

Appraisal of Adaptation Options and Prioritization

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Assessing climate vulnerabilities and identifying adaptation options

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- Definitions of key concepts
- Key tools to conduct vulnerability assessments
- Importance of vulnerability in adaptation planning
- Vulnerability assessment in the Pacific region
- Vulnerability assessments – best practices
- NAP Technical Guidelines

Key Concepts (AR5 glossary)

- **Hazard**
- **Exposure**
- **Risk**
- **Vulnerability**
- **Adaptation deficit**



Group Exercise: Understanding Concepts



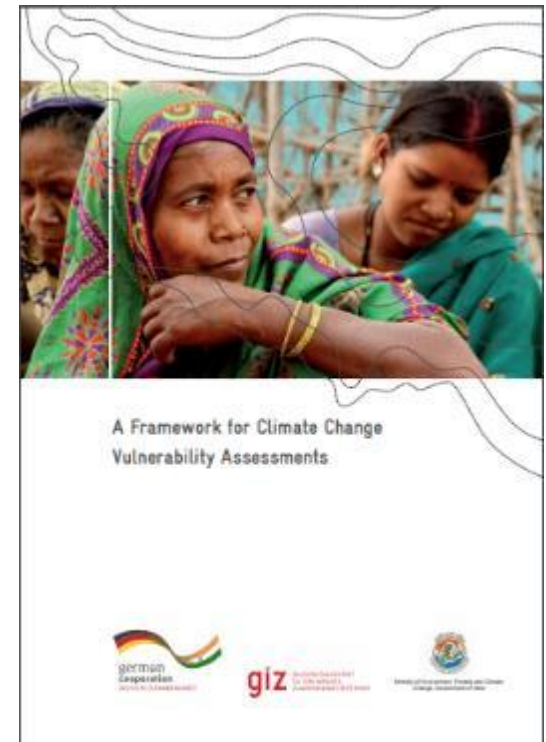
- Often there is a lack of a common understanding of the key concepts in adaptation
- Discuss among each table each of the concepts in Slide 3 and give local examples of each
- Are there any other concepts that are difficult to understand?
- 8-10 minutes

Conducting a vulnerability assessment

- Adaptation require iterative assessments over time - country's vulnerability, cc impacts, adaptation practices and climate sensitivity of development activities.
- Vulnerability assessment compile vulnerabilities and describe context, root causes, trends and assumptions made - underpins further analysis for ranking of vulnerabilities and identification of adaptation options

Vulnerability Assessment Tools

- Many approaches and tools for conducting vulnerability assessments.
- All need to assess the hazards, exposure, sensitivity, and the likely impacts.



Vulnerability Assessment (cont.)

Table 1: Framework for climate change vulnerability assessments

Stages		Steps	
Involvement of relevant stakeholders	1. Defining the purpose of the vulnerability assessment	Formulate questions to be answered by the assessment	
	2. Planning the vulnerability assessment	1. Set the boundaries of the vulnerability assessment 2. Define the general approach of the vulnerability assessment	
	3. Assessing current vulnerability	1. Assess the profile of the system of interest 2. Assess the observed climate (exposure) 3. Assess the impacts of climate stimuli on the system of interest (sensitivity) 4. Assess the responses to climate variability and extremes (adaptive capacity) 5. Assess overall current vulnerability	
	4. Assessing future vulnerability	1. Assess the future climate (future exposure) 2. Assess the future impacts on the system of interest (sensitivity) 3. Assess future socio-economic scenarios (adaptive capacity) 4. Assess the overall future vulnerability	
		Iterative Process	

Importance of vulnerability assessments

- Helps to identify adaptation targets
- Identifies vulnerable people, regions or sectors and priority locations
- Raises awareness
- Helps to allocate adaptation funds to particularly vulnerable areas and people
- Assists in monitoring the performance of adaptation



Vulnerability assessment in the Pacific region

- In the NAPAs, many countries used the Comprehensive Hazard and Risk Management (CHARM) tool developed

Figure 2 - Key Process Steps



Vulnerability assessment in the Pacific region (cont.)

Marshall Islands JNAP

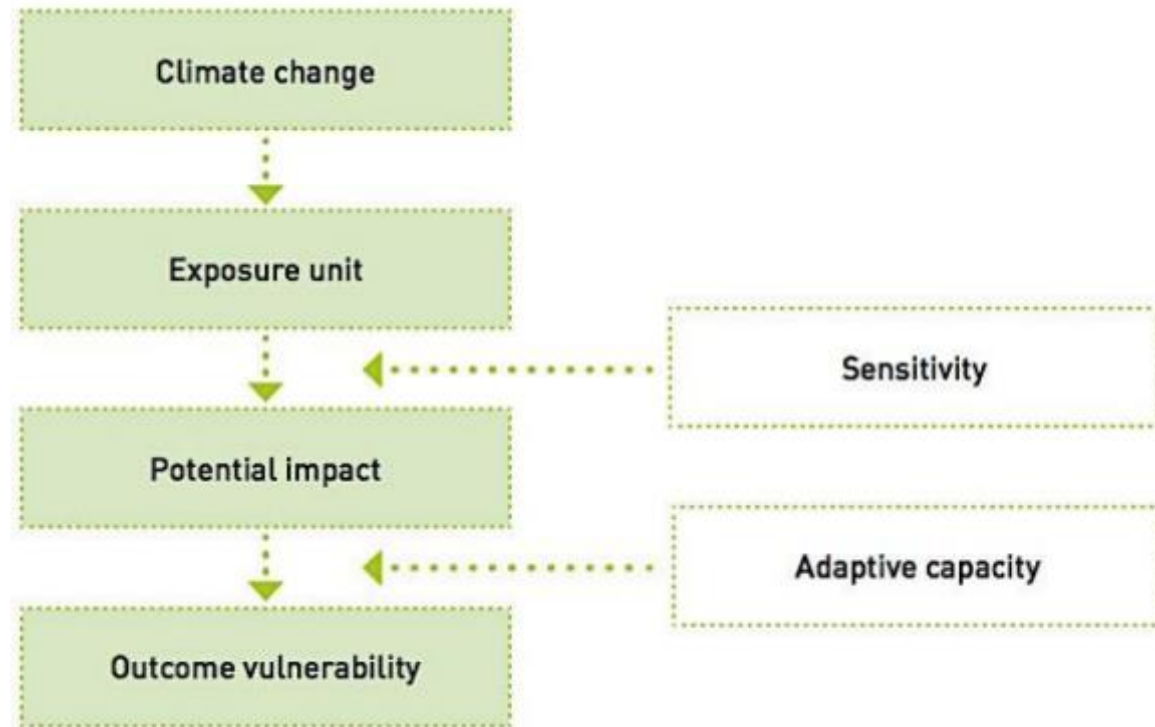
Key drivers of vulnerability:

- Rapid population; Localized pollution
- Accelerated sea level rise & increased intensity of extreme events
- Limited resources & economic potential
- Sparse and scattered nature of islands and atolls

Sectoral vulnerabilities: Water resources; Agriculture & Infrastructure

Best Practice?

- No absolute best practice for vulnerability assessments.
- Provided the assessment covers the items in this figure, there should be sufficient information to underpin the assessment and prioritization of adaptation options.



NAP Technical Guidelines

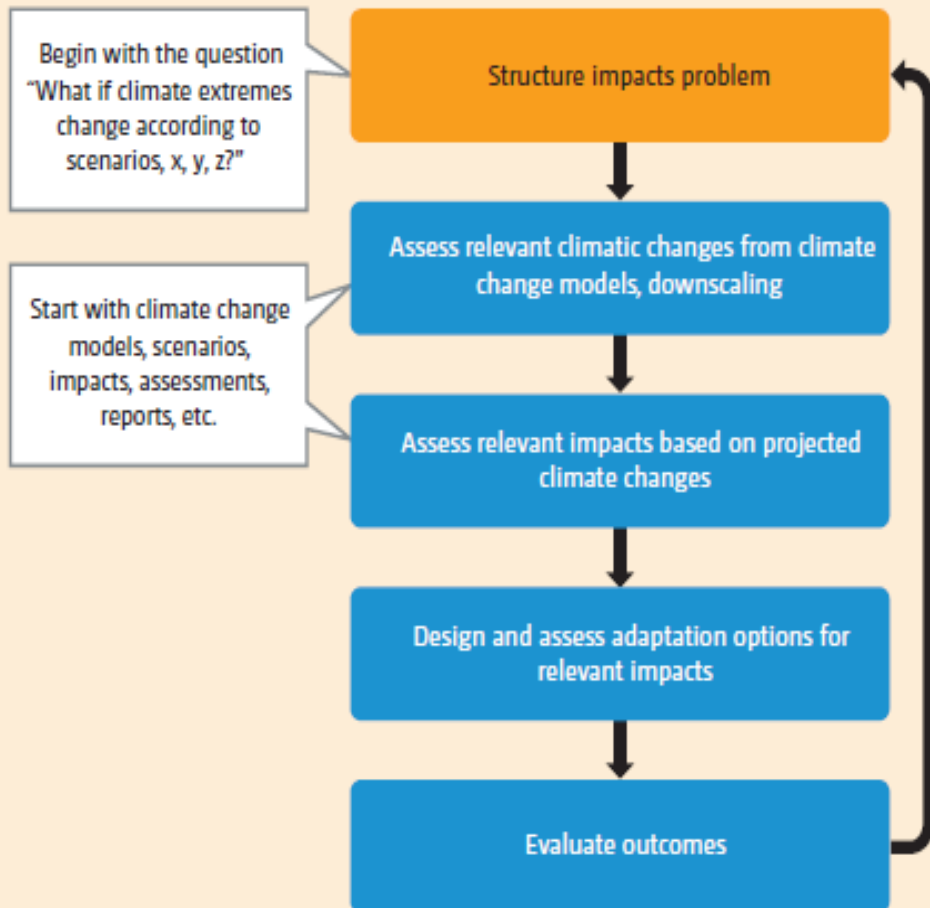
- ***A hazards approach*** - offers a rich suite of tools for dealing with climatic hazards in a direct manner e.g. floods;
- ***Risk management approach*** - most common approach. Besides assessing the hazard, includes uncertainty and perceptions of the risks.
- ***Vulnerability approach*** - focuses on the social factors that determine the ability to deal with climate impacts.
- ***Resilience approach*** - widely used in ecology, and human systems. Calls for constant readjustment and flexibility in the response to changing conditions.

NAP Technical Guidelines (cont.)

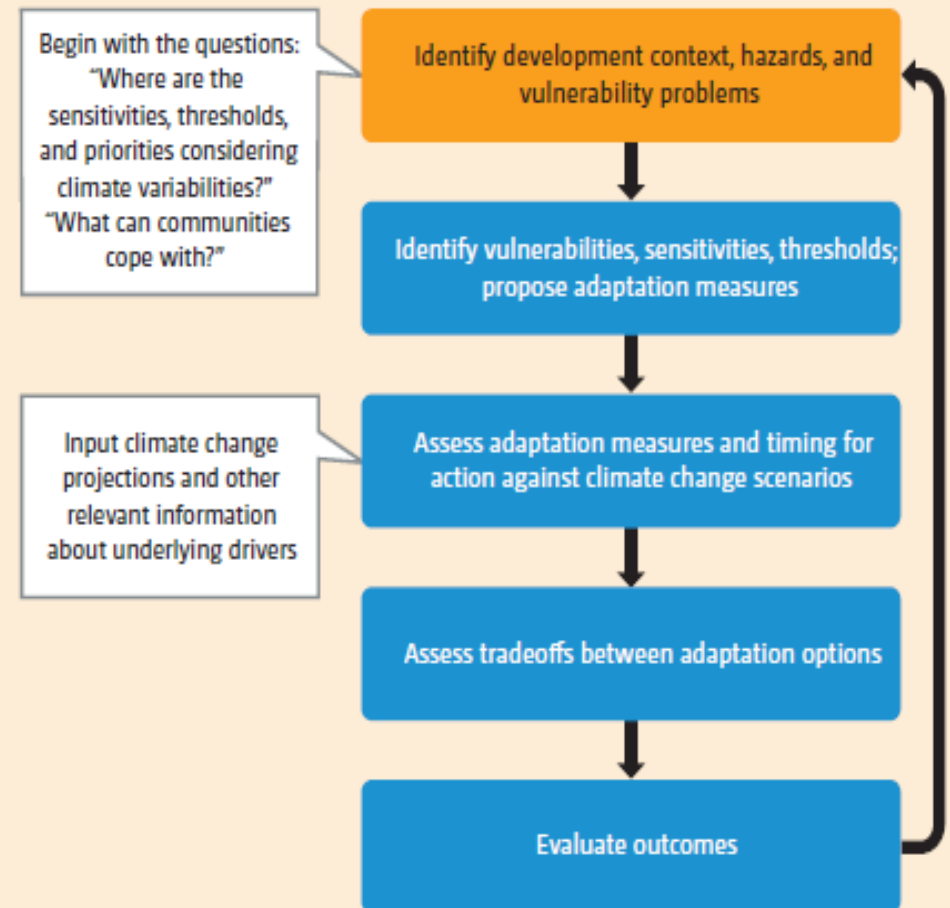
- ***Ecosystem-based approaches*** - focuses on adaptation activities that rely on goods and services provided by ecosystems
- ***Expert-based approach*** - focuses on the ranking and prioritizing of adaptation options through a qualitative assessment based on stakeholder analysis and expert judgement thus combining top-down (hazard-based) and bottom-up (vulnerability-based) approaches.



“Climate Models, Scenarios, Impacts-First”



“Vulnerability, Thresholds-First”



Topics for Discussion

- Which “assets” are most vulnerable in the Pacific islands?
- How easy is it to put a value on those assets?
- How can we distinguish between existing hazards and future hazards?
- How would you rank vulnerabilities if there is no quantitative assessment?



Group Exercise

- Form 4 groups of 8-10. Seek a volunteer or appoint a “recorder” and a “presenter”.
- Pacland is a small island developing state, with 20,000 people living on a narrow coral atoll. Fishing and tourism are the main industries. Climate change is projected to increase the frequency of drought, increase sea level by 30 cm by 2050, and increase the incidence of extreme storm events.
- Prepare a map showing the community assets likely to be vulnerable to climate change impacts – 15 minutes.
- Prepare an action plan to conduct a vulnerability assessment (including sample size, team members, time frame, estimated cost) – 20 minutes.
- Report back to plenary and discussion – 20 minutes.