

Integrating Disaster Risk Reduction and Climate Change Adaptation

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Mainstreaming?

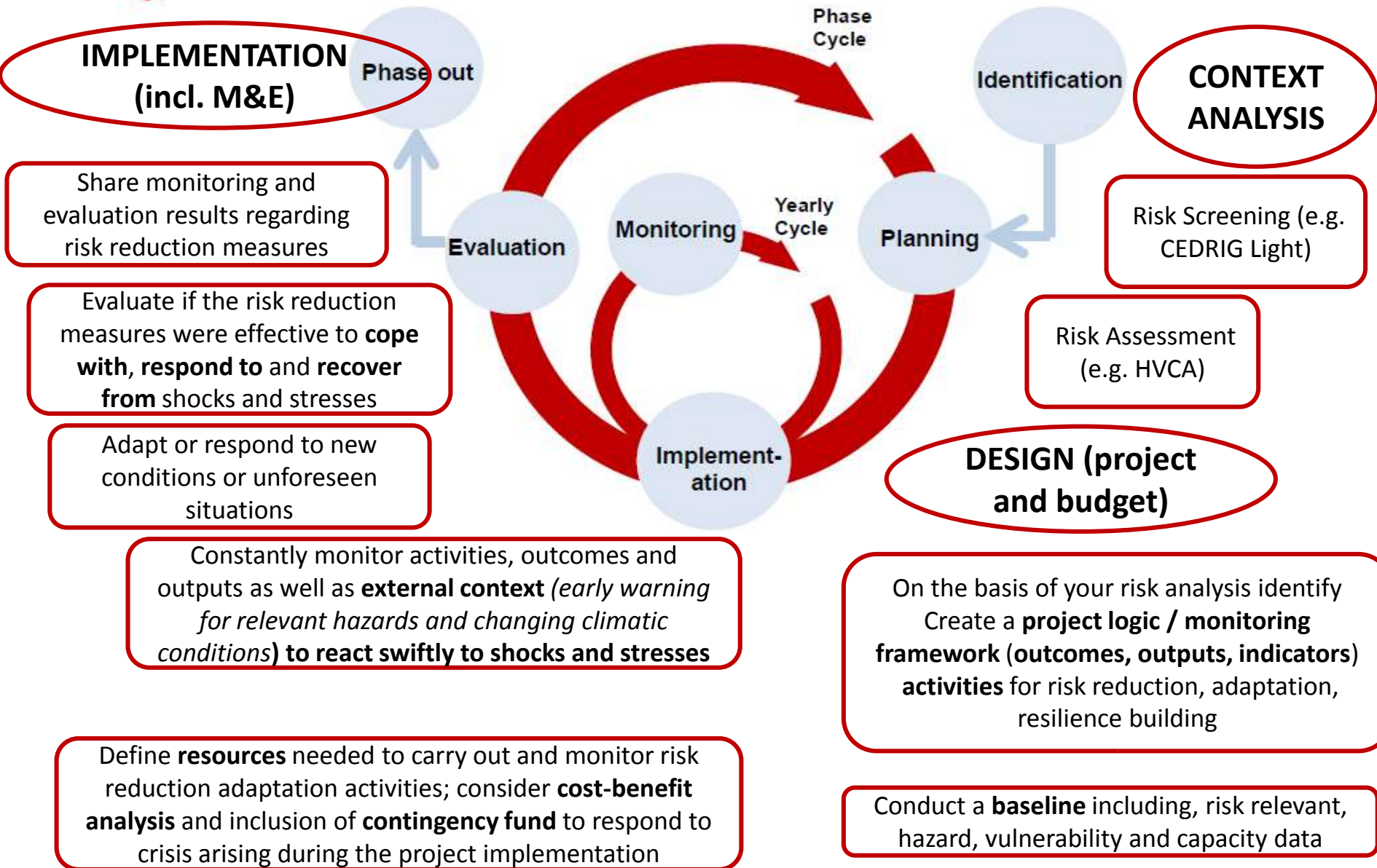


Mainstreaming DRR and CCA ...

- ... means “to systematically include disaster risk reduction and climate change adaptation considerations in decision making, planning and implementation processes” (GIZ 2012).
- ... requires assessing the potential implications of disasters and climate change on any planned or ongoing activity.
- As a mainstreaming approach DRR and CCA need to be considered:
 - at all levels; strategy, international programmes, etc.
 - at all stages of a project/programme – planning, budgeting, implementation, monitoring and evaluation
 - capacity building of staff

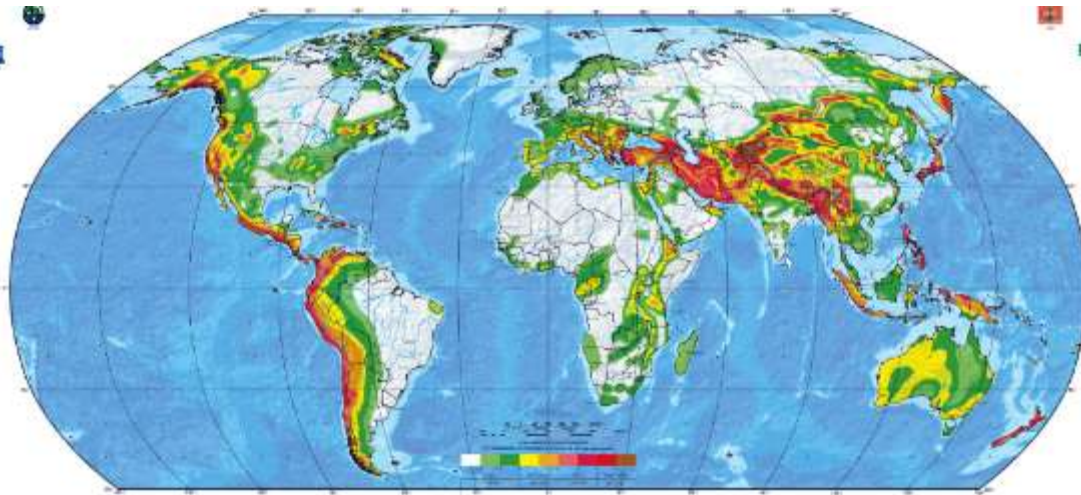
Mainstreaming DRR and CCA can help ...

- Ensure that risks and climate change impacts are considered as early as possible.
- Ensure that risk reduction is routinely considered and not as an additional cost.
- Establish links between humanitarian action, sustainable development, risk reduction and adaptation.
- Improve planning to ensure that development does not generate risks.



Risk Analysis

Definition (UNISDR 2009): 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.



Secondary Data on Risk and Vulnerability

- Center for Research on the Epidemiology of Disasters, EM-DAT database <http://www.emdat.be> → *historical data on disasters per country*
- UNISDR Risk Data Platform, <http://www.preventionweb.net/english/> → *Country Risk Profiles*
- UNISDR Global Assessment Report: <http://www.preventionweb.net/english/hyogo/gar/2015/en/home/index.html> → *Country Risk Profiles*
- UNDP Human Development Reports – Human Development Index: <http://hdr.undp.org/en> → Vulnerability
- International Crisis Group: <http://www.crisisgroup.org/> → information on crisis and conflict

Secondary Data on Risks and Vulnerability

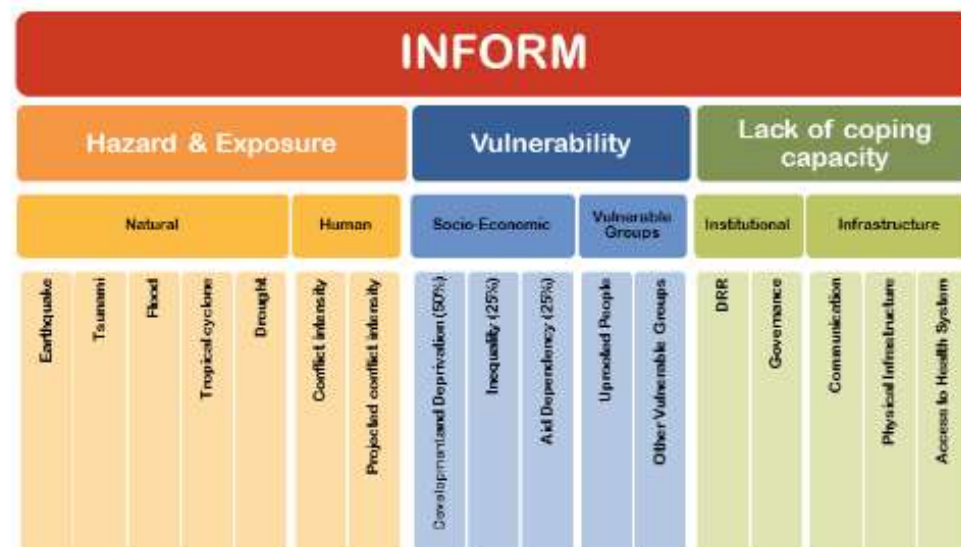
- INFORM – Index for Risk Management:
<http://www.inform-index.org>

COUNTRY	RANK	INFORM RISK	3 YR TREND	HAZARD & EXPOSURE	3 YR TREND	HAZARD & EXPOSURE	3 YR TREND	VULNERABILITY	3 YR TREND	Socio-Economic Vulnerability	Vulnerable Groups	LACK OF COPING CAPACITY	3 YR TREND	Infrastructural	Infrastructural
Rwanda	51	4.4	→	2.6	→	2.9	2.2	2.7	→	6.6	5.1	4.4	→	4.1	6.5
Saint Kitts and Nevis	136	2.4	→	1.7	→	3.1	0.0	2.7	→	6.0	0.8	2.9	→	2.6	2.2
Saint Lucia	136	2.4	→	1.7	→	3.2	0.0	2.3	→	5.5	0.8	3.7	→	4.1	2.3
Saint Vincent and the Grenadines	149	2.1	→	1.3	→	2.4	0.0	3.1	→	3.1	0.9	3.4	→	3.3	3.5
Samoa	148	2.3	→	0.7	→	1.3	0.0	3.9	→	6.2	0.4	4.4	→	4.7	6.1
Sao Tomé and Príncipe	178	1.3	→	0.1	→	0.1	0.0	3.8	→	5.6	1.4	3.7	→	6.0	5.3
Saudi Arabia	138	2.6	→	2.5	→	2.1	2.8	1.4	→	3.0	0.7	3.9	→	5.0	2.6
Senegal	99	3.2	→	2.4	→	2.4	2.4	5.4	→	6.0	4.7	5.2	→	5.3	7.0
Serbia	70	3.0	→	3.3	→	4.0	1.7	2.8	→	3.0	6.4	4.1	→	6.3	2.7
Seychelles	144	2.3	→	1.3	→	2.4	0.0	2.7	→	3.9	1.2	3.6	→	4.4	2.6
Sierra Leone	56	3.3	→	2.0	→	1.2	2.7	3.6	→	7.0	→	7.1	→	5.4	6.3
Singapore	192	0.8	→	0.1	→	0.1	0.0	0.9	→	0.7	0.3	1.2	→	1.1	1.1
Siwanika	101	1.9	→	2.0	→	3.3	0.6	3.3	→	3.2	3.3	2.8	→	3.8	1.3
Slovenia	174	1.8	→	1.4	→	2.6	0.1	5.0	→	0.7	1.2	1.9	→	2.2	1.8
Solomon Islands	34	5.6	→	3.9	→	6.8	0.0	6.4	→	8.1	1.1	7.0	→	6.7	7.3
Somalia	1	8.7	→	6.8	→	6.2	10.0	4.3	→	7.7	6.6	9.1	→	9.1	8.8
South Africa	80	3.1	→	3.0	→	3.5	3.2	3.9	→	3.1	4.5	4.8	→	4.1	3.7
South Sudan	7	7.9	→	6.8	→	7.4	9.6	3.2	→	7.8	8.6	8.0	→	8.3	8.4
Spain	148	2.1	→	3.5	→	4.8	2.4	1.4	→	3.1	1.7	1.9	→	2.6	0.8
Sri Lanka	58	3.1	→	4.8	→	5.2	2.4	3.0	→	3.7	5.1	4.8	→	4.5	4.7
Sudan	5	7.2	→	7.1	→	3.5	9.6	7.1	→	5.4	4.1	3.5	→	6.7	7.8
Suriname	179	2.6	→	1.6	→	3.0	0.0	7.1	→	3.0	1.1	5.0	→	5.7	4.7
Swaziland	104	3.1	→	1.5	→	1.8	0.8	4.0	→	3.5	3.3	3.6	→	5.1	6.1
Sweden	182	1.1	→	0.4	→	0.7	0.1	7.6	→	0.5	4.3	3.4	→	1.9	0.9
Switzerland	174	1.6	→	1.4	→	1.8	0.9	7.1	→	0.5	3.5	0.9	→	1.2	0.6
Syria	10	8.6	→	6.4	→	4.4	10.0	→	→	7.7	1.8	→	→	6.3	6.7
Tajikistan	70	3.0	→	3.9	→	5.6	1.8	3.8	→	3.0	3.9	5.4	→	6.1	4.5
Tanzania	47	4.6	→	2.7	→	4.0	1.1	5.5	→	5.7	5.2	6.6	→	5.1	7.8
Thailand	56	3.3	→	3.8	→	6.2	5.2	7.2	→	2.0	4.7	4.3	→	6.1	3.5
Timor-Leste	68	4.1	→	2.0	→	3.5	0.3	4.6	→	6.1	4.5	7.3	→	6.9	7.7
Togo	77	3.8	→	1.5	→	1.3	1.6	4.9	→	5.4	1.1	8.1	→	6.1	7.9
Tonga	195	3.3	→	1.9	→	3.3	0.0	3.9	→	5.9	1.0	4.9	→	5.6	4.2
Trinidad and Tobago	154	2.0	→	1.4	→	2.6	0.1	1.7	→	1.8	6.5	3.4	→	4.3	2.1
Tunisia	117	2.8	→	2.6	→	4.3	0.4	1.7	→	2.3	3.0	4.9	→	6.0	3.6
Turkey	40	4.7	→	6.3	→	3.9	6.7	4.9	→	2.8	6.5	3.3	→	3.5	3.1
Turkmenistan	87	3.6	→	2.1	→	4.5	1.3	2.4	→	2.7	2.1	6.0	→	6.0	4.2
Tuvalu	104	3.1	→	1.0	→	2.0	0.0	5.2	→	7.5	1.3	3.6	→	6.3	4.7
Uganda	12	6.5	→	6.1	→	3.1	8.0	6.2	→	5.9	6.5	7.1	→	6.8	7.4
Ukraine	27	5.4	→	6.9	→	2.8	3.9	4.4	→	1.6	6.4	3.2	→	6.5	7.7
United Arab Emirates	154	2.0	→	3.3	→	3.4	0.4	1.1	→	1.8	0.3	2.2	→	2.5	1.8
United Kingdom	154	2.0	→	2.1	→	2.2	2.0	2.3	→	3.2	3.3	1.6	→	2.2	1.0
United States of America	100	3.2	→	6.4	→	7.6	5.1	2.4	→	1.3	3.2	2.2	→	2.7	1.7
Uruguay	166	1.8	→	1.0	→	1.1	0.8	1.9	→	2.4	1.1	2.9	→	3.8	2.0
Uzbekistan	96	3.2	→	4.5	→	5.9	2.8	1.8	→	2.0	3.9	4.4	→	6.1	3.7
Vanuatu	42	4.8	→	3.6	→	3.8	0.0	4.4	→	3.3	6.3	→	→	5.4	7.1
Venezuela	80	3.6	→	2.4	→	6.7	0.2	3.7	→	3.0	1.9	4.8	→	5.1	3.6
Viet Nam	84	3.7	→	3.8	→	7.8	3.0	1.9	→	2.7	1.0	4.8	→	5.3	3.8
Yemen	3	7.5	→	6.1	→	7.7	10.0	6.6	→	1.1	7.8	7.8	→	8.2	7.6
Zambia	62	4.2	→	2.0	→	3.1	1.8	5.7	→	5.8	1.6	6.3	→	4.8	7.5
Zimbabwe	62	4.2	→	2.8	→	2.6	3.2	5.4	→	1.1	5.4	5.7	→	5.1	6.2

Dimensions

Categories

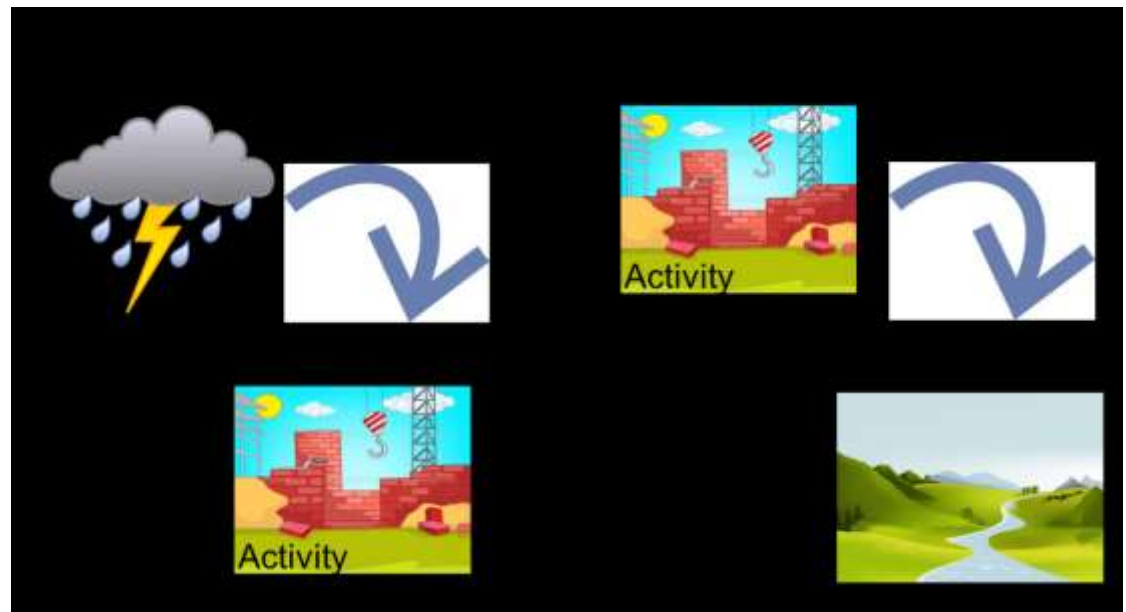
Components



Risk Screening – CEDRIG Light

The Rapid Risk and Impact Screening (CEDRIG Light) serves as an initial filter to assess whether a program or project is potentially at risk due to climate change, environmental degradation or natural hazards; it also aims to determine whether an activity may have a negative impact on greenhouse gas emissions or the environment.

It helps to decide whether or not a detailed risk assessment is recommended.



Risk Screening – 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	☒	☒	L I K E L I H O O D	Very likely	Medium risk	High risk	High risk
Heavy snowfall	☒	☒		Likely	Low risk	Medium risk	High risk
Hail storms	☒	☒		Unlikely	Low risk	Low risk	Medium risk
Droughts	☒	☒			Slightly harmful	Harmful	Extremely harmful
				C O N S E Q U E N C E S			

Hazard – Vulnerability – Capacity Assessment ...

... identifies hazards and vulnerable groups susceptible to these hazards, underlying causes for their vulnerability, how they are affected, their needs and capacities. VCA views vulnerability in a broad sense and considers a range of environmental, economic, social, cultural, institutional and political pressures. It also considers the capacities, resources and assets people use to resist, cope with and recover from shocks and stresses.

(H)VCA is used as:

- Diagnostic tool – to understand problems and their underlying causes
- Planning tool – to prioritise and sequence actions and inputs
- Risk Assessment tool – to help assess specific risk
- Tool for empowerment and community mobilization
- Furthermore, it can serve as a screening tool, give baseline information, support monitoring and evaluation activities

Hazard – Vulnerability – Capacity Assessment



<https://www.youtube.com/watch?v=wS719VN-HfU>

Hazard – Vulnerability – Capacity Assessment

Combination of different PRA Tools with a risk focus:

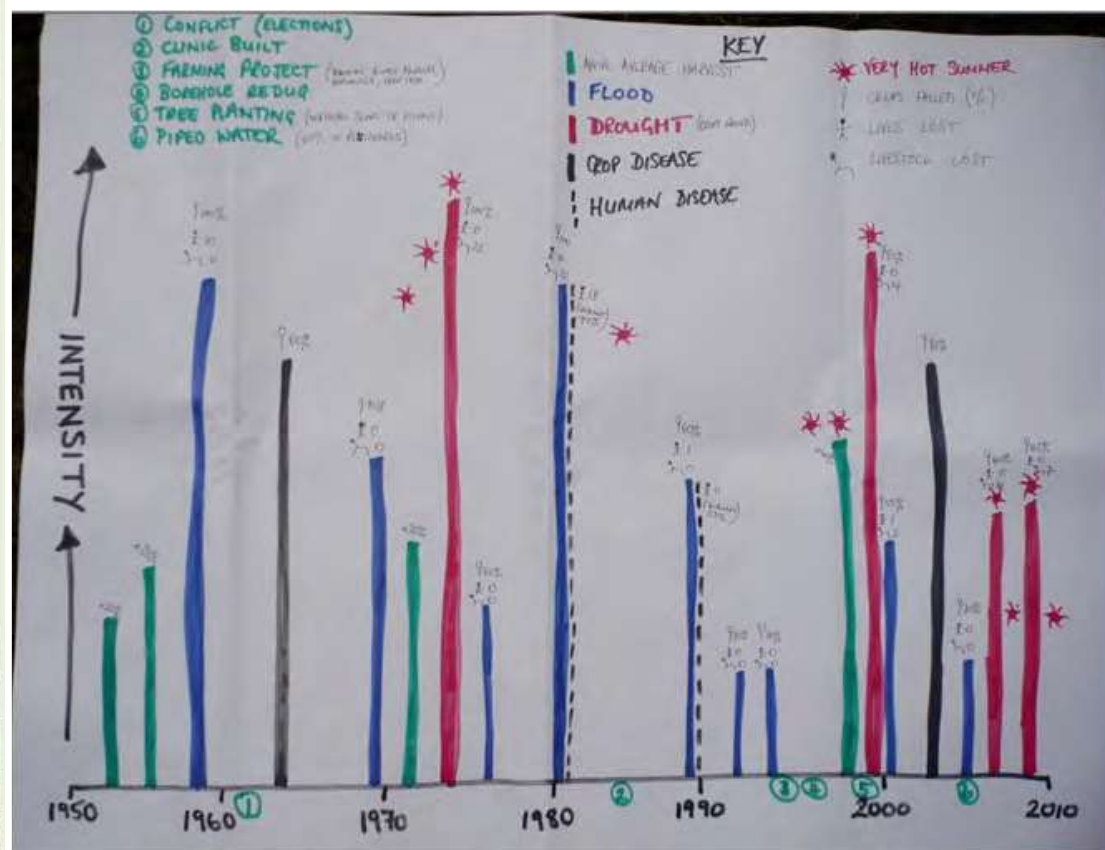
- Hazard Mapping
- Seasonal Calendar
- Timelines
- Preference, matrix and wealth ranking (vulnerability matrix)
- Interviews, focus group discussions
- VENN diagram (actors mapping)
- Case studies

Hazard Mapping



Seasonal Calendar and Historical Timeline

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			
vegetable selling	X	X	X	X	X	X	X	X	X	X	X	X
sweet potatoes selling						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



Vulnerability and Capacity Matrix

	LIVELIHOODS	Drought	Changing rainfall patterns	human diseases	SUM
NATURAL	<u>livestock</u>	3	3	2	8
	<u>land for agriculture</u>	3	3	2	8
	pasture	3	2	0	5
	<u>water</u>	3	2	3	8
FINANCIAL	marketing of livestock	3	1	2	6
	<u>marketing of agriculture</u>	3	3	2	8
	jobs/employment	2	0	3	5
	loans	3	2	1	6
	shops	2	0	2	4
HUMAN	<u>health</u>	3	3	3	9
	security	3	0	3	6
SOCIAL	<u>pastoral families</u>	3	2	3	8
	<u>farmers families</u>	2	2	3	7
	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	

HAZARD	IMPACTS	COPING STRATEGIES
DROUGHT	<ul style="list-style-type: none"> • shortage of water • shortage of food • decreased health and nutrition • increased criminality • lack of respect • loss of social values • decreased income • increased domestic violence and conflicts • loss of fruit tree productivity 	<ul style="list-style-type: none"> • increase of sexual work • criminality • eating wild roots and fruits • migration • selling livestock • selling household properties • casual work for food • drought-resistant grains • conservation farming • shift from crop to garden work • mulching • drying vegetables • food/grain storage
	<ul style="list-style-type: none"> • decrease of human productivity 	<ul style="list-style-type: none"> • awareness raising
HIV/AIDS	<ul style="list-style-type: none"> • decreased income • increasing number of orphans • disruption of knowledge transfer • increased school drop outs • impact on development 	<ul style="list-style-type: none"> • prioritising orphans on government & NGO assistant programs • HIV/AIDS support groups • positive living

Selection of Risk Assessment Tools

- *CEDRIG – Climate, Environment and Disaster Risk Reduction Handbook (SDC);*
https://www.eda.admin.ch/content/dam/deza/en/documents/publikationen/Diverses/221231-accroissement-partI_EN.pdf
https://www.eda.admin.ch/content/dam/deza/en/documents/publikationen/Diverses/221232-accroissement-partII_EN.pdf
- *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://www.brotfueralle.ch/fileadmin/deutsch/2_Entwicklungspolitik_allgemein/B-Klima/PACDR/2014_PACDR6_EN.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>

Monitoring Framework – Platform Indicator Toolbox

Impact	Reduced number of people entering poverty due to disasters		
Outcome	Reduced losses and damage		
Risk bases	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

Use for practitioners:

- a) Get inspiration of appropriate measures and respective outputs (→ white boxes)
- b) find appropriate generic indicators (to be adapted to the respective context) to assess outputs

http://drrplatform.org/images/DRR_Indicator_Toolbox_incl_Annex.pdf



Group Work

You are the DRR experts and advise the desk officers how to mainstream DRR into the project.

- 1. Issues Identification** (*Discuss in a group what the most important project related issues seem to be.*)
- 2. Suggestions on how to integrate DRR measures** (*Please review the proposed project activities and now try and identify where specific DRR measures might be integrated in the plans. Briefly describe these.*)
- 3. Possible Entry Points** (*Identify possible entry points in the PCM where these suggestions might be introduced and what resources would likely be required to do this.*)
- 4. Difficulties/Obstacles** (*Where do you see difficulties or obstacles in the planning and implantation of DRR Mainstreaming*)