

Payment for Ecosystem Services in the Hindu Kush Himalayas

Case study Module 2

Laxmi Dutt Bhatta⁽¹⁾

Author's affiliation: Senior ecosystems specialist, International Centre for Integrated Mountain Development (ICIMOD)

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Ecosystems, poverty alleviation and conditional transfers

Guidance for practitioners

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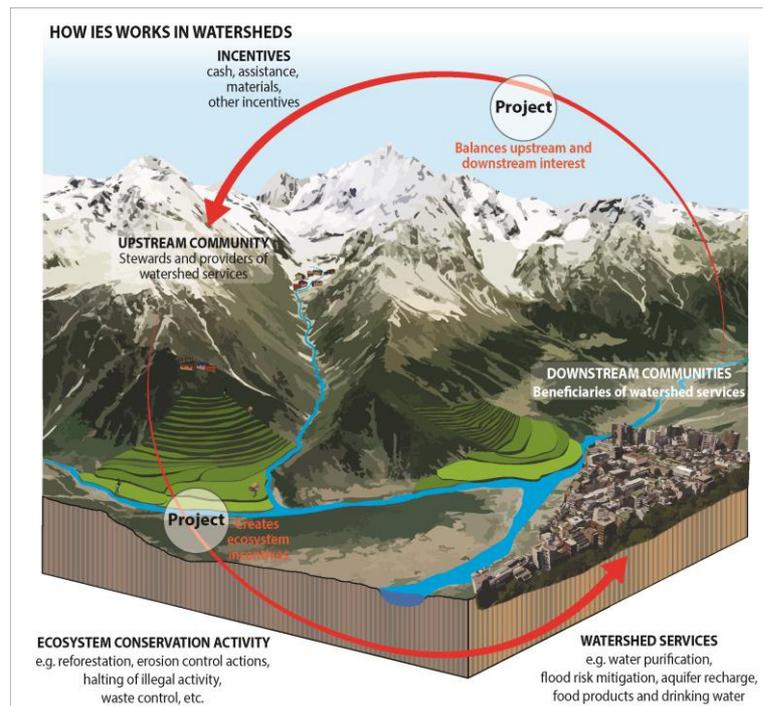
Evidence from the international research community shows that careful management of nature results in benefits to people's wellbeing. Poor people especially depend more heavily on the quality of the ecosystems and have less access to substitutes when they are degraded. Making meaningful impacts in the way ecosystems are managed requires governments to step in and scale up, but the evidence also shows that empowered communities can make strong calls to enact and implement change at the local level. Positive incentives like payments for ecosystem services (PES) and other forms of conditional transfers can provide important signals to enact this behavioural change into positive actions. Carefully designed, these incentives can also contribute to the wellbeing of people, especially poor and vulnerable groups. New tools emerge that can help with scaling up and dealing with inevitable trade-offs, but more efforts are needed to bring this information closer to those making decisions. This case study accompanies a [Guidance for Practitioners](#) that helps to bridge this space by: 1) making evidence accessible, bringing the latest evidence from research on PES in theory and practice with documented case studies written for practitioners; and 2) supporting capacity building to 'train the trainers', through teaching modules which can be used to promote capacity building of practitioners.

There are many similar schemes to the payment for ecosystem services (PES) scheme in the Hindu Kush Himalayas (HKH) region, that aim at channelling financial and non-financial benefits (for example, as development projects) to the communities providing various ecosystem services, through an established institutional mechanism (Bhatta and Kotru, 2012; Bhatta *et al.*, 2014; Patterson *et al.*, 2017) (see Figure 1). Some of them include:

- Markhor (*Siberian ibex*) hunting in Pakistan, where 80 per cent of the total hunting revenues go back to local communities
- incentive to communities for increased carbon stock through REDD+ pilots in Nepal
- sharing of hydropower revenue with local government in Nepal, where 10 per cent of the hydropower revenue is ploughed back into local government
- municipal support to local communities living in the upstream water source at Palampur city of the Himanchal state in India
- compensation scheme for ecological restoration in China, where the government of China provides cash eco-compensation to local communities based on per unit of land for wetland restoration.

These schemes operate alongside a wider range of political and policy instruments used by governments. The experiences from these schemes show that they are opening new sources of conservation finance, helping to improve ecosystem at large, and providing experiences for empowering negotiations at local level. This document summarises the key components and learning from the process, as well as the enabling policy options to support PES or PES-like schemes.

Figure 1. The structure of watershed incentives in the Himalayas



Source: Patterson *et al.*, (2017).

Political support

The HKH region is unique in terms of its biological and cultural diversity. Its diverse ecosystems provide numerous goods and services to about 210 million mountain inhabitants and 1.5 billion people living downstream (Karki *et al.*, 2012). However, global environmental changes, rapidly growing population and expanding economies are directly affecting the ecosystems health and its ability to supply ecosystem services (Sandhu and Sandhu, 2015). This in turn is having negative livelihood and socioeconomic consequences to the local mountain communities (ICIMOD, 2010; MEA, 2005b).

The PES concept is emerging as a potential policy instrument to complement conservation and restoration efforts in HKH region. While there is no 'regional umbrella policy' on PES, there are several enabling policies and legislative frameworks that support the provision for incentives for providing ecosystem services of HKH region countries. For instance:

- Nepal¹ (see Table 1): National Park and Wildlife Conservation Act (2029), Electricity Act (2049), Forest Act (2049), Tourism Policy, Local Self Governance Act (2055) which empowers local communities to manage local natural resources and mandates them to share a certain percentage of revenue with local communities for their well-being.
- Bhutan: The Water Act of Bhutan (2011), the National Forest Policy of Bhutan (2011), the National Environment Act (2007), Bhutan Water Policy (2007), the National Environment Strategy of Bhutan (1998) which enables the adoption of the PES mechanism in Bhutan to maintain and achieve its target of 60 per cent forest coverage for all time to come (WMD, 2015, 2016).
- India: the 12th Finance Commission (2005–10) recognised the need to invest in resources and allocated 1000 crores IRs (US\$D 153 million) for five years to be given to states for preserving forests for the first time (Singh, 2010). While in China, 'eco-compensation schemes' encompasses both PES like policies that involve direct payments from the government to individuals and communities, as well as policies that develop frameworks of cooperation between various levels of government for financing and sharing the cost of environmental protection and restoration (Liu and Lan, 2015).

Table 1. Selected policy and legislative instruments support the PES concept in Nepal

Year	Policy/Strategy	Related Provisions
1973	National Parks and Wildlife Conservation Act 2029	It provides power to declare buffer zones around the national parks and wildlife reserves. The Act allows funnelling back 30–50 per cent of park and reserve revenue for the community development activities in the buffer zone.
1996	Buffer Zone Management Regulation 2052	It facilitates public participation in the conservation, design and management of buffer zones and provides guidelines to manage 30-50 per cent of park-generated revenue with the communities in the buffer zone.
1993	Electricity Act 2049	It has stated that during the construction and operation of hydropower station, environment and watershed areas should be protected. This Act provides that 10 per cent of the total revenue generated by hydropower needs to be ploughed back to the concerned district developments.
1999	Local Self Governance Act 2055	It provides immense autonomy to the District Development Committees (DDC), municipalities and Village Development Committees (VDC) to levy taxes on utilisation of natural resources. Similarly, Section 189 sanctions the DDC for formulation of and implementation of plans for conservation and utilisation of forest, vegetation, biological diversity and soil.
2007	National Water Plan (2007-2027)	This supports the Churia conservation programme for ecological services down to Terai irrigation.
2009	Working Policy on Construction and Operation of Development Projects in Protected Areas	It highlights that 10 per cent of the government royalty earned from electricity generated should be deposited by the hydropower owner to the concerned protected area for environmental conservation and community development.
2010	Three Years Interim Plan's Approach Paper (2010-2012)	It provides that 35 per cent of the income of community-based resource management models will be returned back to local communities for their livelihood. It states that a trust fund will be created from private contribution to be used for the development of forest-based enterprises.

Source: Adopted from Bhatta *et al.*, (2014).

¹ The dates are in Nepali years, which are 56 years ahead AD.

Sustainable financing

The countries in the HKH region use a wide range of financial sources, most of them from domestic sources to sustain these PES-like schemes. However, projects involving carbon sequestration incentives under REDD+ pilots in Nepal are mostly donor supported and project-based (see Table 2). Financial sources used in the different countries in the region include:

- revenue generated by hydropower (particularly in Nepal and Bhutan)
- revenue generated by a protected area (particularly in Nepal)
- hunting licence fee (in Pakistan)
- central funds allocated for ecological restoration, forest restoration (particularly in India under the Green India mission, in China – ecological civilisation and 'green for grain' national initiatives)
- municipality funds received from water tariffs (for example in Nepal, Dhulikhel drinking water supply where water users pay for upstream communities through water management funds at the municipal level)
- municipal internal funds (such as in Palampur water supply, Himanchal state of India)
- externally supported funds, particularly carbon sequestration incentives under REDD+ initiatives.

Table 2. Payment and criteria supported by Forest Carbon Trust Fund, 2011-2013

Watershed (District)	No. CF	Total (USD)	Payment according to different criteria (USD)						
			Carbon stock (ton)	Carbon increment	IP HHs	Dalit HHs	Women	Poor	Basic
Kayarkhola (Chitwan)	16	72,255	16,573	11,049	6,905	10,359	10,359	13,811	3,200
Charnawati (Dolakha)	58/65 ^a	132,879	28,939	19,293	12,058	18,086	18,086	24,116	12,300
Ludikhola (Gorkha)	31	79,866	17,679	11,787	7,366	11,050	11,050	14,733	6,200
Total	105/112^a	285,000	63,192	42,128	26,330	39,495	39,495	52,660	21,700

Notes: Total payment from project-supported Forest Carbon Trust Fund using different criteria from 2011 to 2013, in Chamawati, 58 CFs in 2011/12 and 65 in 2013.²

Institutional set-up

Unlike in Costa Rica and Vietnam (Porrás *et al.*, 2013), countries in the HKH region lack national institutional mechanisms with a particular focus on PES (Bhatta *et al.*, 2017). However, countries have set institutional mechanisms to implement PES-like incentives, which vary across the region. For example:

- in Pakistan, the community-based trophy hunting programme (CHTP) is a financially feasible PES scheme where village-level conservation committees (VCCs) are empowered to manage trophy hunting. The department of forests and wildlife at the provincial level manages trophy hunting fees. Eighty percent of the total revenue collected from the trophy hunting is ploughed back to concerned VCC. Based on VCC decisions, the revenue received from the department is utilised for community development and conservation initiatives

² REDD pilot Project database 2010-2013, International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal.

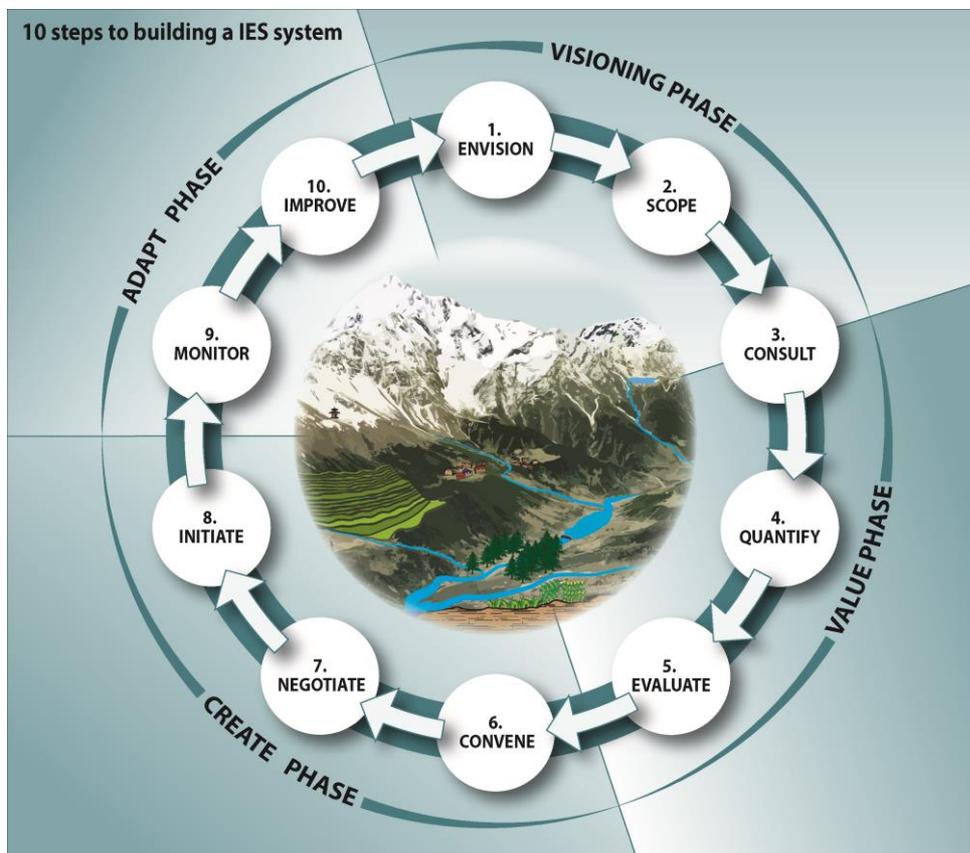
- a similar institutional set up in Nepal is the protected area management where the Department of National Parks and Wildlife Conservation (DNWPC) ploughs back 30 to 50 per cent of the total revenue to the concerned buffer zone development council (BZDC)
- in the hydropower sector in Nepal, ten percent of the total revenue from hydropower is ploughed back to concerned district government, who are authorised to allocate it to the hydropower-affected area
- in China, under the central eco-compensation schemes, the government provided financial compensation to communities based on per unit land. For example, under Chinese national schemes on 'green for grain', the government provided cash (up to 750 Yuan/ha) and grain subsidy (up to 2250 kg/ha) to the participating farmers through local governments.

In some local-level PES schemes, such as Dhulikhel drinking water supply in Nepal, a formal agreement between upstream water suppliers and downstream water consumers (committee signed on behalf of consumers) is organised for a period of five years through municipal mediation. A similar institutional set up is found in the Palampur water supply scheme in India.

Systems and tools for effective implementation

Patterson *et al.*, (2017) discussed various PES-like schemes ranging from national to locally initiated schemes in the Himalayas. Conducive policies, intermediaries, ownership by local municipalities, facilitation and mediation, and ensuring benefits to communities are crucial for successful PES or PES-like schemes in the region. The HKH has special characteristics such as limited land tenure, high dependency on natural resources and ecosystem services (Jodha, 2005) which requires contextualisation of such PES schemes based on local needs and priorities and may mean a one-fit model may not work effectively in the region. The recently published handbook for incentives for ecosystem services (IES) distils lessons on basic components for designing and implementing PES in the region (see Figure 2). Some of these aspects are discussed below.

Figure 2. Basic steps of an IED process: the Himalayas experience



Source: Patterson *et al.*, (2017).

Rules and Regulations: Many countries in the HKH region do not have an umbrella rule or legislation on PES; however, a number of enabling legislative instruments are available to support PES or PES-like schemes to be effectively implemented. For example, in Nepal, the existing water resources Act enables a payment mechanism in hydropower affected areas; whereas in Pakistan, local rules on trophy hunting ensure community benefits. In China, national priority and compensation schemes on ecological restoration are fully implemented and found effective in wetland restoration (Zhang *et al.*, 2009). The municipal rules and directives, such as in Dhulikhel water supply project in Nepal, have been conducive in effective implementation of PES-like schemes in ensuring benefits to upstream communities (Bhatta *et al.*, 2014).

National funds and fund management mechanism: Unlike in Costa Rica, countries in the region lack national fund provision targeting to PES or PES-like schemes. However, there are few such national funds existing in few countries to compensate as payment to ecosystem services. For example, China's 'grain for green' and the Green India Mission provides funds at national level to encourage communities to participate in ecosystem restoration (see also India's MGNREGA programme). Nepal also has provision for national environment funds, particularly collected from taxes on fuel, however, these have not been utilised or disbursed to communities as payment schemes.

While supporting the national programme on ecosystem restoration, with support from donor funds, countries such as Nepal, piloted similar funds to incentivise communities for their efforts on carbon sequestration under REDD+ pilot initiatives (see Table 2).

Cash vs in-kind: The issue of governance is crucial to sustain PES schemes, particularly in HKH regions. Ecosystem service users have a genuine concern whether their payment will be spent on specified activities or not. Likewise, ecosystem managers are concerned if they will benefit from the payment made by service users. The examples in Nepal explore how funds should be mobilised. The majority of service managers indicated that in-kind payment, as per the planned activities, would be better than cash payment. Other countries in the region such as India and Bhutan have been practising 'in-kind' support to communities in the form of development projects as part of their policy on incentivising communities for ecosystem services. China began with grain incentives and has now moved to cash payments.

Modalities: There are wide ranges of modalities existing in the region, ranging from community to community small-scale schemes (such as Dhulikhel water supply in Nepal) to schemes fully supported by national laws and policies (such as Chinese national eco-compensation and Nepal's hydropower revenue sharing and buffer zone management). Community-based PES schemes facilitated by local governments such as municipalities (for example, the Dhulikhel water supply in Nepal, Palampur water supply in India) are found to be more effective as these schemes are mostly based on local needs and contexts. There are complexities in nationally-initiated PES such as hydropower schemes in Nepal, where co-ordination among various departments has been a crucial issue in making these schemes more effective (Bhatta and Kotru, 2012).

Monitoring and evaluation: Monitoring and evaluation includes the number of activities such as field visits, joint verification and social audits. For the China case, there is strong scientific data and analysis, whereas in other countries such scientific analysis is weak or completely lacking. For example, in Nepal performance-based monitoring of PES schemes is totally unavailable, and experiences have not been systematically documented.

Lessons

Research and experiences from the HKH region showed a promising potential for incentive-based mechanisms to encourage and acknowledge mountain communities for their efforts in conserving the ecosystem to maintain and/or improve it.

However, several essential elements are necessary to make such schemes successful. These include clarity and transparency on conditionality, land tenure rights, contracting provisions supported by legislative instruments and equitable benefit sharing mechanisms and monitoring. Studies also suggest that if PES schemes are embedded within environmental impact assessment (EIA) plans for development projects, they would be more effective in ensuring long term sustainability of the project and benefits to the communities.

Existing experience strongly suggest focusing on a wider range of incentives rather than cash-only as means to improve quality and/or quantity of ecosystem services in the HKH region. Properly designed, these types of incentives have the potential to improve ecosystem management while increasing transparency and accountability. A 'one size fits all' approach may not be desirable, as the design of these PES schemes need to respond to local context, culture and environmental priorities. Rather, an overarching framework with common principles might be helpful to streamline such schemes at the national or transboundary levels.

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