



## Scenarios of Regional Development for Benin and Morocco

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### Methodological approach of scenario development

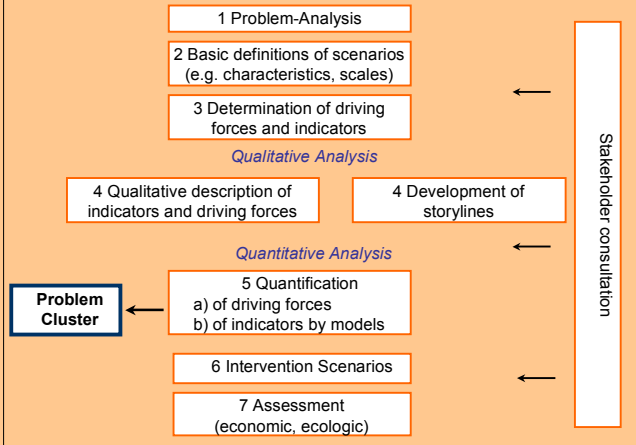
#### Objectives - why scenarios?

- water is a key resource for human development
- changing environment (e.g. climate, economy, technologies, society, political system) have major impacts on water availability and survival of humans
- with scenarios, one can get an idea of how decisions taken today might impact on future development

#### What are scenarios?

- consistent and plausible images of alternative futures
- contain enough information to support decision making
- show different societal, ecologic and technological aspects of the system under investigation
- no predictions, not to be qualified by a probability
- assess alternative development routes of complex systems

#### Steps of scenario development



#### Steps of scenario development in the IMPETUS-Project

- start with an interdisciplinary problem-analysis
- invention of storylines that describe in a narrative way the main content of future development
- combine qualitative and quantitative analysis of driving forces and indicators
  - qualitative description in form of plus-minus tables (not shown here)
  - quantitative analysis with different models against the background of problem clusters (compare with poster)
- include intervention scenarios to assess possible impacts of different policy measures
- end with an overall economic and ecological evaluation
- for each country three scenarios were derived which follow different storylines

#### Stakeholder involvement

- Continuous dialogue with stakeholders from the National *Comité de pilotage* to ensure accuracy and topicality of scenario development and problem clusters in both countries
- steady exchange with scientific counterparts in these countries, i.e. from universities and other academia



Meeting of the Comité de pilotage in Rabat, Morocco

### Performance of scenarios

## Benin

Both regions were divided into three more or less homogenous sub-regions, that differ regarding the main driving forces.

#### Characterisation of sub-regions

##### Upper Ouémé

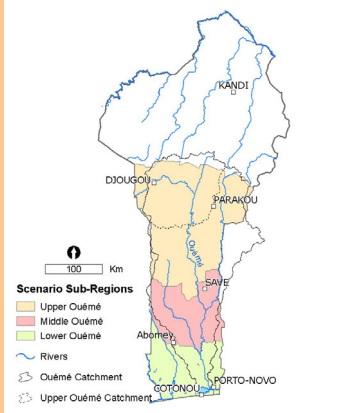
- rural region
- low population density
- one rain period

##### Middle Ouémé

- rural region
- southern border of transhumance

##### Lower Ouémé

- well-developed infrastructure
- high rate of urbanisation
- high population density
- two rain periods



Scenario B1: Economic growth and consolidation of decentralization	Scenario B2: Economic stagnation and institutional instability	Scenario B3: Business as usual
<b>Development of main economic framework conditions</b>		
<ul style="list-style-type: none"> <li>Constant growth</li> <li>Growing importance of industry</li> <li>Consolidation of the role as a transit country</li> </ul>	<ul style="list-style-type: none"> <li>Economic stagnation</li> <li>Decreasing incomes</li> <li>Loss of the role as an important transit country</li> </ul>	<ul style="list-style-type: none"> <li>Strong informal and weak formal economic integration</li> <li>Low competitiveness on world markets</li> </ul>
<b>Development of political framework conditions</b>		
<ul style="list-style-type: none"> <li>Decentralized administrative structures perform well</li> <li>Development cooperation continues</li> <li>Foreign investments increase</li> </ul>	<ul style="list-style-type: none"> <li>Political destabilization</li> <li>Dysfunctional decentralized administrative structures</li> <li>Decline of development cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Established societal power structures prevail</li> <li>Development cooperation continues</li> </ul>
<b>Developments within the agriculture sector</b>		
<ul style="list-style-type: none"> <li>Increasing rate of innovations</li> <li>Expansion of agriculture areas</li> <li>Increase in exports</li> </ul>	<ul style="list-style-type: none"> <li>Missing innovations</li> <li>Stagnation of productivity</li> <li>Increase of subsistence farming</li> </ul>	<ul style="list-style-type: none"> <li>Low rate of innovations</li> <li>Expansion of agriculture areas and livestock farming</li> </ul>
<b>Development of demographic framework conditions / living quality</b>		
<ul style="list-style-type: none"> <li>Decline of population growth accelerates</li> <li>Improvement of living conditions</li> <li>Rise in overall level of education</li> </ul>	<ul style="list-style-type: none"> <li>Slow decline of population growth</li> <li>Deterioration of living conditions</li> </ul>	<ul style="list-style-type: none"> <li>Continued decline of population growth</li> <li>Slight improvement regarding the coverage of basic needs</li> </ul>
<b>Environment and resources</b>		
<ul style="list-style-type: none"> <li>Management strategies are implemented</li> <li>Resource conflicts decline</li> <li>Water use increases</li> </ul>	<ul style="list-style-type: none"> <li>Weak resource management</li> <li>Uncontrolled exploitation and use of resources</li> <li>Resource conflicts prevail</li> </ul>	<ul style="list-style-type: none"> <li>Resource conflicts due to shortages</li> <li>Continued resource management</li> </ul>

## Morocco

#### Characterisation of sub-regions

##### High Atlas

- marginalised region
- poor infrastructure
- good water availability

##### Quarzazate Basin

- good infrastructure
- strong urban centres
- good water availability

##### Oases southern of Mansour Eddahbi Dam

- low water availability
- dependency on dam management



Scenario M1: Marginalisation ñ non-support of the Dr, a-Region	Scenario M2: Rural development in the Dr, a-Region through regional funds	Scenario M3: Business as usual
<b>Development of main economic framework conditions</b>		
<ul style="list-style-type: none"> <li>Stagnation of tourism</li> <li>Growth rates of the industrial sector stagnate on a low level</li> </ul>	<ul style="list-style-type: none"> <li>Programs for enabling people to help themselves</li> <li>Increase of tourism</li> </ul>	<ul style="list-style-type: none"> <li>Slow increase of tourism</li> <li>Low rates of industrialization</li> </ul>
<b>Development of political framework conditions</b>		
<ul style="list-style-type: none"> <li>Funding programs decrease</li> <li>Traditional forms of decision-making gain importance</li> </ul>	<ul style="list-style-type: none"> <li>Intensification of funding programs (according to strategy 2002)</li> <li>Valorisation of local governance</li> </ul>	<ul style="list-style-type: none"> <li>Funding programs for tourism only</li> <li>Traditional and modern forms of administrations exist in parallel</li> </ul>
<b>Developments within the agriculture sector</b>		
<ul style="list-style-type: none"> <li>Agriculture areas and livestock farming remains constant</li> <li>Stagnation of productivity</li> <li>Missing innovations</li> </ul>	<ul style="list-style-type: none"> <li>Increasing rate of innovations and productivity</li> <li>Cash-Crops for regional markets</li> <li>Reduction of livestock farming</li> </ul>	<ul style="list-style-type: none"> <li>Low rate of innovations</li> <li>Agriculture areas and livestock farming remain constant</li> </ul>
<b>Development of demographic framework conditions / living quality</b>		
<ul style="list-style-type: none"> <li>Increased migration</li> <li>Demographic polarization</li> <li>Deterioration of living conditions</li> </ul>	<ul style="list-style-type: none"> <li>Decline of migration</li> <li>Improvement of living conditions</li> </ul>	<ul style="list-style-type: none"> <li>Raise of population growth</li> <li>High migration</li> <li>Slight progress in basic needs supply</li> </ul>
<b>Environment and resources</b>		
<ul style="list-style-type: none"> <li>Weak resource management</li> <li>Increase of energy costs</li> <li>Uncontrolled exploitation of resources</li> </ul>	<ul style="list-style-type: none"> <li>Management strategies are implemented</li> <li>Water use increases</li> </ul>	<ul style="list-style-type: none"> <li>Increase of energy costs</li> <li>Water scarcity sets limits to the expansion of agriculture</li> </ul>

