IPSI Case Study Summary Sheet

Basic Information					
Title of case study (should be concise and within approximately 25 words)					
Assessment of Ecosystems and Ecosystem Services in Barshong, Bhutan					
Submitting IPSI member organization(s)					
Royal Society for Protection of Nature (RSPN)					
Other contributing organization(s)					
International Centre for Integrated Mountain Development (ICIMOD), Nepal.					
Author(s) and affiliation(s)					
ICIMOD and RSPN (Partners)					
Format of case study	Manuscript	Language	English		
Keywords (3-5 key concepts included in the case study)					
State and dynamics of ecosystems and their services and the nexus with human wellbeing					
Date of submission	March 2017				
Web link	http://lib.icimod.org/record/32572; www.icimod.org				

Geographical Information

Country		Bhutan	Bhutan						
Location(s)									
Barshong Gewog (sub-districts) in Tsirang Dzongkhag (district), located in the south-central part of Bhutan									
Longitude/latitude or Google Maps link NA									
Ecosystem(s)									
Forest	Х	Grassland	Х	Agricultural	Х	In-land water		Coastal	
Dryland		Mountain	Х	Urban/peri-urban		Other			
Socioeconomic and environmental characteristics of the area									
Barshong is located in the south- central part of Bhutan. Major portion of the area is under forest cover,									
comprising mainly of broadleaf and chir pine species, combined with agricultural land. Agriculture is the main									
source of livelihoods with combination of livestock rearing and a small section in waged labor.									
Description of human-nature interactions in the area									
Main land-cover types in the study area include agriculture, fallow land, forest, bare area, and water bodies.									
Records from 1989 to 2014 shows very minimal changes in land uses and land cover. The three major									
ecosystems- forest, freshwater, and agro ecosystems largely contribute to the livelihoods of the local									
population.									

Contents

Status	completed	Period	Jan 2014 to Dec 2014					
Rationale								
Ecosystem valuation of Bhutan by Kubiszewski et al. (2013) estimated USD 4,944 million worth of benefits								
derived from ecosystem. However, the state of ecosystem is challenged by fragile mountain ecosystem,								
increasing economic growth and anthropogenic activities. Development of policies and strategies to address the								
complexities of ecosystem management and enhance its services for human wellbeing is hence imperative.								
Objectives								
To develop a comprehensive understanding of the state and dynamics of the ecosystems and their services in								
Barshong Gewog in Tsirang, Bhutan and the nexus with human wellbeing.								
Activities and/or practices employed								

Besides secondary information, Participatory rural appraisal, household survey geospatial tools were used to assess the state and dynamics of ecosystems and their capacity to provide goods and services; community vulnerability to drivers of change and their coping strategies to perceived changes. Additionally, ecosystem services were also mapped bases on importance and dependency.

Results

Nearly 80% of the population are farmers with 100% dependent on varied ecosystems for livelihoods. Majority (29.3%) of households reported vulnerability in relation to poor production. The social and economic sectors indicated improvement in the last decade. Considering the significance on their livelihood, around 87% of households expressed willingness to pay for the management of ecosystems.

Lessons learned

The study was limited to identification of ecosystem services and their utility. Understanding the trends in ecosystem services in relation to the wellbeing of people is key to know the real value of the ecosystem. While the dependency on resources is high, the ecosystem health is still maintained. However, for sustainable management, alternative livelihood options like tourism, cottage industries and market for ecosystem services payment are recommended as opportunities to be tapped.

Key messages

Integrating ecosystem service perspectives, based on local context into policies provides significant opportunities to contribute to key targets of sustainable natural resource management improvement on the quality of life of local people who depend on these systems.

Relationship to other IPSI activities NA

Funding

The study was supported by the International Centre for Integrated Mountain Development (ICIMOD), through European Union funding, under the broad program of "Support to Rural Livelihoods and Climate Change Adaptation in the Himalayas (Himalica)".

Contributions to Global Agendas

The table below shows based on the self-evaluation by author(s). \bullet and \blacksquare indicates the "direct" or "indirect" contributions to the following global agendas respectively to which the work described in this case study contributes to.

CBD Aichi Biodiversity Targets (https://www.cbd.int/sp/targets/)



UN Sustainable Development Goals (SDGs) (https://sustainabledevelopment.un.org/sdgs)

