



# Four-step approach



On behalf of  
**Federal Ministry  
for Economic Cooperation  
and Development**





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### GIZ Climate Protection Programme



On behalf of

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## The four-step approach: the basic adaptation planning process

- The systematic process deals with all questions relevant for planning adaptation
- Going one step at a time avoids mental blocks due to the over-complex challenge

### Four steps

1. Assess Vulnerability
2. Identify adaptation options
3. **Select adaptation measures**
4. Develop an M&E framework





## Rationale

### Objective

- Third step of planning adaptation
- The adaptation strategy should be made up of complementary elements and ensure
  - a. an effective reduction of climate change risks, and
  - b. coherence with the priorities and practical constraints of a given situation.
- At this stage you therefore evaluate alternative adaptation options and come up with a set of deliberately chosen adaptation measures.

### Importance

- Decision point for action



## Criteria-guided decision making

### Reasons for criteria-guided decision making

- Transparency (Why was this specific option selected?)
  - Accountability (e.g. prepares for M&E)
  - ...
- The way criteria are selected and employed influences the final result!





## Possible criteria

**The OECD guidance** suggests the following criteria

- Effectiveness
- Costs
- Feasibility

### **Other criteria**

- political and social acceptance
- urgency
- biodiversity friendliness
- no regrets
- alignment with funding requirements



## Exercise (1)

### Context

- Continue work in adaptation advisory group of State Water Authority (SWA)
  - your working group
- Limited funds need to be channelled to strategic investments to improve water management under climate change.
- The adaptation advisory group is now asked to suggest a selection of the most relevant adaptation options:
  - effectively reduce climate change risks
  - make use of climate change opportunities
  - remain within scope of SWA

### Exhibits

- Box on possible selection criteria





## Exercise (2)

### Your task

- Use Matrix 9:
  - In **column I** fill in adaptation options from Module 4 column I
  - In **columns L, M, N, O, P**
    - discuss the selection criteria and develop a meaningful set
    - consider each option (I) using the criteria, and score them by using ++ / + / 0 / - / --
  - In **column Q** evaluate the options







## Exercise (3)

### Results

- (please specify)

### Logistics

- Case work
- Presentation of results (please specify how)
- Reflection





## Example for M3 – M5

### Context

- Polokwane, capital of Limpopo Province in north-eastern South Africa, has insufficient water to meet its needs
- Economy and population of Polokwane are growing, especially with growing agriculture and mining sectors
- Limpopo and Olifants Rivers require minimum flow levels to protect biodiversity and tourism



## Baseline water programs

- South Africa government's Department of Water Affairs and Forests (DWAF) planning to divert water from Olifants Basin to support Polokwane
- Ongoing USAID support for investments and programs to reduce water demand and improve water use efficiency
- The Urban Institute also funded to assess Polokwane water infrastructure needs over 10 years



## Adaptation strategies considered

- **Demand management:** water sharing agreements, water trading, water market, water valuation, water use policy at local level, and enhance groundwater recharge
- **Improved technology:** reservoir operation, flood plain management, infrastructure design, hydro-climate monitoring
- **Improved policy and education:** district demand management, reallocation of water rights (rural-urban), education campaigns to improve water use habits, cooperative governance, legislation to improve water use efficiency, enforcement of water rights and use policies



## Analysis conducted

### Climate and demand change by 2050

- Water demand to triple due to increasing population
- Temps increase, with rainfall projections showing -30% to a slight increase

### Impacts

- A 10% reduction in precipitation + temperature changes  
→ 50% decrease in runoff, and similar decrease in water availability
- If runoff increased, existing dam infrastructure would not be capable of capturing higher yields



## Prioritise measures

### Example – Polokwane, South Africa (USAID)

Option	Effectiveness		Cost		Technical feasibility		Social & cultural Feasibility		Speed	
Water conservation, demand management	High	+	Low	+	High	+	High	+	High	+
Level of service/future	High	+	Low	+	High	+	Low		Medium	
Recycling urban water	Medium		High		High	+	Medium		Medium	
Reallocation of dam yield	Medium		High		High	+	Medium		High	+
Conjunctive use	Low		Low	+	High	+	High	+	Medium	
Expand well fields	Low		Low	+	High	+	High	+	High	+
Build new dam	High	+	High		High	+	Medium		Low	
Harvest rainwater	Low		Low	+	High	+	High	+	High	+



## Selected strategy

- **Reducing water demand with a combination of technological improvements (reducing leaks and water pressure in supply system) and policy to improve water use efficiency**
- Water recycling could be increased, and water could be reallocated to meet urban needs if needed
- Little interest in costly projects such as additional dams that might be unnecessary depending on future conditions



## Results

- Project led to fusion of the national and local water infrastructure planning projects
- Increased government interest in demand management approaches
- DWAF added a chapter on climate change to Olifants Management Report
- Report is used by regional and national government, provides planning analysis for next 50 years