THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY

INDIA INITIATIVE
India – the context

- Only 2.4% of global land area
- 7-8% of globally recorded species
- 5.6% of world GDP ➔ 3rd largest economy (in PPP terms)
- 16% of world population and growing
India – the context

- High annual economic growth of 8% for over a decade
- Economic activities and population pressure putting high stress on natural resources
- 70% rural population, heavily dependent on natural resources for sustenance
- For India, protecting biodiversity is critical as it is linked to livelihoods of millions of people
- Biodiversity therefore has both ecological and economic value
The Economics of Ecosystems and Biodiversity
India Initiative (TII)

Aims to make the economic values of biodiversity and ecosystem services explicit to enable consideration and mainstreaming in developmental planning and decision making.
TII Scope

- Synthesis of the latest ecological and economic knowledge to structure the evaluation of ecosystem services under different scenarios
- Assessing costs and benefits for conservation of ecosystem services for representative sites
- Providing policy specific recommendations at national, state and local levels to foster sustainable development and better conservation of ecosystems and biodiversity
- Identify information and tools for improved biodiversity-related business practice
- Provide recommendations for raising public awareness
TII focuses on three Priority Ecosystems

- Forests
- Inland Wetlands
- Coastal & marine ecosystems
TII Structure

Project Steering Committee
(headed by Secretary, MoEFCC)

Scientific and Technical Advisory Group
(eminently ecologists and economists)

Lead Authors -
Forests

Site specific
pilots

Lead Authors –
Inland wetlands

Site specific
pilots

Lead Authors –
Coastal & marine ecosystems

Site specific
pilots
Progress so far


- Selection of pilot case studies through “Open call for proposal”
- Commissioning of 12 pilot case studies with high policy relevance
- TII – Interim Report • Working Document release at COP12, Korea
Insight into some pilot case studies

- Valuation of forest ecosystem services in Western Ghats
- Economics and efficacy of measures used for mitigating elephant-human conflict
- Economic assessment of ecosystem services provided by vultures
- Integration of wetland ecosystem services and biodiversity values in planning for water resources management in Loktak Lake
- Conservation – development trade-off associated with land use transformation in Kanwar wetlands, Bihar
Insight into some pilot case studies

- Implications of hydrological regime changes in Little Rann of Kachchh
- Ecological and economic implications of land-use change in Wular Lake
- Eco-labelling as tool for promoting conservation and sustainable use of biodiversity
- Economic valuation of impacts of season fishing ban on marine ecosystem services
- Economic value of biodiversity loss in marine fisheries by-catch
- Evaluating the flow of ecosystem services from regenerated mangroves compared to natural mangroves
Some preliminary results

- Conservative estimate of timber, fuel-wood and NTFPs values alone in Uttara Kannada (Western Ghats) is US$ 12,249.4/ha/year
- Carbon sequestration benefits from the Western Ghats accruing to the Global community is estimated at US$ 159/ha/year
Some preliminary results

- Elephant-human conflicts result in annual damage of about 1 mha of cultivated crops affecting about 500,000 people.
- Over 500 people are killed annually at present (as opposed to 150 in early 1980s) by elephants and about 100 elephants are killed by people annually.
- 70% of the annual budget of Project Elephant is used for conflicts leaving little resources for other aspects of management of elephants and their habitats.
- House damage protection value of mangroves during super cyclone, 1999 is estimated at US$ 1,218/ha.
- 94% of the human death toll in Kendrapada district due to the super cyclone in 1999 could have been avoided if the mangroves were conserved as they existed in the 1940s.
The BIG Dialogue

Brazil-India-Germany dialogue on TEEB implementation (established during COP11, Hyderabad)

- 1st dialogue in Sep 2013, Berlin, Germany
- 2nd dialogue in May 2014, Brasilia, Brazil
- 3rd dialogue in 2015, India
## Contribution to National and Aichi Targets

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<tr>
<th>National Biodiversity Target</th>
<th>Related Aichi Biodiversity Target</th>
<th>TII contributions</th>
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<td>Target-1: By 2020, a significant proportion of the country’s population, especially the youth, is aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.</td>
<td>1</td>
<td>All pilot studies demonstrate application of ecosystem service values in a particular policy context, creating awareness on the various ecosystem service values, and alluding to specific measures that can ensure conservation and sustainable use.</td>
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<td>Target-2: By 2020, values of biodiversity are integrated in national and state planning processes, development programmes and poverty alleviation strategies.</td>
<td>2</td>
<td>The studies will show the need for it and economic logic for taking action. It will inspire a number of advocates in states and centre to push for reforms.</td>
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<td>Strategies for reducing rate of degradation, fragmentation and loss of all natural habitats are finalized and actions put in place by 2020 for environmental amelioration and human well-being.</td>
<td>5, 15</td>
<td>Several projects build scenarios of alternate management, indicating the costs and benefits of addressing degradation, fragmentation and loss of natural habitats. These scenarios will feed into management plans enlisting actions for addressig environmental degradation and improving human well-being.</td>
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<td>Target-5: By 2020, measures are adopted for sustainable management of agriculture, forestry and fisheries.</td>
<td>6, 7, 8</td>
<td>Demonstration projects address production sectors related to fisheries and forestry and will lead to recommendations for sustainable management.</td>
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<td>Target-8: By 2020, ecosystem services, especially those relating to water, human health, livelihoods and well-being, are enumerated and measures to safeguard them are identified, taking into account the needs of women and local communities, particularly the poor and vulnerable sections.</td>
<td>14</td>
<td>The studies aim to improve delivery and effectiveness of ongoing government schemes related to inland wetlands, forests and coastal and marine ecosystems. Methodological innovations adopted in the studies aim to articulate stakeholder and livelihood implications of changes in ecosystem services.</td>
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Way forward – mainstreaming TII

- Improving programme management guidelines for three identified ecosystem types
- Build network of ES economics practitioners
- Hosting ecosystems economics based curricula in academic institutions
- Linking outcomes to related processes as Green Accounting
- Linking outcomes to implementation of Aichi Targets, Ramsar Strategic Plan
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