

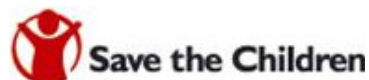
## INSTITUTE FOR SUSTAINABLE FUTURES

# Child Centered- Community Based Climate Change Adaptation in the Philippines

**Local indicators research:**  
A review of literature on local indicators of adaptive capacity and resilience to climate change

APRIL 2013

### CHILD CENTERED- COMMUNITY BASED CLIMATE CHANGE ADAPTATION IN THE PHILIPPINES



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# 1 Introduction

## 1.1 Background

Plan International Australia, in partnership with Save the Children, is implementing the AusAID funded project, **Child-centred Climate Change Adaptation in the Philippines** (“the CC-CBA project”), from July 2012 to December 2014. This project has been funded through the AusAID Community-based Climate Change Action Grants Program. Its objectives are:

1. To increase the resilience of vulnerable children, youth and their communities in forty Barangays to climate change impacts.
2. To strengthen the evidence base within the Philippines for child-centred climate change adaptation that informs policy and practice.

As research partner, the role of the Institute for Sustainable Futures at the University of Technology, Sydney is to contribute towards Outcome 3 of the CC-CBA Project, *“Policy and practice at the local level are influenced by a strengthened evidence base for child-centred climate change adaptation.”* The purpose of the **Local Indicators Research** project is to provide guidance and advice to the Climate Change Commission (CCC) on developing local level, participatory and project-scale indicators of climate change adaptation by children and their communities. These are intended to be useful for local governments to inform their planning, monitoring and evaluation of community-based CCA projects.

“A key feature of the CC-CBA project is a child-centred approach to **promote and influence community-based adaptation**. The project will mobilise and equip **children and youth** to influence community and government action for adaptation and lead adaptation as models of practice.

Through the provision of **small grants** the project will encourage and enable community-based adaption and will focus on **generating community-defined assessments of adaptation**.

The partnership between Plan International, Save the Children and the Institute for Sustainable Futures to implement offers an important opportunity to promote best practice in implementation and to conduct **evidence-based research on community-based adaptation** practice models not only to benefit the target communities of the Philippines but for the CCA program as a whole” (CC-CBA Project Design, 2012, emphasis added).

## 1.2 Scope of the Local Indicators Research

The research component comprises approximately 2.5 months of research time on the following activities over period of 2012 - 2014:

1. Desktop review of indicators (**this paper**)
2. Initial workshop: Engagement and consultation with the CCC and other stakeholders
3. Develop conceptual indicator framework
4. Develop CC-CBA project information proformas
5. In-country data collection and “ground truthing”
6. Analyse learnings from results of in-country consultations, CC-CBA project M&E indicators and community-defined measures of progress and success
7. Draft preliminary list of local-level indicators of climate change adaptation for children and their communities (desk based)
8. Design and conduct Indicator Finalisation Workshops with CCC and stakeholders
9. Finalise Indicators Guidance Document

The research will draw on the evidence base generated from the CC-CBA project monitoring and evaluation (M&E) and knowledge-sharing about child- and community-identified indicators. Of relevance will be both the indicators themselves, and the process which was taken to develop them.

Broadly speaking, CCA indicators have been developed for existing activities at the sector, project and community level. What is distinct about the research component of this CC-CBA project is that it is concerned with developing indicators that are measuring the success of interventions relating to



community based, child centred, climate change adaptation indicators for project based activities in the Philippines, as depicted in Figure 1. It is the intersection of these components that is of interest, and will contribute to the broader research on CCA indicators for adaptation projects around the world.

Our research will combine the thinking on existing CCA frameworks with the CCA activities associated with the CC-CBA project. It is the intention that the process and outcomes of this CCA indicator research assist in informing similar interventions in other locations.

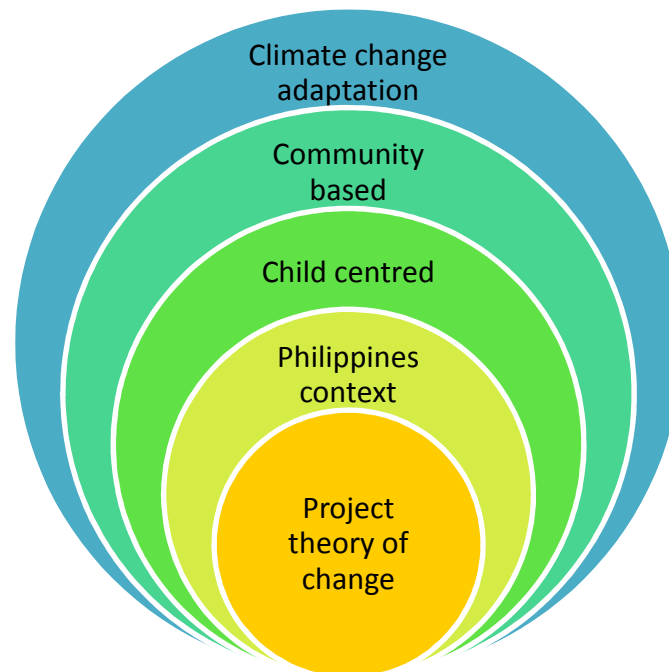


Figure 1: Indicator components, defining the research scope

### 1.3 Purpose of This Literature Review

This report documents the first phase of the research: a **desktop-based review of literature**, and synthesis of key existing sets of indicators for community based climate change adaptation and disaster risk reduction as used at the local or community level. The types of literature reviewed included M&E framework documents, community project documents and reports and academic literature on CCA indicators. Of particular interest were community based initiatives in the Philippines and south-east Asia.

Indicators for sectors including agriculture, education, coastal development and infrastructure are of relevance because particular attention was paid to the processes used to develop community based indicators of CCA. These processes may be adapted for a child centred approach for the development of indicators in the Philippines context. The purpose of this report was therefore to provide background information about existing interventions of CCA at the local level, and ways in which to measure progress and success.

In particular, attention is drawn to indicators that are (as illustrated in Figure 1):

- Project scale specific – linked to a project's theory of change
- Philippines context (particularly coastal communities)
- Child centred
- Community based
- Climate change adaptation and disaster risk reduction focused

In addition to providing background information for the CC-CBA Consortium, this Literature Review is also

the basis for a Local Indicators Research workshop and individual consultations with local government units, other non-government organisations (NGOs) working in the CCA space, national government agencies including the CCC, Department of Education, Department of the Interior and Local Government, the National Disaster Risk Reduction and Management Council, Department of Environment and Natural Resources (DENR) and other donors. Box 1 provides a Glossary to clarify technical and sometimes contested phrases used in this report.

## Box 1: Glossary

Several of the terms used throughout this report are sometimes contested and definitions vary depending on the context and background of those using them. The following definitions have been provided to set the scene for the research element of the broader project, and have been adapted from sources relevant to community based climate change adaptation.

**Climate change adaptation (CCA)** is defined as *“an adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits benefit opportunities”* (IPCC, 2007). The concentration of greenhouse gases in the atmosphere means that our climate is, and will continue to change, despite efforts to curb emissions. CCA recognizes this and deals with interventions to reduce the impacts of inevitable climate change, particularly with regard to vulnerable populations and those likely to experience proportionally more negative impacts. Activities associated with CCA can be considered “hard” or “soft” solutions – the former relating to building or upgrading infrastructure and engineering approaches, and the latter relating to institutional, regulatory or behavioral responses to climate change, capacity building, policy making and education (Fankhauser and Burton, 2011).

**Disaster risk reduction (DRR)** recognises that disasters are the result of the combination of human actions and natural processes (Helmer and Hilhorst, 2006). The UN define DRR as *“the systematic development and application of policies, strategies and practices to minimise vulnerabilities, hazards and the unfolding of disaster impacts throughout a society, in the broad context of sustainable development”* (United Nations International Strategy for Disaster Reduction (UNISDR), 2004:3). DRR therefore aims to reduce the underlying factors that contribute to human vulnerability, and has many similarities to CCA, although a key difference is its limited incorporation of changing baselines associated with climate change.

**Adaptive capacity** is defined as *“the ability of a system to adjust to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, or to cope with the consequences”* (IPCC, 2001). Levels of adaptive capacity are dependent on the type of hazard or risk. For example, a community may have high adaptive capacity to floods but low adaptive capacity to drought. Adaptive capacity may also be seen as a determinant of vulnerability, which is influenced by environmental, political, social and economic factors (Brooks et al., 2003).

**Vulnerability** has many, sometimes conflicting, definitions. This report draws on definitions of social vulnerability, which takes vulnerability as a variable describing the internal state of a system, i.e., the factors that make societies and communities susceptible to damage from external threats and hazards (Allen, 2003). Using this definition, vulnerability exists within systems independently of external hazards. This could also be defined as *“the characteristics of a person or group and their situation that influence their capacity to cope with, resist, and recover from the impact of a natural hazard”* (Wisner et al., 2004:11).

**Resilience**, in social (rather than ecosystem) terms, is defined as the ability of humans to withstand and recover from stresses such as environmental change or political upheaval (Libel et al., 2006). Resilience is sometimes seen as the inverse to vulnerability and has strong similarities to adaptive capacity.



## 2 Outline of Key Concepts

### 2.1 Climate Change Adaptation and the Philippines

As noted in Box 1, climate change adaptation (CCA) is defined as “an adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits benefit opportunities” (IPCC, 2007). CCA has much in common with disaster risk reduction (DRR), particularly at the local level, where activities associated with both CCA and DRR usually involve reducing risk and vulnerability and enhancing resilience to climate and weather driven events (Schipper and Pelling, 2006; Wisner et al., 2004). CCA, however, must deal with shifting baselines and uncertainty surrounding impacts.

CCA interventions are occurring all over the world as communities, NGOs, and governments come to realize the real threat climate change imposes on livelihoods. An OECD study classified CCA activities into five different types – as seen in Table 1 below. Section 4 and Appendix A provide specific examples of CCA initiatives from around the world.

Table 1: Categories of CCA activities

Type of activity	Description
<b>Climate risk reduction</b>	Implementation of initiatives that reduce the vulnerability to climate change through sectoral measures such as water conservation, irrigation, infrastructure, and flood prevention.
<b>Policy and administrative management for climate change</b>	Implementation or improvement of legislation integrating climate change issues, mainstreaming adaptation, and taking into consideration all stakeholders.
<b>Education, training and awareness on climate change</b>	Dissemination of information on climate change risks, institutional capacity building, and training activities aimed at changing behaviour, or increasing disaster preparedness.
<b>Climate scenarios and impact research</b>	Development of climate change studies, scenarios and climate impact studies, tools and equipment necessary to better understand climate change and associated vulnerabilities.
<b>Co-ordination on climate change measures and activities across relevant actors</b>	Creation of linkages between institutions, participation of stakeholders in dialogues and decision making, strengthened community of practice on climate change, and use of research for dissemination and policy making.

(Source: Lamhaug et al., 2011)

The Philippines has a very high exposure to natural hazards, and as a result is considered one of the most vulnerable countries to weather and climate driven disasters (World Bank and NDCC, 2004). This is shown below in Figure 2, which depicts the Mortality Risk Index and shows the Philippines’ position compared to other countries in terms of mortality for multiple risks (UNEP-UNISDR, 2012).



■ Mortality Risk Index (MRI) for multiple risk ■

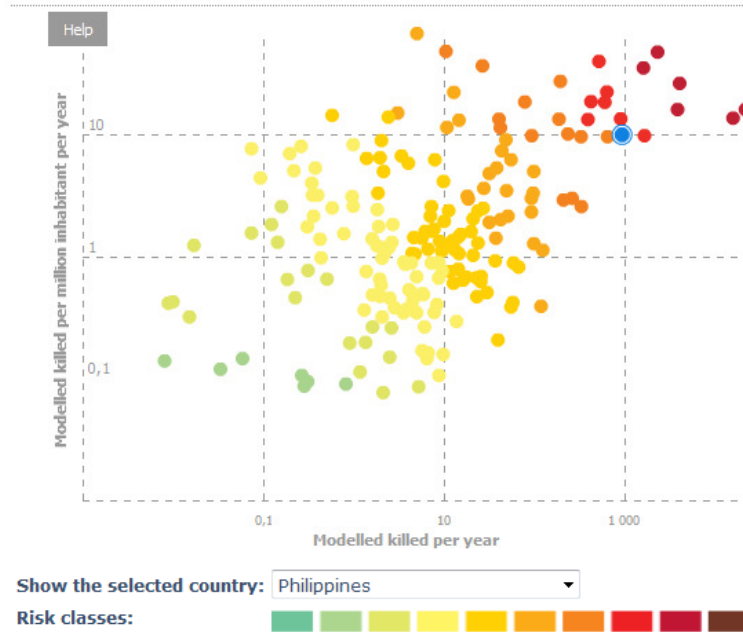


Figure 2: Mortality Risk Index – Philippines shown as the blue dot in the top right corner.

(Source: UNEP-UNISDR, 2012).

Climate change threatens to enhance the risk of some natural disasters, potentially exposing larger populations to more frequent and intense extreme weather events, and altering the nature of weather and climate patterns (Pulhin et al., 2010).

The Government of the Philippines has responded to the threats natural disasters and climate change impose in several ways. Recent years have seen several Senate Bills submitted with the aim to strengthen the Philippines policy environment to deal with disasters and climate change. Bills, which later became laws, include the following (Pulhin et al., 2010):

- Philippines Disaster Risk Management Act of 2009
- Republic Act 10174, Peoples Survival Fund (providing funding support for local level CCA)
- Climate Change Act of 2009, which mainstreams climate change across a range of sectors and established the Climate Change Commission (CCC). The President of the Republic of the Philippines serves as the Chairman of the CCC, and three Commissioners are also appointed (CCC, 2011).

The Climate Change Commission has also made progress through the approval of the National Framework Strategy on Climate Change (NFSCC), which forms the basis of the National Climate Change Action Plan (NCCAP). The Ecotown Framework also forms an important step forward in the CCC and the Philippine's response to climate change impacts.

The Philippines Medium Term Development Plan includes mention of disasters and climate change (albeit separately), however some critics note a predominantly reactive approach to the management of disasters, rather than emphasizing the importance of reducing risk and vulnerability as a priority (Pulhin et al., 2010).

More recently, the Climate Change Commission released the National Climate Change Action Plan (NCCAP 2011-2028) which provides a framework to identify and prioritise sectors and initiatives which are vulnerable to climate change impacts. The NCCAP highlights the following priorities:

- Food security
- Water sufficiency
- Ecosystem and environmental stability

- Human security
- Climate-smart industries and services
- Sustainable energy
- Capacity development

Many CCA initiatives are already underway in the Philippines. Current or recently completed donor funded climate change related programs in the Philippines include:

- ‘Philippine Climate Change Adaptation Project’ funded by the Global Environment Facility and the World Bank (GEF, 2013)
- ‘Mainstreaming disaster risk reduction in subnational government – land use / physical planning’ funded by the European Commission
- ‘Strengthening the Philippines Institutional Capacity to Adapt to Climate Change’ funded by UNSP / Spanish Millennium Development Goals Achievement Fund
- ‘Adaptation to Climate Change and Conservation of Biodiversity in the Philippines’ funded by GIZ
- Oxfam’s Social Hydrological Information Network (SHINe) in Bulacan province; Marine Protected Area (MPA) in Hinundayan and Flood Early Warning System in St. Bernard all in Southern Leyte and the Climate Field School (CFS) in Dumangas, Iloilo (Oxfam, 2011).
- Climate Change Commission’s Eco-Town Initiative.

*“...developing comparative indicators [for CCA] has been challenging due to a **lack of baseline data and insufficient monitoring**; difficulty in measuring critical and dynamic **social, cultural, and environmental variables across scales and regions**; **limitations in accounting for the indirect impacts of adaptation measures**; and **uncertainties regarding changes in climate variability**, especially changes in the frequency or severity of extreme events, which often dominate vulnerability.” (Perez, 2012)*

## 2.2 Monitoring & Evaluation and the use of Indicators

Indicators are drawn upon as a component of monitoring and evaluation in development as a tool to simplify the measuring and tracking change, progress and success of interventions over time. Indicators allow for aggregation across projects and the ability to make comparisons. Examples include the eight Millennium Development Goals, with their corresponding targets and indicators; the UNDP’s Human Development Index to measure quality of life and the World Bank’s Rural Development indicators for wellbeing and development of economy and markets (Gebremedhin et al., 2010). Indicators can be qualitative, quantitative, binary, measure impact, process, performance, outputs and outcomes – the details of which are often found within the M&E sections of project and program designs.

Monitoring and evaluation are established features of development projects, and numerous frameworks and guidance materials are available for development of M&E systems for sustainable development. Measuring concepts such as vulnerability, resilience and adaptive capacity has received increasing attention over recent years, in part due to the United National Framework Convention on Climate Change (UNFCCC)’s call for developed countries to “*assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation*” (UNFCCC, 1992).

As climate change impacts manifest through various changes in the biophysical environment, the growing need for investments in climate change adaptation, from the national to the local level, has created a strong push to measure the effectiveness of adaptation interventions. From communities, to local government, national governments, NGOs, donors and development partners – the methods to determine what works and what doesn’t is an increasing field of interest and research, particularly given the scale of investments in CCA around the world, and the issues of equity and sustainability associated with them.

Indicators of impact, or success, associated with CCA interventions are complex to develop for several reasons. Adapting to climate change needs to be viewed as a process, not a discrete set of activities (CARE, 2010), and as such CCA comprises a vast array of potential activities. The type of activity depends on



elements such as the potential hazard(s) faced, levels of vulnerability and resilience, access to various resources, scale at which the intervention is aimed, the sector in question and geographic location. Additional complexities associated with the monitoring and evaluation of CCA include (Brooks et al., 2011):

- There is no single metric for adaptation;
- The various (and uncertain) timescales associated with climate change and adaptation;
- The issue of vulnerability, and vulnerability indicators;
- The inevitable shifting baselines due to climate change, and attribution issues (i.e. attributing change to climate change, rather than other causes such as poor development practices).

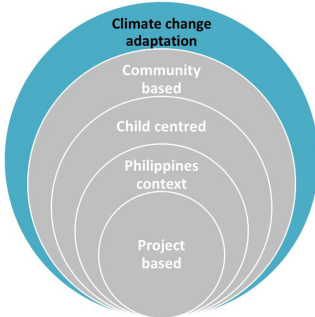
*“Since monitoring and evaluation are based on the targets and planned activities during the various phases in the implementation of the action plan, setting the appropriate key performance indicators and targets are crucial.” (CCC, 2011: 48)*

Despite these challenges, measuring change and the effectiveness of CCA projects and initiatives is a priority for many organisations, including governments, non-government organisation (NGOs) and donors responsible for the safety and wellbeing of communities and populations, and ensuring the appropriate use of funds. As a result, numerous frameworks have been developed in attempts to measure key concepts such as vulnerability, resilience, adaptive capacity – and therefore the changes associated with CCA interventions at various scales (e.g. community, national, regional, global).

### 3 Examples of CCA Monitoring & Evaluation Frameworks

As noted in Section 2.3, there is increasing interest in measuring the success of CCA activities from local to global scales. In fact, M&E of CCA is a new and dynamic area of development thinking and practice. Numerous frameworks have, and continue to be developed (some based on existing DRR frameworks) as approaches to this challenging task. A selection of M&E frameworks developed for CCA interventions are described briefly below, grouped according to their main features. Figure 1 is used throughout this section to highlight which of the indicator components are covered in these existing frameworks.

#### 3.1 Scale Related M&E Frameworks



**Brooks et al. (2011): “Twin track approach to CCA”.**

This framework differentiates between “upstream” CCA, relating to Track 1, or Integration of climate change into policies & institutions and “downstream” CCA relating to Track 2, or Identification, assessment and aggregation of development & vulnerability indicators. It is illustrated in Figure 3 below.

**Example indicators include:**

- The use of climate information (and M&E information) in policy & programme design
- Mechanisms for targeting the climate vulnerable1

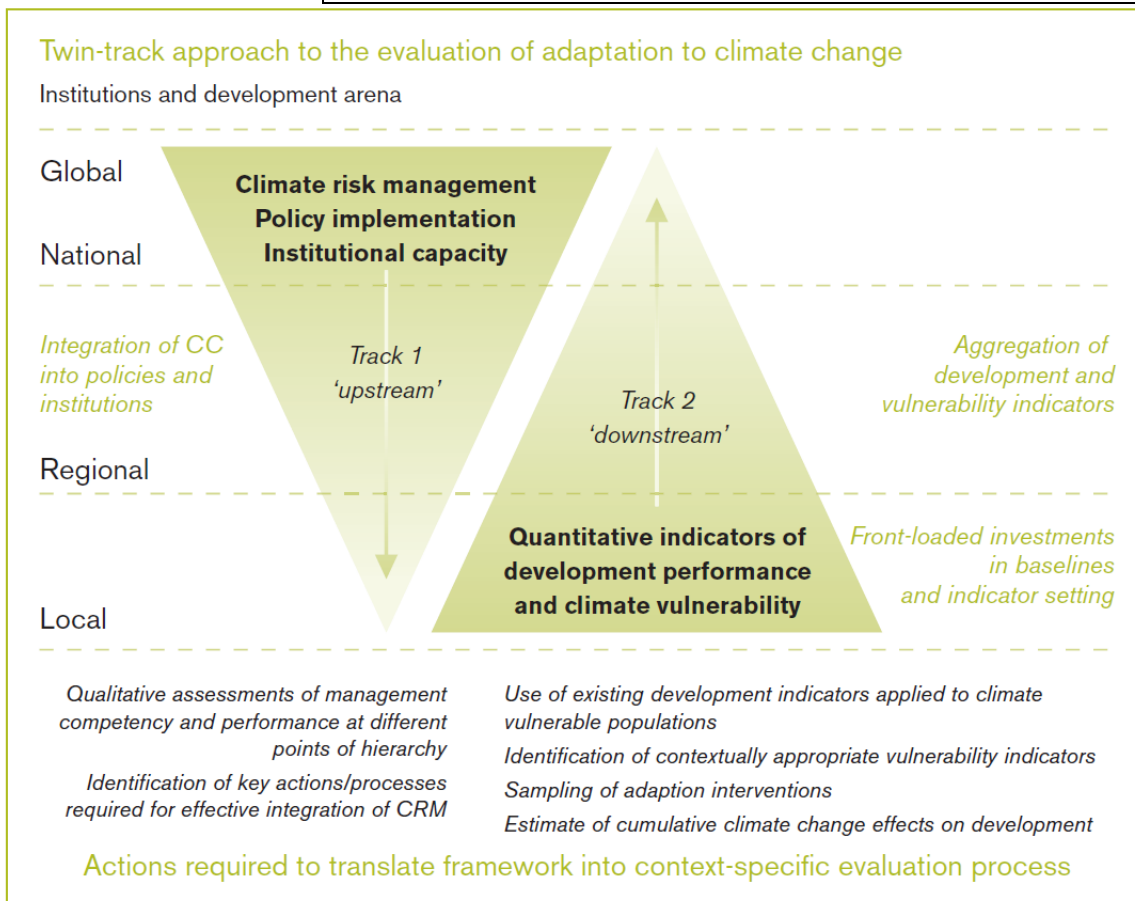


Figure 3: Twin track approach to climate adaptation evaluation.

(Source: Brooks et al., 2011).



### Brooks et al. (2013): An operational framework for Tracking Adaptation and Measuring Development (TAMD)

This updated framework builds on the work of Brooks et al. (2011) and illustrates the dynamic nature of how practitioners and academics are learning from experience and updating approaches over relatively short timescales. Authors describe the following steps are needed for evaluating CCA interventions:

1. Define the evaluation context and purpose.
2. Establish a theory of change (ToC) (or use the ToC employed when programming the intervention).
3. Identify the relevant scales (global, national, regional, local).
4. Locate outputs, outcomes and impacts on the TAMD framework.
5. Identify the type of indicators are required.
6. Define the indicators.
7. Gather data.
8. Analyse indicators and data at different levels of Tracks 1 and 2. (see Figure 3 )
9. Address attribution.
10. Make sure to disseminate lessons from the monitoring and evaluation of results, so that interventions can be modified where necessary, and future interventions can be informed by these lessons.

*“Adaptation metrics should be policy-relevant, scalable, transferable, context specific, and comparable.” (IGES, 2008:1).*

<b>Example indicators include:</b>
➤ Uptake of climate risk management measures such as risk spreading mechanisms (financial, livelihood, social)
➤ Climate information (availability, access, use of)

### Adger et al. (2004): New indicators of vulnerability and adaptive capacity

The authors describe characteristics of vulnerability and vulnerability assessments that are argued as being crucial in the development of CCA indicators:

1. Decide whether current or future vulnerability is the focus.
2. Ensure indicators are precise, robust, transparent and objective, and recognised as being valid by all relevant stakeholders.
3. Given climate change impacts are felt at the local level, scale issues are of critical concern.
4. The multiple processes that shape vulnerability must be taken into account when selecting indicators.

<b>Example indicators (predictive indicators of vulnerability):</b>
➤ Population with access to sanitation
➤ Literacy rate, 15 - 24 year olds
➤ Maternal mortality
➤ Literacy rate, over 15 years
➤ Calorie intake
➤ Voice and accountability
➤ Civil liberties
➤ Political rights
➤ Government effectiveness
➤ Literacy ratio (female to male)
➤ Life expectancy at birth

*“The fundamental scale of vulnerability, primarily because of differentiation within the community, is local, though processes operating at broader spatial scales do contribute significantly to patterns of vulnerability at the local level. The need to aggregate up to, say, the national scale requires careful handling as it can lead to the loss of information about vulnerability ‘hotspots’ and may even distort overall conclusions as detail is lost in the process of averaging or accumulation” (Adger et al., 2004:17).*

### Adger et al. (2005): “Successful adaptation to climate change across scales”

The authors of this paper note that the four elements of **effectiveness, efficiency, equity and legitimacy** are paramount in measuring success, particularly with regard to sustainability in contexts with uncertain future. The authors also highlight that adaptation activities are undertaken with often vastly different objectives, requiring different measures of change. Incorporation of externalities is also crucial, since one action or activity may be successful in terms of one stated objective, but it may lead to unintended

consequences in other locations or over different timescales. Short term success may lead to less successful longer term (Adger et al., 2011).

**Example indicators include:**

- Effectiveness, Efficiency, Equity, Legitimacy

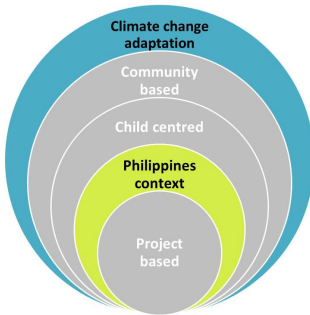
### World Resources Institute (WRI, 2012): Ready or Not - Assessing Institutional Aspects of National Capacity for Climate Change Adaptation

The National Adaptive Capacity (NAC) framework was developed for understanding the institutional aspects of adaptive capacity at the national level and can support indicator development and targets for tracking national adaptation progress, and the identification of capacity gaps that can be filled through investment and action. The NAC framework draws upon two approaches to understand adaptive capacity. For example, it uses measures of wealth, social capital, and information availability, which are often drawn on to understand adaptive capacity as they assist in understanding: “What resources do I have that can help me adapt?” Additionally, the framework’s functions-based approach includes assessment of: “What am I able to do that can help me adapt?”

**Example indicators include:**

- There is a clear mandate to include climate risks in local development and other types of plans.
- An institution has been tasked to coordinate adaptation efforts in the country

### 3.2 Philippines Context M&E Framework



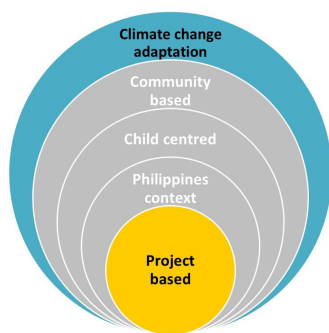
#### NEDA-UNDP (2008): Guidelines on mainstreaming DRR in Subnational Development in the Philippines

These Guidelines measure macro-vulnerability according to “fatality” and “property damage”, given these are indicators that have been identified as feasible for quantification in terms of probable risks. A qualitative, micro-vulnerability assessment is also undertaken of pre-identified high risk areas as input to the planning decisions and formulation of DRR measures (NEDA-UNDP, 2008).

**Example indicators include:**

- Fatality
- Property damage

### 3.3 Project Related M&E Frameworks



#### CARE (2010): Toolkit for Integrating Climate Change Adaptation into Development Projects and Framework of Milestones and Indicators for Community-Based Adaptation

CARE has developed a toolkit for the development of indicators, and a framework of milestones and potential indicators for CCA at the community level.

Particular points of interest include:

- Community based adaptation (CBA) projects will typically assess changes in adaptive capacity of target groups
- Indicators that capture different elements of adaptive capacity, as well as improvements in the enabling environment for adaptation at the local level, are used
- Indicators may also assess how effectively people are managing current climate variability, as an indicator of capacity to manage longer-term changes in climate
- CBA indicators are often more process-oriented than the usual project indicators
- It is crucial to develop indicators that are effective in measuring project progress against the stated goals and objectives

**Example indicators include:**

- People are aware of adaptation strategies
- People have technical skills to implement adaptation strategies



**Szlafsztein (2008): Adaptation to climate change and variability metrics: The Index of Usefulness of Practices for Adaptation (IUPA)**

This index was developed to provide a flexible tool to assess the usefulness of adaptation activities, using expert judgment and multi-criteria decision making. The tool uses variables (criteria) of CCA and assigns criterion weights and scores. *“The IUPA is obtained by (i) multiplying individual variable scores with the assigned variable weight; and by (ii) consequently summing the weighted individual parameter scores”* (Szlafsztein, 2008: 7). Evaluation criteria are selected and ranked using both quantitative and qualitative approaches. The tool can be used for evaluation, comparison of alternative approaches, a support tool, assist in fundraising, and as a communication tool.

<b>Example indicators include:</b>	
➤	Time required for implementation of adaptation practice and/or until results are obtained
➤	Level to which the measure conserves, restores, and/or contributes to adequate levels of resilience

**Strengthening Climate Resilience Consortium (Villanueavu and SCR, 2010): Learning to ADAPT: monitoring and evaluation approaches in climate change adaptation and disaster risk reduction – challenges, gaps and ways forward**

This paper puts forward “ADAPT” indicators, which are described as:

Table 2: Suggested ADAPT indicators

<b>Adaptive</b>	Indicators reflect the possibility of changing conditions
<b>Dynamic</b>	Indicators capture the way processes are changing
<b>Active</b>	Indicators capture actions rather than states
<b>Participatory</b>	Indicators are developed by and end with those affected by the interventions
<b>Thorough</b>	Indicators include maladaptation indicators and capture how, or not, the intervention addresses the underlying causes of vulnerability

(Source: Villanueava and SCR 2010).

**GIZ and WRI (2011): Making Adaptation Count**

The bulk of the report presents a comprehensive six-step process to develop adaptation-relevant M&E systems for use in developing countries. The steps include the following:

- Step 1: Describe the Adaptation Context
- Step 2: Identify the Contribution to Adaptation
- Step 3: Form an Adaptation Hypothesis
- Step 4: Create an Adaptation Theory of Change
- Step 5: Choose Indicators and Set a Baseline
- Step 6: Use the Adaptation M&E System

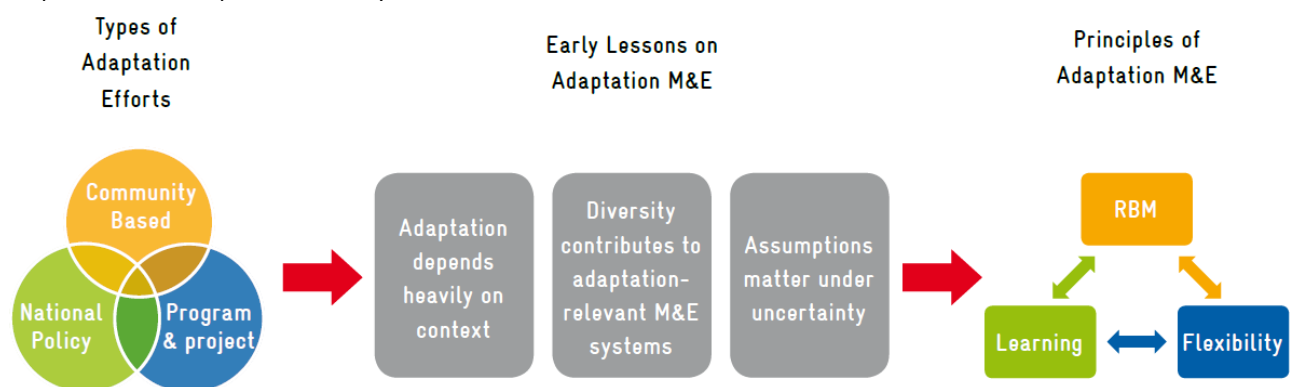


Figure 4: Building on Early Lessons in Adaptation M&E

(Source: GIZ and WRI, 2011)

The authors also note that three principles underpin effective M&E systems for adaptation interventions:

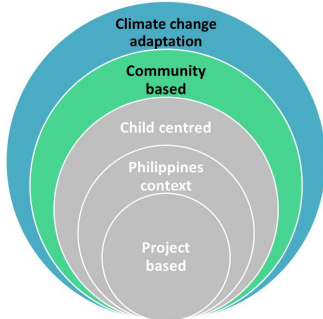
- 1) design for learning;
- 2) manage for results;
- and 3) maintain flexibility in the face of uncertainty.



**Example indicators include:**

- Area of productive rangeland
- Number of people with access to credit

### 3.4 Community Based M&E Frameworks



#### UNDP Community Based Adaptation (CBA)

UNDP’s Community Based Adaptation portfolio began in 2008 with funding from the Global Environment Facility (GEF). Indicators to measure the success of CBA interventions include on two sets of complementary indicators:

- Small Grants Program (SGP)’s Impact Assessment System (IAS)
- The Vulnerability Reduction Assessment (VRA).

SGP’s IAS measures the global environmental benefits generated by the project – a key criteria for CBA projects obtaining funding. The IAS consists of a set of indicators for each GEF focal area, one or more of which is adopted by each project based on the focal area it operates under. VRA’s are undertaken to assist in determining if and how community adaptive capacity has been altered as a result of the intervention/s (AusAID-GEF-UNDP, 2012).

**Example indicators include:**

- Livelihoods options better suited to climate change available to target community
- Number of strategies adopted to address drought and other categories of vulnerability

#### Twigg (2007): Characteristics of a disaster resilient community

Commissioned by six agencies – ActionAid, Christian Aid, Plan UK, Practical Action and Tearfund, together with the British Red Cross/International Federation of Red Cross and Red Crescent Societies, this guidance note is designed for community based practitioners developing DRR programs. Characteristics of disaster resilient communities are divided into five thematic areas. Components of resilience according to each of these themes is provided, and seen in Table 3 below.

Table 3: Components of Resilience

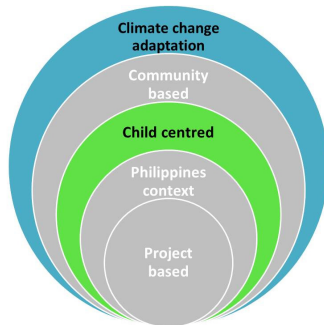
Thematic area	Components of resilience
<b>1. Governance</b>	<ul style="list-style-type: none"> <li>• Policy, planning, priorities and political commitment</li> <li>• Legal and regulatory systems</li> <li>• Integration with development policies and planning</li> <li>• Integration with emergency response and recovery</li> <li>• Institutional mechanisms, capacities and structures; allocation of responsibilities</li> <li>• Partnerships</li> <li>• Accountability and community participation</li> </ul>
<b>2. Risk assessment</b>	<ul style="list-style-type: none"> <li>• Hazards/risk data and assessment</li> <li>• Vulnerability and impact data and assessment</li> <li>• Scientific and technical capacities and innovation</li> </ul>
<b>3. Knowledge and education</b>	<ul style="list-style-type: none"> <li>• Public awareness, knowledge and skills</li> <li>• Information management and sharing</li> <li>• Education and training</li> <li>• Cultures, attitudes, motivation</li> <li>• Learning and research</li> </ul>
<b>4. Risk management and vulnerability reduction</b>	<ul style="list-style-type: none"> <li>• Environmental and natural resource management</li> <li>• Health and well being</li> <li>• Sustainable livelihoods</li> <li>• Social protection</li> <li>• Financial instruments</li> </ul>



	<ul style="list-style-type: none"> <li>• Physical protection; structural and technical measures</li> <li>• Planning regimes</li> </ul>
<b>5. Disaster preparedness and response</b>	<ul style="list-style-type: none"> <li>• Organisational capacities and coordination</li> <li>• Early warning systems</li> <li>• Preparedness and contingency planning</li> <li>• Emergency resources and infrastructure</li> <li>• Emergency response and recovery</li> <li>• Participation, voluntarism, accountability</li> </ul>

(Source: Twigg, 2007).

### 3.5 Child Centred M&E Frameworks



#### Plan, Strengthening Climate Resilience (2011): A Child Centred Approach to Climate Smart Disaster Risk Management

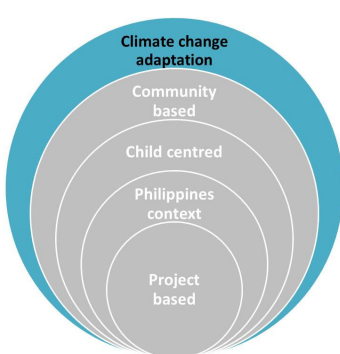
Strengthening Climate resilience (SCR) is an alliance of development agencies and organisations that developed the Climate Smart Disaster Risk Management (CSDRM) approach, which aims to build resilience of communities to disasters and climate change. Plan’s child focus of CSDRM aligns with the realisation of child rights by adapting CSDRM’s approach. The three pillars of the CSDRM approach have corresponding guiding questions and indicators to measure, assess and evaluate child

participation, levels of vulnerability, areas for further action and other strengths and weaknesses.

*“Adaptation strategies are location-based and time-specific hence metrics should be relevant to both location and time” (IGES, 2008:10).*

<b>Example indicators include:</b>
<ul style="list-style-type: none"> <li>➤ Children participate in V&amp;A assessments on a regular basis</li> <li>➤ Child friendly discussion spaces are in place for debating and sharing new ideas</li> </ul>

### 3.6 Sectoral M&E Frameworks



#### UNDP (2008): Adaptation Framework

Adaptation is seen across thematic areas, for example agriculture, water, health, DRR, coastal and natural resource management. Adaptation processes include policy / planning, capacity building/ awareness, information management, investment decisions, practices, livelihoods, resource management.

Indicator types are classified as:

- Coverage: the extent to which projects engage with stakeholders
- Impact: the extent to which projects deliver the intended results, or bring about changes in behaviour that support the portfolio’s objectives
- Sustainability: the ability of stakeholders to continue to adapt beyond project lifetimes.
- Replicability: the extent to which experiences, results and lessons are captured and disseminated for broader benefits

The UNDP’s framework also notes the importance of grounding M&E in the local context, which is important for accuracy in measuring change. It also notes the importance of avoiding overly rigid frameworks, and recognizing heterogeneity and maintaining local relevance. Lastly, it pays attention to capturing “global” lessons from local projects and framing M&E to extract “globally” relevant information from highly contextualized processes (UNDP, 2010).

<b>Example indicators include:</b>
<ul style="list-style-type: none"> <li>➤ Number of farms and pastoralist households participating in rainfall capture and storage schemes</li> <li>➤ Number of relevant networks or communities with which lessons learned are disseminated</li> </ul>



### SIDA Environmental and Climate Change Indicators

Sida's Guidance notes are for sectoral and country level indicator development. The guidance notes highlight the usefulness in drawing upon pre-existing indicators for CCA, such as those included in national/regional planning documents. Sida differentiate two types of indicators: impact level sustainability indicators and output / outcome level indicators.

#### Example indicators include:

- Contingency plan for distribution of medicine in case of natural disasters (yes/no)
- National policies, plans and strategies improved on basis of environment and climate change research

### 3.7 DRR and DRM M&E Frameworks

- *The Hyogo Framework For Action (HFA – UNISDR)* is a framework which monitors progress towards disaster risk management and is aligned with five overarching goals (UNISDR, 2005).
- *Asian Disaster Preparedness Centre (ADPC) Community Based Disaster Risk Management Guidelines (2006)*: ADPC Guidelines provide a framework for devising CBDRM approaches and are clear in stating that indicators should be devised by local communities to account for issues around local context and culture. That said, practical, simple and relevant templates are provided that are able to be adapted according to context.
- *ProVention Consortium*: “Measuring Mitigation Methodologies for assessing natural hazard risks and the net benefits of mitigation” (ProVention, 2004)
- *Tearfund: Mainstreaming disaster risk reduction a tool for development organisations” (TEARFUND, 2005)*.
- *International Federation of the Red Cross/Red Crescent (IFRC)*: Local-level DRR indicators uses a C-I-T categorisation to consider this (where C = issues the community can change; I = issues the community can influence to find solutions; T = issues where the community recognises that transformation will take a long time and is out of their hands) (Barrena, 2007).





## Box 2: Lessons from M&E Adaptation Study

OECD commissioned a study that assessed how development projects measured CCA success. Lamhauge et al. (2011) presents the first empirical assessment of M&E frameworks for adaptation initiatives. Approaches of six bilateral development agencies, over 106 CCA projects and programs, were assessed to better understand:

- i) the particular characteristics of M&E in the context of adaptation and
- ii) what lessons can be learned on the choice and use of indicators for adaptation.

Important lessons drawn from this study include (Lamhauge et al. 2011):

- *This analysis has shown that **many adaptation projects and programs do not differ significantly from other development activities.***
- ***Result Based Management, the Logical Framework Approach** are the most common M&E approaches used for adaptation.*
- *M&E frameworks for adaptation should combine **qualitative, quantitative and binary** indicators.*
- ***Carefully defined baselines** are essential in order to measure project or programme impact.*
- *M&E activities also need to recognise the **longer time horizon** of potential climate change impacts and need to be scheduled accordingly.*
- *It is important to consider **possible barriers** to programme or project success. These can for example be cultural barriers or barriers due to geographic separation of stakeholders.*
- *The specific features of adaptation call for **refinement rather than replacement** of development agencies' existing M&E frameworks.*
- *There was a **prevalence of quantitative indicators when evaluating education and training.** This approach does not capture the **impact** of these activities on adaptive capacity, which requires quantitative measures to be combined with qualitative indicators on the use or outreach of material published and impact of training sessions.*
- *Beyond the context of developing countries, it would be helpful to **develop closer links** between the work underway on M&E of adaptation within **developed and developing** countries.*
- *There is a need to situate the evaluation of specific interventions **within broader country objectives.** A framework for linking individual assessments with national level assessments could help to broaden the focus from the means of achieving outcomes (individual interventions) to the desired end result (countries' becoming less vulnerable to climate change).*

Examples of indicators used in the projects assessed in this paper are provided in following Section (A-5), with a longer list provided in Appendix B.

## 4 Examples of CCA Projects and Activities

Climate change adaptation can occur at the national to local scale. National scale CCA usually involves policy development, legislative reform and changes to institutional structures. Examples of national scale CCA include the Philippines' CCC's NCCAP, with its priority areas and corresponding priority areas and strategic actions.

More localised CCA interventions can also include the development of policies and plans, and often involve capacity building for a range of stakeholders. Specific activities at the local scale can also include efforts to maintain sustainable livelihoods by reducing vulnerability to climate and weather extremes.

As noted in Section 2.1, CCA activities have been classified according to the following categories (Lamhauge et al., 2011):

- Climate risk reduction
- Policy and administrative management for climate change
- Education, training and awareness on climate change
- Climate scenarios and impact research
- Co-ordination on climate change measures and activities across relevant actors

The CC-CBA project has a local focus for its activities, some of which are provided in Table 4, alongside their corresponding indicators. Indicators are predominantly quantitative, reflecting the challenges associated with measuring success through the use of qualitative measurements.

Table 4: Example Plan and Save the Children's activities and indicators from CC-CBA project

Summary of objectives	Indicator	Data collection methodology
CCA-DRR educational resources available to children, youth, PWD, men and women	Educational materials and IEC resources which target capacities and needs of specific target audiences	Records and resources reviewed
Teachers, Provincial, Municipal and Barangay leaders trained to educate on CCA-DRR	# elementary and secondary school teachers trained, # Barangay leaders (especially youth and women leaders)	Review of training records
Locally relevant 'climate science' available to children, youth, LGUs and their communities	# of children/youth, women, men and PWD accessing localised climate change scenarios informed by academic and indigenous knowledge	Participatory process (eg interview or FGD, review of records and materials)

Local, community based CCA examples are provided below which provide an overview of the types of activities implemented under the heading of CCA (see Appendix A for a more comprehensive list).

Table 5: Examples of community based CCA projects and activities

Program / Project Name	CCA Activities	Type/s of indicator
Mekong and Asia Pacific Community Based Adaptation	<ul style="list-style-type: none"> <li>• Develop a community-based agricultural production model to effectively adapt to flooding in low-lying areas.</li> <li>• Contribute to sustainable peanut production by</li> </ul>	<ul style="list-style-type: none"> <li>• Project based</li> <li>• Qualitative and quantitative</li> </ul>

### Integration of CCA and DRR:

There has been and continues to be much discussion on the topic of integration of CCA with existing DRR programming and activities, given the strong similarities between the two fields. Pulhin et al. (2011) provide an overview of the current situation in the Philippines with regard to the integration of DRR and CCA, noting the following challenges:

- At the national scale, DRR and CCA are currently being addressed separately in the Philippines
- CCA is viewed as a political issue
- Disaster management tends to be reactive rather than proactive
- There are few examples of true collaboration between DRR and CCA policy makers and practitioners.

Despite these challenges, Plan, Oxfam and other NGOs in the Philippines are making progress at the local level by demonstrating success in bottom up approaches to risk reduction (see Table 4 and Appendix A).





<b>(MAP CBA) (UNDP)</b>	<ul style="list-style-type: none"> <li>addressing droughts in drought prone provinces</li> <li>Solar-powered water-pumping</li> <li>Developing community-led strategies and infrastructure to ensure adaptation to drought conditions</li> </ul>	<ul style="list-style-type: none"> <li>Community based (both participatory and project management based)</li> </ul>
<b>Responding to Coastline Change in its human dimensions in West Africa through Integrated Coastal Area Management (UNDP-UNESCO)</b>	<ul style="list-style-type: none"> <li>A combination of community based demonstration projects and UNDP &amp; UNESCO led support to facilitate and build capacity to foster national level integration of policies that promote adaptive capacity to climate change of coastline ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>Qualitative and quantitative</li> <li>Progress, performance, impact and outcome indicators</li> <li>Community based</li> </ul>
<b>Climate Change and Children (UNICEF)</b>	<ul style="list-style-type: none"> <li>Community gardens in Niger: In Niger, community gardens ensure that children have nutritious food and a better balanced diet. Garden harvests are stored to help families survive the long off-season, and children have first call on harvested vegetables</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>Child centred</li> </ul>
<b>UNICEF and Plan – Child centred CCA</b>	<ul style="list-style-type: none"> <li>Small scale child-led DRR interventions such as tree planting, water testing and mapping</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>Child centred</li> </ul>
<b>Strategic Planning and Action to Strengthen Climate Resilience of Rural Communities in Nusa Tenggara Timor province (UNDP)</b>	<ul style="list-style-type: none"> <li>The project will apply a holistic approach to improve rural livelihoods and food security by strengthening climate resilience. It will work simultaneously at the policy and grassroots levels. It will create continuous dialogue between these levels and stakeholders involved to ensure that policies to be developed or revised are based on needs and lessons learned from the grassroots.</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>Predominantly quantitative</li> <li>Process, impact and outcome indicators are used</li> </ul>
<b>Strengthening Vulnerable Peoples Capacity to Address the Risk and Impacts of Climate Change and Extreme Weather Events (UNDP, Thailand)</b>	<ul style="list-style-type: none"> <li>The project is working in three provinces with two NGOs active in communities. It has 3 components: 1. Increased awareness about future risks; 2. Investments for climate risk reduction measures; 3. Integration of climate change adaptation into provincial development planning.</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>Predominantly quantitative</li> <li>Community focused (non-participatory)</li> </ul>
<b>Strengthening flood disaster awareness and resiliency of schools and communities through the School Hydrological Information Network (SHINe) (Oxfam)</b>	<ul style="list-style-type: none"> <li>SHINe seeks to address the adverse effects of climate change in Bulacan’s most vulnerable areas. The focus of SHINe is the secondary schools, initially those in the upstream areas, and eventually, the rest of the schools in the province.</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>For further discussion with Oxfam</li> </ul>
<b>The Critical Role of Climate Information: From Disaster Risk Reduction to Agricultural Development (Oxfam)</b>	<ul style="list-style-type: none"> <li>The Climate Field School (CFS) is a flagship project under the Climate Forecast Application for Disaster Risk Reduction and Climate Change Adaptation Program. The CFS was designed to enhance the capacity of extension workers, rural women and farmers to understand and apply climate information in order to reduce disaster risk and adapt climate change to farm production and overall agricultural development.</li> </ul>	<ul style="list-style-type: none"> <li>Project based</li> <li>For further discussion with Oxfam</li> </ul>



## 5 A Typology of Indicators

Given the complex and varying nature of CCA interventions, indicators of change also vary widely. This section provides a typology of indicators according to the different approaches taken by organisations implementing CCA projects and programs. Figure 5 illustrates the various types of indicators, and following on from this are descriptions and examples of each type (see Appendix 2 for more details).

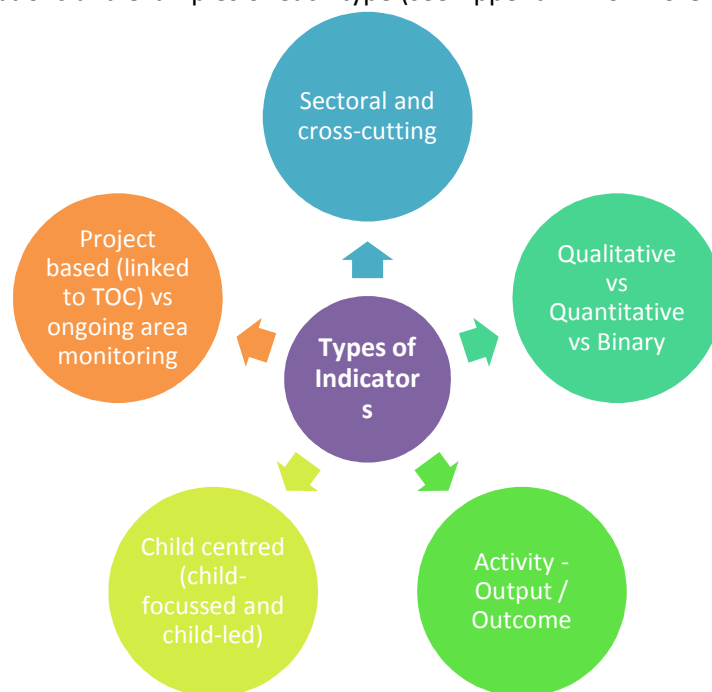


Figure 5: Typology of indicators

### 1. Sectoral indicators

As noted in Box 2, “many adaptation projects and programs do not differ significantly from other development activities” (Lamhauge et al., 2011: 43). Adaptation projects with a focus on, say, agriculture, will draw upon development indicators measuring progress in the agricultural sector. Likewise for health, infrastructure, coastal development and DRR activities. What is important, however, is to take into account the additional complexities associated with measuring climate change (e.g. recognition of longer timescales, barriers to adaptation, dealing with uncertainty and the challenge of shifting baselines).

#### Examples:

##### Agriculture:

- **Soil and water improvements**
- **Stability of farm-level returns over time**
- **Diversification of farm revenues from adoption of multiple cropping**

##### Health:

- **Malnourished women of childbearing age**
- **Drinking-water supplies failing national water quality**
- **Preventative health budget as % of sector spending**

##### DRR:

- **No. and type of DRR instruments e.g. insurance instruments promoted**
- **Early warning system in place**
- **Households have flood/cyclone proof food and input storage facilities**

##### Sustainable / Resilient Livelihoods:

- **People are aware of future climate projections for their locality**



- 
- **Households are producing crops that are resilient to climate hazards**
  - **Collective ownership of assets to reduce costs and risks**

Ecosystems:

- **Area of habitat protected to maintain ecosystem services**
  - **Implementation of ecosystem restoration activities for coastal buffer zones**
- 

## 2. Quantitative vs Qualitative vs Binary indicators

Quantitative indicators are often used to measure progress and change due to reasons of efficiency and the ease of comparability (Adger et al., 2005). Qualitative indicators can be particularly useful in measuring progress, including in data poor areas, and can draw on participatory data collection approaches (IGES, 2008). Qualitative indicators can be useful in community-developed indicators of success and are also useful for measuring impact and can provide information on community dynamics, coping strategies, gender considerations (UNDP, 2008). Most studies and experts agree that a combination of qualitative, quantitative and binary indicators should be drawn upon (e.g. Lamhauge et al., 2011).

*Examples:*

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Qualitative:

- **Community understanding about climate change issues**
- **District officials' ability to conduct participatory risk assessments**
- **Success of sustainable resource management interventions in securing livelihoods and protecting resources**

Quantitative:

- **Number of girls, boys, women, and men assisted in building resilience to climate change**
- **Number of community members with increased adaptive capacity**
- **Number of households that seek out, test, adapt and adopt ideas and practices that strengthen their livelihoods**

Binary:

- **Social development policies and plans are being implemented to reduce the vulnerability of economic activities.**
  - **Country wide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.**
  - **School curricula, education material and relevant trainings include risk reduction and recovery concepts and practices (above are all HFA indicators)**
- 

## 3. Activity - Output and outcome indicators

In a theory of change / logical framework, there are a number of steps and changes between the implement activities and the ultimate goal of enhanced climate change adaptation. Indicators associated with CCA activities have been classified as related to the activity, output, intermediate outcome/process and final outcome/impact indicators. Progress or success can be measured at the end of an intervention or considered intermediate indicators and measure progress part way through.

*Examples:*

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Output:

- **Assessment findings shared, discussed, understood and agreed among all stakeholders, and feed into community disaster planning**
- **Skills and capacity to carry out community hazard and risk assessments maintained through support and training**
- **Organised producers' group inclusive of poor and small farmers**

Intermediate outcome or process indicators:

- **Views of civil society and communities are integrated in local plans**
  - **No. of organisations engaging with knowledge network**
- 



- 
- **Resources are allocated for adaptation activities**

Outcome:

- **Regularity of off-farm employment opportunities for women and landless farmers over long term**
  - **Livelihoods options better suited to climate change available to target community**
  - **Number of new policies introduced or existing policies and plans are updated as a result of scenario planning exercises**
- 

#### **4. Child centred indicators**

Child centred DRR and CCA recognises the potential role children and young people can play in reducing risk, enhancing resilience and contributing to sustainable development (Plan, 2010). Child centred CCA and DRR fosters the agency of children and draws on a rights based approach that is child focused or child led (Plan, 2010). Child centred indicators are included in the typology as they focus on a specific vulnerable group, and are different from community wide indicators.

*Examples:*

Child focused:

- **# schools and # LGUs integrated CCA-DRR plans and budgets respond to issues and concerns of children and incorporate child-focus**
- **# of girls and boys (children and youth) active in child-led adaptation projects and advocacy for CBA**
- **Reports which highlight practical and theoretical insights into CBA and offer guidance for continuous improvement**

Child led:

- **Existing coping strategies identified through appreciative inquiries**
  - **# of child-led advocacy initiatives**
  - **# child-centered CVCA undertaken**
- 

#### **5. Project based indicators**

Project based indicators are designed to monitor and measure specific changes related to a particular project with discrete spatial and temporal boundaries, as opposed to measuring broader changes at the local, regional or national level (e.g. progress of a national government agency). While project based indicators are usually developed with the specific context of the project in mind, they can often be adapted to different settings either at different locations, scales (spatial or temporal) or for different cultural settings.

*Examples:*

Project based:

- **No. of people benefitting from water, livestock and natural risk management projects**
  - **No. of households that seek out, test, adapt and adopt ideas and practices that strengthen their livelihoods**
  - **Construction of climate-proof infrastructure**
- 



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## 7 Appendices

### 7.1 Appendix A: Examples of community based CCA interventions

Name / description of CCA activity	Program name	Organisations involved	Location	Reference
Develop a community-based agricultural production model to effectively adapt to flooding in low-lying areas.	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Vietnam	AusAID-GEF-SGP-UNDP (2012)
Contribute to sustainable peanut production by addressing droughts in drought prone provinces				
Experimenting a model in peanut production to adapt to droughts and flooding in selected provinces				
Strengthening local adaptive capacity of fisheries village: the case of Do Son, Hai Phong				
Developing a community model of climate change adaptation in a floating village in Ha Long				
Solar Energy and Sustainable Development	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Laos	AusAID-GEF-SGP-UNDP (2012)
Return Trees to Forest: Promote and train farmers in ecologically sound agricultural production methods				
Solar-powered water-pumping				
Environment Protection and Development: Improve the lives of shifting cultivation farmers with developing of other food security sources as alternative and additional				
Buffer Zone Recover and Management: building community capacity in buffer zone use and management and mobilizing local resources for the sustainability of project activities				
Community Water Supply: Project tries to solve drought issues related to health and hygienic in isolated village of Sonnabouly district, Savannakhet province				
Improve Water Resource Access and Management for Better Farming in Drought Prone Communities	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Cambodia	AusAID-GEF-SGP-UNDP (2012)
Building adaptive capacity and ecosystem resilience to floods and droughts in Indigenous and minority communities Project				
Mangrove Reforestation, Conservation and Eco- Tourism Development for Improving Community Livelihood				
Improve Agricultural Productivity through Enhancing Capacity of the Community to Drought Resilience project				
Developing community-led strategies and infrastructure to ensure adaptation to drought conditions	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Sri Lanka	AusAID-GEF-SGP-UNDP (2012)
Minimizing land degradation in Serupitiya village to facilitate community based				





adaptation to climate change				
Improving Land Management and adaptive community approaches to disaster and climate change impacts on Cikobia Island	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Fiji	AusAID-GEF-SGP-UNDP (2012)
Food security as a community catalyst for Climate Change adaptation and enhancing watershed management and restoration on Totoya Island				
Manono Island - Implementation of the Sustainable Development Plan (UNDP CSSPD); and the Coastal Infrastructure Management (CIM) Plan	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Samoa	AusAID-GEF-SGP-UNDP (2012)
Koqulavata village sealine rehabilitation project: The proposed project aims at rehabilitation of mangrove and protection of coastal ecosystems and raising awareness of communities of the threats pose by climate change	Mekong and Asia Pacific Community Based Adaptation (MAP CBA)	AusAID, UNDP, SGP, local NGOs	Solomon Islands	AusAID-GEF-SGP-UNDP (2012)
A combination of community based demonstration projects and UNDP & UNESCO led support to facilitate and build capacity to foster national level integration of policies that promote adaptive capacity to climate change of coastline ecosystems	Adaptation to Climate Change- Responding to Coastline Change in its human dimensions in West Africa through Integrated Coastal Area Management	UNDP and UNESCO and local communities	West Africa	UNDP (2007)
Community gardens in Niger: In Niger, community gardens ensure that children have nutritious food and a better balanced diet. Garden harvests are stored to help families survive the long off-season, and children have first call on harvested vegetables.	Climate Change and Children	UNICEF and local communities	Niger	UNICEF and Plan (2011)
School based water testing	Water, sanitation and hygiene education: Children and adolescents leading the way in Tajikistan	UNICEF and local communities	Tajikistan	Goodman, 2005
Children protect mangroves in the Philippines: The children of Teguis realised that the destruction of the mangroves posed a huge risk for their community. A group of 20 girls and boys decided to act by spearheading a mangrove rehabilitation campaign to restore their local ecosystem. With support from Plan and the Teguis Farmers Association, the children's groups were able to educate others on how to protect mangroves.	Children protect mangroves to offset effects of climate change	Plan and local communities, children's groups, Teguis Farmers Association	Philippines	Plan (2010)
Child led awareness raising through multimedia (example of child-led adaptation)		UNICEF and Plan		UNICEF and Plan (2011)





DRR programs integrated into school curriculum such as risk mapping, and planning what to do in emergencies (example of child-led adaptation)				
Small scale child-led DRR interventions such as tree planting, water testing and mapping				





## 7.2 Appendix B: Examples of CCA, DRR and other relevant indicators

Indicator	Reference
<b>Sector: Agriculture</b>	
Improved water management	World Bank (2005): <i>Monitoring and Evaluation for World Bank Agricultural Research and Extension Projects: A Good Practice Note</i>
Diversification of farm revenues from adoption of multiple cropping.	World Bank (2005)
Stability of yields/productivity over long term.	World Bank (2005)
Regularity of off-farm employment opportunities for women and landless farmers over long term.	World Bank (2005)
Soil and water improvements	World Bank (2005)
Stability of farm-level returns over time	World Bank (2005)
Maintenance of farm-level soil fertility and vegetative cover over time	World Bank (2005)
Organised producers' group inclusive of poor and small farmers	World Bank (2005)
Creation of adaptation measures for community food storage, land management and soil quality enhancement	World Bank (2005)
Creation of new farmers organisations and leaderships	World Bank (2005)
Change in income from on-farm and off-farm activities, change in income, welfare, productivity, access to insurance and credits.	World Bank (2005)
Capability of producer's groups to negotiate beneficial contracts with commercial buyers, organize services required by members	World Bank (2005)
Poor, small farmer's participation in agricultural supply chains. Improve social capita.	World Bank (2005)
Overall improved institutional capacity and efficiency in policy and institutional framework to support rural activities under the adaptation umbrella	World Bank (2005)
Socioeconomic benefits over time from engagement in alternative livelihoods	World Bank (2005)
Farmers adopt environmentally sustainable agricultural technologies and practices	World Bank (2005)
Overall benefits from adoption of technologies resulting from research programs	World Bank (2005)
Overall improved institutional capacity and efficiency in policy and institutional framework to support rural activities under the adaptation umbrella	World Bank (2005)
Environmental properties of specific species for climatic stressful conditions	World Bank (2005)
Minimisation/Reduction in environmental costs of intensive cultivation. Improve yields.	World Bank (2005)
% of farmers with increased trust in weather data and climate projections in making farming decisions.	World Bank (2005)
Diminished variability in yields over a multi-year period	World Bank (2005)
Number of farmers adopting new technologies/ improved farm practices to better cope with climate variability and extremes.	World Bank (2005)
Diminished income variability over a multi-year period	World Bank (2005)
Increased water and agricultural productivity (kg/m <sup>3</sup> );	World Bank (2005)
Improved irrigation efficiency (%);	World Bank (2005)
Relevant CCA measures/techniques implemented in selected demonstrated area (ha) by the broad stakeholders participation (number of farm households) at selected sites;	World Bank (2005)
Policies, mechanisms and instruments for adaptation to climate change formulated and integrated into the national CAD operation system.	World Bank (2005)
Specific adaptation measures and approaches developed and implemented for testing in the demonstration Areas	World Bank (2005)
Coverage of climate change adaptation by the media, web page, workshops/training plans, and technical assistance programs;	World Bank (2005)
Climate Change Adaptation Monitoring and Evaluation mechanism in operation	World Bank (2005)
Guidelines prepared on effective adaptation measures and policy interventions;	World Bank (2005)
Area and number of livestock and poultry	World Bank (2005)





Public spending on agriculture as a percentage of GDP from the agriculture sector	World Bank (2005)
Public spending on agricultural input subsidies as a percentage of total public spending on agriculture	NEDA-UNDP (2008) <i>Guidelines on mainstreaming DRR in Subnational Development in the Philippines</i>
Prevalence (percentage) of underweight children under five years of age in rural areas	World Bank (2009) <i>Agriculture M&amp;E Indicators</i>
Food Production Index	World Bank (2009)
Ratio (or proportion) of arable land area to total land area of the country	World Bank (2009)
Percentage of rural labour force employed in agriculture	World Bank (2009)
% of small-scale farmers who know about sustainable crop production practices	World Bank (2009)
% of farmers who applied/ purchased the recommended package of inputs last season	World Bank (2009)
% of farmers who adopted sustainable crop practices in their farms	World Bank (2009)
Change (percentage) in yields of major crops	World Bank (2009)
% increase in private sector investments in agriculture	World Bank (2009)
Ratio of average income of the richest quintile to the poorest quintile (%) in rural areas	World Bank (2009)
Vulnerability of farmers and pastoralists to increased drought and rainfall variability reduced.	UNDP (2008) <i>UNDP's Adaptation Framework</i>
Areas of rain-fed agriculture, irrigation rate, irrigation source	UNEP, IISD, UNITAR, IEA Training Manual, Vol 2
<b>Sector: Health and Food Security</b>	
Per capita dietary energy supply	FAO (2003) <i>Focus on Food Insecurity and Vulnerability</i>
Proportion of population below minimum level of dietary energy consumption	FAO (2003)
Indicators of Household Income and Expenditure Surveys (HIES)	FAO (2003)
Coping strategies	FAO (2003)
Malnourished children	FAO (2003)
Famine risk	Adapted from WHO – Sheffield and Landrigan (2011)
Attributable change in number of households relying on biomass fuels or coal as the main source of heating and cooking	Sheffield and Landrigan (2011)
Drinking-water supplies failing national water quality	Sheffield and Landrigan (2011)
Children 0–14 years of age living in disaster-affected areas	Sheffield and Landrigan (2011)
Diarrhea mortality and morbidity in children 0–4 years of age	Sheffield and Landrigan (2011)
Attributable number of food outlets failing food hygiene standards	Sheffield and Landrigan (2011)
Population growth rate in endemic disease areas	Sheffield and Landrigan (2011)
Total area of insect vector habitats	Sheffield and Landrigan (2011)
Children 0–14 years of age in households providing suitable conditions for insect-borne disease transmission	Sheffield and Landrigan (2011)
At-risk children 0–14 years of age covered by effective, integrated vector control and management systems	Sheffield and Landrigan (2011)
Years of life lost	Sheffield and Landrigan (2011)
Preventative health budget as % of sector spending	Institute for Social and Environmental Transition – Tyler and Moench (2012)
Clinics / hospitals flooded	Tyler and Moench (2012)





Proportion of poor not using public facilities (clinics)	Tyler and Moench (2012)
Public health interventions changing with climate change	Tyler and Moench (2012)
Diseases and health care delivery (number of people suffering from diseases, access to health care—hospitals, mobile clinics by area)	UNEP, IISD, UNITAR, IEA Training Manual, Vol 2
<b>Sector: Education, Research and Capacity Building</b>	
School curricula, education material and relevant trainings include risk reduction and recovery concepts and practices.	SRC Consortium (2010) <i>Learning to ADAPT</i>
No. and quality of publications, articles, TV programmes	OECD's review of CCA activities, in Lamhauge et al. (2011)
No. of training sessions/workshops conducted	Lamhauge et al. (2011)
No. of people trained	Lamhauge et al. (2011)
Development of knowledge platforms/ website	Lamhauge et al. (2011)
No. of training modules/materials published and disseminated	Lamhauge et al. (2011)
No. of hits on web-based platform	Lamhauge et al. (2011)
No. of stakeholders participating in knowledge sharing/training	Lamhauge et al. (2011)
Extent of use and outreach of education material/training facilities	Lamhauge et al. (2011)
Increased community capacity through implementation of pilot projects	Lamhauge et al. (2011)
No. of trained committees that developed and adopted risk reduction plans	Lamhauge et al. (2011)
Adaptation in government staff training curricula	Lamhauge et al. (2011)
No. of knowledge communication centres/dialogue platforms	Lamhauge et al. (2011)
Number of educational materials produced and the extent of their use	Lamhauge et al. (2011)
Number of training programmes and their impact on improved disaster preparedness	Lamhauge et al. (2011)
Village groups and commune officials' capacity to assess factors of vulnerability	Lamhauge et al. (2011)
District officials' ability to conduct participatory risk assessments	Lamhauge et al. (2011)
Production of climate predictions under different scenarios (indicators, projections, maps, desertification indices)	Lamhauge et al. (2011)
Studies identify risk and benefits of managing environmental resource(s)	Lamhauge et al. (2011)
Increased capacity to assess vulnerabilities and risks of climate change	Lamhauge et al. (2011)
Vulnerability profile developed	Lamhauge et al. (2011)
No. of organisations engaging with knowledge network	Lamhauge et al. (2011)
Areas of research are collectively identified and developed	Lamhauge et al. (2011)
Appropriate dialogue platforms at the district level are promoted and organised	Lamhauge et al. (2011)
Community needs and concerns are adequately reflected in the research agenda	Lamhauge et al. (2011)
People are aware of adaptation strategies	CARE (2010)
People have technical skills to implement adaptation strategies	CARE (2010)
Mechanisms exist for sharing seasonal forecasts and climate monitoring information	CARE (2010)
Number of stakeholders involved in capacity building for implementing specific adaptation measures, policy/planning processes or decision-support tools.	UNDP (2010) <i>Toolkit for designing CCA Initiatives</i>
Availability of skills and resources necessary to continue adaptation after conclusion of project (at relevant scale)	UNDP (2010)
Number of 'lessons learned' codified	UNDP (2010)
Number of relevant networks or communities with which lessons learned are disseminated	UNDP (2010)
Number of policy makers and planners trained in scenario planning	SRC Consortium (2010) <i>Learning to ADAPT</i>
Number of new policies introduced or existing policies and plans are updated as a result of scenario planning exercises	SRC Consortium (2010)
Population covered by awareness building programmes to increase understanding of risks associated with climate change among general and public and key stakeholder groups	SRC Consortium (2010)
<b>Sector: Coastal development</b>	
Understanding of climate changes related coastal risks among general and public and	SRC Consortium (2010)





key stakeholder groups	
Percentage of population with access to key resources for adaptation compared with project baseline, measures (EWS storms shelters, post disaster financial assistance).	SRC Consortium (2010)
Perceived change in likely ability to respond effectively to future change in coastal risks	SRC Consortium (2010)
Relocation of settlements away from coast (due to sea level rise, coastal erosion, inundation, flooding, salination)	Brooks et al. (2011)
Number of private planning application of development in high-risk areas.	SRC Consortium (2010)
Value of planned new development in high-risk areas compared with projected baseline value	SRC Consortium (2010)
Length of coastline covered by project interventions, coupled with population of adjacent coastal areas	SRC Consortium (2010)
Area and length of coast where project leads to changes associated with enhanced resilience	SRC Consortium (2010)
% of households at risk due to sea-level rise	IGES (2008) <i>Measures of Adaptation to Climatic Change and Vulnerability (Adaptation Metrics)</i>
% unpolluted stream and beach kilometres (and nature of protection)	UNDP (2010)
Number of policies and plans relating to coastal development under review, in order to ensure climate change issues are addressed	SRC Consortium (2010)
<b>Sector: Economically Sustainable and Resilient Livelihoods</b>	
People are using climate information in planning livelihoods strategies	CARE (2010)
Households have increased income from sale of products	CARE (2010)
People are aware of future climate projections for their locality	CARE (2010)
People are investing in insurance	CARE (2010)
Number of stakeholders (e.g. communities, households, agencies, decisionmakers) engaged in capacity building activities for vulnerability reduction or improved adaptive capacity.	UNDP (2010) <i>Toolkit for designing CCA Initiatives</i>
Number of stakeholders served by new or expanded climate information management systems (e.g. early warning systems, forecasting, etc.).	UNDP (2010)
Number of risk-reducing practices/measures implemented to support adaptation of livelihoods and/or resource management	UNDP (2010)
Percent change in stakeholders' behaviour utilising adjusted processes, practices or methods for managing climate change risks.	UNDP (2010)
Percent change in stakeholders' capacities to manage specific climate change risks (e.g. communicate climate change risks, disseminate information, or make decisions based on high quality information).	UNDP (2010)
Household income and its inter-annual stability	IGES (2008) <i>Measures of Adaptation to Climatic Change and Vulnerability (Adaptation Metrics)</i>
Damage per household/farms due to extreme events (e.g., floods, drought)	IGES (2008)
Number of registered business establishments, products sold/ services provided, number and profile of workers, equipment and machinery stock	NEDA-UNDP (2008) <i>Guidelines on mainstreaming DRR in Subnational Development in the Philippines</i>
Number of registered business establishments, products sold/ services provided, number and profile of workers, equipment and machinery stock	NEDA-UNDP (2008)
Number of private sector bodies (organisation and individual business) engaged by project and provided with training in climate risk management and scenario planning.	NEDA-UNDP (2008)
Number of sites/locations where resilience building measures are piloted.	SRC Consortium (2010)
Social protection schemes in place	CARE (2010)
Community disaster fund exists	CARE (2010)
Functional micro-finance institutions exist	CARE (2010)







Livelihoods options better suited to climate change available to target community	UNDP CBA
Proportion of household income spent on food (poorest quintile)	FAO (2003)
No. of households that seek out, test, adapt and adopt ideas and practices that strengthen their livelihoods	Lamhauge et al. (2011)
<b>WATER INDICATORS:</b>	
Reliability of water supply	Institute for Social and Environmental Transition – Tyler and Moench (2012)
Proportion of water supply from single source	Tyler and Moench (2012)
Total annual water conserved through demand side management	Tyler and Moench (2012)
Leakage rate	Tyler and Moench (2012)
% of population served by piped water	Tyler and Moench (2012)
% of hh using wells or untreated water	Tyler and Moench (2012)
Utility plans for climate change	Tyler and Moench (2012)
Percentage of population who consider themselves better off now than 12 months ago	Tyler and Moench (2012)
Rise in groundwater level	IGES (2008)
Percentage of population with improved and sustainable access to water sources	Lamhauge et al. (2011)
<b>Sector: Disaster Risk Reduction</b>	
Frequency of natural events (floods, droughts and cyclones)	UNEP, IISD, UNITAR (2009)
Location and intensity of wild fires	UNEP, IISD, UNITAR (2009)
Number of consecutive days with precipitation / temperatures exceeding certain levels	UNEP, IISD, UNITAR (2009)
Population affected by natural disasters (number of people affected by floods / droughts / cyclones per event, per year / period)	UNEP, IISD, UNITAR (2009)
Infrastructure (lengths and types of road located on coasts being damaged by floods / cyclones in areas and per year / period)	UNEP, IISD, UNITAR (2009)
Land use (changes in areas of forests/pastures/agricultural land, coastal areas)	UNEP, IISD, UNITAR (2009)
Role of sensitive sectors (employment and revenues from sector such as agriculture, fisheries and tourism)	UNEP, IISD, UNITAR (2009)
Number of strategies adopted to address drought and other categories of vulnerability	UNDP CBA
Rate of loss of natural resource base for livelihoods determined to be negatively impacted by climate change	UNDP CBA
No. of households/communities participating in afforestation/improved agricultural practices / watershed management	Lamhauge et al. (2011)
Impact of flood (no. of people affected, inundation depth, duration, value of flood damage)	Lamhauge et al. (2011)
No. and type of DRR instruments e.g. insurance instruments promoted	Lamhauge et al. (2011)
Early warning system in place	Lamhauge et al. (2011)
Construction of climate-proof infrastructure	Lamhauge et al. (2011)
No. of (people benefitting from) water, livestock and natural risk management projects	Lamhauge et al. (2011)
Amount of flood damage (agricultural products, public resources such as roads and bridges) (2 years return period) (20 years return period)	JICA, cited in Lamhauge et al. (2011)
Annual maximum number of inundated houses and inundated period (2 years return period) (20 years return period)	JICA, cited in Lamhauge et al. (2011)
Households have flood/cyclone proof food and input storage facilities	CARE (2010)
Households are saving seeds	CARE (2010)
Raised houses in flood-prone areas	CARE (2010)
Cyclone shelters exist in areas at risk of cyclones	CARE (2010)
Livestock have shelter from floods and storms	CARE (2010)
Reserves of fodder and water for livestock exist	CARE (2010)
People have radios or other means of communications	CARE (2010)
Disaster risk information is accessible at the local level	CARE (2010)
EWS uses appropriate communication mechanisms	CARE (2010)
The Local Disaster Index (LDI) identifies the social and environmental risks resulting from more recurrent lower level events.	Cutter et al. (2003). <i>Social vulnerability to</i>





	<i>environmental hazards.</i>
The Risk Management Index (RMI) brings together a group of indicators that measure a country's risk management performance.	Cutter et al. (2003)
Procedures are in place to exchange relevant information during disasters and to undertake post-event interviews	SRC (2010)
<b>Sector: Policy and planning</b>	
No. of villages, communities, countries, regions with adaptation/ resource management / environmentally sustainable strategies/plans	Lamhauge et al. (2011)
Inclusion of climate change in policy frameworks (e.g. PRSP, agricultural policies, development policy frameworks)	Lamhauge et al. (2011)
Evidence of climate change mainstreaming in development plans	Lamhauge et al. (2011)
Reference to climate change as an important factor in understanding risk reduction (in x no. of policy documents)	Lamhauge et al. (2011)
A percentage of DRR plans reflect potential climate change impacts	Lamhauge et al. (2011)
Resources/no. of projected allocated to climate change adaptation	Lamhauge et al. (2011)
Tools developed for climate and hydrological analysis to assess climate change threats	Lamhauge et al. (2011)
Local institutions are using vulnerability and risk analysis in planning	CARE (2010)
Local institutions are aware of appropriate adaptation strategies	CARE (2010)
Local planning processes incorporate mechanisms for participation by civil society organizations and communities	CARE (2010)
Views of civil society and communities are integrated in local plans	CARE (2010)
Local institutions have increased capacity to plan and implement adaptation	CARE (2010)
Resources are allocated for adaptation activities	CARE (2010)
Local plans take climate change into account	CARE (2010)
Local policies support adaptation	CARE (2010)
People are aware of local disaster management plan	CARE (2010)
Disaster management plan recognizes special needs of people with reduced mobility	CARE (2010)
Local government and/or community committees are monitoring vulnerability	CARE (2010)
Local contingency plans exist	CARE (2010)
Local government has logistical capacity to manage emergency response	CARE (2010)
Local government has resources to respond to emergencies	CARE (2010)
There is a clear mandate to include climate risks in local development and other types of plans.	WRI (2012) <i>Ready or Not</i>
Number of provinces which have adopted or mainstreamed climate change adaptation principles into their development plans	UNDP (2012) <i>Strategic Planning and Action to strengthen climate resilience of Rural Communities in Nusa Tenggara Timor</i>
Extent to which climate change adaptation methodologies (including Climate Risk Management) and interventions associated with DRR are being piloted	UNDP (2012)
% of target areas effectively developing and implementing DRR sensitive spatial planning incorporating climate risk reduction	UNDP (2012)
Annual District government Work Plans and budgets approved by provincial parliament and district parliament that include specific reference to adaptation actions	UNDP (2012)
Number of trained people mandated to support climate resilient development (Disaggregated by gender)	UNDP (2012)
Number of CCA measures deployed as part of climate change-resilient sustainable resource management activities	UNDP (2008b) <i>Viet Nam's Community Based Adaptation Country Programme Strategy (CBA CPS)</i>
Number of families/households benefiting from climate change resilient sustainable resource management activities	UNDP (2008b)





Number of lessons learnt/ best practices from the CBA initiative to contribute to national/provincial CC adaptation programmes	UNDP (2008b)
Community understanding about CC issues	UNDP (2008b)
Number of new policies introduced or existing policies and plans are updated as a result of scenario planning exercises	SRC (2010)
Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes	SRC (2010)
Procedures are in place to assess disaster risk impacts of all major developments projects, especially infrastructure	SRC (2010)
<b>Sector: Child focused</b>	
Existing coping strategies identified through appreciative inquiries	Save the Children (2012) <i>Vietnam Child-Centred Climate Resilience Program</i>
# of girls and boys (children and youth) active in child-led adaptation projects and advocacy for CBA	Plan (2012) <i>Child-centred Community-based Adaptation in the Philippines</i>
# schools and # LGUs integrated CCA-DRR plans and budgets respond to issues and concerns of children and incorporate child-focus	Plan (2012)
# of schools # of Municipality and # Barangay LGUs integrate plans and % increase budgets for CCA-DRR	Plan (2012)
# most marginalised groups (children, women and PWD) practicing improved or new livelihood practices based on knowledge of climate change vulnerability and risk analysis	Plan (2012)
% of boys and girls (children and youth) in targeted Barangays are aware of vulnerability and risks associated with climate change and adaptation options in their communities	Plan (2012)
% of women and men (inclusive of PWD) in targeted Barangays are aware of vulnerability and risks associated with climate change and adaptation options in their communities	Plan (2012)
# elementary and secondary school teachers trained, # Barangay leaders (especially youth and women leaders)	Plan (2012)
# of children/youth, women, men and PWD accessing localised climate change scenarios informed by academic and indigenous knowledge	Plan (2012)
# of girls and boys (children and youth) active in child-led advocacy for climate change adaptation	Plan (2012)
# of SKs (Barangay Youth Council) lead action for climate change adaptation	Plan (2012)
girls and boys (children and youth) influence integrated school and barangay CCA-DRR plans	Plan (2012)
# of boys and girls (children and youth) participating in local, national and regional forums to promote climate adaptation	Plan (2012)
# of girls and boys participating in community-wide climate risk assessment and adaptation planning	Plan (2012)
# of Municipal LGUs, # of Barangay LGUs, # of schools integrate CCA-DRR into their development plans and budgets # of LGUs, # of schools working collaboratively with other stakeholders and leading participatory assessment and planning	Plan (2012)
# of men and women, boys and girls and PWD actively participating in climate risk assessment and adaptation planning	Plan (2012)
# of locally-relevant and inclusive tools and materials available for use of LGUs and schools which guide integration of CCA-DRR into planning and budgeting	Plan (2012)
# of LGU members and # School Governing Council members participate in trainings and seminars	Plan (2012)
# of participatory situational assessment and planning processes for marginalized groups # participatory planning and budgeting processes inclusive of influence of marginalized groups (children/youth, women and PWD)	Plan (2012)





# marginalized groups (children, women and PWD) practicing improved or new livelihood practices based on knowledge of climate change and adaptation options	Plan (2012)
# of child/youth-led adaptation projects designed, implemented and evaluated and lessons captured	Plan (2012)
# of girls and boys (children and youth) active in child-led adaptation projects	Plan (2012)
# marginalized groups leading adaptation projects and learning processes # school and LGUs leading adaptation projects and learning processes	Plan (2012)
Project communications which demonstrate practice and learning of integrated CCA-DRR in local level planning, CC-CBA and community-based adaptation	Plan (2012)
Reports which highlight practical and theoretical insights into CBA and offer guidance for continuous improvement	Plan (2012)
Partnerships are established between schools and children’s associations with meteorological and scientific institutions that lead to improved climate and risk information sharing and understanding by children	Plan, SCR (2011)
Barriers to CSDRM integration in the education, health and child protection sectors are identified and removed	Plan, SCR (2011)
Planning and implementation between child rights sectors (education, health, child protection etc) takes place to improve integration for CSDRM programming	Plan, SCR (2011)
Girls and boys actively engage in developing and using climate scenarios to improve current and future policy and programming	Plan, SCR (2011)
Children and child rights service providers have access to scientific and indigenous local climate knowledge in a user friendly format and integrate this into child rights risk reduction policy	Plan, SCR (2011)
Children participate in V&A assessments on a regular basis	Plan, SCR (2011)
Risk management and reduction planning with climate scenarios include children’s views and engage child rights service providers	Plan, SCR (2011)
Child rights policies, strategies and programming are regularly monitored and updated based on CCA needs and new learning	Plan, SCR (2011)
Identification of opportunities for innovation and experimentation are encouraged, shared and undertaken through joint actions across children’s organisations and networks / schools	Plan, SCR (2011)
Technical capacity of child rights service providers is supported to update policies based on CCA learning and innovation	Plan, SCR (2011)
Child friendly discussion spaces are in place for debating and sharing new ideas	Plan, SCR (2011)
Children and service providers take part in monitoring processes that inform child rights policy about the changing environment, risks and new opportunities	Plan, SCR (2011)
Baselines and data collection on child rights are reflecting changing vulnerability and are periodically reviewed and updated to address risks	Plan, SCR (2011)
Child centred socio-economic baselines inform policy and planning and baselines are periodically reviewed and updated where necessary	Plan, SCR (2011)

