

Bhutan

Scaling-up Mountain Ecosystem-based Adaptation: building evidence, replicating success, and informing policy



Background

Bordered by India – except on the north by China – Bhutan is a landlocked country that lies on the southern slopes of the eastern Himalayas within the Hindu-Kush Mountain range. Its elevation ranges from more than 7,000 m to 100 m in the southern foothills. Draining from these steep and high mountains is a network of rivers. The sharp changes in elevation, combined with attendant changes in climate, have given rise to a rich diversity of species and ecosystems.

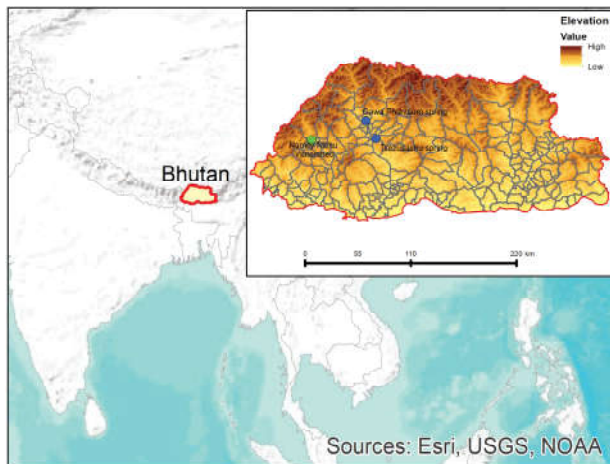
Bhutan has a strong policy framework on the environment and is acclaimed internationally for its commitment to conservation. Over 40% of its land has been declared as protected areas, and 70% of the total land area is

maintained under forest cover.

Unique among the countries of the world, Bhutan has a Gross National Happiness Index, which measures the well-being and happiness of its nearly 800,000 people. About 80% of this population depends on subsistence agriculture. However, the country is now transitioning from a low to middle income country. There is increasing infrastructure and hydropower development, impacting hydrology throughout the country.

Though Bhutan has ample water sources in the rivers and valleys, high-altitude mountain communities are highly dependent on mountain springs as a source of drinking water and for agriculture and livestock. According to Bhutan's Watershed Management Division,

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springs comprise 67% of the total water sources in the country. However, recent studies have shown that springs throughout the country are drying. While currently, only 1% of the total water sources have dried up, it is forecast that 25% of water sources in the country are in the process of drying, because of a combination of factors, including climate change and other anthropogenic causes.

Scaling-up Mountain Ecosystem-based Adaptation in Bhutan

The Scaling-up Mountain EbA Project in Bhutan focused on strengthening existing policies and plans at the national level, so that EbA approaches are better integrated in long-term investments. The Asia Regional Office, IUCN led the Bhutan component of the project, in close collaboration with the Watershed Management Division of the Royal Government of Bhutan, the Tarayana Foundation and the College of Natural Resources, Royal University of Bhutan.

Direction of work 2017-2019

During this period, the project had two main components.

1. Analysis of the policy framework for EbA (with a focus on water)

- A policy review and analysis was carried out through two consultations with a range of key government and non-government actors to ensure that the link between biodiversity conservation and climate change adaptation was acknowledged.
- The report on 'Review of Policies, Laws/ Legislations, Rules & Regulations, Environmental Strategies, Plans and Framework of Bhutan in the context of Ecosystem-based Adaptation' was completed, with recommendations for improved integration of EbA within different policies.

2. Site-based EbA dialogues and training in two pilot sites

- In the Chamgang Watershed and the Namey Nichu Watershed, two training sessions on EbA were held for two local communities (67 representatives – 30 women and 37 men) and eight forest department staff.
- A discussion/workshop was held for 75 community members and forest department staff for participatory selection of EbA actions, operationalisation and the way forward.



Hiatus of work and implications for the project in Bhutan

At the end of 2019, the global project was overwhelmed by an unexpected administrative issue that resulted in its abrupt cessation. This was followed almost immediately by the global COVID-19 pandemic, which resulted in long and repeated lockdowns in project countries.

These two major issues caused a two-year hiatus in project work. For Bhutan, this hiatus was complicated by government restructuring. When work commenced again in 2022, it was found that there had been government restructuring and reshuffling of government officers, and key focal points had changed; therefore continuation of planned work was not possible.

Course correction of work following the 2022 hiatus

Following this, the Asia Regional Office of IUCN, through dialogues with local actors, identified a need to support the Tarayana Foundation and the College of Natural Resources, Royal University of Bhutan, to enhance their ongoing programme on springshed management in the Gawa Phuntsum and Tsezusachu springsheds. These organisations were seeking technical guidance and funding to expand their programmes to new districts and to consolidate EbA approaches in new districts facing challenges of water availability.

The project has successfully

1. Supported the application of EbA measures in the two demonstration sites

- IUCN worked with two selected communities in the Gawa Phuntsum and the Tsezusachu springsheds, carried out consultations and mapped springs and their recharge areas in the villages. The partners worked with communities to dig trenches to increase infiltration and springshed recharge.
- Community members have been trained in monitoring the spring outflow and will work with the Tarayana Foundation and the College of Natural Resources to gauge the effectiveness of the intervention.

2. Developed a technical and policy brief on springshed management

- Based on on-site experience and using information from the policy review on EbA in the water sector in Bhutan conducted before the hiatus, IUCN and its partners have developed a technical and policy brief for government agencies, highlighting best practices for springshed management; and provided policy demonstrating the efficacy of springshed interventions.



Group discussion on EbA options identification at Chamgang © IUCN



Discussion with the Watershed Management Division © IUCN



Community visit to the Tsezusachu Spring © IUCN

- The brief served as a background document for the workshop detailed below.
- #### 3. Carried out a training mission
- This included a field visit to the project sites for community dialogues on EbA and feedback on technical interventions.
 - A two-day training/workshop to promote capacity building for 23 representatives from local government, national CSOs and universities.

Integration of EbA into other projects

The project's work reinforces another ongoing EbA project in Bhutan 'Living landscapes: securing High Conservation Value (HCV) in south-western Bhutan' (WWF Bhutan and Tarayana Foundation).

Conclusion

Adaptive management is critical for EbA projects, as ecosystems themselves are inherently complex, often with unexpected variables compounding the restoration of the ecosystems' full functionality. The course correction for formulating and implementing work in Bhutan after the two-year hiatus exemplifies such adaptive management.

IUCN plans to build on the project partnerships developed with the Tarayana Foundation and the College of Natural

Resources to scale-up future work on Ecosystem-based Adaptation in Bhutan. Discussions between the partners are ongoing, and IUCN will engage government counterparts once the restructuring has been completed. As springs continue to dry throughout the country, there will be ever-growing need for EbA to support local communities and livelihoods.

For more information contact

Ali Rizvi Raza
Head, Climate Change Team
Centre for Economy and Finance
IUCN (International Union for Conservation of Nature)
email Ali.Raza@iucn.org
<https://www.iucn.org/our-work/topic/ecosystem-based-adaptation/scaling-mountain-eba>



Vista of the Tsezusachu Spring shed forest and rice cultivation © IUCN