

Group Exercise 1: Developing a balanced portfolio of no-regrets adaptation actions¹ (Floods)

1. Learning objective for the exercise

The objective is to learn how to identify and select a range of preferably no/low-regrets actions to adjust or improve water management under a changing climate.

The actions should form a balanced portfolio of measures that include complementary elements such as infrastructural, policy, capacity, financial and information management responses. It should ensure (a) an effective reduction of climate change risks and (b) coherence with the development priorities.

2. Desired outcomes

- Range of adaptation measures identified and developed
- Agreed set of selection criteria and an agreed process of prioritization
- Adaptation options are critically identified and assessed
- List of prioritized and complementary adaptation measures, with preference given to no/low regrets action

3. Instructions

Step 1: Identify/Develop adaptation measures

- Your task as an advisory group, after having identified the need for action, is to ask: “what could be done to respond to the challenges?”
- Use Matrix 1 with some annotated examples to guide your work
- Identify 2-3 climate change impacts **in column B** based on the case study
- In **column C** devise adaptation options that can prevent, reduce or avoid the adverse biophysical and socio-economic impacts.
 - o Use list of adaptation options in Annex 1 to help you identify proper measures Add by thinking through all categories of adaptation options.
 - o Also think of adaptation options enhancing opportunities from climate change.
 - o Also think of adaptation options enhancing the adaptive capacity of relevant actors.

Matrix 1: Develop adaptation options

A. System of interest	B. Selected climate change impacts with need for actions	C. Identified adaptation measures
Domestic water supply	Quality problems due to floods	
Agriculture	Damages to production due to floods	
Ecosystems		
Etc.		

¹ Adapted from the GIZ training manual “Integrating Climate Change Adaptation into Development Cooperation”

Step 2: Assess and select no/low regrets adaptation measures

- Use Matrix 2 with annotated examples to guide your work:
- Transfer the potential adaptation options from Matrix 1 to column C.
- In **column D**
 - o Choose and discuss the selection criteria and add other criteria if desired (e.g. see Annex 2).
 - o Consider each option (C) using the criteria and scores them between 1 and 5, where 1 is 'poor' and 5 is 'excellent' in terms of the extent to which the adaptation measure meet the criteria.
- In **column E** evaluate the options.
 - o If too many options have similar evaluations, you might think of introducing another criterion or weighing the criteria (e.g. *criterion 3 "feasibility" x2*).
- Using a 'bird's eye view' reconsider whether the results make sense.
 - o Do they address the range of key risks?
 - o Would they be effective together?
 - o Do they overlap or complement each other?

Matrix 2: Select adaptation measures based on criteria

C. Identified adaptation measures	D. Criteria score (1-5)				E. Overall evaluation	F. Comments
	C1	C2	C3	Etc.		
1. E.g. Reservoirs	2	4	3	...	15	
2. E.g. Flood Plain regulation						
3. E.g. Disaster preparedness						
Etc.						

Annex 1: Adaptation options for flood management

Types of options: Infrastructure = I, Policy = P, Capacity = C, Good Practices = GP

Reducing flooding

- 1 Dams & reservoirs (I)
- 2 Dikes, levees & floods embankments (I)
- 3 High flow diversions (I)
- 4 Catchment management (I, P)
- 5 Rivers channeling (I)

Reducing susceptibility to damage

- 1 Flood plain regulation (GP, P)
- 2 Development and redevelopment policies (I, GP, P)
- 3 Design and location of facilities (I)
- 4 Housing and building codes (I, P, GP)
- 5 Flood proofing (GP, I)
- 6 Flood forecasting and warning (GP, C)

Mitigating the impacts of flooding

- 1 Information and education (GP, C)
- 2 Disaster preparedness (C, P)
- 3 Post-flood recovery (C, I)
- 4 Flood insurance (P, GP)

Preserving flood plain resources

- Flood plain zoning and regulation (P, GP)

Annex 2: Criteria for selecting adaptation measures

- Effectiveness: Does the measure provide adaptation in terms of reducing impacts, reducing exposure, enhancing resilience or enhancing opportunities??
- Robustness to uncertainty: is the measure effective under different climate change scenarios?
- ‘No regrets’ potential: Does the measure contribute to more sustainable water management and bring benefits even without any climate change?
- Efficiency: do the benefits exceed the costs? Considering also social and environmental costs and benefits
- Equity: does the measure adversely affect other areas or vulnerable groups?
- Flexibility: Can adjustments be made later if conditions change again or if changes are different from those expected today?
- Affordability: how much does the measure cost? Is it fundable/affordable?
- Sustainability: does the measure contribute to sustainability objectives, and are the investments themselves sustainable?
- Legitimacy: is the measure politically and socially acceptable?
- Urgency and practicality: how soon could the measure be implemented relative to constraining timescales?
- Synergies / coherence with other strategic objectives: does the measure help to achieve or conflict with other objectives?

Additional criteria may include, depending on the context, e.g. political and social acceptance: biodiversity friendliness, relative speed of implementation or benefits, avoid detrimental effects on other development goals, alignment with funding requirements or other eligibility criteria, alignment with policy priorities, etc.

Other relevant questions are “What happens if you don’t take a specific action?”; “If the adaptation measure is already being implemented, would it need additional funding to improve or to do more of the same?”.