



ENVIRONMENTAL INDICATORS FOR SUSTAINABLE DEVELOPMENT

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Introduction

- Sustainability integrates Social, Economical and Environmental Issues
- Establishing Quantitative Measures for sustainable indicators
- Environmental indicators were measured according to the country priorities and data availability
- Jordan's main challenge is water scarcity which considered the most important constrain for development



Preparing Sustainable Development Reports



- Environmental Sustainable indicators, data 2004 and issued in 2006 updated annually)
- Annual Environment Statistics Report (1995-2010), covers considerable ESDI
- Achieving sustainable development (Jordan Country Environmental Analysis, data for 2007 and issued 2010)
- Coordination with MOEnv. for selection of environment indicators to be used in SOE report (Start in 2011- under processing)

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Methodology followed





- Thematic clusters (theme/sub-theme) selected from the indicators of UN CSD depending on data availability and country priorities.
- Since ecosystem is a unique one per each country, using simplification of the phenomena to generate suitable indicators.
- DPSIR recently used in order to be beneficial for SOE report.

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Key SD Issues

- **Environment Sustainable indicators in ED-DoS**
- Energy and Air Pollution Indicators
- Water indicators (**Quality** & Quantity)
- Biodiversity Indicators
- Health Indicators
- **Wastewater Indicators (Quality, Quantity & Reused)**
- **Environmental Expenditures Indicators**
- In addition to waste, air and water quality, land degradation and coastal zone for country analysis

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Key SD Issues

- **The key sustainable development issues that were agreed with stakeholders are:**
- Water resources Sector
- Atmosphere Sector
- Waste Sector
- Biodiversity and Ecosystems
- Land Resources
- Coastal Environment
- Financial Resources

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Coverage of National Indicators by the Arab SDI



- Most of Arab SDI were available at the national level.
- Most of these indicators were covered in one or more of our reports
- Some of Indicators were covered but not exist in the Arab SDI because of our customized conditions (local) and Jordan's priority issues (e.g. water indicators, % of imported energy)

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Basic indicators used in ED report Water Indicators



- Percentage of people connected to safe drinking water
- Total Agricultural Areas/Irrigated land
- Total Volume of Surface Water
- Total Volume of Renewable and Non-Renewable GW
- Exploitation of Water Resources
- Water Supply from Surface and Ground Water



Energy Indicators




- Energy production indicator
- Energy consumption/capita
- The Percentage of Energy Consumption /Sector
- Imported Energy
- Energy Efficiency




Air Indicators




- Green House Gases
- Number of vehicles/inhabitant
- Road Density (2008)




Biodiversity Indicators






Dana Flower



SOME ASPECTS OF BIODIVERSITY



- The importance of maintaining biodiversity is a central principle of the Rio convention (1992) and of conservation policies worldwide.
- Benefits of biodiversity:
 - Ecosystem stability and recovery from disturbances
 - Provision of goods and services.
- Many people view biodiversity as “The number of species.”
- Scientists characterize biodiversity as the composition, structure and functions of ecosystems, at all levels of organization from genes to the landscape. “Biophysical diversity”

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Biodiversity Indicators



- Number of Known Mammals, Birds, Reptiles, Amphibians and Vascular Plants.
- Indigenous Threatened Species
- Protected Areas (No. And % of the total area)
- Wet lands
- Most important areas for birds.



Main obstacles and challenges



- Data availability and some of these data scattered in different ministries and Institutions.
- Restricted coverage of environmental surveys compare to the economic ones.
- Financial restrictions
- Cooperation
- Human resources restrictions (ESI expertise)



Measures taken to avoid obstacles



- Enhance cooperation and coordination
- Seeking support from international agencies
- Try to use the other ongoing surveys for important sectors by accompanied questions related to ESI.
- Such process allow collecting data for a considerable sets of ESI and cost reduction.
- Capacity Building in respect to ESI, particularly to statistical part
- Arab to Arab Exchange Experiences. (Arab Stat)

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Cost and Financial Requirement



- Jordan Country environment Analysis (CEA) was financed by the World Bank and USAID with national efforts
- Constructing the report of ESI in environment division were prepared after own efforts training, but not yet disseminated (Financial restrictions).
- Cooperation with Ministry of Environment for fundraising preparing the National ESI report.
- National ESI report will include the more critical & crucial indicators in order to use it in SOE.

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Formulating policies



- From statistical point of view, all the data about environmental issues were disseminated to Ministry of planning in bilateral cooperation and to all other Ministries upon request.
- Future planning for these reports will be in cooperation with MOEnv as practical step in order to address the state of environment in Jordan as well as indicates the intervention possibilities and monitoring the progress.

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Recommendation




- Provide the opportunity for each country to develop the list of indicators at national level according to country priorities.
- Later on, these indicators will form an index or proxy for some indicators.
- The index could be use as a proxy to inform environmental policies or to respond to the regional or international set of indicators.


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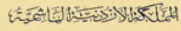
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MAKING ENVIRONMENTAL POLICIES WORK




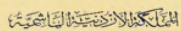


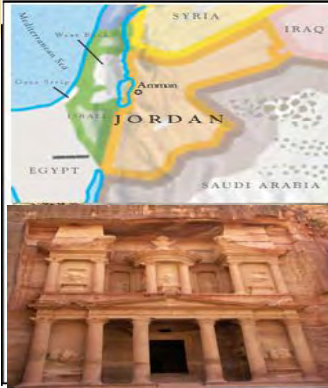
- We need to learn to acknowledge change, and to accept uncertainty, and build these into our management responses (Policies).
- People have to set objectives for managing natural resources. The objectives have to be clear and measurable, and resource-specific.
- Once the initial objectives have been set, the system can be monitored to measure the sustainability of management in relation to those objectives.
- We have to relearn values outside of traditional economics (Economic rely on env.), and communicate them in ways that non-specialists can understand (by indicators).
- In variable and unpredictable systems, ecological risk assessment offers the best way of judging the probable consequences of development options.

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Thank You