NATURAL CAPITAL ACCOUNTING IN HIMACHAL PRADESH – FEASIBILITY AND PLANNING STUDY

Workshop on Natural Capital Accounting in Himachal Pradesh
Targeted at the Forestry Sector
Hotel Holiday Home
Shimla, 31st January 2014

Haripriya Gundimeda, IIT Bombay
HIMACHAL’S GROWTH PATH AND FORESTS

- Real growth rate - 7.44% in 2011-12.
- Average growth rate of 8% during 2005-06 to 2012-13.
- Increasing growth --- increasing economic activity
- The real question
- Did this growth rate come at a cost of depletion of natural assets or as a benefit of increasing stock of the state’s natural resources?
- Natural capital Accounting gives us the way
PRIORITIES AND CHALLENGES FACED BY HP

Hydropower cannot ignore source management of water resources, reductions in water flows, high environmental footprint, conversion of dams, infrastructure.

Tourism sector dominated by nature tourism, High environmental footprint, creation of infrastructure, roads.

Utilise unique resource endowments (e.g. Hydropower)

Economic social development and poverty eradication (ecotourism)

Maintain ecological balance (natural resource base)

60% of area under forests, climate change one threat
FEW TAKES FROM THE EARLIER TALKS IN THE MORNING

- When GSDP slides down it send jitters” (Sr. Shrikant Baldi) – Do we have an alternative?
- Bhakra dam life cycle has reduced because of siltation - we need solution at the point of origin
- We need acceptable figures on forest values
- Mr Tarun Shridhar
- Environment and Forests sector becoming more of policing rather than managing
- - Positive response to PES – need to demystify
- Sunita Narain – Forestry sector not playong a major roke in economic growth
- Incentivise the planting of trees
- Forests have not become part of the state strategies
FORESTS AND HP

- Forest cover - 66.52% of total geographical area
- Forest’s official contribution – around 4.8% of GSDP.
- Key priority sectors of HP thrive on rich forest resources
- Forests play a key role in HP’s commitment to low-carbon growth and a carbon-neutral economy.
- Act as complementary life support system to Agriculture and Horticulture in hills
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OBJECTIVES OF THE STUDY

- Look at the feasibility of developing forest accounts
- Describe an approach to link environment with the economy
- Carry out an Intensive review of data sources and institutional capability
- Identify the key data sources
- Identify the capacity gaps taking into consideration the current commitments to implement natural capital accounting
POLICY PRIORITIES OF THE STATE

• 1.5% of the project cost earmarked for local development through Local Area Development committees

• State as a leading destination by 2020
  • Tourism subplan coordinating with other departments

• Meeting societal concerns
• Focus shifted to multifunctional landscapes
• Encourage profitable investors

Hydro power policy

Tourism Policy

Sustainable forest management plan

Environmental Master Plan

• Simultaneously address economic and ecological restoration
  • Bring convergence with the development activities
Do HP state income accounts capture the economic contribution of forests?

<table>
<thead>
<tr>
<th>Forest Product/Service</th>
<th>Services Provided</th>
<th>State Income Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Wood</td>
<td>Provisioning</td>
<td>Depletion of forests not included in net value added or net domestic product.</td>
</tr>
<tr>
<td>Fuelwood and charcoal</td>
<td>Provisioning</td>
<td>Underestimated, NSS Consumption Expenditure Surveys (every five years)</td>
</tr>
<tr>
<td>Minor Forest Products</td>
<td>Provisioning services (Resin)</td>
<td>Production estimates from H.P. State Corporation</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>Underestimated, only royalty value available from HPFD</td>
</tr>
</tbody>
</table>

**Forest Services**

<table>
<thead>
<tr>
<th>Service</th>
<th>Services Provided</th>
<th>Accounted To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock Grazing</td>
<td>Provisioning services</td>
<td>attributed to agriculture</td>
</tr>
<tr>
<td>Pollination services of wild bees</td>
<td>Supporting services</td>
<td>attributed to agriculture</td>
</tr>
<tr>
<td>Recreation and Tourism</td>
<td>Cultural services</td>
<td>attributed to trade, hotel, and restaurant, or Other services</td>
</tr>
<tr>
<td>Carbon storage</td>
<td>Regulating services</td>
<td>omitted</td>
</tr>
<tr>
<td>Biodiversity Protection, Soil Protection, Water Regulation</td>
<td>Supporting services</td>
<td>omitted</td>
</tr>
</tbody>
</table>
NCA and Policy Linkages for Himachal Pradesh

Forest Timber asset account
- Monitor the status of timber resources and the impact of various policies on forests
- Forest Conservation Policy of Himachal which imposed ban on green felling.

Forest area (NTFP) accounts
- Inform the magnitude and level of dependence on NTFPs and opportunities.
- HP Forest Sector Strategy
- Rural Development Policies

Carbon accounts
- Inform potential for carbon sequestration in state forests and thereby HP's policy on low-carbon growth.
- HP State Action Plan on Climate Change

Ecotourism accounts
- Inform (to what extent does current tourism depend on forest resources and what the potential for increasing this revenue is?)
- Himachal Sustainable tourism policy

Forest ecosystem accounts
- Inform potential for hydro power generation and Payments for ecosystem services
- HP hydropower policy, finance commission, payment for ecosystem services
### Accounts

<table>
<thead>
<tr>
<th>Accounts</th>
<th>Key policy issues involved</th>
<th>Key stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Timber asset account</td>
<td>Measure the value of depletion and degradation of forest resources. Examine ways to retain the forests intact. Gauge the sustainability of future use.</td>
<td>Govt. of H.P., HPFD, HPSFDC, FSI, DoLR, H.P., H.P., DoEST, H.P.</td>
</tr>
<tr>
<td>Forest NTFP asset account (other than timber)</td>
<td>Analyze whether appropriate rents are being paid by forest users Understand the role of NTFPs in providing livelihoods and conserving forests</td>
<td>Govt. of H.P., HPFD, HPSFDC, FSI, State Tourism Department, DoLR; H.P, DoEST; H.P.</td>
</tr>
<tr>
<td>Carbon accounts</td>
<td>Measure whether the forests are net sources or sinks of carbon and their exact contribution to climate change mitigation. Look at ways to link them with REDD and other carbon management options.</td>
<td>FSI, HPFD, DoEST; H.P., MoEF.</td>
</tr>
<tr>
<td>Ecosystem accounts</td>
<td>Examine how forest biodiversity and quality is being impacted Examine ways to conserve forests by linking with PES, REDD plus etc.</td>
<td>State Biodiversity authorities, State Technical Council, DoEST, HPFD, MoEF, HP energy department</td>
</tr>
<tr>
<td>Eco-tourism accounts</td>
<td>Ensure that a fair share of value of attributed to forests for the tourism services it provides</td>
<td>Department of Tourism, Department of economics and statistics, Department of forests</td>
</tr>
<tr>
<td>Forest Timber asset account</td>
<td>Measure the value of depletion and degradation of forest resources. Examine ways to retain the forests intact. Gauge the sustainability of future use.</td>
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**A pathway for physical asset accounts for the select assets**
Building forest accounts for HP

**SEEA central framework**

- Physical flows between environment and economy
- Stocks of environmental assets and changes in these stocks
- Sequence of economic accounts that highlights depletion adjusted aggregates
- Economic activities and transactions related to environment

**Experimental ecosystem accounting**

- Physical accounts for the use of environmental goods and services
- Monetary accounts for the use of environmental goods and services
- Physical asset accounts of the environmental assets that supply the environmental goods and services
- Monetary accounts of the environmental assets that supply the environmental goods and services
STRENGTHENING NTFP BASE

- 66% of GA legally under forests
- Availability of wide range of NTFPs
- Long gestational periods for cultivated NTFPs
- Great potential for value addition
- Cost effective means of conservation
- Enhancing livelihoods and provide employment
- In tune with the forest sector strategy of HP

PROMOTING ECOTOURISM

- New ecotourism policy by HP in 2001
- Involvement of local communities to support livelihoods
- Conserve local culture, ecology and landscape
- Huge potential due to its scenic beauty
- Most value added by tourism attributed to tourism department
Framework for physical asset account for forest resource: Volume Accounts for timber and fuelwood (in cubic meters)

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<thead>
<tr>
<th></th>
<th>Reserved Forests</th>
<th>Protected forests</th>
<th>Unclassed forests</th>
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<tbody>
<tr>
<td></td>
<td>VDF</td>
<td>MDF</td>
<td>Open forest</td>
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<tr>
<td>Opening stock</td>
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<td>Changes due to economic activity (2) = (a+b+c)</td>
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<td>Logging/harvest + illegal logging (a)</td>
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<td>Logging damage (b)</td>
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<td>Afforestation</td>
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<td>Other volume changes (3) = (d+e+f+g+h)</td>
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<td>Forest fires (d)</td>
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<td>Stand Mortality (e)</td>
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<td>Animal grazing (f)</td>
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<td>Shifting cultivation (g)</td>
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<td>Forest encroachment (h)</td>
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<td>Other accumulation (4) (i+j+k)</td>
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<tr>
<td>Natural growth (i)</td>
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<td>Regeneration (j)</td>
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<td>Transfer of land to other activities (k)</td>
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<td>Net volume changes 5 = 3-(2+4)</td>
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### Biodiversity Accounts Framework

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<tr>
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<th>Mammals</th>
<th>Birds</th>
<th>Amphibians</th>
<th>Insects</th>
<th>Fish</th>
<th>Invertebrates</th>
<th>Subtotal</th>
<th>Fungi</th>
<th>Protista</th>
<th>Plants</th>
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<td>Opening population</td>
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<td>Closing population</td>
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**Source:** SEEA
## Data Systems

- Forest Survey of India
- State Forest Department - 
- Working Plans of the HP forest department
- Directorate of Land records
- GIS Bhuvan
- Hydrological information systems
- Department of Environment Science and Technology
- Department of Economics and Statistics
- Department of Agriculture
Data be completely exploited for developing the accounts

Capacity of all relevant officers be enhanced

The environmental issues are usually not a part of annual training plans of most of the departments.

Current focus is primarily on technical training and not on conceptual understanding of environmental issues and how it impacts the environment as a whole.

State has expertise innovative ways of managing the forests for e.g., CAMPA

Catchment treatment Plans

10% of CAT funds set aside for schemes like PES involving local people

Community based bio carbon project
DEST can take the overall coordination given the closeness to the mandate of the department, knowledge, experience, organizational capacity

- The department of planning and the forest department can play a critical role in mainstreaming forests into the national accounts.

An inter-departmental steering committee can be established involving the relevant departments and line ministries
Short-term pathway to develop forest accounts for the state of Himachal Pradesh

0-4 months
- Prepare physical area and volume accounts for forest resources in Himachal Pradesh. This can be completed in 4 months as per the standard framework suggested by SEEA adapted to the conditions and legal classifications of Himachal Pradesh.

4-7 months
- Examine the value of timber products in Himachal economy. As there is a ban on clear felling in Himachal, this may not be to show the true contributions of forests for timber. However, Himachal has tree patta system where, rights are given away to concessionaries to remove live trees. In order to understand the unrecorded value in the national accounts and also to ensure that the concessionary system is not affecting the sustainability of forests, the timber accounts can be developed.

7-9 months
- Estimate the exact potential and contribution of non-timber forest products to the state. Several of the NTFPs are grossly under estimated. The Panchayats do record to certain extent the value of NTFPs collected from forests but often do not send timely reports to the forest department. The NTFPs can play a huge role in sustaining rural livelihoods. If the informal economy is substantial, the managing forests for NTFPs can also improve other regulating and supporting services of forests. The value chain of NTFPs also needs to be explored to better understand their contribution.

9-12 months
- Understand the exact contribution of forests to the tourism sector of the state economy. Develop MSUT tables for the timber and NTFP to understand their exact contribution to different sectors of the economy. This is important to ensure its integration with the state accounts of Himachal and also to revise the exact contribution of forests.

12-14 months
- Develop MSUT for timber, non-timber and eco-tourism to understand their exact contribution to different sectors of the economy. This is important to ensure its integration with the state accounts of Himachal and also to revise the exact contribution of forests.
THANK YOU FOR THE OPPORTUNITY AND SUPPORT