TEEB Phase III:

Mainstreaming biodiversity into national and sectoral development plans and processes

CBD-COP-13 11 December

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UNEP TEEB Office

TEEB Phase III

1. **National Implementation**
   - Tanzania, Liberia, Bhutan, Philippines, and Ecuador
   - Next funding phase 2017: Colombia, Kenya, Indonesia, Thailand
   - +15 other countries (e.g. Germany, China, Malaysia, Brazil, India)

2. **Sectoral/ biome studies**
   - TEEB Agriculture & Food
   - TEEB for the Arctic, TEEB Water and Wetlands, TEEB Oceans and Coasts

3. **Macro-level accounting (with UN Statistics Division)**
   - SEEA Experimental Ecosystem Accounts

www.teebweb.org/areas-of-work/teeb-country-studies/

TEEB Country Studies 6 step approach

STEP 1: Refine the objectives of a TCS by specifying and agreeing on the key policy issues with stakeholders

STEP 2: Identify the most relevant ecosystem services

STEP 3: Define information needs & select appropriate methods

STEP 4: Assess and value ecosystem services

STEP 5: Identify and outline the pros and cons of policy options, including distributional impacts

STEP 6: Review, refine and report: Produce an answer to each of the questions

Policy Identification: Over-arching questions

What policy issues are critical to the host country?

1. What will the policy act *upon*?
   - Single biome; multiple biomes; single sector; cross-sectoral
2. How *valuable* is/are the biome(s)/sector(s) to the economy?
3. What is the *incremental change* brought about by the policy?
4. Who are the *key stakeholders* and governance bodies (sub-national and national)?
5. On-going research

TEEB Country Studies

Bhutan

1. TEEB Bhutan informs the **Sustainable Hydropower Development Policy** (2008) and the **Alternative Renewable Energy Policy** (2013), both of which call for a diversification of energy sources.
2. Each scenario designed to meet Bhutan's 2020 energy goals (10,000 MW).

Bhutan: Second Stakeholder Workshop 14-17 March 2016

Who needed to be round the table?

1. **Facilitation:**
   i. Ugyen Wangchuck Institute for Conservation and Environment (UWICE)
   ii. UNEP; KnowlEdge Srl
2. **Industry:**
   i. Druk Green Power Corporation
   ii. Tangsibji Hydro Energy Limited
3. **Ministries/Government agencies:**
   i. Forest Resources Management Division
   ii. Watershed Management Division
   iii. Department of Renewable Energy
   iv. Department of Hydro-Met Services
   v. Department of Hydropower and Power Systems.
   vi. National Statistics Bureau
   vii. National Environment Commission
4. **NGOs, civil society groups:**
   i. WWF Bhutan, WWF – Living Himalayas

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What background information is provided?

The Economics of Ecosystems and Biodiversity
(TEEB)

- Scope Finalization and Scenario Development Report
- Underpinning Policy and Management Reviews

Ugyen Wangchuck Institute for Conservation and Environment
Department of Forests and Park Services
Ministry of Agriculture and Forests
Lamai Goempa, Bumthang

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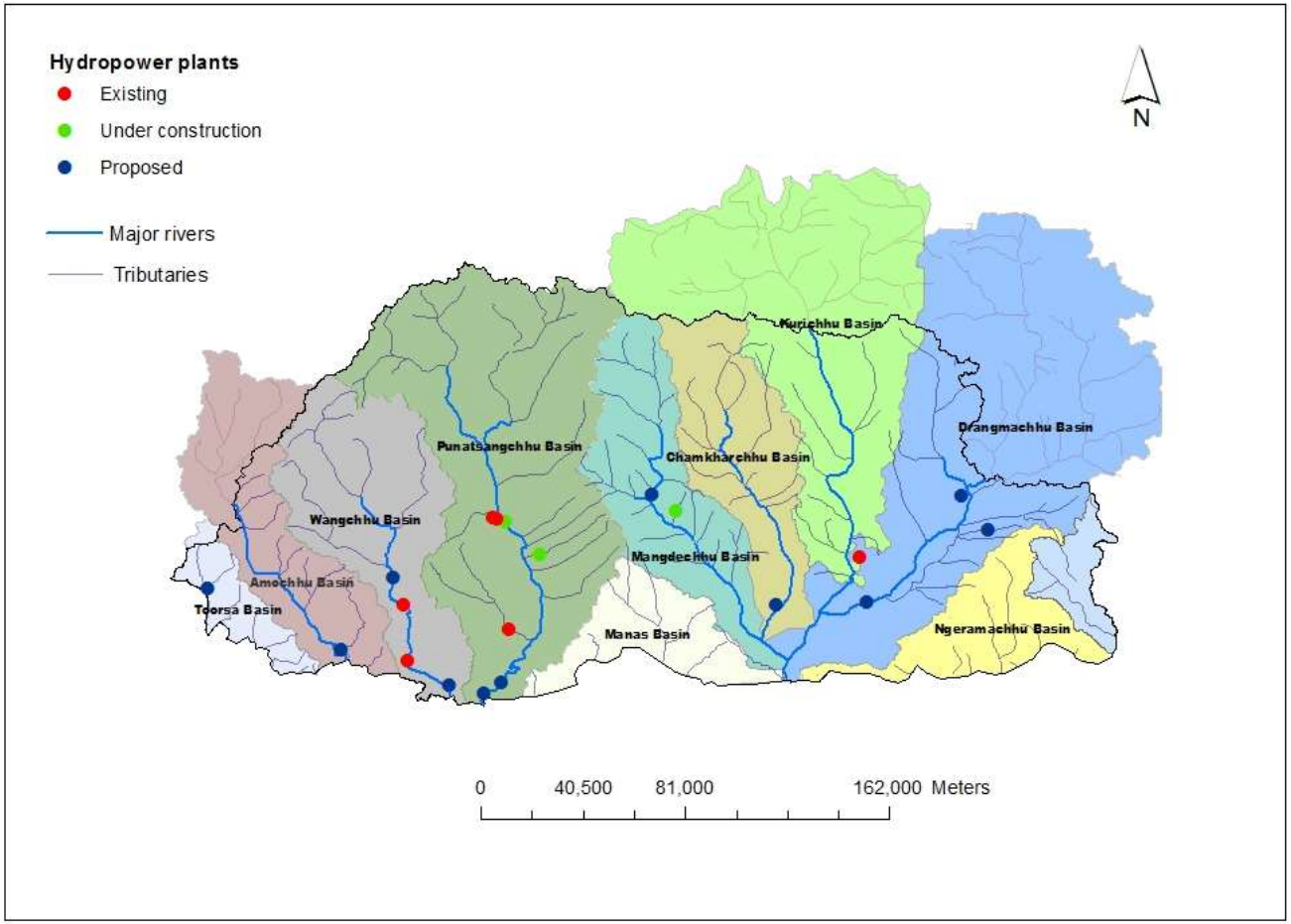

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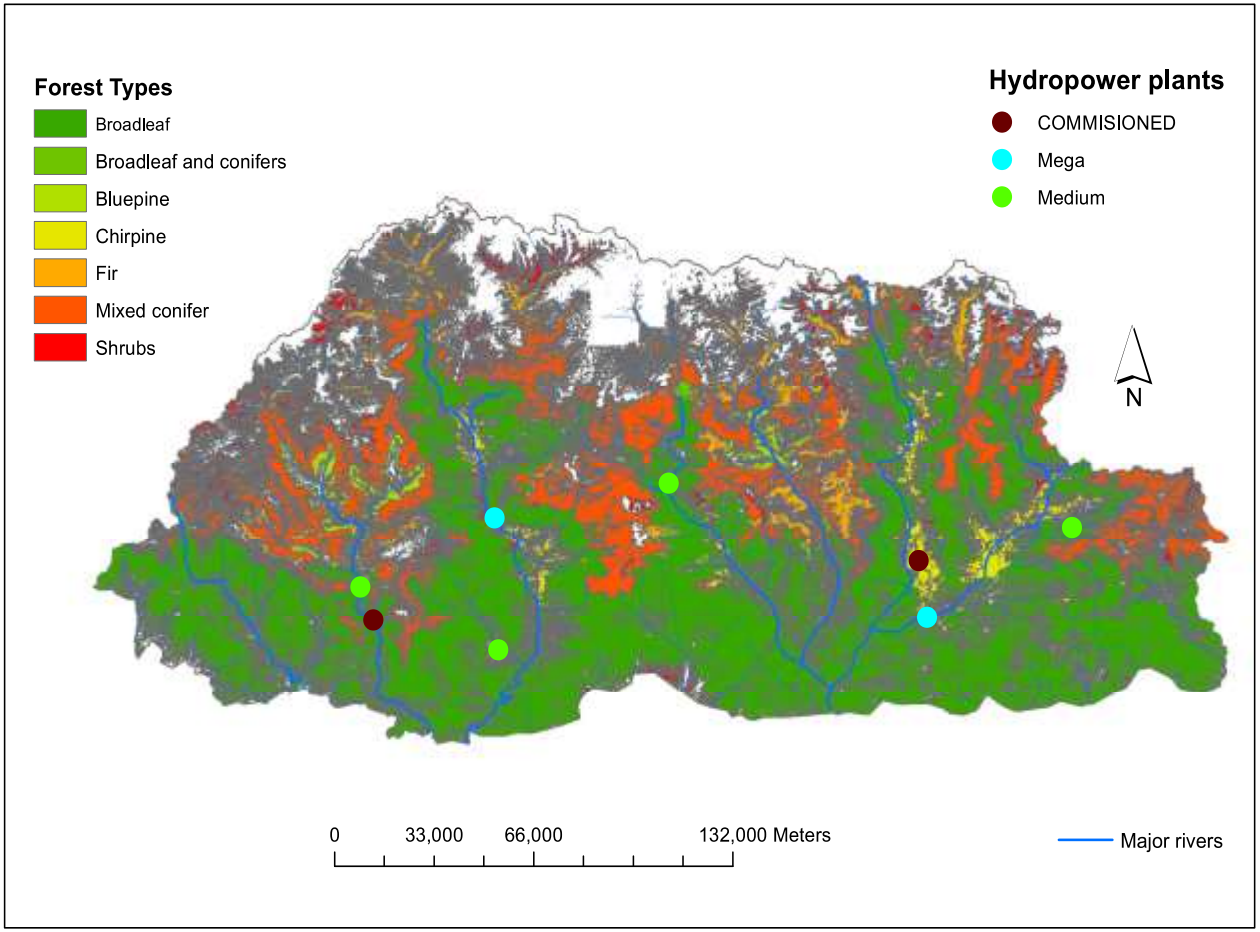

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Data assessment and gap analysis: 6 sites

The Economics of Ecosystems and Biodiversity (TEEB)

- Assessment of Biophysical data availability and gaps

Ugyen Wangchuck Institute for Conservation and Environment
Department of Forests and Park Services
Ministry of Agriculture and Forests
Lamai Goempa Bumthang

Table 2: Summary of biophysical data availability and gaps

Ecosystem Services	Data Available	Data Gaps	Way Forward
Punatsangchhu Hydropower Plant Capacity: 1200 MW Location: Wangdue			
Provision of food/fuel wood	Yes		
Provision of medicinal resources	Yes	How Affected	Socio-economic surveys
Provision of raw materials	Yes	How Affected	Socio-economic surveys
Provision of fresh water (quality and quantity)	Yes	Data during construction	Sample collection and analysis
Habitat for species	Yes	Aquatic diversity during construction	Field surveys
Regulation of local climate and air quality	Yes	Data during construction	Air sample analysis
Regulation of carbon sequestration and storage	Yes		
Regulation of extreme events	Yes		
Regulation of soil erosion and soil fertility	Yes	Soil sample analysis during construction	Soil sample collection and analysis
Pollination	NA		
Biological control	Yes	Present scenario	Biodiversity assessment
Habitats for species	Yes		
Maintenance of genetic diversity	Yes		
Recreation and tourism	NA		
Aesthetic appreciation and inspiration for culture, and spiritual experience	NA		

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Using spatial modelling/links to systems models

1. Land use changes due to hydropower development relates to environmental changes *downstream*
   i. Recognize, demonstrate and capture impacts on communities
   ii. Consider boundary of analysis (currently 5km radius from site ESIA)

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2. Land use changes *upstream* impact the quality of water delivered to hydropower stations
   i. manage land use ➡ manage sediment loads
   ii. Druk Power spends 16 million USD on turbine repair/other infrastructure as a result of sediment loading).

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3. These spatial models will be linked to systems models which would include *social and economic variables* to ensure that relationships between hydropower development and socio-economic variables are also captured.

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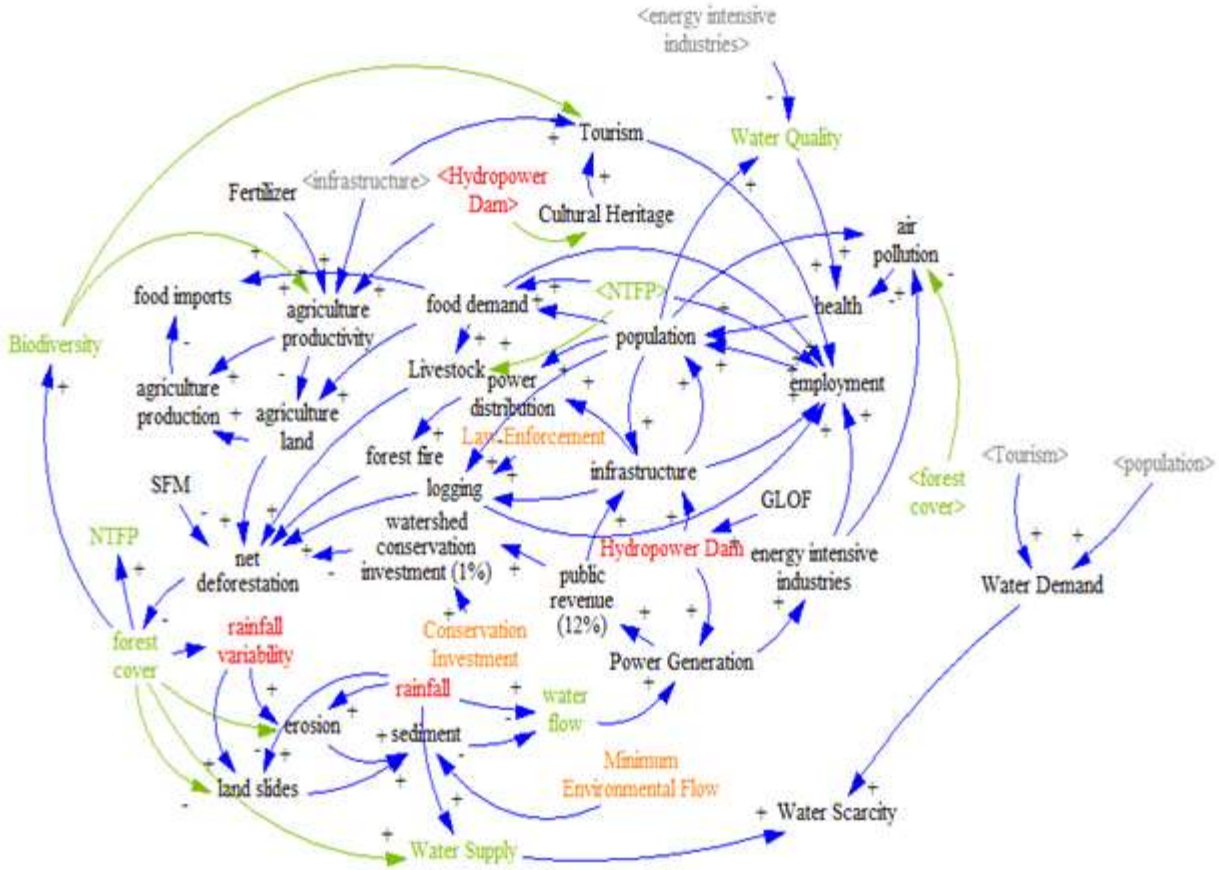
What are the inter-linkages?



TEEB Country Studies: Next steps

1. Completion of EC ENRTP studies by June 2017, with interim results presented at CBD COP Cancun, Mexico
2. Knowledge and media training at final Project Workshops
3. Theory of Change: working with Steering Committee to push for policy uptake

Thank You!

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