Opportunities and challenges for mainstreaming ecosystem services at a local level

Nadia Sitas
Belinda Reyers
Karen Esler
Heidi Prozesky

Biodiversity Planning Forum
Skukuza 24 May 2012
Main Aim:

To explore what challenges and opportunities exist for integrating ecosystem service information in decision making processes in Eden, in order to improve land use planning for enhanced socio-ecological resilience.
Project for Ecosystem Services

• GEF project, admin by CSIR

• Partnership between CSIR & SANBI

• Builds on the Millennium Ecosystem Assessment (MA), its sub-global assessments & ongoing MA follow-up process

• SA, Lesotho, Trinidad & Tobago, Vietnam, Chile
Overall objective:
To demonstrate how to best use the findings of ecosystem services assessments in policy and decision making at various scales.
ProEcoServ

**Decision support**
- Disaster Mgmt
- Land use planning
- Integrated Water Mgmt
- National planning
- Catchment
- National

**Policy support**
- Pro-poor policy, macroeconomics, incentives
- Outreach & comms
- Private public partners
- National

**Science & assessment**
- Ecosystem service information and data

**Mainstreaming Tools**
- Packaging
- Capacity
- DSS
- Outreach
- Forum
- Incentives
- Toolkit

**ProEcoServ**

**Design**
- SC/TAC
- Maps
- DSS
- Comms
- Indicators
- Models
- Risk assessment
1) Decision support
2) Policy support
3) Science-policy interface

Stakeholders

Sub-national  National  Global

Eden
Why Eden?

- Rich biodiversity - Cape Floristic Region
- Eden is also home to a diverse human population
- Eden is under pressure due to anthropogenic induced extreme events
- Development pressure
- On-going research on ecosystem services in this region
- Appropriate level- land use planning
Alternating droughts & floods

- Drought disaster area in Nov 2009
- 2010 R 166, 6 million drought relief funding was allocated to Eden
- Between 2003 & 2008, W Cape damages of R2.5 billion from severe weather events associated with cut-off low events – Eden 70% damage

Climate change

- Increasing average temperature, changes in rainfall patterns and extreme weather events that lead to floods, storm surges and droughts - more intense, more often...
Mainstream Ecosystem Services

- The informed inclusion of relevant ecosystem service information into the decisions of institutions that drive national, local and sectoral development policy, rules, plans, investment and action
  (adapted from IIED 2009)

- Focusing on developing user-inspired, user-relevant and user-useful tools
• Finding entry points for making the case
• Mainstreaming development-environment linkages into policy processes
• Meeting the implementation challenge
How do ES manifest in land-use planning?

De Groot et al. 2010
Phase I

- Content analysis
- Deductive coding

Document analysis (DSS)

Interviews (local & district municipality)

Sitas et al. in prep
Reference to the concept of ecosystem service

Sitas et al. in prep
<table>
<thead>
<tr>
<th>Service</th>
<th>Explicit</th>
<th>Implicit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provisioning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>Biological raw materials</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Biomass fuel</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Fresh water</td>
<td>33</td>
<td>4</td>
</tr>
<tr>
<td>Genetic resources, nat...</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td><strong>Supporting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Habitat</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Nutrient cycling</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>Primary production</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Water cycling</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>Regulating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erosion control</td>
<td>44</td>
<td>4</td>
</tr>
<tr>
<td>Water purification &amp; waste.</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Regulation of natural...</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Regulation of soil quality</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Regulation of pests</td>
<td>43</td>
<td>10</td>
</tr>
<tr>
<td>Regulation of air quality</td>
<td>43</td>
<td>10</td>
</tr>
<tr>
<td>Regulation of climate</td>
<td>44</td>
<td>4</td>
</tr>
<tr>
<td>Regulation of water timing</td>
<td>44</td>
<td>4</td>
</tr>
<tr>
<td><strong>Cultural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation &amp; tourism</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Ethical &amp; spiritual</td>
<td>45</td>
<td>11</td>
</tr>
<tr>
<td>Educational &amp; inspirational</td>
<td>45</td>
<td>11</td>
</tr>
</tbody>
</table>

Sitas et al. in prep
Phase II

Challenges

• Major service delivery backlog
• Lack of political will (“…..you cannot eat fynbos”)
• Planning carried out by consultants
• Planning occurs in silos
• Reactive vs. proactive

• Lack of capacity
  – 3 out of 7 municipalities have environmental officers
  – Numerous vacant posts

• Budget
  – Less than 1% municipal budget spent on environmentally related issues
  – Money for disaster recovery not reduction

• Scale of governance (local vs. district vs. provincial)
• Lack of alignment between key planning documents i.e. from National- local development plans
• Concept of ecosystem confusing
• Data in inappropriate form

Sitas et al. in prep
Phase II

Opportunities

- Engaged, active and interested stakeholders
- Consultants via South African affiliate of International Association Impact Assessment (IAIA), SANBI Biodiversity Planning Forum & FF
- Establishment of UNESCO Man and Biosphere reserves for Garden Route
- Existing and future information and knowledge generated in region on ES

Engaging with land-use planning processes

- Integrated development planning (IDP)
- Spatial development planning (SDF)
- Integrated coastal management planning
- Bioregional planning
- Disaster management planning
- Frame of RISK & ecological infrastructure

Sitas et al. in prep
Social network analysis
Stakeholder analysis

**Involve/Consult**
- Ensure needs and concerns are understood and considered
- Obtain feedback on alternatives and/or decisions

**Collaborate/Empower**
- Partner with stakeholders in the decision-making process
- Potential collaboration with local authority
- Co-design with stakeholders

**Inform**
- Provide stakeholders with relevant information
- Limited level of influence

**Consult**
- Obtain feedback on alternatives and/or decisions
1. Planning healthy & resilient landscapes in Eden: **Bioregional planning**

- Systematic Biodiversity plan (usually provincial)
- Map of Critical Biodiversity Areas

**Bioregional Plans** (e.g. at district level)

- Biodiversity sector's input into...
  - New ones in the future
  - Coastal Mgmt Programmes
  - State of Env Reports

- IDPs
- SDFs
- EMFs
- SEAs
- EIAs

Multi-sectoral planning tools, frameworks, assessments etc
2. Planning healthy & resilient landscapes in Eden: Ecosystem Based Risk Reduction
Ecosystem management

**Goal:** resilient ES support livelihoods & human security
Identify vulnerable ES, restore ES/natural defences, monitor ES

Development planning

**Goal:** Reduce poverty and increase human well-being
Identify and reduce economic physical and social vulnerability

Climate change adaptation

**Goal:** increase resilience of communities
Identify adaptation options, improving health, engineering measured and ecosystem based adaptation

Disaster risk management

**Goal:** Save lives & protect livelihoods
Identify emergency response, early warning, preparedness & preventative measures

Ecosystem-based DRR for Socio-ecological resilience, CCA & human security

Adapted from PEDRR 2010
Managing ecological infrastructure to reduce risk
Thank you!