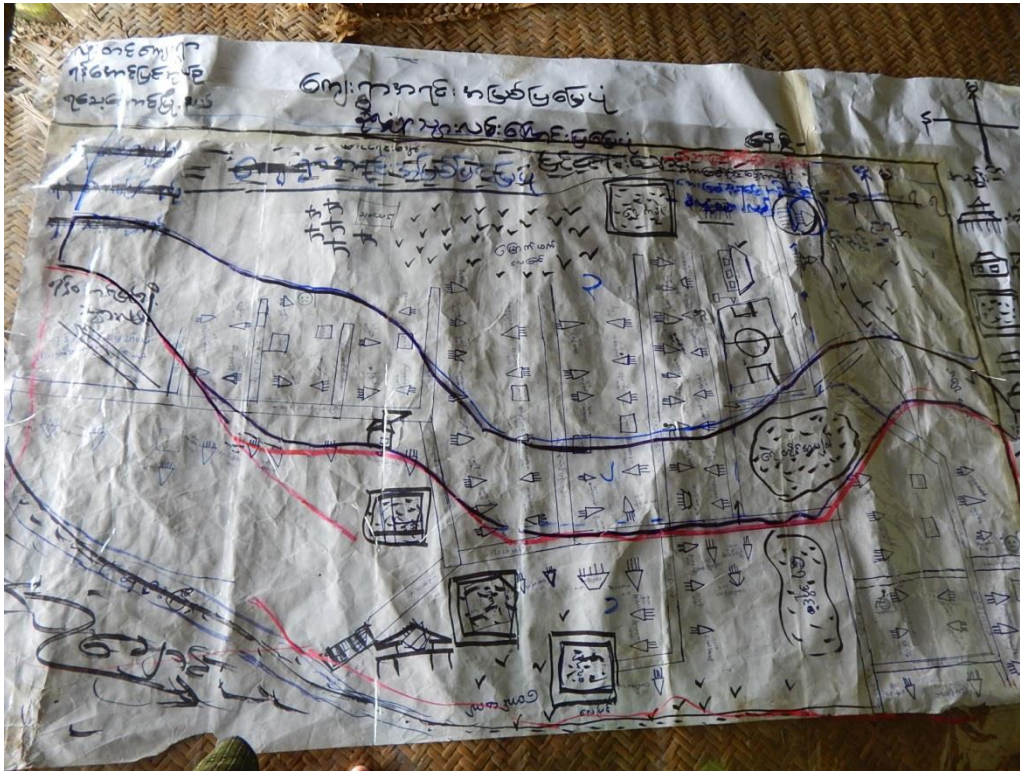


Photo 2: Mapping session in a village in Rakhine State, Myanmar (Photo: CERA).



4.4 Tool Session Guide 4: Transect Walk

Objectives:

- To observe the people, surroundings, resources and areas at risk of a specific area.
- To informally identify problems and opportunities that might be worth further exploration with the community.
- To appraise resources in terms of status, problems and potential.

Facilitation Guidance:

Depending on the route this activity should take approximately 45 to 90 minutes. Steps include:

1. Explain the objective of the exercise to the participants – either split participants up into male and female groups or ensure you speak to both male and females along the route chosen. Ask community members to use the mapping exercise to pinpoint areas/people most at risk and identify the route for the transect walk which maximizes observations of the locality.
2. Fix a time for the transect walk with the local community.
3. Go along with community members at the prefixed time on the already decided transect path. If the situation in the field so demands, do not hesitate to make modifications.
4. Make a checklist of what you want to look for and/or discuss with the local community on the walk – this will probably include issues which have arisen from questions asked during the mapping exercise e.g. climate issues, vulnerable people/areas, health, livelihoods, soil conditions etc.
5. Observe the surroundings. Make mental notes to record later or if possible take notes straight away.
6. Ask questions to clarify things you are not too clear about to the local people accompanying you. Listen carefully to what they say. Also listen to the discussion they have amongst themselves. Encourage them to explain as you move.
7. If necessary, stop at certain locations for detailed discussions on the points emerging. It also gives you a breather and time to note down details.

Learning and Discussion:

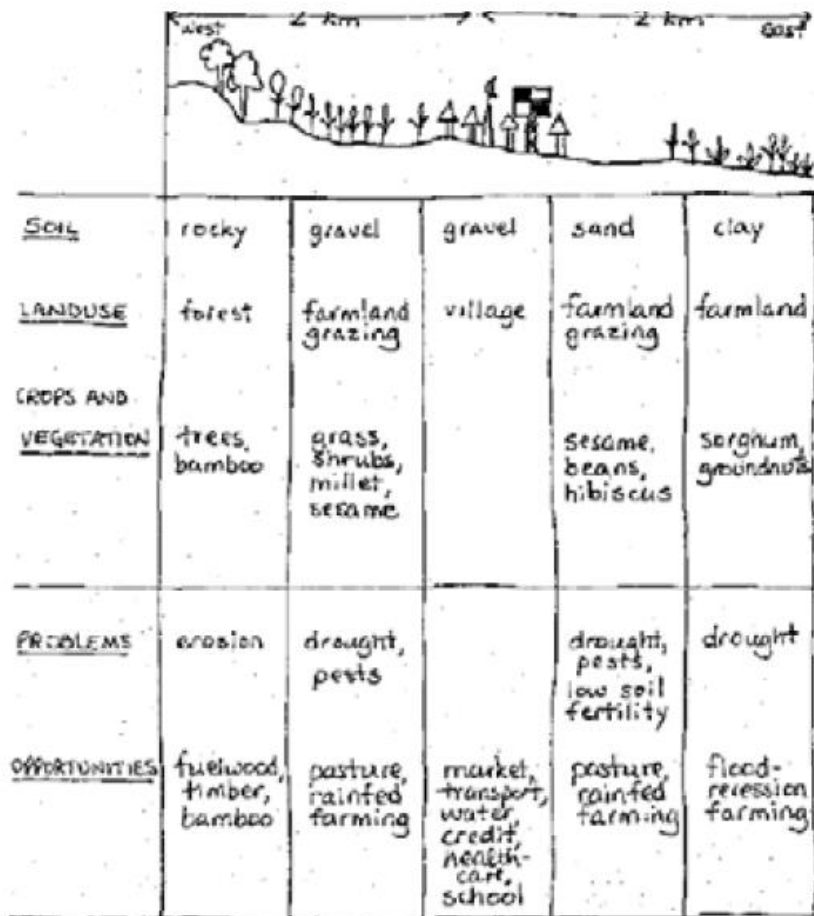
After returning let community members take the lead in drawing the transect route taken on a large piece of paper. Use your notes and notes of other members of the transect team to note down areas of interest along the transect route.

Show the transect diagram to others in the locality who did not accompany you and other community members on the walk and ask them their views. Clarify your doubts. This helps your team to triangulate the details. You can also use details generated from other methods to triangulate the transect findings.

Inclusive Participation:

Remember that different community members will have dissimilar views of different aspects of the community. The transect walk gives you an opportunity to discuss these with community members and reach a shared conclusion. If more vulnerable members of the community such as people living with disabilities or elderly people are unable to accompany you on the walk, information obtained can be shared and triangulated afterwards.

Photo 3: Transect Diagram example from a village in Sudan (Theis and Grady, 1991).



4.5 Tool Session Guide 5: Seasonal Calendar

Objectives:

- To understand livelihood patterns and coping strategies in different seasons.
- To identify periods of difficulty in individual and community lives e.g. hunger, stress, loss of livelihood, hazards etc.
- To analyse observed changes in seasonal activities due to climate and other factors.
- To evaluate use of climate information for planning.

Facilitation Guidance:

This activity should take approximately 1 to 2 hours including discussion time. Please allow for more time depending upon the abilities of participants and/or if multiple or large groups are producing a calendar. Suggested materials comprise of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks etc. Steps include:

1. Explain the objective of the exercise to the participants i.e. that you would like to develop a calendar outlining key events and activities which occur throughout their year.
2. This exercise can be drawn on the ground, on flip charts or on chalk boards. It is recommended two calendars are produced within separate groups – one for males and one for females.
3. Depending on the community, either the standard 12 month calendar can be used or alternatively ask participants to identify a unique characteristic of each season/month, one by one that would remind them of the season/month. It can be a symbol or a drawing. Encourage them to do it themselves and perhaps write/draw on card or on the floor.
4. Draw a grid on the floor/paper/chalkboard. In the grid have enough columns for months or seasons and room for as many rows as the items you will decide to study. Place the cards with names of the seasons/months and visuals or symbols in the top boxes in order, horizontally.
5. Let participants decide on the different subjects to be discussed e.g. labour demand, agricultural seasons, holidays and festivals, rainfall, seasonal illnesses, food scarcity, times of migration, cyclones, storm surges, floods etc and list these on the vertical axis.
6. When the key subjects have been decided upon ask the participants to show the months/seasons when the aspect or activity occurs. Ask them to represent the magnitude of the activity (e.g. if looking at seasonal illnesses how bad is the impact of these upon the community in different months/seasons) using different numbers of seeds or sticks of different sizes if on the ground or pen/chalk on paper. After completing one aspect or activity move to another, until all of them are similarly covered.
7. Ask the participants whether they would like to take up any aspect or activity or make any modifications to the calendar.
8. Interview the calendar i.e. ask them questions on aspects about which you are not clear.
9. Ask male and female groups to present their calendars to the other group.

Learning and Discussion:

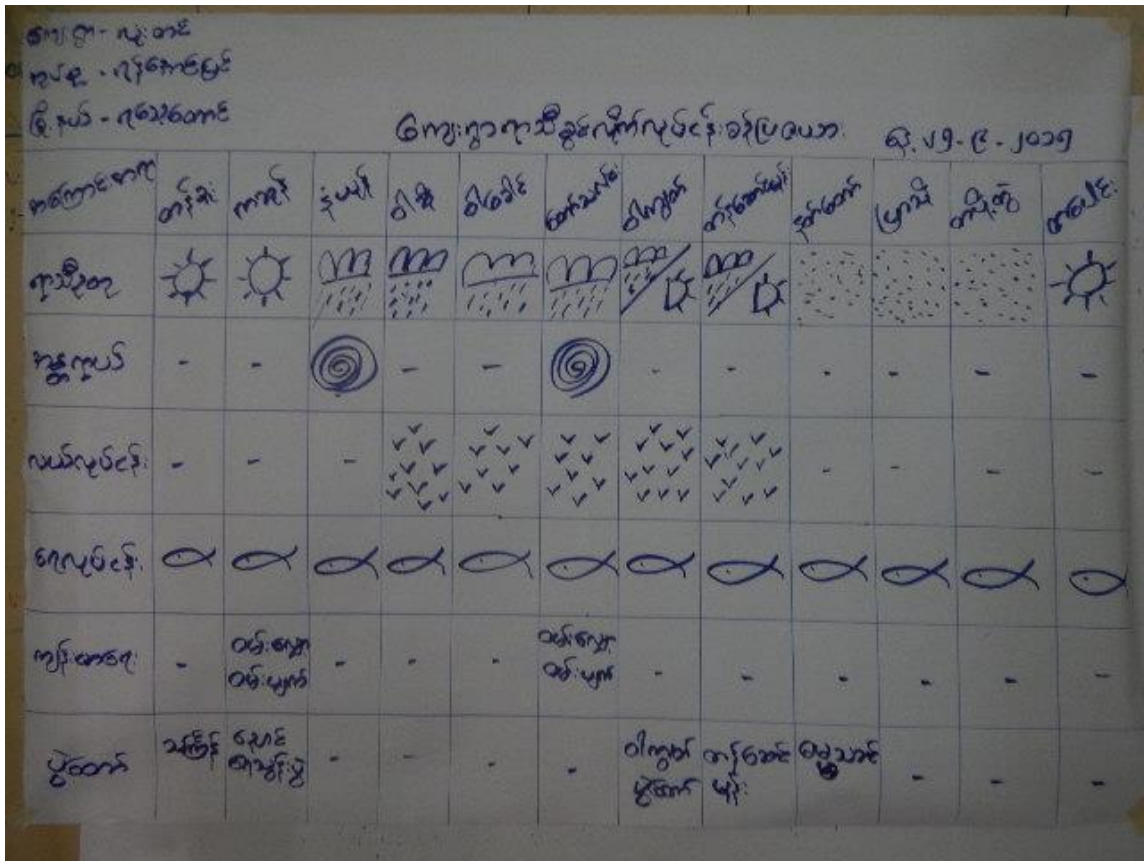
1. Once the calendars are complete facilitate a discussion and analysis among male and female participants and others present. Points of discussion could include:
 - a. Major findings and learning – differences between male and female calendars.

- b. Can any links be identified between different parts of the calendar e.g. does food scarcity tend to occur during times of hazard? Is there any relationship between wet and dry seasons and sickness within the community? Is there any link between changes the community are experiencing in weather/ climate and occurrence of hazards?
 - c. Have there been any significant changes to seasonal patterns and activities over time as compared to 10/20/30 years ago?
 - d. What are the current coping strategies and are they working?
 - e. What are the most important livelihood strategies employed throughout the year and have these changed and/or been impacted upon by changing seasons or activities?
 - f. How are decisions made regarding the agricultural cycle and planting times etc?
 - g. Implications of the findings for resilience planning within the community. This also presents an opportunity to discuss climate change in more detail and whether existing coping strategies are working and/or have new ones evolved as a result.
 - h. Recommendations and action points – is there a need for new strategies in the context of climate change.
2. Keep track of the points arising out of the discussions from the beginning – document, document, document!
 3. Copy the calendar and associated details onto paper – if done on the ground.
 4. Triangulate the findings with other key informants and secondary data to ensure the information generated is correct e.g. do the start and end of rainfall periods correspond to local rainfall data? How do the effects of seasonal events differ according to gender?
 5. Leave the original or a copy with the community and keep a copy for yourselves.

Inclusive Participation:

Having a seasonal calendar produced by women and men has gone some way towards ensuring the inclusiveness of participation but there is a need to ensure the voices of specific vulnerable groups are heard such as children, elderly, people living with disabilities, indigenous groups etc. You need to consider how the times of hardship detailed in the seasonal calendar (food/water scarcity, sickness etc) impact different members of the community differently, how do these people cope and who provides support?

Photo 4: Seasonal Calendar example from Rakhine State, Myanmar (Photo: CERA).



4.6 Tool Session Guide 6: Historical (Hazard) Timeline

Objectives:

- To gain an awareness of past events such as hazards and what changes have occurred.
- To generate discussions on changes experienced over time.
- To serve as a basis for discussing a need for resilience planning for the future.

Facilitation Guidance:

This activity should take approximately 1 to 2 hours including discussion time. Suggested materials comprise of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks etc. Steps include:

1. It is important elderly people are involved in this exercise to ensure the community history is captured as far back as possible. You could have one large mixed group or smaller groups of men and women plus groups of elderly and children.
2. Explain to the participants the purpose of the exercise. Initiate a discussion on the history of the village. Key questions may include:
 - a. When was the community established?
 - b. What are the important events in the history of the community?
 - c. What major changes have taken place (land use, land tenure, food security, administration, political etc)?
 - d. What are the reasons for these changes?
 - e. What are the major hazards and their impacts?
3. Preferably ask one of the participants to note down the major events in brief on cards in bold letters.
4. Ask them for more such events that they would like to add. Once you feel the list is more or less complete, ask them to group the cards in a chronological order – the earlier events on the top and the later events lower down. Read out the events and ask if they are happy with the order or if they would like to modify it.
5. Add years to the left side of the list of events. Failure of memory, use of different time frames and calendar systems may present a big obstacle for the participants in arriving at the exact years so try to match issues to key events to estimate the years involved.
6. After obtaining the events of a general nature, if the participants haven't already then ask them to focus in on the occurrence of hazards.

Learning and Discussion:

1. Once the historical timeline is complete facilitate a discussion to help the participants analyse and reflect upon it. Key questions could include:
 - a. What was the situation in the past?
 - b. Are there any trends or changes in the occurrence of events over time?
 - c. What changes have taken place?
 - d. What were the reasons for change?

- e. What events do you expect will occur in the future and when?
 - f. In reviewing this timeline does this change your plans for the future? This also presents an opportunity to introduce climate data and anticipated future trends for the specific area.
2. Interview the timeline by asking questions to clarify your doubts or to get an in-depth understanding such as:
 - a. Can you tell me more about....?
 - b. What does this mean....?
 3. Document all this discussion
 4. Copy details onto paper, noting down names of participants, location details, dates etc.
 5. Triangulate with other community members not in attendance. Secondary sources of information can also prove to be helpful in triangulation.
 6. Leave a copy with the participants and take a copy for yourselves.

Inclusive Participation:

Remember that different community members will have different memories and perceptions of events and timings – for example older members will have longer views than younger. Where possible, groups should be divided accordingly.

Photo 5: Historical (Hazard) Timeline example from Rakhine State, Myanmar (Photo: CERA).

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 Historical Timeline

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4.7 Tool Session Guide 7: Environmental Trend Analysis

Objectives:

- To learn from the community as to how they perceive changes over time in various areas/aspects of their lives.
- Identify significant changes/trends in the community profile.
- Discuss community problems and any increase or decrease in the severity of the problem over the years.
- Discuss interventions or measures which had worked out or failed in the past and the reasons for this.
- Understand women and men's perception of not only the past and the present but also of the shape of things to come in the near or distant future with or without intervention.

Facilitation Guidance:

This tool complements the Historical Timeline activity and should take approximately 1.5 to 3 hours including discussion time. Suggested materials comprise of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks etc. Steps include:

1. Divide into male and female groups and explain the purpose of the exercise (preferably need groups with elderly community members in for both male and female groups).
2. Initiate a discussion on the present situation and then move onto the aspects you are interested in pursuing i.e. impact of environmental change and connections with hazards including climate change. However, ensure that the participants themselves arrive at the aspects to be studied.
3. Facilitate the discussion further to arrive at the aspects of trend analysis. Explain the objective and ask the participants to brainstorm and come out with a list of aspects related to environmental change they would like to study and then select the most important ones e.g. weather patterns, land use, floods, water sources, conflict, forest, soil etc.
4. Facilitate the selection of time landmarks across which the trends could be studied. Encourage the participants to depict the selected landmark years on cards preferably by symbols or visuals – the preference is to use decades but again let the community decide. Similarly, also have them represent various environmental aspects in the same way.
5. Ask participants to make the matrix on the ground using local materials or chalk or draw on flipcharts etc. Ask them to represent from top to bottom the landmark years and from left to right various aspects of environmental change.
6. Take up one of the aspects e.g. weather patterns. Ask the participants to depict the situation today in the relevant cell using symbols, pictures, seeds, sticks, sand etc as the case may be. Leave the choice to the participants. Move to the next time landmark and so on. After the completion of one aspect, move to the next one and follow the same process till all the cells are filled in.
7. Once the diagram is ready ask whether they are satisfied with it or would the community like to make any changes.
8. Also find out whether they would like to add new aspects which may have come up through the process. This is the time to ask them to depict certain aspects which did not figure in their list but which you are interested in studying – e.g. asking about weather patterns.

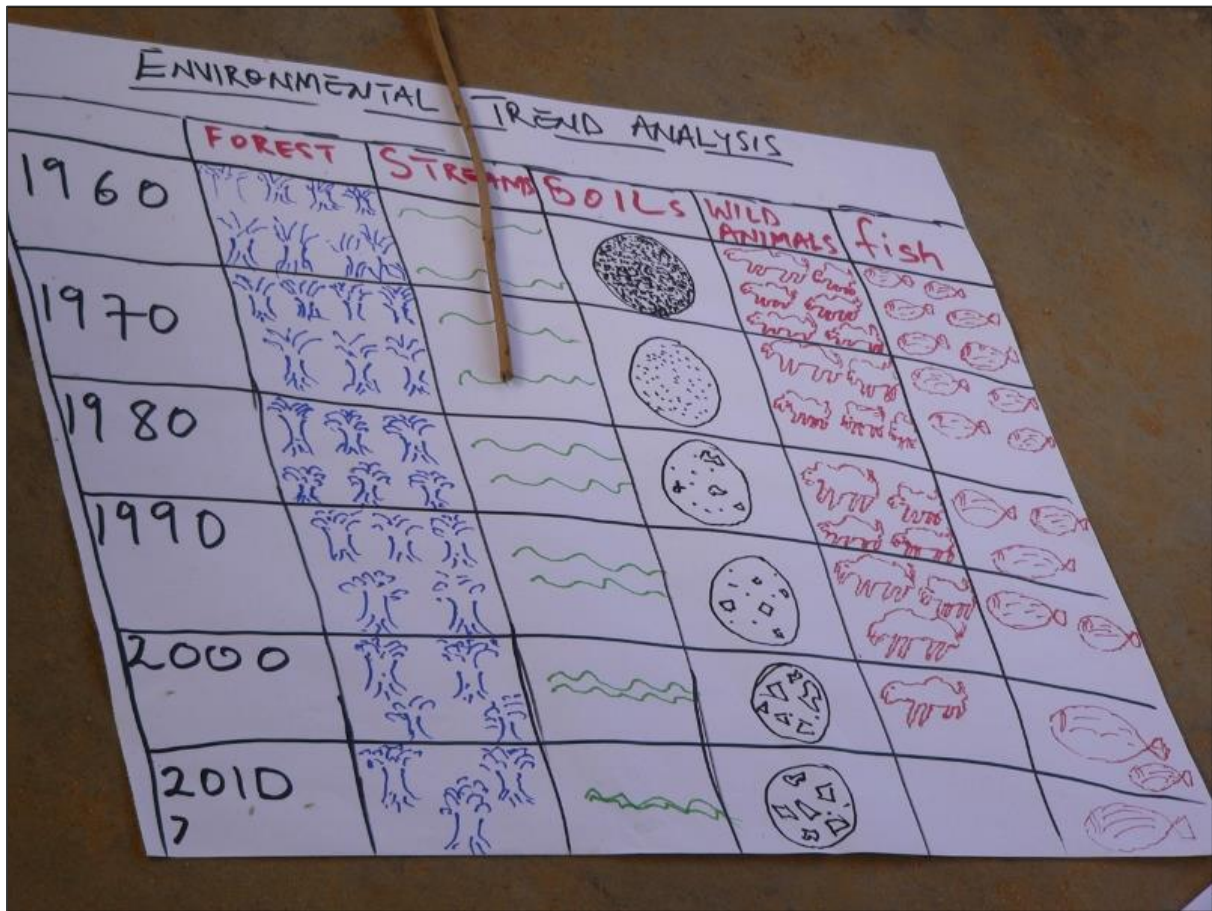
Learning and Discussion:

1. Once the environmental trend analysis is complete facilitate a discussion on the diagram to help the participants analyse and reflect upon it. Encourage them to discuss their findings and reflect upon them. Key questions could include:
 - a. Major trends and findings
 - b. Causes of the trends
 - c. What can be done?
 - d. Who can play a role in it?
2. Interview the diagram. Ask questions to clarify your doubts and gain an in-depth understanding of the trend. Suggested facilitating questions could include:
 - a. What areas of change have occurred in areas such as seasons, weather, natural resources, health etc?
 - b. Have there been changes in the types of crops planted and why?
 - c. Why has this change occurred?
 - d. What do you think is contributing to this?
 - e. What is happening here and why?
 - f. Are there any links between this change and this change?
 - g. What is the weather doing?
 - h. Has the weather had an impact?
 - i. What is the most significant change?
 - j. Have hazards increased?
 - k. How has this impacted your livelihood?
 - l. What evidence is available outlining this change (oral histories?)
 - m. What about the seasons have changes been experienced here?
 - n. Why has this change occurred?
 - o. Can you tell me more about this change?
 - p. What do you think is causing it?
 - q. Do the community have a responsibility?
 - r. Has the weather had an impact?
3. Document this information.
4. Copy diagram onto paper with details of legend, scoring system, participants, location and date – one copy to the participants, one copy for yourselves.
5. Triangulate the diagram and other findings generated during the discussion with others having knowledge about the topic.

Inclusive Participation:

As with the Historical Timeline tool remember that different community members will have different memories and perceptions of events and timings – for example older members will have longer views than younger. Where possible, groups should be divided accordingly.

Photo 6: Environmental Trend Analysis example prepared in Papua New Guinea (Photo: J. Mercer).



4.8 Tool Session Guide 8: Vulnerability Tree

Objectives:

The Vulnerability Tree provides a way of visually presenting causes, effects and their inter-linkages. This helps at arriving at an in-depth understanding of a particular topic and provides scope for analysis and action by community members. In this context it aims to identify the impacts of change upon women and men identified within the resilience assessment process. These are explored through the livelihoods framework and the five main assets an individual should have access to – social, human, physical, financial and natural.

Facilitation Guidance:

1. Explain the purpose of the exercise to the participants and the meaning of human, physical, financial, social and natural assets.
 - a. Human – refers to the assets of women and men e.g. our ability to work, education levels, health levels, capacity to adapt etc.
 - b. Physical – refers mainly to infrastructure, tools and technology which women and men in a community may have access to e.g. transport, roads, pesticides, farm tools etc.
 - c. Financial refers to the wealth of women and men or communities e.g. access to savings/loans schemes, salaries, remittances etc.
 - d. Social refers to the access to social networks or support within a community by women and men e.g. common rules, formal and informal groups, leadership etc.
 - e. Natural refers to the natural environment and use of it by women and men e.g. access to land and produce, water and aquatic resources, trees and forest products, wildlife etc
2. Either divide the community up into groups per asset and per gender e.g. a group of male and female participants for each of the five factors or two groups of male and female looking at all five factors.
3. Draw a tree to depict the causes and effects noting different effects on women and men – the causes can be drawn from the changes identified in earlier tools i.e. weather changes, floods, changes in land use methods etc.
4. Then ask the participants to focus on the effects of these problems per factor above.

Learning and Discussion:

In one big group go through each of the five factors and have a discussion regarding anything else to add or any linkages identified between the factors and the causes and effects. Ensure women in the group get an opportunity to contribute.

1. Listen to the discussion initiated and note this down.
2. Ask participants to explain the diagram. Encourage them to discuss their findings and reflect upon them. Key questions could include:
 - a. Major trends and findings
 - b. What are the linkages between causes and effects – are there any linkages between each of the five factors and issues identified?
 - c. Are there any significant differences between impacts on women and men?
 - d. What can be done?
 - e. Who can play a role in it?

3. Interview the diagram. Ask questions to clarify your doubts and gain an in-depth understanding of the vulnerabilities identified. If something positive is identified this is great but note it down for the next step.
4. Document this information.
5. Copy diagram onto paper – one copy to the participants, one copy for yourselves.
6. Triangulate the diagram and other findings generated during the discussion with others having knowledge about the topic.
7. Remember – the discussion and analysis are equally important – if not more!!
8. Thank the participants for their time.

Inclusive Participation:

Vulnerability within a community is not uniform and needs to be considered carefully to ensure the vulnerability of all sectors of a community is considered. Depending upon the community you may need to consider dividing the community further to ensure for example that people living with a disability, children, elderly and/or indigenous groups have space and feel safe to participate. You may also need to adjust the language/medium used to ensure meaningful participation.

Photo 7: Vulnerability Tree example from Rakhine State, Myanmar (Photo: CERA).



4.9 Tool Session Guide 9: Focus Group Discussion: identifying those most vulnerable

Objectives:

- The aim of this exercise is to use the complete Vulnerability Tree to facilitate a discussion regarding the identification of those most vulnerable within a community.

Facilitation Guidance:

1. Explain the purpose of the exercise and initiate a group discussion surrounding the effects outlined in the Vulnerability Tree
2. Separate into smaller focus groups of 5-12 people with one group for men and one group for women – if necessary further groups can be allocated i.e. for people with disabilities, children, youth etc. Discussion questions could include:
 - a. Who do the community think is most vulnerable to these effects?
 - b. Are different people vulnerable to different things?
 - c. Is there a group which is more vulnerable than others?
 - d. Have there been changes in livelihoods and what has been the impact?
3. Ask the participants to explain their reasons for identifying who is most vulnerable and where possible reach an agreement within the community.

Learning and Discussion:

1. Document this information – leave information with participants and take one copy if approved by the community.
2. Triangulate the diagram and other findings generated during the discussion with others having knowledge about the topic.
3. Remember – the discussion and analysis are equally important – if not more!! Thank the participants for their time.

Inclusive Participation:

It is very important that facilitators manage focus group discussions carefully to ensure equal participation from all. Develop ground rules with the participants and explain the process carefully to ensure that everyone understands the instructions and questions being asked. Further support should be given to those participants who may be shy or timid in involving themselves in the discussion, whilst at the same time also gently silencing those who constantly talk and override the contributions of others.

4.10 Tool Session Guide 10: Venn Diagram

Objectives:

- To identify the main actors in the community and their influence – what support, resources, knowledge etc is available to communities from within or from outside.
- To identify any gaps in knowledge or support within a community and what is required to address this.

Facilitation Guidance:

This tool should take approximately 1 to 1.5 hours including discussion time. Suggested materials comprise of coloured cards, chalks, large sheets of paper, bold markers, sticks etc. Steps include:

1. Explain the purpose of the exercise to the participants and divide the group into two – male and female.
2. Ask them to list the various institutions, individual women and men, support, knowledge, resources etc. which are available to women and men in the community. Once these are listed then explore each one further and identify its contribution to community coping capacity (taking notes all the time).
3. Ask participants to write and/or depict them (pictures/symbols) on small cards.
4. Ask the participants to place the cards in order of importance of the capacities in a descending order – these may want to be grouped by what is a resource, what is a support etc. Once the cards are arranged in an order, ask them whether they agree or would like to make modifications. Encourage them to make changes if they are interested.
5. Ask participants to assign paper circles of different sizes (cut and kept ready if necessary) to the support, resource etc. in such a way that the bigger the circle the higher that support, resource etc. in terms of importance. Paste or write on the circles the names of support, resources etc.
6. Draw a circle on the ground representing the community. Ask the community groups to place the circles in such a way that those high in importance are kept close together, while those low in importance are kept away from the circle representing the community.
7. Once all the cards are placed, ask the community if they agree with the placement. In case they want to, encourage them to make changes.
8. In case there are certain support, resources etc that interact or work closely, they could be placed with an overlap. The degree of overlap indicates the degree of interaction.

Learning and Discussion:

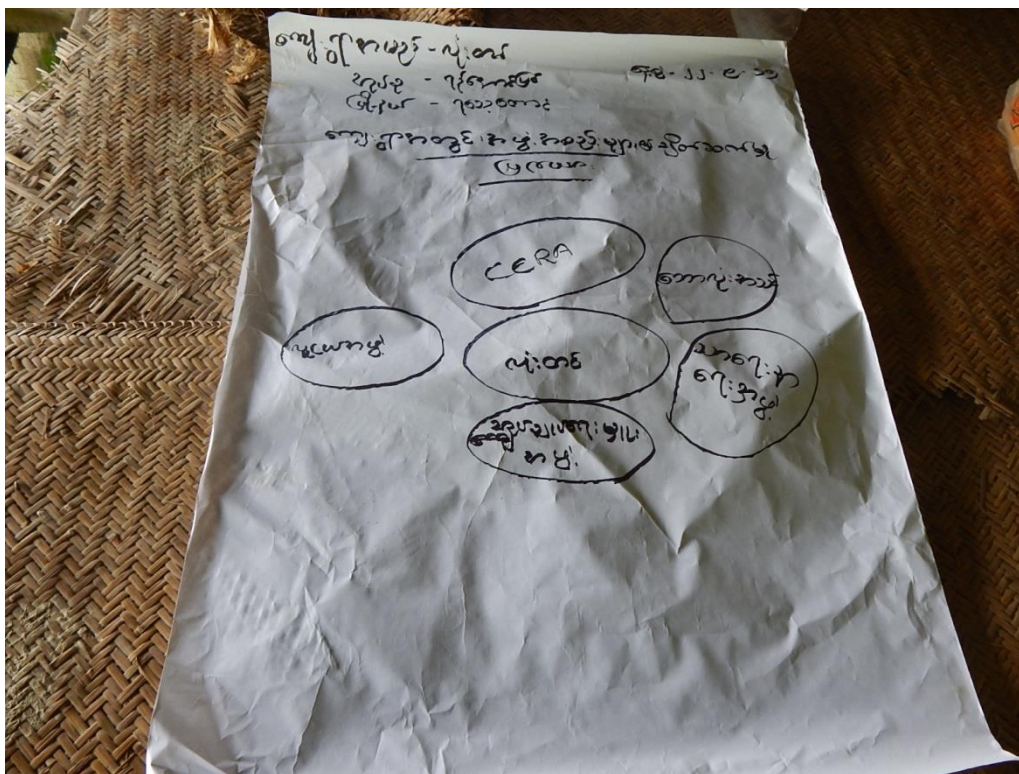
1. Ask participants to discuss and explain why they placed the cards in such a manner. Is there anything missing – what other support, knowledge etc would the community like access to? Note down the points of discussion and explanation.
2. Suggestions for facilitating questions include:
 - a. Are any of the organizations/institutions shown open to just men or women?
 - b. Are there any groups excluded from membership or planning processes within the community?
 - c. How do you communicate and receive information from the different organizations?
 - d. What support is received in an emergency?

3. Copy the output onto a sheet of paper. Record the name of the village, participants, date, legends, what the size of the circle represents and what the distance represents.
4. Triangulate the diagram with others.
5. Leave a copy with participants and take a copy for yourselves.

Inclusive Participation:

Ensure all community members have a voice and are able to meaningfully participate in the process. Where necessary divide the groups further to ensure those who are obviously sidelined or too timid to talk have a safer space in which to participate. The needs of all participants need to be carefully considered to ensure equal participation from all – e.g. literacy levels, disabilities etc.

Photo 8: Venn Diagram example from Rakhine State, Myanmar (Photo: CERA).



4.11 Tool Session Guide 11: Capacity Analysis

Objectives:

- To establish existing coping capacities and their effectiveness.
- To identify local knowledge which has been used past and present to cope with changes over time in the community.

Facilitation Guidance:

This tool should take approximately 2 to 3 hours including discussion time. Suggested materials comprise of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks etc. Steps include:

1. Explain the aim of the exercise to the participants – stressing the need to identify capacities and local knowledge which has been used past and present and that their stories of coping are important. It is important to identify the different stories and coping strategies of women and men.
2. As with the Vulnerability Tree the same five factors can be used – social, physical, financial, natural and human, unless other more appropriate categories are identified for a particular community.
3. Divide the community into groups: either a group for each of the above or a group looking at past and a group looking at present – dependent on numbers participating. In addition, divide these groups by gender as men and women will often have different coping strategies.
4. Each group to come up with local coping strategies used past and present for their area and then presented to the rest of the community – additions added as needed.
5. Table compiled detailing each strategy, and its importance for addressing the effects outlined in the Vulnerability Tree.

Learning and Discussion:

1. Use the capacities of women and men identified as discussion points with all groups i.e. look at how indigenous/local strategies/practices of women and men have evolved to deal with impacts of hazards including climate change.
2. Facilitating questions could include:
 - a. Traditionally what strategies have you used to deal with this change?
 - b. Are there key difference between the strategies of women and men?
 - c. Do you still use these today?
 - d. What other ones do you use today or how have these strategies changed?
 - e. How effective are they?
 - f. What access to outside knowledge do you have? Do you use it or is it appropriate?
 - g. What knowledge would be beneficial to you?
 - h. How is knowledge transferred between generations? Is this different for girls and boys?
 - i. Do young people use this knowledge?
 - j. Have you experienced this level of change before?
 - k. Do you think your local knowledge is enough to cope?
 - l. What livelihood strategies do you use to deal with change?

- m. Finally if possible take an extra day to triangulate these findings with other members of the community and interview elders about strategies used in the past.
- 3. Document all the discussion so it is recorded for later.
- 4. Leave a copy with the participants and keep a copy for your records.

Inclusive Participation:

As with vulnerability, capacity within a community is not uniform and needs to be considered carefully to ensure the capacities of all sectors of a community are considered. Depending upon the community you may need to consider dividing the community further to ensure for example that people living with a disability, children, elderly and/or indigenous groups have space and feel safe to participate. You may also need to adjust the language/medium used to ensure meaningful participation.

4.12 Tool Session Guide 12: Environmental Trend Analysis Projected into the Future

Objectives:

- The aim of this exercise is to establish a community understanding of climate change and given the previous analysis what are their thoughts as to what change may occur in the future and why?

Facilitation Guidance:

1. Explain the purpose of the exercise to the participants and refer back to the previous environmental trend analyses produced by male and female groups in Step Two.
2. Divide the community into the same groups with their original analysis.
3. Ask them to project forward 2010-2020 and 2020-2030 and identify what they think may happen in the future given previous trends identified.
4. Document all the discussion!!
5. Come together in one group and discuss – any differences between male and female groups? Ensure women are enabled to participate in the discussion.

Learning and Discussion:

1. Ask participants to explain the diagram. Encourage them to discuss their findings and reflect upon them. Key questions could include:
 - a. Major trends and findings – how do these reflect what may happen in the future?
 - b. Causes of the trends
 - c. What can be done?
 - d. Who can play a role in it in the future? The roles of women and men?
2. Interview the diagram. Ask questions to clarify your doubts and gain an in-depth understanding of the trend. Document!!!
3. Document this information.
4. Provide one copy to the participants, one copy for yourselves.
5. Triangulate the diagram and other findings generated during the discussion with others having knowledge about the topic.

Inclusive Participation:

This tool will often result in different viewpoints from various sectors of the community. It is important that all these are listened to and carefully considered when discussing community futures. If possible common agreements should be reached on future projections and their impact upon different sectors of a community.

4.13 Tool Session Guide 13: Future Map

Objectives:

- The aim of this exercise is to enable the participants to reflect further upon the future trends identified in the previous tool and how these may impact the community in the future i.e. what will the effects be including different effects on women and men?

Facilitation Guidance:

1. Explain the purpose of the exercise to the participants and that it will be building upon the original map produced in Step One and the projected changes identified in the environmental trend analysis.
2. Using the future trends identified in the Environmental Trend Analysis what do the community think future effects of this change will be upon themselves? Will there be more floods, will it be harder to grow crops etc?
3. Record all the discussion.
4. Discuss and triangulate with other community members perhaps not present – especially elderly and youth.
5. Leave a copy and take a copy!
6. Now thank the participants for their time and explain that given that we have looked at future trends and effects we are now going to discuss how we can address these through an action plan.

Learning and Discussion: Suggestions for facilitating questions include:

- Given the change you have experienced up to today what do you think may happen in the next 2,5,10,20 years time?
- Recognising the change which may occur are there strategies which you could put in place to help you cope? Are these different for women and men?
- Will your experience of the past help you deal with the future – how?
- Is this change a result of human activity, changes in weather or a combination?
- What do you think are the reasons?
- Given the impacts experienced before do you think these will stay the same or change?
- Do you think there will be new impacts which you have not experienced yet? What would these be? How do you think we could address them?
- Would there be a different impact upon different groups?
- Who would be more vulnerable?
- What would be the impact on your infrastructure?
- What would be the impact on your livelihoods? Are these different for women and men?
- Would your livelihood stay the same?
- Would your strategies have to change from the ones you are using now?
- How would they change?
- Do you think any outside knowledge could be helpful?
- What knowledge/tools/technique would you like access to?

Inclusive Participation: This tool will often result in different viewpoints from various sectors of the community. It is important that all these are listened to and carefully considered when discussing community futures. If possible common agreements should be reached on future projections and their impact upon different sectors of a community.

4.14 Tool Session Guide 14: Data Compilation

At the end of the assessment process the project team should work to identify common issues, trends and strategies which have been identified to build resilience. Summarising all key data into a matrix can help to compare and contrast information and find out what needs validating. There is no right or wrong way to do this with a number of formats available to the assessment team to compile the data. Examples of two of these formats are provided below but choose one most appropriate to the community context in which you are working:

Format 1:

HAZARD (Flooding)	Vulnerabilities	Capacities	Actions to transform vulnerabilities into capacities
Physical	Fragile housing	Materials available to strengthen houses.	Using local materials strengthen housing stock through placing structures on stilts to avoid flooding.
Human	Lack of education, skills and/or knowledge	Access to training and government agricultural extension workers.	Lobby and advocacy local government to provide necessary training and skills. Encourage attendance at school by children. Facilitate access routes to schools e.g. through bridge building.
Natural	Erosion, poor land use management.	Terracing gardens and planting stabilising vegetation.	Further encourage use of existing techniques such as terracing within the whole community. Skills building in sustainable land use management. Structural techniques such as gabions implemented to stabilise land.
Social	Limited community support and networking.	Existing community groups and strong religious network.	Build upon existing community networks and groups to create a strong and cohesive community. Develop a VAC from existing group.
Financial	Limited diversification of livelihoods. Lack of income.	Household savings pots	Build upon concepts of households savings already in existence to create safety nets for households with a community. Income diversification. On farm and off farm employment.

Format 2:

Hazard	Effects/Impacts	Vulnerabilities	Capacities	Potential Strategies
Cyclones	Destruction of Assets. Death/Sickness. Crop destruction. Loss of land. Erosion.	Weak housing. Lack of shelter Poor access to health care. Dependence on one crop	Local resources available to strengthen housing and shelters for livestock. Cohesive community.	Use local resources to strengthen houses. Construct suitable shelters for people and livestock. Identification of those most vulnerable and community support put in place to assist them.

Steps to filling out these tables:

1. With the community transfer all the vulnerabilities and capacities identified in Step 2 within the table – whether by hazard or by asset.
2. The capacities should then be used to address the vulnerabilities
3. Resilience actions can then be identified and recorded in the final column.
4. Note that whether using the hazard or asset approach there will be crossover and interaction between the five assets and/or the hazards identified.

Inclusive Participation:

Where there are differences ensure the information is separated out for the vulnerabilities/capacities and actions of women, men and other groups if necessary e.g. children, elderly, PWDs, ethnic groups etc.

4.15 Tool Session Guide 15: Reporting Format for Community Resilience Assessment

The results of the Community Resilience Assessment should be combined with the community situational analysis gathered through baseline data and presented in one full report which identifies key issues and actions to be taken based on answers to the resilience assessment questions. The report should be written in a format that is easily usable and understandable by local community members and local authorities – if literacy levels are a concern the report should be presented back to the community using the original tools completed throughout the assessment process – i.e. move through the steps of the assessment process outlining the results in relation to the resilience assessment questions.

The report should be finalized once it has been reviewed by the local community and where necessary revisions made. This is to ensure local ownership of the process and to give community members time to reflect upon the process and make changes where necessary. Parts 1-5 should be completed after the community resilience assessment and parts 6-7 completed after prioritization of options and action plan development.

Suggested report outline:

- 1. Introduction** – outline of Malteser International’s work with the community and the current program.
- 2. Objectives and Methodology** – this section can refer to this manual and will basically cover the Resilience Assessment Process – it is likely to be the same for all communities in which this process is undertaken.
- 3. Background** – to include the community situational analysis (primary and secondary data) as validated by the community and the key issues which have been identified as a result.
- 4. Community Resilience Assessment results** – refer to the resilience assessment questions which should have been answered as a result of the assessment.
- 5. Analysis** – summarize the assessment process and highlight key issues
- 6. Resilience activity development and prioritisation** – explain the tools used for prioritization and why the strategies were chosen including how they meet the needs of those most vulnerable.
- 7. Resilience Action Plan** – provide detailed implementation plan (see Tool Session Guide 4, Section 5, p 83).

5 Tools for Community Resilience Action Planning and Implementation (Steps Four to Seven)

This section provides step by step guides to the tools needed to complete Steps Four to Seven of the integrated approach to resilience building. Each session guide outlines the key objectives of each tool, provides a facilitation guide, outlines key questions for learning and discussion once the tool is complete, provides recommendations to ensure inclusive participation and where appropriate an example of the tool. The session guides are provided in order of use for the integrated resilience assessment process but they can also be extracted and utilized individually where necessary.

5.1 Tool Session Guide 1: Impact Implementation Matrix

Objectives:

- To quickly prioritize proposed resilience actions within a community.
- To identify those resilience actions which are most important to the community and will have the most impact at addressing community resilience.

Facilitation Guidance:

This activity should take approximately 1 to 2 hours to complete including discussion time. Suggested materials consist of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks, leaves etc. Steps include:

1. List all proposed resilience actions by a community.
2. With the community go through each one and determine whether it will have a low, medium or high impact and whether it is easy to implement, moderately easy to implement or difficult to implement.
3. The criteria can be refined to suit the local context and/or a specific community e.g. focusing on short and long term impact and who/what is able to implement.
4. With the community you can then analyse what can be done immediately, in the medium term and long term, and whether the community can do it themselves or whether they need external assistance in the form of human and/or financial resources.

Learning and Discussion:

Once all the tables are complete it is then important to interview the outputs with the community and ask key questions surrounding each action to ensure participants have thought about the what, how, when, where, why and who of implementation. If necessary enable the participants to make any changes they see necessary upon further reflection – however, ensure reasons for these changes are documented in case you need to refer to these at a later point in producing the plan.

Inclusive Participation:

You need to ensure the impact on different sectors of the community is considered in reaching a community agreement regarding each resilience action.

Impact-Implementation Matrix Examples:

A number of completed tables will be produced which look like this:

Proposed Action: Crop diversification to address increased temperatures.	Easy to Implement	Moderately easy to implement	Difficult to implement
High Impact			
Moderate Impact		X	
Low Impact			
Proposed Action: Planting of mangroves to protect coastal areas.	Easy to Implement	Moderately easy to implement	Difficult to implement
High Impact	X		
Moderate Impact			
Low Impact			

5.2 Tool Session Guide 2: Pair-wise Ranking

Objectives:

- To identify the priorities and preferences of community members in relation to resilience actions identified.

Facilitation Guidance: This activity should take approximately 1.5 to 2.5 hours to complete. Suggested materials consist of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks, leaves etc. Steps include:

1. This method can be used where community members have identified a small number (maximum of ten) of resilience actions which they can then compare against each other in determining which ones to implement.
2. Explain the exercise to the participants and split the group by gender and further if necessary.
3. Ask the participants to list or use pictures to depict the resilience actions on cards – you need two for each action.
4. Draw a grid on the ground (or paper) with as many rows and columns as the number of actions which were identified.
5. Place one set of cards from top to bottom and the other set in the same order from left to right at the top of the grid. You can follow any order but ensure both sets of cards reflect this.
6. Take up the first card and compare it with all the other cards. To facilitate this process you could ask questions like:
 - a. Between.....and.....which one would have a greater impact?
 - b. Between.....and.....which is your priority?
 - c. Between.....and.....which is more important at building resilience?
7. Record community preferences in the grid.
8. Once this is complete count how many times each item has been preferred. Note it down against the item at the end of the row. The higher the frequency of an item, the higher the preference or priority of the same.
9. Remember that it is important to use the same questions every time you compare two items, otherwise it may make participants confused and the responses may not be comparable. This is because they might have had different aspects in mind while responding to the different questions.

Learning and Discussion:

1. Ask the participants to explain the output and record the main points of the discussion.
2. Interview the output by asking questions on points you are not clear on – why did they come to this preference? Have they considered this? Etc.
3. Ask male and female groups to present their results and identify any differences? Why is this so? Can a common agreement be reached?
4. The discussion is just as important as the output and may result in changes being made to the grid prior to the final selection of resilience actions.

Inclusive Participation: Various sectors of a community are going to have different preferences and priorities – be careful to make sure everyone is heard in assessing priorities and outline reasons decisions are reached.

Photo 9: Pair-wise ranking example of hazards in Rakhine State, Myanmar (Photo: CERA).

အန္တရာယ်များစွာရှိသည့်နေရာများ

၁။ အန္တရာယ်
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 ၃။ အန္တရာယ်
 ၄။ အန္တရာယ်

	အန္တရာယ်	အန္တရာယ်	အန္တရာယ်	
အန္တရာယ်	X	၁	၁	၁
အန္တရာယ်	X	X	၂	၀
အန္တရာယ်	X	X	X	၂

5.3 Tool Session Guide 3: Matrix Ranking/Scoring Method

Objectives:

- To assist community members in making an informed choice regarding resilience actions to be implemented in their community.
- To reach a comparative understanding of the choices available to the community in building their resilience.

Facilitation Guidance:

This activity should take approximately 1.5 to 2.5 hours to complete but it may take longer depending on the number of resilience options which have been identified. Suggested materials consist of cards, chalks, large sheets of paper, different coloured bold markers, seeds, pebbles, sticks, leaves etc. Steps include:

1. Explain the exercise to the participants and split the group by gender (and further if necessary).
2. List the resilience actions to be assessed.
3. Initiate a discussion on the resilience actions in order to arrive at criteria which will be used to assess them. Ask participants to list points on which they would like to compare and assess the resilience options identified. Criteria could for example include; a) action assists those most vulnerable, provides equal benefits to women and men, is easily implemented, will assist the community for a long time, addresses present and future impacts etc. The criteria need to be positive and precise as the use of positive and negative criteria in the same exercise can be confusing but be careful not to determine the criteria for the participants.
4. If a large number of criteria come up discuss them with the community and choose the important ones.
5. Draw up a matrix with the resilience actions listed from top to bottom and the criteria identified from left to right.
6. Depending on your preference for ranking or scoring the steps will vary.

Ranking:

1. Take up a criteria e.g. 'is easily implemented' and ask the participants to rank or score the resilience actions on the basis of that criteria. Certain questions which can help in ranking could include:
 - a. Which is best?
 - b. Which is next best?
 - c. Which is worst?
 - d. Of the remaining which is better?
2. Record the rankings directly onto the matrix. If you have a large number of options you could use a card sorting method as ranking by asking questions can take time.
3. For card sorting you need to ensure the resilience actions are depicted on cards. You can then take up one criteria and ask the participants to put the cards in order with the topmost action being highest for that criterion and the last card being the lowest for the same criteria. If you use this method be careful to record the ranks in the matrix properly as you can move from one criterion to another quite quickly.

Scoring:

1. You can opt for matrix scoring instead of ranking on a re-selected scale e.g. 1-5 or 1-10 scale or a local preference. Take up a criterion and ask the participants to give scores for each resilience action in such a way that the items scoring high for that particular criterion get high scores and others get low scores depending on the magnitude in the range e.g. 10 (highest) and 1 (lowest) – you could use seeds, pebbles etc. to depict numbers if doing it on the ground.
2. After scores are given for all the resilience actions on the one criterion, move to the next and so on until all the criteria are covered.
3. Listen carefully to participants' discussion as they arrive at the criteria and decide on scores/ranks and take notes.

Learning and Discussion:

1. Ask the participants to explain the matrix in detail and to list their findings. Allow time to think. Key questions could include:
 - a. Why has this scored this compared to this?
 - b. Do you not think this action addresses this criterion?
 - c. Are you sure about this decision?
 - d. Why did you make this?
2. Interview the matrix and ask questions on points which you think are not clear.

The matrix method not only provides valuable data but also initiates a process of analysis amongst participants. Through further reflection and discussion this tool also helps participants identify what needs to be done in relation to the findings, what they can do themselves and for what they require external support.

Inclusive Participation:

Similarly to pair-wise ranking this exercise is likely to raise a range of opinions and ideas. Ensure everyone is listened to and heard before working with a community to reach a consensus solution.

5.4 Tool Session Guide 4: Community Resilience Plan Template

(adapted from Malteser International, 2013)

The Community Resilience Plan should have a number of components including:

1. **General background of community including household and population numbers.**
2. **Overview of data regarding disasters within a community**

No.	Disaster	Frequencies	Timeline	Affected Areas	Damages (last 5 years)
1.	Cyclone	1-2/year	Annual cyclone season	Whole community	Humans: 10 dead 130 injured Infrastructure/Assets: 70 houses totally collapsed. 50 cattle lost 100ha crops destroyed.
	Landslide	3-4/year	Regularly in rainy season	Whole community especially access roads	Humans: 0 dead 10 injured Infrastructure/Assets: Mainly continuous damage to access roads.

1. Outline the purpose and objectives of the plan e.g.

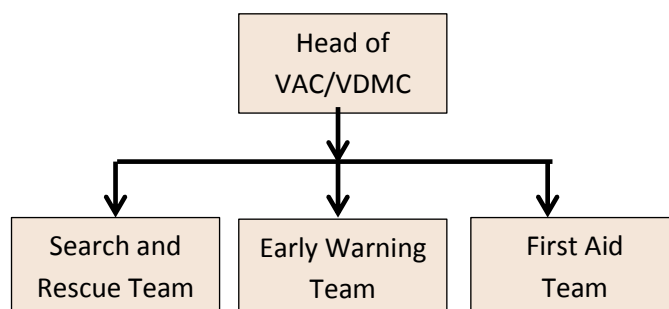
Purpose – to build resilience of a community to hazards including climate change in the short and long term.

Objectives: a) to identify strengths and weaknesses of a community and propose solutions before, during and after disaster; b) to establish the organization and management of resilience building activities through VACs; c) to put in place measures to assist those most vulnerable in times of disaster.

2. Summary of community strengths and weaknesses in relation to IDRM

Strengths	Weaknesses
Early Warning	
<ul style="list-style-type: none"> • VAC/VDMC will provide early warning. • Community members are aware of process and have received messages. • PWDs have means to access messages. 	<ul style="list-style-type: none"> • The community loud speaker system does not reach the whole community. • Village loudspeakers have deteriorated. • People don't follow directions.
Evacuation	
<ul style="list-style-type: none"> • Most people have strong houses with some form of asset protection. • Most community members have access to transport for early evacuation. 	<ul style="list-style-type: none"> • Roads are often not passable due to landslides. • No identified evacuation route. • No safe shelters for humans or livestock.
Rescue	
<ul style="list-style-type: none"> • Several community members trained in search and rescue skills and first aid. • Refresher training provided each year. • Linked with local authorities to seek further assistance if necessary. 	<ul style="list-style-type: none"> • Community members scattered over a wide area. • River divides the community and bridge often collapses in heavy rain/flooding. • Lack of rescue devices.

3. VAC/VDMC Organizational chart with names, contact details and associated responsibilities e.g. evacuation, search and rescue, early warning, first aid teams etc e.g.



4. Procedures for early warning and evacuation

Evacuation Situation	Tasks
Evacuate when cyclone occurs	1. VAC/VDMC to convene and ask members to implement their tasks. 2. VAC/VDMC coordinates with villagers to implement evacuation plan. 3. VAC/VDMC to coordinate with local authorities.
Evacuate when early warning received regarding storm surge	1. Early warning provided. 2. Evacuation organized 3. Coordination with local authorities carried out by VAC/VDMC 4. Urgent meeting of VAC/VDMC

5. Priority List of early warning assistance

No	Households/Person	Person in charge	Method	Reason for assistance	Implementation time
1	Hard of hearing person	VAC/VDMC member	In person	VAC/VDMC do not have enough resources to reach all people immediately with early warning messages.	30 minutes
2	Distant houses	VAC/VDMC member	Portable Loudspeaker		40 minutes

6. Priority List of Early Warning and Evacuation

No	Name of person	Reasons for assistance	Evacuation Shelter	Responsible Person	Means of assistance
1	Physically impaired person	Cannot walk	School	Community Rescue Team and family members	Carry by motorbike/wheelchair.
2	Elderly person	Blind	Community Hall	Search and Rescue Team	Walk/Motorbike.
3	Very young physically impaired children	Physically impaired	School	Family members	Carry

7. Resilience Building Plan

	What we can do by ourselves (with potential support from small project funds)	What we can do with external assistance – human resources	What we can do with external assistance – financial resources
Immediately (implementation time)	Raise houses on stilts and construct platforms to protect assets. (2 months)*	Participation of women and vulnerable groups in planning processes.	Build capacity to analyse risks and respond to hazards (ongoing training required)
Medium term (implementation time)	Establish seed bank, diversify crops to plant hazard resilient varieties, implement sustainable land use management practices. (2 planting seasons)	Construction of gabions and use of stabilizing vegetation (6 months). Minimum costs – only wire required for gabions.	Planting mangroves (8 months)
Long term (implementation time)	Monitoring the climate (long term)	Disaster risk and climate information is available at the local level. Minimum costs but mechanisms to be developed to ensure information is disseminated at local level.	Improving shelter for people and assets e.g. livestock to withstand hazards (24 months)

Each resilience strategy can then be extracted from this general plan to determine a more specific implementation strategy i.e. timescales, person(s) in charge, those involved, cost, those affected, materials, how, etc.

Description of Resilience Strategy	Activities	Specific target and location	How/ Resources needed	Who is responsible and financing	Timeframe	Risks and Assumptions
Construction of gabions and use of stabilizing vegetation		Road entering community	Minimal – wire required for gabions. All other materials sourced locally.	Head of VAC/VDMC	5 weeks	
Raise houses on stilts and construct platforms to protect assets. Plant mangroves to protect coastal areas.		Houses close to river/coast	Minimal – materials sourced locally and local labour.	Household owners and VAC/VDMC	10 weeks	
Establish seed bank, diversify crops to plant hazard resilient		All gardens	Expenses required to procure seeds and	VAC/VDMC in partnership with external agencies.	Planting season	

varieties, implement sustainable land use management practices.			identify resilient crops			
Implement terracing, plant stabilizing grasses and implement sustainable land use management practices		All gardens	Limited	VAC/VDMC in partnership with external agencies.	All year	

6 Integrating community resilience plans into development plans at township and state level

The Ministry of National Planning and Economic Development and the Ministry of Social Welfare, Relief and Resettlement have identified mainstreaming disaster and climate risk management into development planning as a focus area. This is also part of the MAPDRR (2012) and will most likely be included in its subsequent successor as it is essential to sustainable development. Without consideration of hazards including climate change and their associated impacts within development agendas there is a risk that a) development gains will be destroyed; and/or b) development interventions may intentionally or unintentionally create or exacerbate vulnerable conditions.

The role, and the challenge, for local governments in reducing risk can be summarized most easily as adopting a broadly-based strategy that provides civic direction that can inform and engage the interest and abilities of a community working together to assess and manage the risks that may threaten their own home and way of life. In this there are mutually shared self-interests, between local governments and all inhabitants of the community. The integration of community resilience plans into township and/or state development plans will therefore help to protect development initiatives from potential hazard impacts and ensure that such initiatives are not exacerbating or increasing the existing risk within a community and/or area. Risk sensitive local development plans at township levels will then in turn significantly contribute to wider state/regional and national planning processes in Myanmar.

6.1 Development Planning in Myanmar

There already exists an established institutional set up for development planning in Myanmar. At the state/regional and township levels there are inter-agency planning committees which are appointed to take responsibility on planning processes. These committees are chaired by the respective Administrators and the Planning Officers act as the secretary. The composition of such committees includes the State/Township Administrator, various representatives from different sectoral departments, planning officers and key community/township representatives. The primary challenge for these committees is to understand and then adopt the importance of resilience building as important criteria for their area's economic and social well-being. Whilst, it is widely recognized that effective resilience building must be realized at local community levels, the overall impetus needs to be provided by broader and consistent forms of leadership i.e. at the local government level.

The integration of community resilience plans into development plans at township and state level will assist in ensuring that IDRM including CCA will become an essential part of the usual practice of formulating development plans. This will assist in:

- a) Identification of those development interventions (policy, plan, programme, project, goal etc.) which could be affected by hazard(s) and if so what DRM including CCA interventions could be implemented to avoid, mitigate or manage impacts.
- b) Identification of those development interventions which could potentially increase either the likelihood of a hazard becoming a disaster or increase the potential damaging effects of a hazard(s) and if so what inclusive DRM including CCA options could reduce or avoid vulnerability and exposure.

Figure 4: Schematic framework outlining how community resilience plans can be integrated into development planning processes (adapted from NEDA 2009).

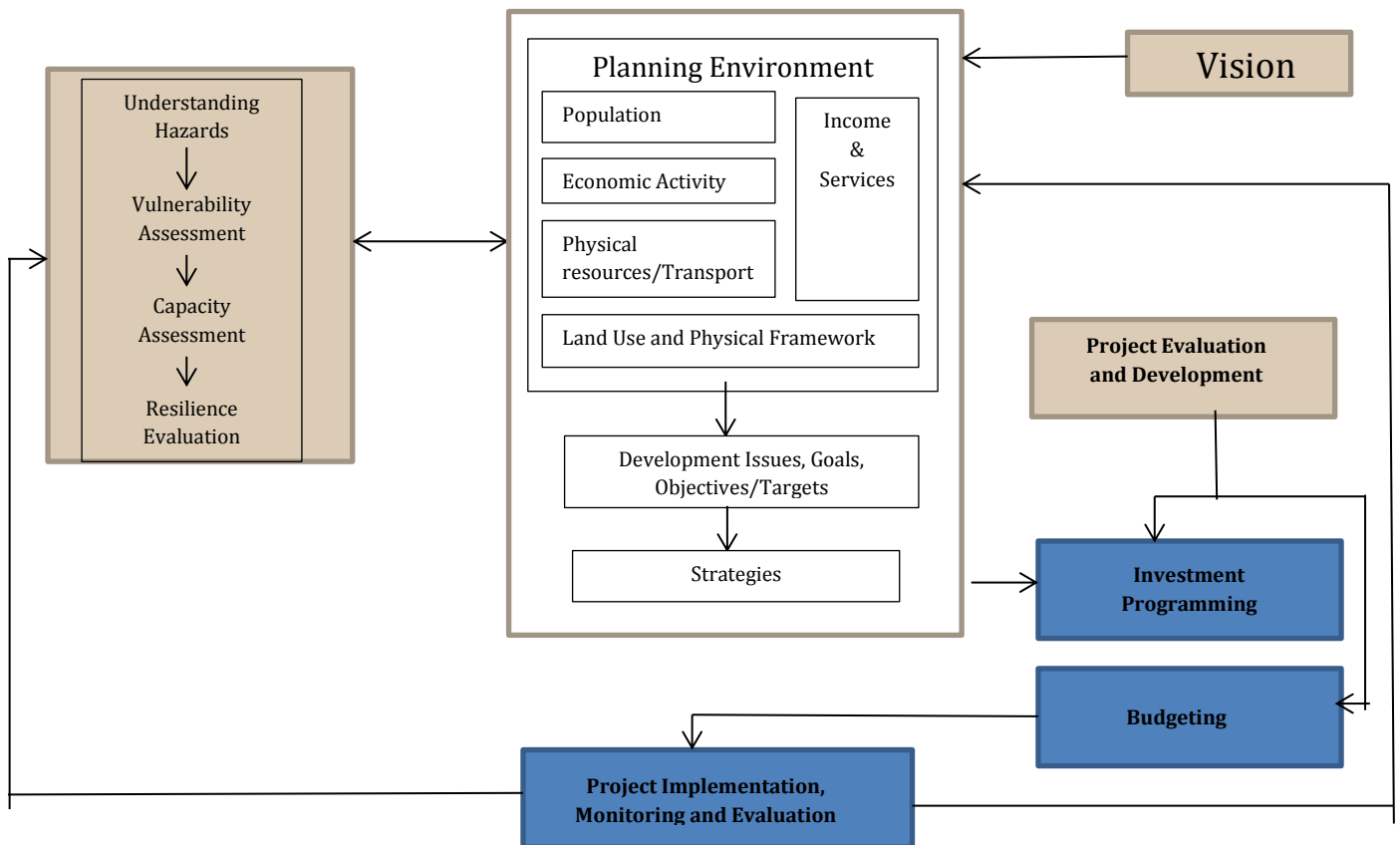


Figure 3 provides an example of a schematic framework outlining how community resilience plans can be integrated into development planning processes (adapted from NEDA 2009). The detailed steps are provided below.

Step 1: Local institutions (governmental and non-governmental) should be engaged in the process of resilience assessment and planning within communities. This will assist local stakeholders in understanding the issues facing communities whilst also facilitating closer linkages which may not have been there previously. The results of the community assessments should also be shared with relevant local institutions including local government.

Step 2: To facilitate the involvement of local government within community resilience building processes there needs to be ongoing consultation processes and dialogue between communities, government and other stakeholders (e.g. all stakeholders need to be aware of development planning processes and DRM/CCA policies and strategies from national through to local in Myanmar), ongoing advocacy to encourage the integration of community resilience plans within development plans at township and state levels, and a capacity building program to ensure local government officials are able to support community members in resilience building activities. This will result in greater prioritization of resilience building and the need to include this within development planning processes.

Step 3:

- a) Initiate meetings between key community representatives (representing all sectors of the community including vulnerable groups) and key local government personnel to discuss entry points for integrating community resilience plans into township and state plans.
- b) Identify key areas of community resilience plans which need to be incorporated into local development plans e.g. in actions where involvement of local government is essential to the continued sustainability and impact of resilience actions such as land use planning and/or replanting mangroves or where resources are required from the local government to implement an identified action. This is as opposed to household or community level actions which could be initiated within the community and/or with non-governmental support e.g. protection of household assets, diversification of crops, seed banks etc.
- c) Review previous township and/or state development plans – current context and achievements, vision, goal and objectives, sectoral development etc.
- d) Establish key entry points for the community resilience plans within the development plans e.g. include separate chapters for community resilience processes and plans and/or integrate community resilience plans as and where necessary across multiple chapters in the development plan e.g. urban planning, infrastructure development, agriculture, environment, social welfare etc.
- e) Review and where necessary revise township development plans in groups meetings consisting of community members and representatives of those most vulnerable. As per Myanmar's planning processes these plans can then be presented at the state level and incorporated into state development plans.

6.2 Involvement of vulnerable groups especially PWDs

In order to assist township and state authorities to consider integrating the needs of vulnerable groups especially people with disabilities into the development plans it is necessary to:

- Organize awareness raising workshops for relevant government staff and decision makers at the township and state level regarding inclusive planning processes e.g. especially considering the involvement/needs of PWDs, women, elderly, ethnic groups and children.
- In partnership with the inter-agency planning committees at township and state level select representatives of identified vulnerable groups to be members of the committee. Those selected will need additional support and capacity building to assist with their participation and contribution to the process of integrating community resilience plans into government development plans.
- The representatives of vulnerable groups at the township and state levels need to be actively involved in assisting with the needs of those most vulnerable at the community level, thereby ensuring their voice is heard and needs met through the planning process.
- Planning meetings need to be participatory and meet the needs of those most vulnerable including PWDs in order that they can participate effectively.

Further guidance can be obtained from:

1. Resilient Development Planning in Myanmar: An Overview (2013). Planning Department, Ministry of National Planning and Economic Development, Myanmar.
2. National Training on Mainstreaming Disaster and Climate Risk Management into Development Planning in Myanmar (2014). Planning Department, Ministry of National Planning and Economic Development, Myanmar.

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8 Annexes

8.1 Annex 1: Sample Rapid Assessment format

Date:

Hamlet

Village Tract

Total Population

Male

Female

Older people

Disable people

Under five

No of Household

No of household (Family)

Female headed household

Family

What Hazards are there?Flooding Strong wind Landslide other.....

Transportation Boat Road (Car) others..... Time from Sittwe

Stable area (Villages)

How many months/year do you live here?months

What are your main security threats?

Who provides security for Village?

Not Supporting from NGOs..

Which NGO What activity What year

.....

Means of Livelihood Farmer % Fishermen% Daily Worker.....% Businessmen% others....

Are they willing to volunteer work for establishing Mangrove? Yes No

Do they think it is important to prepare for cyclone? Yes No

Are they willing to work with NGOs? Yes No

Muddy for Mangrove (direct observation) Yes No

No Landslide (direct observation) Yes No

No rocky (direct observation) Yes No

Not far away from the village (Distance village to Mangrove area)Ft		
No inside prawn farm at mangrove area (direct observation)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Is there regular tide at mangrove area (direct observation)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Good slope (Visual Check)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Isolate villages (river side) few trees (Visual Check)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Low Land Area (Visual Check)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Poor Village (direct observation)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	