TOOLS FOR COMMUNITY RISK ASSESSMENTS

How to integrate:
Climate Change Adaptation; and
Ecosystem Management & Restoration

Partners for Resilience
Philippines

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Acronyms

CC	climate change
CCA	climate change adaptation
CRA	community risk assessment
CVCA	community vulnerability and capacity assessment
DRR	disaster risk reduction
ED	environmental degradation
EMR	ecosystem management and restoration
PfR	Partners for Resilience
PRC	Philippine Red Cross
RCCC	Red Cross and Red Crescent Climate Centre
VCA	Vulnerability and Capacity Assessment

1.1 Introduction

The Partners for Resilience (PfR) program aims at strengthening the resilience of communities to deal with increased disaster risk, effects of climate change and environmental degradation. Understanding the factors that contribute to vulnerabilities in communities is a prerequisite for designing and implementing more effective and sustainable adaptation policies.

The community risk assessment practice plays a key role in this. Both the Philippine Red Cross (PRC) and CARE Nederland and its partners have an extensive collection of assessment tools. In this document a number of these tools have been selected on the basis of their compatibility with the core objectives of the PfR program, and the selected tools have been refined to incorporate elements of each of the partners' approaches, in order to create a more harmonised set of tools for review by the PfR 'community'.

The harmonized risk assessment tools also bring together Disaster Risk Reduction (DRR), Climate Change (CC) and Environmental Management and Restoration (EMR) elements to create a single, holistic approach to community risk reduction.

This approach incorporates elements of adaptation and disaster mitigation in an attempt to move communities away from short-term solutions to reducing vulnerability, towards longer-term sustainable practices that are committed to the protection of environmental resources and to assisting communities in their long-term adjustment to manage the uncertainties of climate change.

1.2 Definitions

In order to understand the issues of Climate Change and Environmental Degradation through incorporating CCA and EMR (or Ecosystem Management and Restoration), it is important to have clear definitions that help explain how different factors interact to impact on vulnerability at the community level.

Environmental degradation
Environmental degradation (ED) is *the consequence of past and present generations using up or damaging natural resources faster than nature can restore them, such that few, if any, of those resources remain for the next generation.*

Environmental degradation leads to the progressive shortening and eventual loss of livelihood assets and environmental services provided by natural habitats, increasing communities' vulnerabilities. Among these services are: water catchment and filtering / purifying; protection against a set of different hazards such as floods and landslides; climate stabilization (among others). Some if not most of these services can currently be measured, compared and valued in physical and economical terms.

Environmental degradation impacts may include, for example:

- destruction of forests by (illegal) logging, causing soil degradation and threatening agricultural livelihoods; If deforestation takes place in fragile landscapes, like steep mountain slopes, landslides are most likely to occur following heavy rains. Besides, increased run off speed my generate flash floods in villages, cities or plantations located downstream;
- changes in water availability and quality such as diverting rivers upstream, contamination or over-use of water resources affecting rice production;
- destruction of coastal protection such as mangroves, leading to exposure to storm damage;
- smoke and air pollution from factories using chemicals, causing increased ill health.

Climate change
Climate change (CC) is *any long-term significant change in the climate over time, caused by nature or human activities. It includes, for example:*

- unpredictable rainfall patterns affecting agriculture and livestock
- rising temperatures and drought leading to crop failure and food insecurity
- More frequent and more severe typhoons

Climate change entails an increased likelihood of hazards, such as floods and landslides. In order to ensure that disaster preparedness and livelihood support is appropriate and helps people who are most vulnerable to environmental and other hazards, a deeper awareness of environmental issues is needed. Assessing risks from the environment is not something done as an afterthought in program planning; it should rather be an integral part of project management cycle.

It is not always possible to determine which changes are due to environmental degradation and which are due to climate change. The important thing is to understand what is changing and plan an appropriate response.

Traditional community-based coping mechanisms to deal with short-term changes in the climate or environment are mostly relevant, but often insufficient to cope with the recent rapid rate of changes. New adaptation methods for dealing with the new risks arising from human-

induced changes are therefore needed that build upon traditional methods.

1.3 Method used to create this guidance

The production of this document was undertaken through the following steps:

1. Community based assessment tools were gathered from all PfR partners in the Philippines.
2. Tools that had common characteristics and the ability to consider EMR and CC were selected.
3. Guidance on incorporating EMR and CC into tools (such as the CARE CVCA and the RCCC Guidance note for VCA practitioners) were used to help incorporate these elements into the selected tools.
4. The document was sent to in country partners for feedback, as well as including technical input from Wetlands International and the RCCC.
5. The revised document was presented to partners at a coordination meeting, partners then agreed to undertake 3 tools as a minimum number for all partners to consider EMR and CC elements. The three chosen were: seasonal calendar, historical profile and hazard/risk mapping.
6. Partners will trial the incorporation of EMR and CC into these tools, revise progress and adjust as necessary in the future implementation of the program.
7. Particular interest will be taken on how lessons learned through this process can be shared further afield.

1.4 Current community risk assessment methodology used by Philippine PfR partners

An analysis of the various methodologies used by the Red Cross and CARE/Accord creates an understanding of the differences in approach to community risk assessment by the Philippines PfR partners. The overviews below how the variations in content and highlights the gaps in relation to the aims and objectives of the PfR program, and **the extent to which partners will have to adapt in order to accommodate a more comprehensive harmonised toolkit.**

There are two key frameworks in use:

- Vulnerability and Capacity Assessments (VCA) by PRC
- Climate Vulnerability and Capacity Assessments (CVCA) and Community Risk Assessments (CRA) by CARE/Accord

They both address the following four themes:

- Vulnerability,
- Disaster Risk Reduction (DRR),
- Climate Change Adaptation (CCA) and
- Ecosystem Management and Restoration (EMR)

The diagram below gives an overview of what is covered by these themes.

Vulnerability		Disaster Risk Reduction				Climate Change Adaptation				Ecosystem Management and Restoration*			
Vulnerability as function of exposure to change, sensitivity to impacts, and ability to adapt	Coping & Adaptive strategies	Current hazard trends	Community-based and scientific data	Livelihood assets & impacts	Hazards prioritisation	Current climate trends (seasonal)	Climate-induced events	Climate projections	Building community knowledge, and information on CC Awareness	Biophysical hazards & impacts	Environmental Assessment (status & impact)	Building Conservation & Restoration Awareness	Capacity to plan and affect change in EMR

* In these tools, EMR is covered in general terms with two weak spots: (i) these tools do not explain the key role ecosystems play in the DRR cycle neither do they refer to the broader geographical scale of analysis that must be considered for a proper EMR integration on local DRR activities in the face of Climate Change;

1.5 Tools comparison

The primary risk assessment tools of the PfR partners are listed in Table 1 and categorised by their applicability in assessing DRR, CC and EMR criteria *within a community setting.*

Although these are predominantly DRR assessment tools, many have the potential to be adjusted to incorporate CC and EMR elements (as Accord has already done for CC, see also the guidance by the Red Cross Climate Centre -RCCC-). The analysis below has therefore focused on highlighting the tools that are open to adjustment and those that do not meet the required criteria. Within the analysis:

√ represents existing applicability to the criteria.

? represents potential applicability to the criteria*.

X represents no realistic applicability to the criteria.

* By leaving the (?) symbol, either the tool could be further adapted to include EMR, or it does but very vaguely, or it is not certain that the EMR information collected using this tool would be of any value (and maybe using other tools we could easily collect similar but better information).

This shows that the majority of the existing DRR risk assessment tools can be successfully adjusted to incorporate CC and EMR factors. In the case of EMR, the information collected using these tools might be used as a guide to set the basis for further research on EMR issues whenever it would be considered necessary to understand in detail some key environmental factors dealing with risk (hazards and vulnerabilities).

Table 1

	Tool	Agents	Disaster Risk Reduction	Climate Change Adaptation	Ecosystem Management & Restoration
1	Seasonal Calendar	RC / CARE	√	√	√**?**
2	Historical Hazard Calendar	RC / CARE	√	√	**X**
4	Interviews	RC / CARE	√	√	X?
5	Focus Groups	RC / CARE	√	√	X?
6	Direct Observation	RC / CARE	√	√	X?
7	Transect Walk	RC	√	√	√
8	Risk/Hazard Map	RC / CARE	√	√	√
9	Spatial Map	RC	√	?	√
10	Capacity/resources Map	√	√	√	√?
11	Livelihood Analysis	RC / CARE	√	?	√
12	Institutional and social network analysis	RC	√	X	√?
13	Household/ neighbourhood vulnerability assessment	RC	√	√/?	X/?
14	Vulnerability Matrix	CARE	√	?	√?
15	Venn Diagram	RC / CARE	√	7	√?
16	Problem Tree	RC / CARE	√	?	√?
17	Strategic Environmental Assessment	WI	X	X	
18	Rapid Environmental Impact Assessment	WI	X	X	√
	Secondary data profiling	RC / CARE / WI	√	√	√

2 Conducting the assessment

While addressing natural hazards, their underlying risks and impact in a Vulnerability and Capacity Assessment (VCA) and Community Risk Assessment (CRA), it is important to take into account the factors that may change the nature of such hazards and the way this may affect people.

Building awareness amongst communities is fundamental to the success of the PfR program. Facilitators must look to *help communities understand the factors that drive vulnerability*, particularly in the context of climate change and environmental degradation.

If communities understand the relationships that exist between these factors, this can help participants in the assessments to visualise more innovative, effective and comprehensive adaptation and mitigation strategies in the future. It will promote the adoption of longer-term strategies rather than pursuing short-term gains.

Understanding of the issues is more likely to help solve the issue of getting communities to commit to the longer-term vision of the project. It also helps to contextualise the relationships between environmental degradation, climate change and community vulnerability and adaptation giving communities greater understanding and ownership of the process.

The reason for introducing climate change to the community when we are discussing disaster-preparedness is that communities face a future that might not be similar to their experiences from the past. Therefore they need to be prepared to cope with these new and potentially increased risks. The vulnerabilities of communities often increase as a result of climate change and it is important to understand emerging trends while doing the VCA and consider these amongst other factors in decision making.

As for environmental systems and ecosystem management, the reasons to broaden our traditional focus is not less important:

Ecosystem degradation and mismanagement, besides contributing to poverty of rural communities by eroding their livelihoods' base (soil and natural goods loss, water springs pollution or exhaustion, biodiversity disappearance, etc.) are factors that are likely to trigger existing hazards in risk prone areas. For example, deforestation in steep slopes increases landslide and flashflood potential over vulnerable / exposed communities following heavy rain episodes.

And finally it would lead to strengthened communities' resilience.

In summary, the tools used for VCA/CRA must take into account climate change and eco-system management and restoration so that the overall vulnerability and capacity are a true representation of the problems faced by the community.

2.1 Including climate change in the assessment

Climate change matters because…
The Philippines is one of the countries worst affected by sea level rise and more intense and frequent extreme weather. Along with increased risk of more intense typhoons, salt- water intrusion, floods and droughts, climate change can also bring longer- term effects on temperature and seasons. Some of the direct impacts of climate change are related to agricultural production, fisheries, forestry, human and animal health, coastal zones and water resources. These have certainly increased the vulnerability of people over the past years and will continue to do so in the future. Obviously, climate change impacts at the local level require VCA to cover these emerging trends: during the collection and analysis of secondary data; while discussing hazards with the community; and during the analysis of such information.

Ecosystem management and restoration matters because….
Many damaging events –disasters: this is hazards + communities' vulnerabilities- find their roots in natural habitats that have been burned, polluted or destroyed upstream or along the coasts. By sustainably using these natural habitats –ecosystems-, they will keep on providing natural goods and services to the communities, like the provision of clean water and protection against strong winds, heavy rains, floods and storm surges. Hence, ecosystem management and restoration is a key factor leading to the strengthening of communities' resilience.

BEFORE YOU START…

Keep the following points in mind for your assessment process:

One of the main differences between a traditional VCA/CRA and an assessment that considers climate change is the intersection of community knowledge with outside knowledge about climate change (see annexes). It becomes more important than ever to ensure communities have access to climate and weather information that they can use for decision-making. Climate change affects not only long term averages but changes in extremes, meaning that outside information about weather and climate does not have to just be about the long term future, access to tomorrow's weather forecast can be just as, if not more, useful.

Adapting to climate change is a ***cross cutting issue*** – it is not only relevant for disaster management, but also for health and other traditional Red Cross and CARE activities. It reinforces the need for us to work together across our organization, and seek outside partners to supplement our own capacities and expertise.

Communicating climate change in the assessment
Talking about climate change with communities can seem daunting, but it does not have to involve explaining complicated concepts. ***The best approach is to begin discussions about climate change based on participant's own experiences – how local weather impacts upon their day-to-day lives and affects their livelihoods.*** These can be drawn out during the VCA/CRA process. If you find that people notice changes are taking place, and would like to know why, then you could present more information about the causes of climate change.

You can facilitate the assessment process and address locally experienced changes in weather without actually using the term/concept "climate change" if you feel it may cause confusion. But as you gain more confidence in the issue, you may introduce the concept of climate change. Be creative, look at the resources at hand and ask for help from your colleagues. This could include within the PfR partnership (both in country and with other countries) and further afield with other organizations that have experience in communicating climate change.

The important part is to be careful not to over-emphasize climate change, remember that there are many other issues that a community faces. It is better to incorporate climate change messages *alongside* other messages that you are taking to communities (for example, in areas where water-borne diseases are an issue, information on the rise in bacteria due to temperature changes can help point out that long-term solutions to this need to be found) and to keep it simple.

Guidelines in Summary:

- Keep the message simple and clear.
- You can facilitate the assessment process and address locally experienced changes in weather without actually using the term/concept "climate change" if you feel it may cause confusion.
- As you gain more confidence in the issue, you may introduce the concept of climate change.
- Be creative, look at the resources at hand and ask for help from your colleagues.
- The important part is to be careful not to over-emphasize climate change, remember that there are many other issues that a community faces.

WHEN YOU ARE DONE….

1. Analyze the information given by a community

Once you have used all the tools that you wanted to use – see below - you are ready to gather all of the data and looking at the 'bigger picture' of what is happening to the community. Gather together the information from interviews, historical profiles, mapping, seasonal calendar etc and make an overall judgment – ***is the climate changing in this community? Is it affecting them? In what ways are they going to be most vulnerable to climate change?***

Think about these changes when you are making a summary of risks that the community faces. See Annexes for a template that might help when you are making preparations to discuss changes with the community. There are also some questions you could consider asking during this analysis listed further below.

2. Using secondary information

If you want to know the bigger picture, you could ***take a look at some of the background documents*** that are part of this package. Does this information match up with what the community-based information is telling you? If they do match up, you could show communities what is happening to other parts of the country so that they are aware that what is happening to them is also happening to others. If they don't match up, perhaps the changes are occurring because of factors other than climate change such as environmental degradation and this is worth investigating and acting upon also. The community might also not yet be aware of subtle changes taking place.

3. Discuss changes with the community

The summary of risks you have produced can be useful when you discuss information gathered during the VCA process with a community. It could also be used when the community starts to develop solutions to the problems faced. How do they currently cope

with the problems? If these problems worsen over time, how is this likely to affect the community? What could be done to stop the problem getting worse? ***The aim is for communities to understand that the risks are changing and that they can take action to reduce the risks they face.***

4. Developing risk reduction plans

When the community is drafting their '*Community Risk Reduction Plan'* (or equivalent), assist in facilitating the process and discuss how the proposed measures in their plan can be geared to handle a more uncertain weather/hazard pattern in the years to come. ***The plans are the most important outcomes of the VCA/CRA process***, and proper facilitation should ensure that the plans build not only upon past experiences and historical evidence of disasters, but also consider merging/changing risks.

5. What next?

Information you have gathered in the VCA/CRA on changes that communities are noticing and strategies that they come up with to deal with them in '*Community Risk Reduction Plans'* can be very useful not only for your project but for making recommendations to government agencies at different levels (advocacy).

3 Toolkit Manual*

*A couple of Guidance "Foot-Notes":

1) In the following section, a careful distinction must be made between *natural* or *environmental resources* (goods and services provided by ecosystems: water, medicinal plants, fish, etc.) and other type of resources (credit, shelters, irrigation systems, etc.: this is, human, social, physical, financial). Particular attention to the different use of the term resources must be made throughout the whole document, though particularly in the following tools: (2) Historical hazard calendar; (3) History of resource vulnerability; (6) Transect Walk; (7) Risk/Hazard Map; (8) Spatial Map; (9) Capacity Resources Map; (10) Livelihoods analysis; (13) Vulnerability Matrix
2) Although being very comprehensive, this toolkit should be complemented with some specific EMR tools that could be adapted to specific local contexts. In most cases including EMR issues can provide some general outcomes that in most if not all cases, should be completed with further specialized research on EMR. This depends on the degree to which local hazards and vulnerabilities are linked to ecosystem's changes taking place in the river basin where the communities of interest are located.

There are many tools that can be used to conduct risk assessments. In this overview we introduce a range of tools that can help in your assessments, with tips on how to consider climate change and EMR elements. Depending on the capacity of the assessment team, several tools can be used during the assessment. For example, the creation of a hazard calendar and a hazard map is sometimes combined with a transect walk and focus group discussions or interviews. The selection of which tools to use depends on the following criteria:

- Information needed
- Number of team members participating in the assessment
- Timeframe
- Community culture
- Behavior, norms and experience of team member

The diagram below shows that with some additional effort (such as asking specific questions) most tools can be used to assess all PfR elements.

Table 2

		Tool	DRR/ Vulnerability	CC	ERM
		Examples of information gathered:	• Livelihood • Access to Resources • Infrastructure	• Hazard incidence • Variation in seasonality	• Environmental Degradation • Regulatory services
	1	Secondary data profiling	v	v	v
Community	2	Capacity/Resources map	v		v
	3	Risk/Hazard Map	v	v	v
	4	Transect walk	v	v	v
Hazard	5	Seasonal Calendar	v	v*	v?
	6	Historical Hazard Calendar	v	v	X?
	7	History of Resource Vulnerability	v		v?
Vulnerability	8	Vulnerability Matrix	v	v	v
	9	Interviews	v	v	v?
	10	Direct Observation	v	v	v?
	11	Strategic Environmental Assessment			v
Capacity	12	Problem Tree	Provides causative explanation to links between Vulnerability / CC / EMR		
	13	Reassess data from tools 2-8	v	v	v
	14	Focus Groups	v	v	v?
	16	Rapid Environmental Impact Assessment			v

- The Seasonal Calendar could provide some basic information on the ecosystem goods and services communities are taking/using that might come from nearby natural habitats. It could also work as a preliminary guide to assess if the communities' use could be putting some stress on ecosystems or if it could be considered sustainable.
- * By leaving the (?) symbol, either the tool could be further adapted to include EMR issues, or it does but very vaguely, or it is not certain that the EMR information collected using this tool would be of any value (and maybe using other tools we could easily collect similar but better information).

For detailed guidance on how to conduct assessments, use the guidebooks of the PfR partners (see Annex).

The following tools bring together common community risk assessment approaches from PfR partners. Tips are provided on how to incorporate EMR and climate change elements into the tools.

1. Seasonal Calendar*

***Commonly agreed tool among PfR Philippines partners**

What is it?:
A seasonal calendar helps to explore what takes place in a community over the period of one year. It can be used to show weather patterns, such as hurricanes, floods or periods of drought, social and economic conditions, public events such holidays and festivals, and seasonal activities such as harvesting and the times of the year that these occur. It also provides some preliminary observations (later to be confirmed by expert's assessments) of the use of biodiversity and ecosystem's goods and services

What does it aim to achieve?:
- To identify periods of stress, hazards, diseases, debt, vulnerability etc.
- To recognise and understand the vulnerability of livelihoods and related coping strategies as well as to explore how sustainable these livelihoods might be;
- To analyse changes in seasonal activities.
- To explore major changes ((not only in climate but also)) in land use / ecosystem use trends in the community surrounding (influencing) areas. To be supported by further thorough studies if necessary.

Who does it involve?:
General community. *Note: very often it is advised to facilitate separate groups rather than have the whole community lumped together in a group. For example women's groups may have different opinions to men's and youth groups. Particularly in relation to the seasonal calendar you might want to group particular people according to professions or age – ie. Elders in the community, people involved with agriculture etc.*

How much time does it take?:
This activity should take approximately 1 hour and 15 minutes including discussion: 30 minutes for the calendar, and 45 minutes for the discussion.

What is involved?:

- **Create a table on paper with months of the year marked along the horizontal axis**
- **Along the vertical axis you can list health related issues, agriculture, hazard types, public festivities etc.**
- **A seasonal calendar can be used to identify periods of stress, hazards, disease, hunger, debt or vulnerability**

Creating a seasonal calendar based on natural resources and their use:

- List all natural resources* used by the community. Classify these resources by their source e.g. village, wetland, forest, river etc.
- Draw up a table for each resource source.
- Set the timeline for the calendar – months or seasons set over a year period.
- Explain to the participants that you would like to develop a calendar to show key events and activities relating to each resource that occurs during the year.
- Under each month, label the related activity (for example agriculture could indicate land preparation, sowing and harvesting times during the year).
- Repeat same exercise for all species for an individual resource source and similarly for each of the three resource sources.**

- Record the observations on paper and analyse for resource dependency.
- Record in which seasons does the community typically plant crops and has this changed.
- If possible, compare and verify these findings with other data sources on climate and environmental degradation / conservation.
- Incorporate changes induced by ecosystem degradation: this is, if some resources are diminishing due to ecosystems' loss and which alternatives the community has or could identify;

EMR and climate change questions:

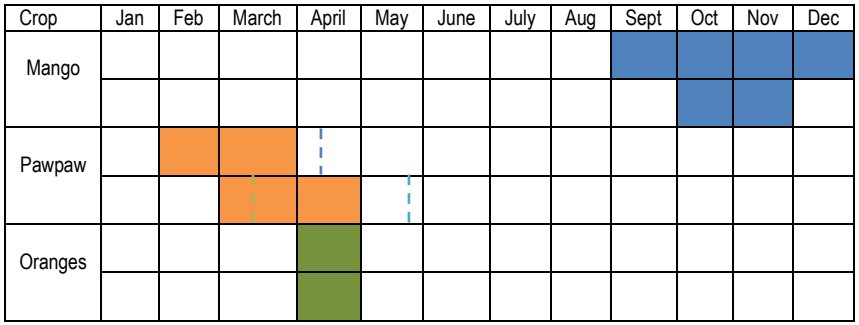
- What are the most important livelihoods strategies employed at different points of the year?
- What are current strategies to cope during the difficult times? Are they working? Are more people seeking work overseas? / outside of the community?
- Are there any differences in the timing of seasons and events as compared to 10/20/30 years ago? (a key event in the past known in the community can be used as a benchmark in time)
- Have livelihoods/coping strategies changed based on the changing seasons or events? If so, how?
- Have livelihoods/coping strategies changed due to natural habitats and species loss? If so, how?
- What alternatives might be or are being identified*?
- How are decisions made on timing of livelihoods strategies?
- Do they use weather warning systems to harvest the crops?
- Has the temperature and rainfall pattern changed?
- Is there a positive or negative outcome of this change?
- Is the water quality different at different times of the year?

* It remains to be assessed if these alternatives could be considered "sustainable" in the face of ecosystems and climate change.

Extra Climate change and EMR Tips:

When discussing coping strategies and changes, explore whether existing strategies are working in the context of the changing environment. Take the opportunity to discuss the need for new strategies in the context of climate change, and to introduce the concept of adaptation (in simple terms).

Look at climate variations (rainfall changes, times of drought) or real changes (timing of monsoon has changed, more diseases in the community). The seasonal calendar can be modified to indicate how things like planting and harvest times of crops are changing, new weather and health related hazards might be emerging or old ones might be appearing at unexpected times of the year. For an example related to fruit seasons see below. This could be modified for disaster types, heath problems etc to show change over time. Explore positive as well as negative outcomes.



2. Historical Hazard Calendar*

***Commonly agreed tool among PfR Philippines partners**

NB: In this tool, a careful distinction must be made between **natural resources** (goods and services provided by ecosystems) and other **resources** named as such in the DRR analysis.

What is it?:
A historical profile of the community outlines significant historical hazard events and explores changes in community responses and behaviour. Significant events can be drawn from different areas of interest, including: hazards such as typhoons, land distribution, disease outbreaks, emigration, conflicts, political change, environmental change. This process can track changes in the environment and community behaviours and shed light on causal links. Awareness of the patterns can influence the decisions taken by community members in the planning process.

What does it aim to achieve?:
- To get an insight into past hazards, changes in their nature, intensity and behaviour over time.
- To gain an understanding of the present situation in the community (causal link between past and present in terms of health issues or hazards and vulnerabilities including climate change and environmental degradation).
- To gain an understanding of how things may continue to change in the future (trends).
- To evaluate extent of risk analysis, planning and investment for the future

Who does it involve?:
General community - It is good to have a broad mix of people in the group, including leaders, men, women and children, young and old.

How much time does it take?:
This activity should take approximately 1 hour and 15 minutes including discussion: 45 minutes for the timeline, and 30 minutes for the discussion.

What is involved?:
- Identify areas of interest - Clearly define the topics for which you want to collect information. These might include hazards or how land use has changed.*
- Start off by asking people if they can recall major events in the community related to the topics selected
- A note-taker – either a participant or the facilitator – should write the events discussed down on a blackboard or large sheet of paper in chronological order.
- The information collected through this tool can be compared with other information so as to ensure validity. The data are also very important in the creation of a detailed baseline study.

Keep in mind:
Keep in mind that there may be a bias in the timeline as events in recent memory are more likely to be noted. You may find that men and women place different emphasis on some events.

(EMR and climate change) tips:
- Are there any trends or changes in the frequency of events over time?
- Have weather & climate related events such as flood, drought and cyclones changed in number or severity?

- Could these variations be related to land use changes? Please provide some examples;
- Has there been a change in frequency and severity of specific health problems?
- Have there been new emerging health problems?
- What are their perceived causes?
- What are current strategies to cope during the difficult events? Are they working?
- Have coping strategies changed based on the changing frequency of events?
- What events do you expect will occur in the future? When? Why?
- Does this perception of future events affect your plans for the future?
- May you think of anything you –or your community- could do to prevent these events from causing severe damages? / To reduce the impacts caused by these events?*

*: This question could lead the informant to think of reducing local vulnerabilities in many different ways: i.e. by strengthening local organizations or by designing reforestation activities.

Discussing trends or changes in the frequency of events is an excellent opportunity to validate community observations that are in line with climate data. Focusing the discussion on the future can help in understanding community aspirations and extent of planning for the future. It also presents an opening to facilitate communication on predicted future trends* if relevant and if you feel comfortable.

*: Land use trends (not only climate change trends) could be considered in this analysis. This would broaden the scope of the research to include EMR issues.

1944	First ten families settle in the community.
1951	Construction of the train road and presence of 20 railroad workers.
1954	Train station workers lived in the village. Main railroad station was donated to the community and became the school.
1957	Fire in the community destroyed two houses. The church was built with the support of the community.
1960	Water system providing potable water to one-third of the population was constructed accounting for about 200 houses in the community. Electricity coverage was extended to half of the population.
1980	Paved road linked to main highway.
1987	Earthquake destroyed many houses and services.
1989	A clinic for 30 beds was inaugurated.
1990	Dengue outbreak killed four people.
1991	Hurricane Alex severely hit the community and flash floods destroyed at least 120 houses while another 50 were damaged.
1992	Community Disaster Group created.
1994	Heavy migration to the capital due to droughts and job losses, which affected the economic situation of many households.
1999	Drainage collapsed along with tonnes of garbage.
2003	A sports centre was constructed.

3. History of Resource Vulnerability

NB: In this tool, a careful distinction must be made between natural **resources** (goods and services provided by ecosystems) and other **resources** named as such in the DRR analysis.

What is it?:

Historical profile of the environmental resources available to the community that outlines significant events relating to these resources. Events can be drawn from different areas of interest, including: changes in land use policy*, new infrastructre such as roads or transport, introduction of new laws or protected areas etc. that have impacted on access, availability or productivity of the resource. This process can track changes in the environment and community behaviours and shed light on causal links. Awareness of the patterns can influence the decisions taken by community members in the planning process.

* This already includes possible changes in forest lands or wetlands that can be related to new policies permitting or simply not planning a sustainable land use and ecosystem management.

What does it aim to achieve?:

– To get an insight into significant past events relating to the access to, and use of, environmental resources.*
– To highlight the present situation in the community and make people aware of trends and changes over time as well as present perceptions towards the environment as a sustainable resource.
– To gain an understanding of how things may continue to change in the future (trends).
– To evaluate extent of risk analysis, planning and investment for the future.

*: Insight on the sustainability of the use made of the resource may also be sought.

Who does it involve?:

Community (make sure that elderly persons are present)

What is involved?:

- Identify the key environmental resources (forest, riverbank, etc)
- Start off by asking people if they can recall major events in the community related to these resources
- A note-taker – either a participant or the facilitator – should write the events discussed down on a blackboard or large sheet of paper in chronological order.
- A timeline can then be drawn that plots significant events over time (horizontal axis) against productivity of the specific resource (vertical axis) to provide a causative link between the management of a resource and its sustainability.
- The information collected through this tool can be compared with other information so as to ensure validity. The data is also useful for the creation of the baseline study.

(EMR and climate change) tips:

- For the person in charge of analysing the information: the information obtained could suggest the need for undertaking further more specialized research on at least the two following issues: the possibilities to promote a sustainable use of the (natural) environmental resources in question and the design of sustainable livelihoods schemes. NB: These 2 issues are quite broad and might need a statistical ecological assessment of the status of the natural resources of concern: their abundance, their distribution and seasonality, etc.

4. Interviews

What is it?:

An interview provides qualitative data and insights into a range of topics. Interviews can take the following forms:

Key informant interviews – Talking to people who can provide specialised information which might not be known to the general community, for example police, health workers, traders, fisher folk, business people, the disabled etc.

Individual interviews – One-on-one interviews are useful when the subject is sensitive or difficult to talk about in groups.

Group interviews – Used to gather information about the community from a large body of knowledge. However, care needs to be taken not to cause tension by raising sensitive issues in a group setting. Such issues are better left to individual interviews. Difficult issues that need to be discussed in a group are better dealt with during project planning

meetings with the community than during the data-collection phase of the risk assessment. Groups could also be made into smaller ones, for example, women may feel more comfortable speaking amongst other women, youth amongst youth etc.

What does it aim to achieve?:

- To gain a deeper understanding of the key issues than is possible with a simple questionnaire.
- Examine values and attitudes as well as understanding and knowledge.

Who does it involve?:
General community – unless it is a key informant interview.

What is involved?:

- Select who will be interviewed and the type of interview that will be used.
- Have an informal structure to the interview to ensure all necessary topics are covered.*
- Make sure questions are appropriate and relevant.
- Ensure that respondents have knowledge and experience relating to the questions asked and that they understand the questions.
- Provide a written version of the key questions if needed for clarification.
- Remember that this is not only about yes and no answers but also the *reasons* for the answers. Facilitators should be prepared to explore these reasons where appropriate: be insistent, ask further.**
- Remember to keep questions open and encourage discussion.
- Keep written notes to a minimum to build trust with the interviewee – interviews can be recorded by audio or videotape. Permission must be granted and a guarantee of the confidentiality/anonymity of the data given.
- Analyse the findings – by identifying the key issues. Classify the answers according to subjects of interest;
- Discuss the findings with the community.

***** Including data or perception of the main ecological / environmental characteristics in the surroundings of the communities: their value for the communities, their current situation, their possible future trends, etc..

****** This requires a basic knowledge of the landscapes and ecological characteristics of the targeted area. Also the main links between EMR and DRR must be clear.

(EMR and climate change) tips:

- Keep questions open and avoid leading questions where respondents just say yes or no.
- Listen carefully to responses and differentiate fact from opinion or rumour.
- Avoid vague or insensitive questions.
- This is a good opportunity to gauge knowledge and understanding of climate and environmental issues.

Note:
Think about including people from a diverse range of livelihoods and roles within the community. Structure questions carefully and use

appropriate language and terminology, for example: asking a community whether they know if the "climate is changing" might be unfamiliar to them and rather abstract. But asking them about their agricultural practises and whether they have noticed changes to these over time might help reveal useful information about changes in seasons. It can also be good to use other tools in conjunction with interview questions (such as observation and secondary data) to confirm or adjust the assumptions that you are making.

5. Focus Groups

What is it?:
A focus group discussion is a qualitative information-gathering tool for a small group of individuals.

What does it aim to achieve?:

- Get an idea of the way specific groups of people think about a particular matter.
- Generate discussion on a specific topic, such as family planning needs, road safety, gender participation, disaster preparedness, environmental degradation, climate change.
- Gauge the impact of activities, including the impact of health or disaster education on people's awareness.
- Identify causes of and possible solutions to problems in implementing a project.

Who does it involve?:
General community – participants are usually from similar and often specialised backgrounds and are involved with the issue through their interests or profession.

What is involved?:

- Determine the purpose of the focus group discussion
- Define your group.
- Select a recording method.
- Look to explore issues of CC and ERM individually and within the context of other issues.
- Encourage equal participation and involvement.
- Summarise findings with community.

Note:
The facilitator's role in a focus group is to stimulate and support discussion. *It is not to be an expert on the issue.* The participants are the experts, and the facilitator should be able to take a back seat and encourage everyone to participate and share information.

Consider gathering the elders of the community to have a general discussion about changes over time. You could ask children or youth in the community to interview the elders – that way they learn about it at the same time. Consider having discussions with both male and female elders.

6. Transect Walk (may be most useful if facilitator does not know community too well)

What is it?:
A transect walk involves walking through the community to observe the surroundings and its resources. It is used to note the sites and topography of the area and to understand inter-relationships in their natural surroundings. It is a useful exercise to do in the assessment stage to get a feeling for the issues and capacities that exist in a

community. In the programming and evaluation phases, it can be used to see what changes have occurred in a community.

What does it aim to achieve?

- To see firsthand the interactions between the physical environment and human activities, behaviour, values, attitudes, practices and capabilities over space and time.
- To identify issues that might be worth further exploration, including i.e. EMR, sustainable livelihoods, land use planning.
- To identify danger zones, evacuation sites and local resources used during emergency periods, land use zones, health issues, commercial activity in the community.
- To identify problems and opportunities, which may include areas such as:
  - housing or sanitary conditions;
  - food available and sold in open-air markets;
  - informal street commerce;
  - roles of men, women and children.

Who does it involve?:

Participants accompanying the facilitator should have a good understanding of the community. Might involve key informants.

What is involved?:

- Identify the route to be taken.
- Identify what you want to look for on the walk.
  - Social Environment
  - Physical Environment: For this exercise, some guidelines on "what to look for" might need to be developed.
  - Interactions with neighbouring communities**
- Take the opportunity to talk to both men and women. Observe the services, hazards and risks that apply to men and women.
- Do direct observation and interviews.
- Record the information – carefully document findings to create a transect map. Categories of observations can include: Type of ground, Livelihoods, Risks/hazards, Conditions that increase vulnerability, Beliefs and values, Capacities, Environmental resources. If the community contains quite varied environments you could consider doing more than one transect.
- To focus our attention on the role of ecosystems exploring upstream-downstream interactions might lead to gather knowledge on key resources (such as water), their use and specific situations that may arise from it, like social tension or conflict.
- Draw transect map.
- Analyse findings and draw up a table of community resources along with associated problems and potential solutions.

*: For this exercise, some guidelines on "what to look for" might need to be developed.

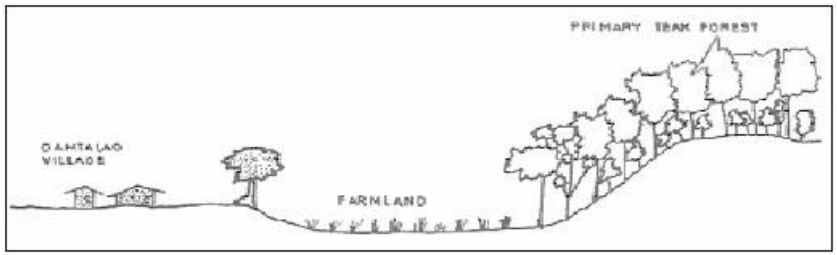
**: Exploring upstream-downstream interactions might lead to gather knowledge on key resources (such as water), their use and specific situations that may arise from it, like social tension or conflict.

Note:

Conduct the transect walk early on in the community visit. Make observations and note questions you might want to ask community such as danger zones, erosion etc. You could also undertake the transect walk again during community discussions.

It is helpful to bring others such as community leaders or government officials with you, but be aware that they may influence what you do and that their presence may alter the way people respond to you.

An example of a community and environmental resource transect map is shown below:



A note on the Transect Map:
The "transect map" could be enriched with some of the main geographical highlights of the communities' surroundings such as rivers, coasts, wetlands, main roads, which could be used as reference points. Economical activities, which might be significant for the communities, could also be included. This one displayed here is rather an illustration of the transect route and might not be very precise.

7. Spatial Map

NB: In this tool, a careful distinction must be made between natural **resources** (goods and services provided by ecosystems) and other **resources** named as such in the DRR analysis.

What is it?:
A Spatial map provides an overview of the main features of an area in relation to its surroundings. Map features could include the arrangement of houses, fields, roads, rivers and other land uses and which resources are assessable and owned by the community or individuals.
Maps help to facilitate communication and stimulate discussion on important issues in the community. They help people to understand complex relationships and allow visual comparison of information.

What does it aim to achieve?:

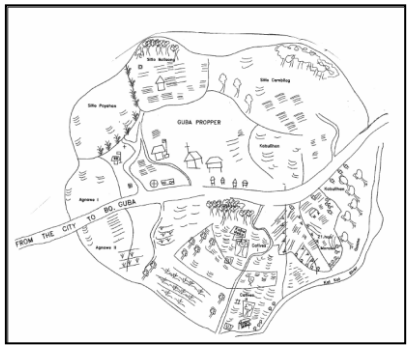
- To identify key features of the community, and who has access and control over them
- Obtain general information relevant to specific issues.
- Assist community groups with planning and designing projects.

Who does it involve?:
General community - It is important to have a broad mix of people in the group, including leaders, men, women and children, young and old.

How much time does it take?:
This activity should take approximately 40 minutes including discussion: 20 minutes for the map, and 20 for discussion.

What is involved?:

- Determine who will participate.
- Explain to participants what purpose the map will serve.
- Choose a suitable place (ground, floor, paper) and medium (sticks, stones, seeds, pencils, chalk) for the map.
- Start by choosing a focus point for the community and then ask participants to define the boundaries of the village
- Ask participants to then draw the key features of the community – houses, major buildings, geographical features, key resources etc. Rivers, coastal wetlands, hills and mountains (and /or nearby volcanoes) from the community's surroundings should be included in the map, as these geographical features are very often related to current hazards threatening the communities or to past disasters.
- Participants must also refer to upstream and downstream communities in order to include them in the map and analyse the impacts one may have over the others with its activities and natural resources use;



8. Risk/Hazard Map*

***Commonly agreed tool among PfR Philippines partners**

NB: In this tool, a careful distinction must be made between natural **resources** (goods and services provided by ecosystems) and other **resources** named as such in the DRR analysis.

What is it?:

A Risk/Hazard Map is a way of outlining in visual form the vulnerabilities and risks experienced by a community. These can relate to community location and environmental resources.

Maps help to facilitate communication and stimulate discussion on important issues in the community. They help people to understand complex relationships and allow visual comparison of information.

What does it aim to achieve?:

- To identify important livelihoods and environmental resources in the community and its surroundings, and who has access and control over them
- Gain a common understanding of issues facing the community.
- Stimulate discussion on resources and risks in the community.
- Obtain general information relevant to specific issues.
- Assist community groups with planning and designing projects.

Who does it involve?:

General community - a cross-section of people is required to validate the overall perceptions of the community.

How much time does it take?:

This activity should take approximately 1 hour and 30 minutes including discussion: 45 minutes for the map, and 45 for discussion.

What is involved?:

- Determine who will participate.
- Explain to participants what purpose the map will serve i.e to show hazards or risks and which ones pose a threat and when.
- Choose a suitable place (ground, floor, paper) and medium (sticks, stones, seeds, pencils, chalk) for the map.
- Use spatial map of the community as the starting point for the Risk/Hazard Map.
- Ask the community members to identify the areas at risk from different types of hazards. These should include:
  - Natural disasters and safety concerns
  - Health crises
  - Socio-political issues such as conflict or redistribution of land, etc.
  - Environmental threats
- Hazards that are mentioned that are not location-specific should be noted on the report.
- Discuss the findings of the Risk/Hazard map and those of the Capacity/Resource Map. What can the community change? How can the community influence change with the support of others in the short / medium and long term?

(EMR and climate change) tips:

- Who has access to the resources shown on the map? Who controls this access?
- Is the use of these resources appropriate or do you consider the resources are diminishing due to overuse?
- What are the impacts of the hazards identified?
- Are the hazards different now than they were 10/20/30 years ago (depending on age of participants)? How different and why?
- Has anything been done so far to mitigate the impacts of these hazards?
- Are there places in the community that are safe from the hazards?
- Are these safe places used to protect from hazards (e.g. to store food and inputs, or to shelter livestock)?
- Who are the members of the community who are most at risk from the different hazards? Why?
- How do people in the community currently cope with the impacts of the specific hazards identified? Are the current coping strategies working? Are they sustainable?
- Are the impacts increasing / dropping? Why?

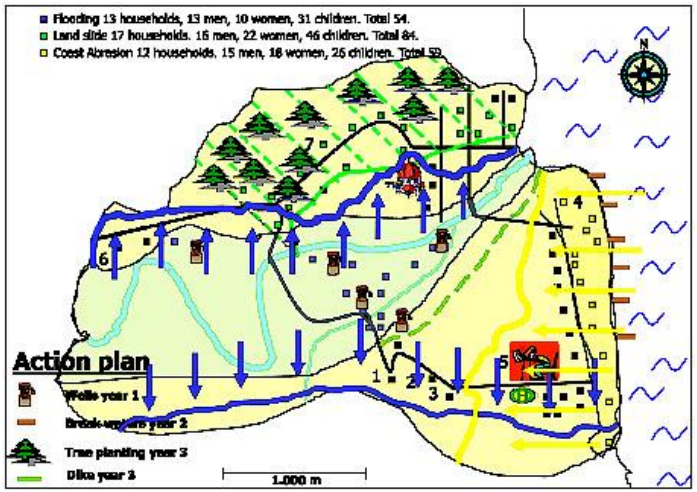
Note:

Risk/Hazard map can be integrated with the spatial and transect maps to create a comprehensive map showing multi-layered information. During the discussion, note any observations by communities that may be in line with the meteorological data that is available for the region, and communicate this information in order to validate their observations. This can provide an opening to present the predicted future trends for the particular hazards that have been identified. Also contrast communities' inputs with available scientific data on land use and ecosystems' status (also in order to validate / further discuss their observations)

While developing the map, ask people to describe not only the current situation but also how it has been changing. Ask for specific measurements relating to changes. Have these changed? Try to ensure that the map includes features of major environmental changes such as deforested zones, flood plains, erosion.

It is suggested you visit the area that has been mapped with community members to verify the information. Risk/Hazard map can

be used as a core component of the planning, monitoring or evaluation processes.



9. Capacity/resources Map

NB: In this tool, a careful distinction must be made between natural **resources** (goods and services provided by ecosystems) and other **resources** named as such in the DRR analysis.

What is it?:
This tool indicates existing natural resources in the village including the land and water resources and dependence of community on these resources. The process should also explore the uses and accessibility of these resources.

What does it aim to achieve?:

- To identify key capacities and resources of the community that already exist, and who has access and control over them eg. water sources, health clinics, electricity, shops
- Gain a common understanding of resource issues faced by the community.
- Highlight the quality or status of each resource.
- To assist community groups with planning and designing projects.

Who does it involve?:
General community - It is important to have a broad mix of people in the group, including leaders, men, women and children, young and old.

What is involved?:

- Select a large open area for the exercise – use ground or large piece of paper
- Establish a point as the central landscape feature
- Draw all the resources available within the village and associated environmental features.*
- Discuss regulatory controls that affect access and availability of environmental resources.

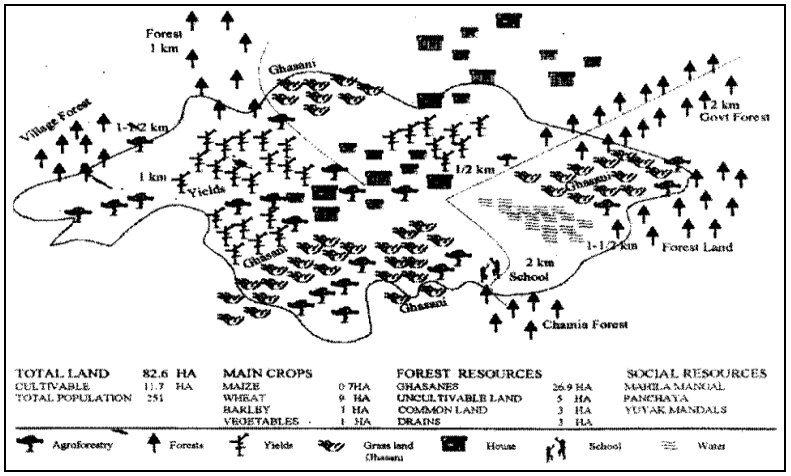
* An approximate scale as well as "the north symbol" could also be included in the "capacity-resources map" to better relate it to ecosystems, natural resources and hazards during discussions with stakeholders as well as during further analysis.

(EMR and climate change) tips:

- What are the resources available?
- User groups – who uses these resources?

- What is the extent of production from these resources?
- What is the state of these resources, if they are degraded, why they are degraded? How the degradation of these resources impacts the community?
- What measures need to be taken to ensure sustainable resource use and revert resources' degradation?
- What are constraints faced in sustainable use?
- How might these be overcome? Who should be involved?*
- Are capacities and resources improving over time or declining?

*: Here we would like to know if only people from the community should get involved or if people from the other communities upstream also should. It might depend on the specific local context and the environmental situation.



10. Livelihood Analysis

NB: In this tool, a careful distinction must be made between natural **resources** (goods and services provided by ecosystems) and other **resources** named as such in the DRR analysis.

What is it?:
This tool uses a combination of interviews and diagrams (usually at the household level) to represent the various ways that income is generated to enable people to live. It collects information on the bundle of assets or resources available to the household for its livelihood activities. The amount of income gained from a livelihood will assist in determining the baseline status of households and the community. ***This is the first line of "capacity" when facing a hazard: people with poor baseline nutrition and health will be more vulnerable to many hazards.***

What does it aim to achieve?:
- To measure the assets or resources available to a sample of households within the community.
- Assess the capacities of the community to withstand the risks they face and the damage and disruption to those assets and resources when a hazard occurs.
- Discuss how the livelihoods and their assets can be protected and strengthened from the impact of hazards – what strategies are already available or can be improved.
- Discuss options on how to enhance and diversify livelihoods to increase livelihoods' sustainability and resilience over time.*

Who does it involve?:
General community – assessed at household level. Look to include people who have migrated away from the community but are still connected to the household, e.g. through remittances.*

Basic household data			
Person (name if willing)	Gender and age	Main livelihood activity (seasonality?)	Secondary and other livelihood activities (seasonality?)
1.*			
2.*			
3.*			
4.*			
5.*			

What is involved?:

- Review the information gained from other tools, especially the hazard map, seasonal calendar and resource map. These will help to determine the criteria by which to select households from different socio-economic groups*. The result will form a structured sample, chosen at random but from specific known groups that will be representative of the whole location. Decide how many and which particular households you will interview.

*Will be further specified.

- Using a semi-structured interview identify household assets and resources through livelihood activities collected through discussions and interviews with household members. Remember to cross-check this data with other sources.

***Example needs to be provided**

- List all the assets and resources available to the household. The assets can be divided into the following groups: Natural, Physical, Financial, Human, Social.

Assets of household xxxx Below each heading, describe the assets (resources, capabilities) that provide food, income and well-being				
Natural	Physical	Financial	Human	Social

- Identify the hazards that threaten the assets. Explore a wide range of hazards and consider their direct and indirect impacts on the capacity and resources discussed.

Hazard	Natural	Physical	Financial	Human	Social

- Block diagrams or pie charts can be used to support the discussion on livelihoods – these can show the different types of assets (resources) available to different members of the household and the various activities that each is engaged in to achieve an income.

- Discussion can include how the household copes in times of stress (especially in response to the impact of known hazards such as droughts, floods or storms).
- The discussion could also look at changes over time. What are the changes in coping strategies and livelihoods, and what are the causes and effects of these changes?

EMR & climate change tips:
Consider which livelihoods could be most at risk to the hazards associated with climate change in the community and with environmental change due to ecosystem mismanagement. If possible, determine the different livelihood groups in the areas that are most at risk and list what makes them at risk. This could be done with assistance from planning authorities, community group leaders etc. Cross-check the information given about livelihoods with the changes and major climate risks – e.g. If they are highly agriculturally dependent and rainfall is decreasing over time, or seasons are shifting, this could be an emerging issue. Consider if forests at catchment areas are being cleared for mining or agriculture, this could also be significant in climate change scenarios.

11. Institutional and social network analysis

What is it?:
This tool uses a diagram to show key organisations, groups and individuals in a community, the nature of the relationships between them and the perceptions that people have of their importance.

What does it aim to achieve?:
– Understand the perceptions that local people have of the role and significance of various organisations within the community.
– Stimulate discussion that may lead to the identification of the role each organisation can play in time of disaster.

Who does it involve?:
General community – but you may also divide the group into men and women or by neighbours etc.

What is involved?:

- Research the names of associated organisations in advance.
- Ask the participants to develop a set of criteria for determining the importance of an organisation and to rank each one according to these criteria.
- Ask the participants to what extent the organisations are linked to each other and note the kind of relationship between the organisations.
- Draw a circle to represent each organisation or group. The size of the circle indicates the organisation's/group's importance relative to others. The distance between the circles reflects the strength of the relationship between the organisations/groups.
- Continue with a focus group discussion on the history of the organisations identified and the activities they have undertaken in the community. This will provide information on how well the organisations function and how well they co-ordinate with one another. This will also help identify which organisations, groups and individuals play an important role in times of disaster and in community-level decision-making mechanisms.

Note:
This tool can reveal where the community currently receives its information from, or identify opportunities that are missing or available e.g. weather forecasts for early warning.
Identify local partners that could assist communities, e.g. farmers' technical colleges or government agriculture extension services could help introduce drought/flood resistant seeds and strategies.

12. Household/ neighbourhood vulnerability assessment*

What is it?:
This tool is a graphic means of assessing the main vulnerabilities faced by individual households and neighbourhoods. It enables you to gather a lot of information about the main vulnerabilities faced by people in the community, both individually and collectively. Once people have a clear idea of what their main vulnerabilities are, actions and priorities can be developed to reduce the potential effects of a threat.

What does it aim to achieve?:

– Assess the household/neighbourhood's level of vulnerability in relation to likely hazards and risks.

Who does it involve?:
General community – assessed at household level. Look to include people who have migrated away from the community but are still connected to the household, e.g. through remittances.

What is involved?:

- Get participants to identify the main threats they face, placing these along the horizontal axis of the chart.
- Then name every area of the house, both indoors and outdoors, along the vertical axis of the chart. Specify the material or the condition of the selected element using a ranking order from 1 to 5 according to the level of risk, with 1 being the lowest and 5 the highest.
- To assess neighbourhood vulnerability, consolidate all the information gathered from the individual household vulnerability assessments into one chart.

(EMR and climate change) tips:

- Encourage participants to refer to findings from other tool processes to explore a wide range of hazards including those affected or induced by climactic and environmental factors.
- By using information collected using other tools, like the transect walk or the maps, the HN vulnerability Assessment could contribute even further to understand the links between ecosystem mismanagement, local vulnerabilities and hazards threatening the communities.

13. Vulnerability Matrix

What is it?:
A matrix is useful for prioritising the hazards that the community perceives as having the greatest impact on their livelihoods or that contribute most to increasing their vulnerability. Facilitators can direct

participants to their findings from other tools to help inform this process.

What does it aim to achieve?:

- To determine the hazards that have the most serious impact on important livelihoods resources.
- To determine which livelihoods resources are most vulnerable.
- To identify coping strategies currently used to address the hazards identified.
- To understand how these hazards could be either triggered or mitigated

Who does it involve?:

General community - It is important to have a broad mix of people in the group, including leaders, men, women and children, young and old.

How much time does it take?:

This activity should take approximately 1 hour and 30 minutes including discussion: 45 minutes for the matrix, and 45 minutes for the discussion.

What is involved?:

- Prepare a matrix in advance. This can be done on the ground or on flip chart paper.
- Ask the group to identify their most important livelihoods resources. These do not have to be resources that they currently have, but those that they consider to be most important in achieving well-being. They may create a long list of resources. You may want to organise the list based on the different categories of resources – human, social, physical, natural and financial.
- Ask the group to identify the four resources that they consider being MOST important in achieving well being. List these priority resources down the left side of the matrix on the vertical. Use symbols if this will help participants to better understand.
- Some resources like i.e. water may be considered basic cross-cutting resources determining the overall well-being of the community, and to a certain extent should be treated separately (during the analysis).
- Then ask the group to identify the greatest hazards to their livelihoods. Hazards may be natural or man-made (i.e. ecosystem mismanagement and degradation). Do not limit the discussion to only climate-related hazards, but you may want to prompt the group if they are not identifying environmental hazards.
- The four most important hazards should be listed horizontally across the top of the matrix, again using symbols if necessary.
- Ask the community to decide on a scoring system for the hazards against the livelihoods resources, identifying significant, medium, low and no hazard. The scoring system should be as follows:

  3 = significant impact on the resource

  2 = medium impact on the resource

  1 = low impact on the resource

  0 = no impact on the resource
- You can use stones, symbols or different colours of markers (e.g. red = significant risk to resource, orange = medium risk, green = low risk, blue = no risk). Ensure that all members of the group understand the scoring system.
- Ask the participants to decide on the degree of impact that each of the hazards has on each of the resources. This will involve coming to consensus as a group. The note taker should note key points of discussion that lead to the scores assigned, and any disagreements on the scores.

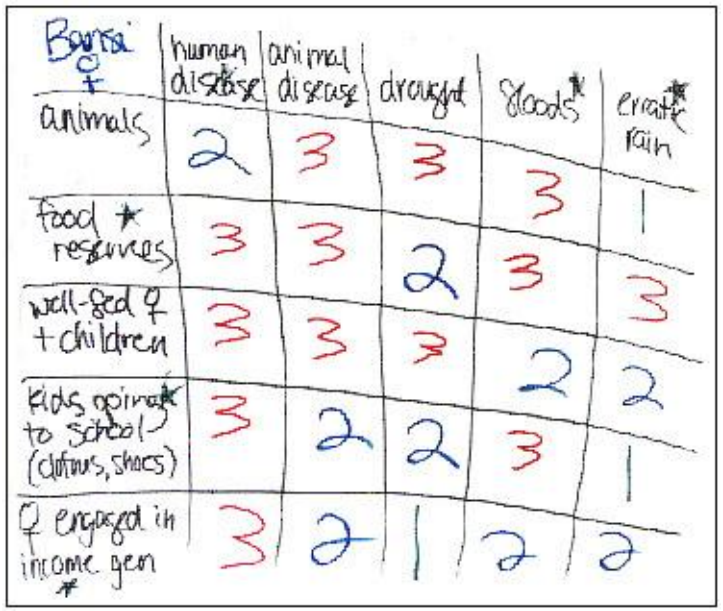
(EMR and climate change) tips:

- What coping strategies are currently used to deal with the hazards identified? Are they working?
- Are there different strategies that you would like to adopt which would reduce the impact of hazards on your livelihoods?
- What resources do you have that would help you to adopt these new strategies?
- What are the constraints to adopting these new strategies?
- How these constraint might be overcome: what does the community needs to develop / to adopt?

Note*:

It is important to be specific in the hazards, and to ensure that the issues identified are actually hazards. Participants may identify conditions such as "food insecurity" as hazards. It is up to the facilitator to ask the group to break down these conditions to determine if they are caused by hazards (e.g. food insecurity may be the result of a drought, which is a hazard). Similarly, some groups may identify scarcity of resources, such as "lack of money", as a hazard. In this case, it should be determined whether the lack of a resource is the result of a hazard, or in some cases, whether the resource should be added to the list of priority resources identified in the previous step.

* Using a map to locate the most threatening hazards could be of use to relate hazards, ecosystems, rivers, etc. with households, neighbourhoods, plantations, infrastructure at risk.



14. Venn Diagram

What is it?:

An exercise designed to examine relationships between institutions, partners, people and issues in a community and to identify problems and possible solutions. Venn diagrams are especially relevant for institutional analysis as they can help to identify specific organisations that could be involved in implementing a community action plan or specific risk reduction projects.*

* Or specific ecosystem management and restoration activities targeted at mitigating some specific hazards identified by the communities'.

What does it aim to achieve?:

- Clarify the different interest groups, institutions and decision-making patterns.
- To understand which institutions are most important to communities.
- To analyse engagement of different groups in local planning processes.
- To evaluate access to services and availability of social safety nets.

Who does it involve?:
General community - It is important to have a broad mix of people in the group, including leaders, men, women and children, young and old.

How much time does it take?:
This activity should take approximately 1 hour and 30 minutes including discussion: 1 hour for the diagram, and 30 minutes for the discussion.

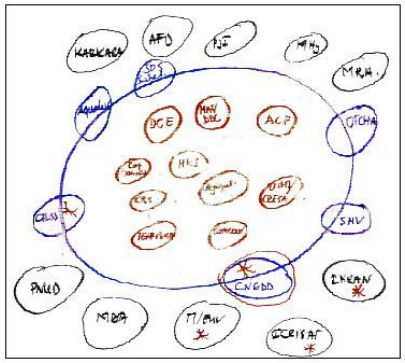
What is involved?:

- There are a number of different ways to do the Venn Diagram. You can draw and write with a stick on a soft ground or you can work on paper. If you decide to use paper, people should first use a pencil in order to be able to make changes.
- Another option is to cut circles of different sizes from coloured paper and let participants decide which size of circle represents the different institutions.
- If people find it difficult to understand this tool, it may be helpful to draw a simple example for them.
- Ask the participants which organisations/institutions/groups are found in the village and which other ones from elsewhere are working with them. Encourage them to also think about informal groups and community-based organisations.
- Write down all the institutions that are mentioned and give each organisation a symbol which everybody can understand.
- Ask the participants to draw a big circle in the centre of the paper or on the ground that represents them.
- Ask them to discuss for each organisation how important it is for them. The most important ones are then drawn as a big circle and the less important ones as smaller circles. Ask the participants to compare the sizes of the circles and to adjust them so that the sizes of the circles represent the relative importance of the institution, organisation or group.
- Every organisation/group should be marked with the name or symbol.
- Ask them to discuss in which way they benefit from the different organisations.
- The note taker should transcribe the discussion, noting why the different organisations are considered important or less important.
- Ask them to show the degree of contact/co-operation between themselves and those institutions by distance between the circles. Institutions that they do not have much contact with should be far away from their own big circle.
- Institutions that are in close contact with the participants and with whom they co-operate most, should be inside their own circle.

(EMR and climate change) tips:

- Are any of the organisations shown only open to membership by men or women? Do any only offer services to men or women?
- Are there any other groups that are excluded from membership or service for the organisations identified?
- Do any of the organisations offer support in times of crisis?
- How do you receive information from the different organisations?

- How do you communicate information to the different organisations?



Notes:

A Venn diagram can be used to explore relationships within a range of topics. For example, the access, availability and uses of environmental resources.*

* The evaluation of whether these resources are accessed and used in a sustainable way or if the institutions / organizations in charge of controlling resources' access have the capacities to exert their authority and implement their mandates could be considered during the analysis of the information collected.

15. Problem Tree

Definition*:

The problem tree is a flow diagram that shows the relations between different aspects of a particular issue or problem. It can help to build a picture of the major problems facing a community. From there, community members can look for the root causes that need to be addressed in order to reduce vulnerability. This tool can help to give structure when analysing information obtained from other tools and can be very effective for building awareness and understanding of inter-relationships through causative explanation.
Environmental problems and their associated outcomes should also be a focus of this exercise; facilitators must be able to make the links to poverty, vulnerability and risk issues.

What does it aim to achieve?:

– Direct participants towards analysis of the situation and to build up a picture of the major problems the community faces.
– Look for the root causes that need to be addressed to reduce vulnerability.

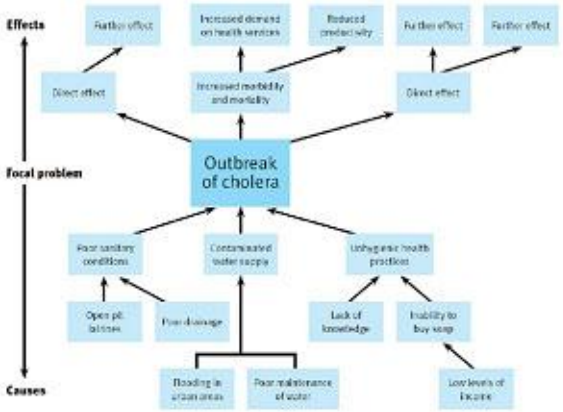
Who does it involve?:

General community - It is important to have a broad mix of people in the group, including leaders, men, women and children, young and old. Respondents should consist of the core group of participants from the previous tool processes.

What is involved?:

- From the information gathered through the use of other tools and interviews, various concerns and problems will have already been identified.
- Give participants small pieces of paper and ask them to write down one major problem on each piece of paper and then stick these on the wall (people can draw problems if they do not know how to read and write).
- Ask volunteers to group problems according to similarity or inter-relationship.

- Now the drawing of the "problem tree" can start: the trunk represents the problems, the roots are the causes and the leaves are the effects.
- Ensure causes are drawn down low enough to incorporate potential CC and EMR elements – spend time to highlight these inter-relationships.
- Refer participants to the findings from all of the different tools to encourage communities to start thinking about the cause and effect of hazards and impacts to help clarify the interactions and better inform adaptation processes.



16. Rapid Environmental Impact Assessment*

* The REIA outputs could serve as a guide for prioritizing specific environmental issues that would require further in depth studies. Particularly in sites where rapid environmental change is taking place due to natural or human causes.

What is it?:
The EIA is designed to facilitate the systematic consideration of environmental issues as part of development decision-making. This is achieved through the collection and analysis of information on the potential environmental effects of specific development proposals* and how they can be best prevented or mitigated. EIA is carried out before major decisions are taken and, ideally, while feasible alternatives and options to a proposed action are still open.

What does it aim to achieve?:
- Provide an environmental assessment of activities planned by the community or about actions planned by external actors (i.e. mining corporations). Or actions taking place in communities upstream that might pollute the targeted community's water, soil, air and trigger new/current hazards.
- Collect information needed to assess environmental impacts.
- Provide simple steps for analysing this information to identify important issues and inform the decision-making process.

What is involved?:
- Scoping of the information necessary for decision-making.
- Identifying the important issues and concerns (interests); the significant effects, factors and alternatives to be considered; and the appropriate content and boundaries of an EA study
- Evaluation of significance of the nature and extent of impacts, likely adverse effects on the receiving environment (e.g. sensitive areas, land use, community traditions); magnitude of impacts (e.g. low, moderate, high) and options for impact mitigation (e.g. reduction, avoidance).
- Review of the quality of information provided, reliability of analysis or interpretation leading to a decision on the approval of activities
- Post-approval follow-up and review – including ongoing evaluation that the process meets the criteria outlined by the EIA and SEA.

Actions affecting environmental resource	Environmental problems/ issues	Ecosystem degradation Related Hazards	Environmental Mitigation Measures / Hazard Mitigation Measures	Enhancement Measures	Monitoring Plan
Cutting down trees / foliage	Soil erosion		· Compaction · Turfing on slopes · Drum-sheet palasiding	Tree plantation along the side slope	During implementation work

Note:

The EIA is a process rather than a one-time activity. It should extend throughout
the project planning and decision-making process, so that EIA influences and is informed by all of the data collection and assessment processes stages and is not aimed only at producing a report for the final approval stage.

The form of the EIA used, depends on:

- the size and complexity of the proposal and main alternatives**
- the range and interrelationship of the likely impacts
- the availability of appropriate methods
- the experience of the EIA team with their use
- the resources available - cost, information, time, personnel.

* Communities in the affected areas should be informed of EIA's findings and results at all times by means of local community workshops lead by facilitators who translate scientific information to the communities' understandable terms. In some countries having this "participatory workshops" depends on the size or scale of the project affecting the community, something that should be revised along with community leaders and local authorities.

Example of Rapid EIA Matrix: 1 new column has been added (we could add 2 columns instead of 1 as well) to further understand the link between environmental impacts and hazards / vulnerabilities

EXTRA: Secondary data profiling

What is it?:

A review of secondary sources includes researching documents and reports produced by other organisations, local government authorities and social institutions.

Information collected should not be restricted to documents only about the community itself but should include all external sources of information that may be useful. These may be risk maps or information on climate change and changes in land use that may affect river runoff, infrastructure plans, etc.

What does it aim to achieve?:

- Provide a background profile of the community and it's situation (including CC and ERM factors).
- Cross-check/compare information gathered by other means.
- Get an idea of the challenges facing the community and a history of what has been done so far to address them.

What is involved?:

- Identify different zones within the country and then the region.
- Think about the type of information needed.

- Make a list of potential sources of information – libraries, internet, government and NGO's.
- Compile a list of questions that you need answered.
- Collect scientific information to help answer your questions.
- Compare the secondary and community data collected through assessment tools.

(EMR and climate change) tips:

See Secondary Data & Field Tool Questions below.

Note:

- Look to show communities what is happening to other parts of the country so that they are aware that what is happening to them is also happening to others.
- Be aware that the community might not yet be aware of subtle changes taking place.
- Research the presence and role of local, regional and national government agencies relating to the geographical area of the community. Check regulatory services that exist particularly in relation to the access and use of environmental resources.

Potential Sources of Secondary information

Libraries
Newspapers
Maps (aerial, GIS, topographical, satellite imagery)
Data and statistics
References

Internet
UN organisations (UNHCR, UNICEF, WFP, WHO)
World Bank
Government sites
Foundations
Educational institutions and universities
Summary reports
Data and statistics
Links to related websites

Other organisations
Other National Societies
International Federation and its reference centres
International non-governmental organisations (e.g. Oxfam, World Vision, CARE)
Networks and coalitions
Local, regional and state governments
Specialised government institutes (e.g. National Disaster Management Office,
Meteorological Office)
Private sector or business suppliers
Other needs assessments
Reports (situation reports, project reports, annual reports)
Data and statistics
Budgets
Expert opinions from key individuals
Expertise (e.g. experience conducting focus groups)
Testimonies & Guidance

People
Government officials
Local authorities (police, health care workers, fire fighters, social workers, etc.)
National Society or colleagues
NGO workers
Community leaders (elders, health or school officials)
Teachers
Groups (e.g. women's group, farmers' group)

Secondary Data & Field Tool Questions

These questions are intended to help you collect scientific information and community knowledge.

Questions	Answers	Sources
What are the most important climate change and environmental degradation hazards the zone faces?		
Do you have information about past and present changes regarding the following? ▪ Annual and seasonal rainfall – amount, duration ▪ Annual and seasonal average temperatures ▪ Annual and seasonal average storms – frequency, severity eg wind / sandstorms ▪ Annual and seasonal flooding or sea level rise – frequency, severity, area covered ▪ Occurrences of mudslides and landslides or wildfires ▪ Frequency of drought recurrence ▪ Changes in the water table (annual records) ▪ Soil quality / fertility ▪ Desertification ▪ Deforestation ▪ Crop yields / food (in)security / famine ▪ Decline in biodiversity – plants, fish and animals (migratory patterns, declining fish and animal populations) ▪ Fresh water availability and quality, including details about pollution ▪ Salinisation of soil ▪ Availability and quality (eg whether polluted) of irrigation water ▪ Crop pests and disease carriers ▪ Land degradation due to chemical fertilizers ▪ Air pollution levels / acid rain / smog ▪ Destruction of coastal protection ▪ Seasons eg when do rainy seasons start and end? (see below) ▪ Population movements ▪ Changes in health risks related to climate change and environmental degradation		
Do you have information about future projected changes in the above for the future: Summarise predictions if they exist from secondary sources.		
Do you have records of which types of people are being most impacted by any of the above changes, eg in terms of health and mortality rates, livelihoods, general well-being? ▪ women ▪ children ▪ people living with HIV and AIDS etc		

APPENDICES: Climate Change

Appendix 1: RCCC, 2011, Climate information flows
Appendix 2: RCCC Guidance on 'Assessing climate change while conducting a VCA'
Appendix 3: References

Climate Information Flows

Numbers in red link to the relevant section of the guidance document

Sharing information further – advocacy (7)
- Local government
- Policy makers
- Meteorological Office
- National & international forums

Outside information (1 & 4)

- Trends in climate eg. Rainfall & temperature data, intensity or frequency of weather related disasters

- Projections for future climate

- Find out who is doing what and where

Example sources:
- National government climate change focal point
- National Communications to the UNFCCC, National Adaptation Programmes of Action (NAPA) – available online
- Meteorological Offices
- Local authorities (DM, health)
- NGO's that work on climate change

Interface/analysis (3 & 5 & 6)
1. Discussion on changes that are occurring in the community
2. Discussion on how the community deals with these changes already and/or what can be done to deal with them
3. Introduce concept of global warming (if confident)

Community information (2)

- Traditional knowledge
- Intensity/frequency weather events
- Longer-term seasonal changes
- What access do they have to weather/climate information?

Using tools to find out whether climate change is impacting communities. For example:
- Seasonal calendar
- Hazard maps
- Focus group discussions

At this point consider:
- Avoid over-emphasis on climate change – it is a factor along side all the other problems a community faces and sometimes it won't be a priority
- Facilitator confidence in discussing change with communities
- How much information on climate change to provide community in what format?
- Standardising information? Video, play, radio shows?

Annex 4. Assessing climate change and related actions while conducting a VCA – Draft May 10

*The aim of this tool is to assist VCA practitioners in facilitating a 'climate informed' VCA with communities; it is a "facilitator's notebook" – **not** a template for filling in with the communities*

Potential climate-related changes (positive and/or negative)	Changes observed by community (steps 2 & 3 in the guidance note)	Possible explanations for changes		Actions to address changes (steps 5 & 6 in the guidance note)**		
		Evidence based on scientific information (steps 1 & 4 in the guidance note)	Other factors that may explain changes observed by communities	Actions by community	Actions by Red Cross/Red Crescent	Actions requested from others
Changes in (average) rainfall						
Changes in (average) temperature						
Changes in seasons (e.g. onset of rainy season)						
Changes in extremes, e.g.						
- Extreme rain/snow/flood						
- Drought						
- Heatwaves						
- Coldwaves						
- Storms						
- Storm surge						
- Riverine flooding						
- Inundations						
Changes in plant and animal ranges/behavior						
Changes in diseases						
Other changes (eg. Impact on use of traditional knowledge)						

** Example actions to address changes:

- Reinforcing "regular" interventions eg. Health & care, Watsan, DRR (more/better, try to be explicit how)
- Awareness raising so community can better anticipate changes and surprises, including by better use of climate information (early warning at all timescales)
- Dialogues with other stakeholders, e.g. local authorities, (and possibly national and international policy makers)

References

International Federation of Red Cross and Red Crescent Societies

IFRC – VCA Toolbox with Reference Sheets – 2007

IFRC – VCA training guide - Classroom training and learning-by-doing - 2008

Red Cross / Red Crescent Climate Centre – How can climate change be considered in Vulnerability and Capacity Assessments? - A summary for practitioners – April 2011

Red Cross / Red Crescent Climate Centre – Red Cross / Red Crescent Climate Guide – November 2007

CARE International

CARE – Climate Vulnerability and Capacity Analysis (CVCA) Handbook – May 2009

CARE – Community Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL)

CARE & IISD – Climate change integration toolkit – July 2010

Tearfund – Climate Change and Environmental Degradation Risk and Adaptation Assessment (CEDRA), available at: http://tilz.tearfund.org/Topics/Environmental+Sustainability/CEDRA.htm

Recommended Resources

Red Cross/Red Crescent Climate Centre:

- April 2011: “How can climate change be considered in Vulnerability and Capacity Assessments? A Guide for Practitioners”
- 2010: “Background Document on Climate Change and Disaster Risk Reduction”
- 2011: “Climate change related vs. Climate related (M. Van Aalst)”

IFRC:

“Whatever the weather: Making climate information user-friendly for humanitarian organizations”

“Bridging the gap”

Care/Accord:

“Care International Climate change brief: What is adaptation to climate change?”