Integrating DRR and CCA into the project cycle

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Mainstreaming DRR and CCA

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Introduction to mainstreaming DRR and CCA

What is mainstreaming DRR and CCA?

Systematically including disaster risk reduction and climate change adaptation considerations at **all stages of policy and decision-making**, planning and implementation and monitoring processes and **with different partners**.

This means:

… **an assessment** of the potential implications of disasters and climate change for any planned or ongoing activity.

… **an analysis** of how planned or ongoing activities could have an impact on vulnerability to hazards.

Introduction to mainstreaming DRR and CCA

Successful mainstreaming of DRR and CCA will:

- Alleviate human suffering.
- Promote risk-informed and climate-resilient development.
- Reduce losses and damages and thereby reduce relief and rehabilitation costs.
- Identify climate and disaster risks and address them early on.
- Prevent inappropriate measures (maladaptation).

The enabling environment for mainstreaming DRR and CCA

The project cycle

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Project (or Programme) Cycle Management (PCM) refers to programmes and projects designed and managed through a sequence of interrelated phases.

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PCM describes the activities and decision-making procedures that shape the life cycle of a programme/project. It emphasizes the cyclical, recurring nature of programming as well as the interdependency of actions within an intervention throughout the different phases.

Consideration of disaster and climate change risks in all stages of the sectoral Project (or Programme) Cycle Management (PCM).

It is important to consider and address disaster and climate change risks in the **sectoral PCM phases**, including analysis, design, budgeting, implementation, monitoring and evaluation.

In order to mainstream DRR and CCA, the project/programme manager makes it a rule to consider and address disaster and climate change risks in all sectoral PCM phases.

Guiding principles for considering DRR and CCA in the project cycle:

1. **Seek full inclusion of at-risk populations**, in particular those who are disproportionally at-risk, like women, children, the elderly, persons with disabilities or ethnic minorities, in all levels of identification, planning, implementation, monitoring and evaluation. Programmes and projects can only be effective if they are based on needs and through the involvement of those at risk.

2. **Understand and address unique needs** of at-risk populations through targeted or integrated DRR/CCA and resilience-building interventions.

3. Ensure that risk management and climate change adaptation activities **do not inadvertently worsen the vulnerability** of at-risk populations.

4. **Redress power imbalances and other structural causes** of differential exposure and vulnerability within the community when planning, implementing and evaluating a project.

Tools for project planning

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Risk Assessment

"Risk Assessment is an approach to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend."

UNISDR, 2015

Risk Assessments help to **identify the most relevant risks** and **prioritize DRR and CCA measures** that are strengthening the capacity of communities to manage and deal with disaster, and thereby strengthening the resilience.

Risk Assessment

By conducting a Risk Assessment you are able to identify:

- **Technical characteristics of hazards** – location, intensity, frequency and probability.
- **Exposure and vulnerability** including physical, social, human, political, economic and environmental dimensions.
- The **effectiveness** of prevailing and alternative coping strategies.

The Risk Assessment phases are in line with the Project Cycle

Phase 1: Risk Screening A simple risk screening is well-suited to the project identification phase, and determines whether a detailed risk assessment is needed in the project planning phase.
Example: Climate, Environment and Disaster Risk Reduction Integration Guidance (CEDRIG)

Phase 2: Detailed Risk Assessment A detailed risk assessment, if necessary, is conducted during the project planning phase. All relevant stakeholders involved in the project are consulted about all dimensions of risk: hazard, exposure, vulnerability and capacity.
Example: Hazard-Vulnerability-Capacity Assessment

Sources for secondary risk data

Country risk profiles:

- Center for Research on the Epidemiology of Disasters, EM-DAT database http://www.emdat.be
- GFDRR Climate Risk and Adaptation Country Profiles : http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile
- INFORM – Index for Risk Management: http://www.inform-index.org
- Think Hazard, GFDRR: http://thinkhazard.org/
- *UNEP: Global Risk Data Platform:* http://preview.grid.unep.ch/
- UNISDR Risk Data Platform, http://www.preventionweb.net/english/
- UNISDR Global Assessment Report: http://www.preventionweb.net/english/hyogo/gar/2015/en/home/index.html

Sources for secondary risk data

Climate-related risks and future changes:

- **Prevention web**, UNISDR provides information on risk profiles, policy documents and maps for countries: http://www.preventionweb.net/english/countries/
- **Climate Change Knowledge Portal**, World Bank offers data for countries and subregions for current hazards as well as predictions based on IPCC models: http://www.worldbank.org/en/topic/climatechange/publication/turn-down-the-heat
- **National communications to the UNFCCC** include climate profiles and related impacts: http://unfccc.int/ national_reports/non-annex_i_natcom/items/2979.php

Keep in mind: Also look for **national studies** from governments, academia or NGOs for more information on subnational and local developments on hazards.

Phase 1: Risk Screening

Aim

To check in a generic and quick way, whether a strategy, programme or project has considered and addressed the existing and future risks associated with disasters and climate change, and whether or not to proceed with a detailed assessment.

When to do

Project identification phase

How to do

The screening is done by answering some key questions:

- *Are there any risks associated with the planned activity?*
- *Are these risks high or low?*
- *Does the planned activity consider these risks?*
- *Do the planned actions reduce vulnerability to disaster risk and climate change impacts?*
- *Do beneficiaries have sufficient capacity to deal with the estimated risks, in particular considering those disproportionally at risk, like women, children, the elderly, persons with disabilities or ethnic minorities*

→A detailed assessment is recommended if the screening shows high risks and limited capacities to cope with these risks.

Risk screening

Detailed risk assessment required?

Methodology for Risk Screening: CEDRIG Light

CEDRIG = Climate, Environment and Disaster Risk Reduction Integration Guidance

www.youtube.com/watch?v=6VsoH1-Uijo

More information: www.cedrig.org

Risk screening

Detailed risk assessment required?

CEDRIG Light

Step A1				Step A2	Step A3	Step A4
Hazards	**Yes**	**Don't know**	**No**	**Likelihood**	**Consequences**	**Risk Significance**
Natural hazards (hydro meteorological and geological)						
Heat waves						
Extreme cold						
Heavy rainfall						
Heavy snowfall						
Hail storm						
Droughts						

Risk screening

Detailed risk assessment required?

CEDRIG Light

Step A1				Step A2	Step A3	Step A4
Hazards	**Yes**	**Don't know**	**No**	**Likelihood**	**Consequences**	**Risk Significance**
Natural hazards (hydro meteorological and geological)						
Heat waves						
Extreme cold						
Heavy rainfall						
Heavy snowfall						
Hail storm						
Droughts						

Explanation for step A1:
Check for each hazard on the list if it is present in the area(s) where your activity is taking place (yes/no/not sure).

Risk screening

Detailed risk assessment required?

CEDRIG Light

Step A1				Step A2	Step A3	Step A4
Hazards	**Yes**	**Don't know**	**No**	**Likelihood**	**Consequences**	**Risk Significance**
Natural hazards (hydro meteorological and geological)						
Heat waves						
Extreme cold						
Heavy rainfall						
Heavy snowfall						
Hail storm						
Droughts						

Explanation for step A2:

Estimate the likelihood of occurrence of the identified hazards based on the past and future trends: unlikely, likely, very likely.

Risk screening

Detailed risk assessment required?

CEDRIG Light

Step A1				Step A2	Step A3	Step A4
Hazards	**Yes**	**Don't know**	**No**	**Likelihood**	**Consequences**	**Risk Significance**
Natural hazards (hydro meteorological and geological)						
Heat waves						
Extreme cold						
Heavy rainfall						
Heavy snowfall						
Hail storm						
Droughts						

Explanation for step A3:

Explain briefly how the components of the activity could be affected by the identified hazards (Step A1) and specify the severity of the consequences for the activity (slightly harmful, harmful, or extremely harmful).

Risk screening

Detailed risk assessment required?

CEDRIG Light

Step A1				Step A2	Step A3	Step A4
Hazards	**Yes**	**Don't know**	**No**	**Likelihood**	**Consequences**	**Risk Significance**
Natural hazards (hydro meteorological and geological)						
Heat waves						
Extreme cold						
Heavy rainfall						
Heavy snowfall						
Hail storm						
Droughts						

	Slightly harmful	Harmful	Extremely harmful
Likely	Medium risk	High risk	High risk
Unlikely	Low risk	Medium risk	High risk
Highly unlikely	Low risk	Low risk	Medium risk

Low risk Medium risk High risk

Explanation for step A4: Risk is a combination of likelihood (Step A2) and consequences for the activity (Step A3). Estimate the significance of the risks that could compromise the achievement of the activity (high/medium/low) with the help of the matrix provided on the left.

Phase 2: Detailed Risk Assessment

Aim

To assess whether a planned programme/project has considered and addressed climate and disaster risks, and to make necessary adjustments to make a programme/project risk-informed and climate-smart.

When to do

Project planning phase (when a risk screening identified the need for a detailed risk assessment)

How to do

- Assess the disaster and climate change risks associated with the planned activity.
- Identify possible risk reduction and adaptation options through participatory approaches.
- Select the most appropriate among the identified risk reduction and adaptation options.
- Adapt the planned activities by incorporating the selected risk reduction and adaptation options by adjusting or amending programme/project objectives as well as activities.

Recap: Hazard, Vulnerability and Capacity Assessment

Watch this short movie from IFRC as an introduction to Hazard, Vulnerability and Capacity Assessment: https://www.youtube.com/watch?v=wS719VN-HfU

Detailed risk assessment

Measures for CCA and DRR identified

Methodology for Detailed Risk Assessment: Hazard, Vulnerability and Capacity Assessment – HVCA

Aim: An HVCA identifies **hazards and vulnerable groups** susceptible to these hazards; the underlying causes of vulnerability; and the capacities including resources and assets that people use to resist, cope with and recover from shocks and stresses.

Approach: Participatory community risk assessment using a combination of **Participatory Rural Appraisal (PRA) tools** with a risk focus.

Actors involved: Involvement of **community representatives and key stakeholders** in the programme/project and the assessment team.

Expected outcomes: Community-based assessment of hazards, vulnerabilities and capacities; the **identification of needs and priorities for action**.

Follow up: The HVCA should serve as a **basis for the project planning**, by selecting the appropriate risk reduction and adaptation measures have been selected and incorporating them into the planned activities.

Other benefits:

HVCA can also serve as a tool for:

- empowerment and community mobilization,
- gathering baseline information, and
- support of monitoring and evaluation activities.

Detailed risk assessment

Measures for CCA and DRR identified

Selection of participatory assessment methods for HVCA

An HVCA may employ a variety of methodologies including Participatory Rural Appraisal methods adapted for a risk focus.

Method	Application
Participatory risk or hazard maps	Community map indicating community assets and assets and areas at risks.
Interviews (individual, focus group discussions)	Information on events and trends that cause stress, differential vulnerability and the effectiveness of adaptive behaviour.
Timelines	Historical occurrence and profiles of longer-term events or trends (e.g., floods, droughts, epidemics, environmental trends and cycles).

Detailed risk assessment

Measures for CCA and DRR identified

Selection of participatory assessment methods for HVCA

Method	Application
Seasonal calendar	Describe seasonal events and trends, identifying vulnerability context, livelihood assets and strategies, (e.g., rainfall, flood levels, planting, harvesting, etc.).
Preference matrix and wealth ranking	Reveal vulnerability of different groups' assets to shocks and stresses and counter strategies.
Venn diagrams – actor mapping	Show social capital, relations between groups, institutional and policy environment.

EVENTS	J	F	M	A	M	J	J	A	S	O	N	D
Long rains			X		X							
short rains										X	X	X
farm cultivation		X						X	X			
planting & weeding			X	X						X	X	
harvesting	X						X					
livestock & chicken keeping	X	X	X	X	X	X	X	X	X	X	X	X
collecting firewood	X	X	X	X	X	X	X	X	X	X	X	X
fetching water	X	X	X	X	X	X	X	X	X	X	X	X
cooking	X	X	X	X	X	X	X	X	X	X	X	X
mary-go-rounds	X	X	X	X	X	X	X	X	X	X	X	X
bricks making					X	X	X	X	X	X		
vegetable selling	X	X	X	X	X	X	X	X	X	X	X	X
sweet potatoes selling						X	X	X	X	X		
pease selling				X					X	X	X	
water selling							X	X	X			
initiation for boys								X				
wedding				X				X	X			
foot-and-mouth disease	X											
newcastle poultry disease							X					
malaria		X	X								X	X
amoeba/typhoid/brucella					X	X	X	X	X	X		
diarrhoea/vomiting						X	X	X	X			
	J	F	M	A	M	J	J	A	S	O	N	D

	LIVELIHOODS	Drought	Changing rainfall patterns	human diseases	SUM
NATURAL	livestock	3	3	2	8
	land for agriculture	3	3	2	8
	pasture	3	2	0	5
	water	3	2	3	8
FINANCIAL	marketing of livestock	3	1	2	6
	marketing of agriculture	3	3	2	8
	jobs/employment	2	0	3	5
	loans	3	2	1	6
	shops	2	0	2	4
HUMAN	health	3	3	3	9
	security	3	0	3	6
SOCIAL	pastoral families	3	2	3	8
	farmers families	2	2	2	6
	church	2	0	3	5
	Community based Organisation	3	0	3	6
PHYSICAL	schools	0	0	0	0
	hospitals	0	0	0	0
	roads	2	0	0	2
	cattle dip	0	0	0	0
	TOTAL	43	23	35	
	Ranking	1	3	2	

Available HVCA tools you can consider for conducting a detailed risk assessment:

CEDRIG - Climate, Environment and Disaster Risk Reduction Integration Guidance (SDC); https://www.cedrig.org/

CRISTAL – Community-based Risk screening Tool – Adaptation and Livelihoods (IUCN, IISD, Helvetas Swiss Intercooperation, SEI); https://www.iisd.org/pdf/2012/cristal_user_manual_v5_2012.pdf

Participatory Assessment of Climate and Disaster Risks - PACDR (BfA, HEKS, BfdW); http://jahresbericht.heks.ch/2015/fileadmin/2015/pdfs/Ausland/HEKS_Jahresbericht_Guideline_Disaster_Risk_Reduction.pdf

Participatory Capacity and Vulnerability Analysis: A Practitioners Guide (Oxfam);http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/232411/4/ml-participatory-capacity-vulnerability-analysis-practitioners-guide-010612-en.pdf

VCA Toolbox with Reference Sheets (IFRC); http://www.ifrc.org/Global/Publications/disasters/vca/vca-toolbox-en.pdf

Tools for monitoring

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Monitoring and Evaluation Framework

Monitoring and Evaluation Framework
Including indicators for monitoring impact

Once the Risk Assessment has provided you with appropriate risk reduction and adaptation measures, you need to develop **a monitoring and evaluation framework** to measure the success and impact of the planned DRR and CCA action.

Monitoring and Evaluation Framework

Aim
To define indicators to measure the DRR and CCA mainstreaming progress and to integrate them into an M&E framework. This will help to evaluate whether an action is justified and is bringing about the intended benefits and ultimately contributing to building resilience.

When to do?
An M&E framework needs to be defined after the risk assessment has been conducted and as soon as **risk reduction and adaptation measures have been selected** and incorporated into a planned activity.

How to do?
- Define **realistic and measureable output and outcome indicators**.
- Develop a **logical framework** by using a logframe table and/or M&E plan table.
- Describe **how to monitor and evaluate** the mainstreaming of risk reduction and adaptation measures.

By whom?
By the **project/programme team** that has done the risk assessment.

Challenges of monitoring and evaluating DRR and CCA

- The pay-off of DRR and CCA measures can only be truly measured in case of a disaster occurring. It is **difficult to measure an avoided disaster**, an incident that did not occur.
- Climate change and disaster risk is subject to factors such as **probability and uncertainty**, and the formulation of SMART (Specific-Measureable-Achievable-Relevant-Time-bound) indicators is difficult.
- The **attribution gap is high** because of underlying vulnerabilities and the complex environment in which disaster risks and climate change impacts unfold.

Monitoring and evalution Framework

Indicators to measure progress

Monitoring DRR interventions: Indicator Toolbox

Impact	Reduced number of people entering poverty due to disasters		
Outcome	Reduced losses and damage		
Risk basics	Risk Knowledge: % of area covered by hazard vulnerability and capacity assessments		
	Risk Governance: Existing enabling framework and policies		
Outputs	Keep an acceptable risk level: % of area sustainably managed	Reduce existing risks: % of people living in safe conditions	Share and bear the risk: % of assets insured

Examples of DRR indicators

Level	Objectives	Examples of indicators
Overall goal	DRR contributes to the strengthening of the resilience of individuals, households, communities and systems/ states.	Decrease of proportion (number) of people/ total population entering poverty due to (a) natural disaster as a result of strengthened absorptive, adaptive and transformative capacities.
Outcome	In the project area losses and damage due to natural disasters at individual, household, community and system/state level are reduced within a defined period of time (e.g. 20, 30, 35 years).	Reduced disaster mortality by (a given percentage in function of number of hazardous events) by 20 (30/35) (taking appropriately into account missing people/ reflect disaggregated data by age, gender and people with disability).
Cross cutting issue Risk Knowledge	Quantitative environmental and risk assessment, in particular also taking into account new investments by public and private sector, including all major hazards/ vulnerabilities and capacities in the community, have been carried out in participatory way (with the involvement of women and men), fed into overarching risk and climate scenarios, are stored in a public database, are updated periodically and are accessible to all members of the community.	Proportion of project area covered by comprehensive risk assessments. Proportion of decision makers at village, community, town, district level having access to hazard, vulnerability and capacity information.

Examples of DRR indicators

Level	Objectives	Examples of indicators
Output level: Avoid the building of (unacceptable) new risks	Proportion of community members/facilities (homes, workplaces, public and social facilities) that are not exposed to hazards in high risk areas within locality.	No. / % of households (women and men) of most-at-risk families (workplaces, public and social facilities) within the project area that have moved to safer sites and/or strengthened their individual dwelling by the end of the protect .
Output level: Reduce existing risks	Level of functioning of the communication / Early Warning System EWS for the transmission of alerts that permits information to reach women and men, elderly and youth in an appropriate and timely manner and linked to higher levels.	No. / % of community members (women and men, elderly and youth) in the project area who receive early warning messages in a timely manner from at least one source.
Output level: Share and bear not transferable risks	In the project area all community members have equally access to services, critical public facilities and infrastructure (health, water, electricity, finances, weather data, hazard information).	increase of No. / % of community members (women and men) in the project area with access to services, critical public facilities and infrastructure at local/ more distant level, especially in area of high risk by the end of project.

Group Work

Please form groups of 3-4 participants. Choose one project per group, where you would like to integrate risk reduction measures.

The person responsible briefly describes the project context and the project intervention (10-15’). Then the group discusses the questions below.

Give a brief presentation of your group work to the plenum.

1. **Risk Identification** *(Perform a CEDRIG light risk screening and identify hazards and their likelihood and consequences for your project region, place the hazards in the matrix)*
2. **Suggestions for risk reduction measures** (*Please review the proposed project activities and identify ideas for risk reduction measures which might be integrated into the project. Briefly describe these.*)
3. **Indicators** (*Formulate 1-2 indicators which measure your suggested activities.)*
4. **Difficulties/Obstacles** *(Where do you see difficulties or obstacles in the integration/mainstreaming of risk reduction measures into your project)*