



**Watershed Management Division
Department of Forests and Park Services
Ministry of Agriculture and Forests**



Benefit-sharing for Ecosystem Services with emphasis on Poverty Reduction



**CONSOLIDATED REPORT ON REVIEW,
PROJECT PROPOSAL AND PROGRAMMATIC FRAMEWORK**

Ugen P. Norbu

Norbu Samyul Consulting, Thimphu

Draft, July 2012

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Executive Summary

This report presents a review of benefit-sharing approaches with particular focus on Payments for Ecosystem Services, a detailed project proposal for a benefit-sharing scheme focusing on eco-tourism services, and a programmatic framework outlining the concept, principles, vision and objectives, and implementation strategies for Payment of Ecosystem Services as a pro-poor benefit-sharing mechanism. The tasks covered by this report was carried out under the aegis of the Joint Support Programme on capacity development for mainstreaming environment, climate change and poverty concerns in development policies, plans and programmes, funded by the Government of Denmark, UNDP and UNEP, and managed by the Gross National Happiness Commission Secretariat.

Benefit-sharing from ecosystem services is being promoted in a number of developing countries around the world to enhance the management of natural ecosystems through arrangements that generates direct social and economic benefits for the local communities who are the immediate custodians of these ecosystems and, consequently, responsible for their conditions. It is based mainly on the notion that if the benefits of ecosystem services are shared tangibly and fairly with the local communities, they will be a positive and potent force in the sustainable management of the natural ecosystems that provide these services.

In Bhutan, programmes of benefit-sharing from ecosystem services mainly include: Payments for Ecosystem Services; Community Forestry; Integrated Conservation and Development Programmes; and Reducing Emissions from Deforestation and Forest Degradation

PES in Bhutan is a recent initiative and is currently operational on a limited pilot scale. The PES concept gained prominence in Bhutan with the undertaking of a PES feasibility study by FAO and the Watershed Management Division in October and November 2009. Since then, a pilot PES project integrated with Yakpugang community forest has become operational and some field studies and capacity development activities have been carried out in connection with potential pilot PES schemes: one in Phobjikha valley focusing on ecotourism-related services and the other in Paro-Woochu focusing on watershed services for hydropower production. The two potential PES schemes have not made much headway because of funding constraint, shortcomings in the design, and inadequate data and advocacy work required within the contexts of the proposed schemes.

The first part of this report is a review of the benefit-sharing approaches in Bhutan, focusing primarily on Payments for Ecosystem Services and touching upon community forestry as a secondary subject. The review reinforces that benefit-sharing approaches have high relevance to Bhutan's overall development policy as defined by the GNH development philosophy and supplemented by the Economic Development Policy. Furthermore, they find considerable relevance in the country's economic development context because the sustainability of key economic sectors, namely hydropower, agriculture and tourism, is deeply intertwined with the condition of natural ecosystems and their services.

There is also a favorable policy premise for PES supported by various enabling statements embedded in the Bhutan Water Policy 2007, Bhutan Sustainable Hydropower Development Policy 2008, and National Forest Policy 2011 as an integrated economic and conservation tool for watershed management and sustaining watershed services for hydropower, agriculture and basic human consumption. Benefit-sharing approaches will also contribute to the draft Tourism Policy vision to foster the tourism industry as a positive force for the conservation of environment.

Of the three pilot sites recommended in the PES Feasibility Study of 2009, the PES scheme in Yakpugang community forest in Mongar has become operational with technical support from the Netherlands Development Organization. The scheme focuses on protection and enhancement of the Yakpugang community forest, which forms a catchment area and serves as the main source of water for Mongar township. Although the scheme has completed only the first year of its three-year agreement, initial observations suggest that it is a successful initiative. The success can be largely attributed to the integration of PES in the Yakpugang community forest which offsets the institutional and operational costs if the scheme was to be implemented afresh on its own. This has enabled the scheme to project a very modest amount of Nu. 52,000 per year which the municipality can easily afford to pay out of the water user fees.

There exists some reservations about PES within some quarters of the local government authority and this basically relates to the possibilities of misuse of such opportunities by some local communities in absence of clear guidelines and programmatic parameters within which PES can be pursued and implemented.

There are some general issues that concern the implementation of PES in Bhutan. These relate to current lack of economic valuation of environmental services and the reliance on subjective assessments for establishing payment amounts, the provisional and piecemeal approach to PES due to financial constraints and absence of programmatic direction, and the long gestation caused by intricate technical, financial and policy issues and the lack of research and in-country cases to sensitize the stakeholders.

Following are the key conclusions and recommendations of the review:

- There is limited professional understanding and almost non-existent public understanding of the PES concept and approaches. Therefore, a good amount of advocacy work and discourse is required to build up professional and public understanding based on sound case studies and field research;
- Tourism sector presents immense potential for PES. It is also one of the most relevant sectors for PES as it benefits considerably from the positive state of natural ecosystems maintained most often at the development cost of, or natural resource use restrictions on, the local communities. Tourism policy references stress that the tourism industry is to operate on the principles of environmental sustainability, social and cultural responsibility, and economic viability. There is a need to advocate PES as a valuable tool

to operate these principles and that it is a part of sustainable tourism or eco-tourism that the tourism industry seeks to promote;

- The integration of community forestry and PES in Yakpugang is a very prudent strategy. Not only has this integration offset operational/ institutional costs for PES but has also added enormous economic value to the community forest;
- There is the risk of PES being misinterpreted or loosely applied. The programmatic framework, which is presented as a part of this report, will hopefully clarify the concept, principles and strategies for planning and implementing PES within Bhutan's context;
- Bhutan's vast forest resources and the widespread implementation of community forests present huge prospects for harnessing PES for carbon sequestration. Institutional and programmatic coordination will be required to foster linkage and synergy between PES and REDD+ programme.

The second part of the report is a detailed proposal for a benefit-sharing scheme in Phobjikha valley, on the lines of Payment for Ecosystem Services and focusing on aesthetic and recreational services to enhance and sustain ecotourism. The rationale for the scheme is based on the following:

- Natural environment is a major draw-card for tourism in Bhutan;
- There is immense potential for eco-tourism in Phobjikha with the valley increasingly becoming a favored tourist destination in the recent years;
- The proposed scheme will help mitigate high conservation costs incurred by local communities and incentivize them for good environmental practices leading to maintenance of a healthy natural ecosystem which will enhance and sustain tourism in the valley;
- The scheme will be in keeping with the tourism policy vision to foster tourism industry as a positive force of environmental conservation.

Ecosystem services identified for the proposed benefit-sharing scheme comprise:

- Eco-recreational service through **community management of a network of nature trails** that can be used for trekking tourism;
- Aesthetic and sanitary service through **community-based management of solid waste** so that the valley is free of haphazard and unsafe disposal of waste at all times for the health and visual benefit of the tourists as well as local residents;
- **Black-necked Crane Festival**, on 11th November of every year, to celebrate the arrival of the black-necked cranes, promote awareness about local culture and natural heritage, and provide opportunities for the tourists to savor local culture, including mask dances, folk songs, local handicrafts and food.

The proposal draws an implementation plan, which includes a preparatory phase for 18 months prior to the launch of the scheme. The preparatory phase is to be dedicated to advocacy, sensitization and consensus-building for the scheme among the stakeholders, and developing infrastructure and local capacity for the activities to be undertaken under the scheme. Budget for the preparatory phase is projected at Nu. 4.435 million.

For the benefit-sharing scheme, an annual payment of Nu. 600,000 has been worked out. This amount constitutes less than 0.6 percent of the estimated gross earnings and 1 percent of the net earnings from tourism in Phobjikha valley. Roughly 60 percent of the annual payment will go into implementing the activities to provide the ecosystem services. The remaining 40 percent is recommended for accumulation as an endowment fund that can over time be used or invested in community development with particular attention to pro-poor outcomes.

Based on the volume of tourists handled per year, an annual payment structure ranging from Nu. 25,000 per tour operator (for the biggest tour operators) to Nu. 800 per tour operator (for the smallest tour operators) has been proposed.

The Phobjikha Environmental Management Committee, which already exists as a part of the Phobjikha landscape's Conservation and Sustainable Livelihoods Programme supported by RSPN, is proposed to represent the local communities as service providers while ABTO is proposed to represent the tour operators as service buyers for contractual purpose pertaining to the PES. The Watershed Management Division and RSPN have been identified as the main intermediaries.

The final part of the report outlines the programmatic framework for PES as a pro-poor benefit-sharing mechanism. The framework proposes the following definition of PES:

“A mechanism, which becomes effective through a voluntary agreement, under which one or more buyers purchase a well-defined ecosystem service or a set of ecosystem services by providing financial or other incentives to one or more sellers who undertake to carry out a set of environmental management practices on a continuous basis that will sustain, restore or enhance ecosystem services at specified levels.”

The programmatic framework highlights the linkage between PES and the GNH development philosophy and Economic Development Policy. It articulates the key principles which are to guide PES schemes and outlines the strategic components in terms of vision, objectives and implementation strategies to guide the PES programme in general. Implementation strategies pertain to capacity development, implementation and evaluation of pilot PES schemes, feasibility assessments and scaling up, synergy with national REDD+ programme, and integration of poverty reduction. The institutional set-up for PES programme has also been outlined.

1. Overview and Process Framework

1.1 Introduction

This assignment has been undertaken under the aegis of the Joint Support Programme (JSP) on capacity development for mainstreaming environment, climate change and poverty concerns in development policies, plans and programmes. The JSP is funded by the Government of Denmark, United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP), and managed by the Gross National Happiness Commission (GNHC) Secretariat.

Guided by the overarching development philosophy of Gross National Happiness (GNH), Bhutan is pursuing sustainable development policies, plans and programmes which among other things include integration of poverty reduction and environmental conservation objectives in mutually-reinforcing ways. The Tenth Five Year Plan (FYP) stresses that the country needs to use its environmental resources as an asset for economic development and poverty reduction based on sustainable natural resources management principles and practices. In line with this belief, various concepts and strategies are being attempted to generate economic benefits for the local communities through sustainable use and conservation of natural resources. These include community forestry, integrated conservation and development programmes in protected areas, and, of recently, Payments for Ecosystem Services albeit on a very limited scale.

1.2 Scope of the Work

Benefit-sharing has a broad connotation. It can be interpreted in many ways and, consequently, formulated in multiple ways to address a wide range of contexts. To avoid confusion and be focused, it was agreed between the consultant and the Watershed Management Division that benefit-sharing mechanism will be reviewed and developed within the context of Payment for Ecosystem Services (as a primary subject) and community forestry (as a secondary subject). This was based on the following two key reasons: (a) PES and community forestry are within the operational purview of the Department of Forests and Park Services and, therefore, their integration in the regular programmes will not be an issue; and (b) PES on a pilot scale and community forestry on a more extensive and established scale are ongoing. They present practicable basis for review and development of pro-poor benefit-sharing mechanism.

The assignment comprised three tasks. The first task was a review of benefits-sharing approaches in Bhutan, basically the PES scheme operational in Yakpugang, Mongar, and the various studies and planning activities undertaken for potential PES schemes in Phobjikha, Wangduephodrang, and Woochu, Paro. For comparative assessment, Masangdaza community forest was also reviewed. The second task was the development of a benefit-sharing scheme

with full details for possible implementation in the immediate future. The third task concerned the formulation of a programmatic framework for implementation of PES as a pro-poor benefit-sharing mechanism.

1.3 Methodological Framework

The review was based on desk study of PES- and community forestry-related documents including relevant policies and legislation and project documents, interviews of key informants in central agencies, the ecosystem service providers/ sellers and buyers and their intermediaries in the field. Field visits were undertaken to the PES site in Yakpugang and community forest in Masangdaza, both being in Mongar.

For the development of a PES scheme, community consultations were conducted in Phobjikha. This mainly included use of focused group discussions and key informants interviews to derive information from the local communities and prospective intermediaries. The results of the community consultations were subsequently discussed with Watershed Management Division and the Royal Society for the Protection of Nature, who are actively engaged in promoting conservation and sustainable livelihoods in Phobjikha.

The information and insights derived from the review and the project formulation process fed into the formulation of the programmatic framework. Additional literature review and consultations with key informants were undertaken for additional information, insights and clarifications required for the formulation of the programmatic framework.

2. Review of Benefit-sharing from Ecosystem Services

2.1 Introduction

2.1.1 Programmatic Context

Globally, benefit-sharing approaches are being promoted to enhance the management of natural ecosystems through arrangements that generates direct social and economic benefits for the local communities who are the immediate custodians of these ecosystems and, consequently, responsible for their state. They are based mainly on the notion that if the benefits of ecosystem services are shared tangibly and fairly with the local communities, they will be a positive and potent force in the sustainable management of the natural ecosystems that provide these services.

In Bhutan, the following programmes of benefit-sharing arrangements from ecosystem services can be identified:

- (a) Payments for Ecosystem Services
- (b) Community Forestry
- (c) Integrated Conservation and Development Programmes
- (d) Reducing Emissions from Deforestation and Forest Degradation

This review focuses on Payment for Ecosystem Services as a primary subject and touches upon community forestry as a secondary subject. The other two programmes are briefly described in terms of their background and existing status.

2.1.2 Background and Status of Programmes with Benefit-sharing Arrangements

Payments for Ecosystem Services

Payments for Ecosystem Services (PES), also referred to as Payments for Environmental Services, is a market-oriented benefit-sharing mechanism. It is increasingly being promoted in developing countries as a major benefit-sharing approach to conservation by way of incentivizing (often monetarily) the people who are responsible for good environmental practices that sustain the ecosystem services. PES initiatives generally consist of voluntary and conditional transactions whereby an ecosystem service is purchased by at least one service recipient from at least one service provider.

PES is relatively a new concept in Bhutan and is currently operational on a limited pilot scale. It is currently under the programmatic ambit of the Watershed Management Division (WMD), Department of Forests and Park Services. The groundwork for PES effectively commenced with a collaborative feasibility study by WMD and the Food and Agriculture Organization of

the United Nations (FAO) in October and November 2009. The study provided an assessment of the strengths, weaknesses, opportunities, and threats for implementation of PES in Bhutan, outlined a project proposal for the development of a PES programme, and recommended three pilot sites for PES. Of the three recommended pilot sites, a PES scheme has become operational since 2011 in Yakpugang community forests with support from the Netherlands Development Organization (SNV). This scheme focuses on the stewardship of the catchment forest that protects the primary source of water for Mongar township and involves Yakpugang community forest management group as the service providers and the Mongar municipal authority as the service buyers. In the other two pilot sites, some preliminary studies and capacity development activities have been undertaken through support from FAO and the International Fund for Agriculture Development (IFAD) but no headway has been made in terms of operationalizing PES schemes in these sites primarily as a result of funding constraint, incomplete design, and inadequate research and data.

Community Forestry

Community forestry commenced as a national programme in the latter part of 1980s¹. It was conceived with the primary objective to improve local forest conditions through community management whilst enhancing socio-economic benefits to the local communities in terms of increased access to timber, fuel wood, fodder and non-wood forest products and through sale of surplus forest products. It took several years for the community forestry programme to take off due to lack of appropriate legal framework, trained personnel and extension guidelines. These gaps were subsequently addressed with the incorporation of provisions for social forestry in the Forest and Nature Conservation Act of Bhutan, 1995, promulgation of social forestry rules and regulations as a part of the Forest and Nature Conservation Rules 2000 and incorporation in updated versions of the rules, and development of manual and guidelines for planning, establishment and management of community forests in 2004. The country's first community forest was established in Dozam village in Drametsi gewog, Mongar, in 1997. Since then, some 340 community forests, involving around 14,000 rural households, have been established across all the 20 dzongkhags of the country. It is projected that by the end of the ongoing Tenth Five-Year Plan (July 2008 – June 2013), some 400 community forests will have been established covering at least four percent of the country's forests.

Community forestry has now become a fully institutionalized programme and is a key component of the country's policy for forest conservation and management. It is programmatically managed by the Social Forestry Division, Department of Forests and Park Services. Field activities are monitored and guided by the dzongkhag forestry extension officers with assistance from the gewog forestry extension agents.

¹ Pilot community forest plantations were first introduced in Phuentsholing and Bhalujhora gewogs in 1988 with support from UNDP/FAO Forest Resources Management and Institutional Development Project.

Integrated Conservation and Development Programme

The concept of Integrated Conservation and Development Programme (ICDP) was first introduced in the global arena by the World Wide Fund for Nature (WWF) in 1985 through its Wildlands and Human Needs Programme. ICDP is essentially a biodiversity conservation strategy, which integrates conservation with socio-economic development of the rural communities who have a direct stake in the natural ecosystems.

In Bhutan, ICDP was first spawned through the conservation management plan of Jigme Dorji National Park in the mid 1990s. It has now become a salient component of conservation management plans of all protected areas. Programmatically, ICDP activities are managed by the Wildlife Conservation Division, Department of Forests and Park Services, and executed in the field by the respective management authorities of the protected areas.

Reducing Emissions from Deforestation and Forest Degradation

Like PES, Reducing Emissions from Deforestation and Forest Degradation (REDD/REDD+) is a market-oriented benefit-sharing mechanism. Conceived under the aegis of the United Nations Framework Convention on Climate Change (UNFCCC) and adopted at the Conference of Parties in Montreal (COP 11), it is an international mechanism for provision of financial incentives to developing countries for protection against deforestation and forest degradation, leading to reduction of greenhouse gas (GHG) emissions and contributing to the global efforts of mitigating climate change. The REDD+ version goes beyond deforestation and forest degradation, and include the role of conservation, sustainable management, and enhancement of forest carbon stocks. With the introduction of REDD+ version at COP 13 in Bali 2007, the mechanism has assumed increased relevance for Bhutan where deforestation and forest degradation are limited but the scope for sustainable forest management and enhancement of forest carbon stocks is considerable especially with countrywide establishment of community forests and the recent launch of National Forest Inventory.

Initiatives to develop REDD+ programme in Bhutan are underway with assistance from the UN-REDD programme, a joint initiative of the FAO, UNDP and UNEP launched in 2008 to help developing countries to build REDD+ readiness. Following a national inception workshop on REDD+ strategy development in April 2012, a Bhutan National REDD+ readiness process is scheduled to be implemented over the next few months. The process will focus on identification of options for a REDD+ compliant benefit distribution system and anti-corruption measures to ensure efficient and effective delivery of services and benefits. The WMD is spearheading and coordinating the Bhutan National REDD+ readiness process.

2.2 Key Findings

2.2.1 Relevance to the Country's Development Context

The concept of benefit-sharing for ecosystem services has immense relevance to Bhutan's overall development context, which is primarily defined by the development philosophy of

GNH and supplemented by the Economic Development Policy (EDP) launched in 2010. *Bhutan 2020*, the country's vision document to maximize GNH, articulates environmental sustainability, equitable socio-economic development, and good governance as key components in the pursuit of happiness and wellbeing. In principle, benefit-sharing from ecosystem services approach will integrate and address these GNH components. The EDP has been formulated with the vision to promote a green and self-reliant economy. Its strategies include diversifying the economic base with minimal ecological footprint, and harnessing and adding value to natural resources in a sustainable manner. Benefit-sharing approach will serve as an economic tool to add value to natural resources and sustain the natural resource base for a green and self-reliant economy.

Furthermore, the concept finds considerable relevance because the country's economic wellbeing is deeply intertwined with the condition of natural ecosystems and their services. Water and watershed services sustain the hydropower sector, the country's biggest revenue generator, and agricultural production, which supports the livelihood of 69 percent of the country's population. The pristine natural ecosystems provide aesthetic and recreational services to the tourism industry, which is the largest earner of hard currency. Besides, flood and soil erosion control, climate regulation, and clean air and water constitute very important ecosystem services particularly for a country like ours which is highly vulnerable to climate change and associated risks due to rugged mountain terrain, fragile geology and extreme climatic conditions.

2.2.2 Policy Premise

Apart from the favorable overall policy context provided by GNH philosophy and EDP, several existing policy documents provide enabling statements for benefit-sharing from ecosystem services in Bhutan:

Bhutan Sustainable Hydropower Development Policy 2008 states that “in order to utilize water resources in a sustainable manner for hydropower generation, it is important to protect water catchment areas by promoting sustainable agricultural/ land use practices and nature conservation works. The Ministry of Agriculture and Forests (MoAF) in collaboration with the Ministry of Economic Affairs (MoEA) shall work out the modalities for integrated sustainable water resources management. A minimum of 1 percent of royalty energy in cash shall be made available on annual basis to MoAF for this purpose (12.4).” The plough back mechanism is further reinforced in the EDP.

Bhutan Water Policy 2007 states that economic tools for environmentally beneficial practices shall be promoted (6.3.2). It further stipulates that “the Royal Government shall ensure that adequate funds and resources are ploughed back for watershed protection and management. The plough back mechanism shall be used as an important tool for water resources management and development (6.4.2).”

National Forest Policy 2011 states “enabling payment for environmental services” as one of its main features (2.i). It also mentions among its sub-objectives: “pursue options for the

payment for watershed services to cover the costs of maintaining and improving watershed conditions and services (2.5.3.v)”. The policy further encapsulates the principles of equity and justice in terms of access, optimal utilization of forest resources and its ecosystem services and contribution of forest products and services for poverty reduction through integrated approach (2.1.i and 2.1.ii).

The draft **Tourism Policy** paper advocates the principle of sustainability to ensure that tourism business is environmentally friendly, socially responsible and economically viable. It articulates the vision to foster the tourism industry as a positive force for the conservation of the environment, promotion of cultural heritage, safeguarding the sovereign status of the nation, and significantly contributing to GNH.

2.2.3 Yakpugang PES Scheme

Of the three pilot sites recommended in the PES Feasibility Study, October-November 2009, a PES scheme has become operational in Yakpugang community forest in Mongar with support from the SNV. The scheme focuses on protection and enhancement of the Yakpugang community forest, which forms a catchment area and serves as the main source of water for Mongar township. The PES scheme is based on a contractual agreement signed between the Yakpugang community forest management group (as service providers) and the municipal authority of Mongar town (as service recipients). The agreement lists six specific activities pertaining to grazing control, protection of community forest against illegal extraction, maintenance of buffer area (with no clearance of vegetation) along the streams and above the source, and removal of forest debris from the streams. In fulfillment of the specified activities (verified by the verification and monitoring team), the community forest management group is to receive Nu. 52,000 annually from the municipal authority of Mongar town.

The key findings with regards to Yakpugang PES scheme are outlined below:

- The scheme has been successfully executed largely because it was built into the existing institutional set-up of Yakpugang community forest, which was primarily established with protection of watershed services as one of its objectives;
- The successful execution of the scheme can also be attributed to the fact that it is based on an agreement, which is simple in structure with practicable terms and conditions for both the parties;
- The integration of PES in Yakpugang community forest has added significant economic value. The payment of Nu. 52,000 annually for undertaking activities to conserve the drinking water source of Mongar township is a huge boost for the local communities. The Yakpugang community forest on its own hardly brought any direct cash benefit to the local communities. Over the past 10-11 years since the establishment of Yakpugang community forest and up until the PES scheme became effective, the local community had accumulated just about Nu. 8,000;

- There exists some reservations about PES among some quarters of the local government authority and this basically relates to the possibilities of misuse of such opportunities by some local communities in absence of clear guidelines and policy parameters within which PES can be pursued and implemented. There is also the question that if PES is enlarged and extended all over the country, what happens to those local communities who live in degraded natural ecosystems and cannot pay for ecosystem services from other natural ecosystems;
- Although the scheme has completed only the first year of its three-year agreement, initial observations suggest that it is a successful initiative. The success can be largely attributed to the integration of PES in the Yakpugang community forest which offsets the institutional and operational costs if the scheme was to be implemented afresh on its own. A financial assessment of the PES activities to sustain the watershed services for drinking water projected actual payment value at Nu. 4.759 million per year, which would have been unacceptable to the buyers. Instead, the PES scheme has been able to project a very modest amount of Nu. 52,000 per year which the municipality can afford to pay out of the water user fees. The PES payment constituted 15 to 20 percent of the total water use fee that the municipality collected annually;
- The PES income is maintained in a group savings account in the Bank of Bhutan. The fund, although comparatively significant to what the community forest was generating on its own, is not yet substantial enough for use or investment in community development activities. Therefore, there was basically no scope to assess if and how funds from PES were being invested for community development and poverty reduction;
- It was understood from the local communities that they will prefer to invest PES income, once it is substantial, in community development activities that will create enabling conditions for upliftment of the poor and low-income people rather than distributing the income among themselves, lest it is used wastefully by some;
- The PES scheme has completed its first year and there has been no major issue with regards to the fulfillment of the terms and conditions. Minor problems were reported in terms of delay in payment and lack of technical methods for field verification. The latter led to use of ocular judgment which sometime came into question because of its subjective nature;
- The service providers and some intermediaries felt that the existing buffer limits of 100 meters on both sides of the river and 160 meters above the water source was excessive as it left almost no tract of forests for the local communities to use. Furthermore, there was no specification of the size of trees/ vegetation that were not to be harvested. This led to misunderstandings between service providers and buyers when young regeneration were found cut (which reportedly was sometimes the handiwork of some passers-by).

2.2.4 Phobjikha PES Scheme

Phobjikha valley was identified as a potential site for PES focusing on ecotourism services. The valley is of immense conservation significance as the country's largest habitat for the globally threatened black-necked cranes and one of the most important natural wetlands. Accordingly, it has been declared a conservation area by the Royal Government. The valley is also one of the most scenic in the country and a popular tourist destination. The idea of a PES scheme in Phobjikha is to encourage local communities to continue to maintain harmonious interaction with the natural landscape by providing economic incentives through tourism, which is growing in the valley largely because of its natural and cultural assets. The two principal areas that were proposed for PES investment were improvements in farming practices and diversification of farm produce, and enhancement of tourism services. To support PES negotiations, a willingness-to-pay survey among tourists, rapid watershed assessment, stock-taking of organic farming trials, and a couple of study tours (to Bumthang and Nepal) for RSPN staff and local communities were undertaken. The willingness-to-pay survey revealed that 86 percent of the interviewed tourists were willing to pay for improved environmental services (52 percent up to US\$ 5 and 11 percent US\$ 10 or more).

Key findings pertaining to the Phobjikha PES are:

- Basically, two modalities were proposed for a PES scheme in the valley. The first was the payment of entrance fees. This modality was abandoned because there was no system of charging entrance fee even in protected areas, let alone conservation areas which currently have no legal recognition. Furthermore, the ecotourism guidelines by the Nature Recreation and Ecotourism Division do not contemplate such option. In addition, the tourism sector were not positive about it due to the concern that this may set a precedent and proliferate to other natural/ conservation areas, creating financial burden and extra cost for tourists who already paid a high tariff;
- The second modality was the placement of donation box in the RSPN information center, supported with information materials outlining the activities that can be undertaken to improve ecosystem management through the donations. This modality was eventually rejected by the Department of Forests and Park Services;
- It is also inferred that the proposed modalities were by design and concept not appropriate for PES. One depended on tourist arrivals in the valley and the other depended on voluntary contributions by the tourists who visited the valley. This meant that there would be no certainties with regards to the payments. A PES has to have a well-defined, guaranteed financial (or in-kind) incentive. Without certainties in incentives, a PES will fail to function;
- An ecotourism PES scheme will require very detailed work in terms of the design of the scheme, development of negotiation materials, sensitization (especially among the tour operators and tourism authorities), and consensus-building at the upstream decision-making level as well as the operational level.

2.2.5 Paro-Woochu PES Scheme

Paro-Woochu was identified as a promising pilot site for a PES scheme with focus on watershed services for hydropower. Woochu is a sub-catchment located in Wang watershed, which is currently the most important watershed for hydropower. The watershed is currently responsible for generation of 90 percent of the country's hydropower worth around Nu 15 billion (2008 revenue). The hydropower production in Wang watershed is threatened by upstream environmental degradation, sedimentation and lean seasonal flows. In order to monitor the changes, hydrological monitoring stations have been set up in four sub-catchments of the watershed, namely Woochu (Paro), Bjimina (Thimphu), Talung (Haa), and Mirching (Chhukha). The hydro-met stations in Woochu, which were installed with funds from the Wang Watershed Management Project, were in state of dilapidation. The FAO/IFAD project helped rehabilitate all the hydro-met stations.

The Woochu sub-catchment is in a good condition with 65 percent forest cover as per the watershed assessment in May 2011. There are no signs of land degradation or deforestation and pressure on natural resources is low. Currently, field research is ongoing using SWAT (soil and water assessment tool). For the efficacy of this model, data is also being collected from Bjimina (which is highly degraded sub-catchment) to provide comparative analysis between two distinct scenarios.

Key findings with regards to Paro-Woochu PES are:

- The fact that there is no environmental degradation in the sub-catchment and pressure from human activities is limited and is likely to remain so in the future diminishes the case for a PES scheme based on hydropower. While ideally a PES may be useful to maintain the positive state of the catchment, the urgency for a PES scheme is lost when there are no visible or foreseeable threats to the maintenance of the watershed services;
- Current research data comparing hydrological flow between intact and degraded landscapes is limited and inadequate for quantifying the case to support maintenance of intact sub catchments for hydropower production;
- It may also be difficult to design and present a site-by-site PES for watershed services to hydropower sector when there is already provision for ploughing back one percent of royalty from hydropower sales from the MoEA to the MoAF for integrated water resources management in the Bhutan Sustainable Hydropower Development Policy 2008. This provision has not been implemented as modalities need to be formulated for the plough back. It is reckoned that the energy sector would not want to engage in payments over and above the stated plough-back. If this is indeed the case, the modalities that need to be developed for ploughing back one percent of the hydropower sales could include PES for watershed services.

2.2.6 Masangdaza Community Forest

Given that there was only one PES scheme which was operational, the review included a rapid appraisal of at least one community forest for comparative assessment of its approach to sharing of benefits. Based on the information that Masangdaza community forest in Mongar has been able to generate cash income and invest in community development activities, a field visit was made to Masangdaza village to interview the community forest management group members there.

Key findings deduced from the interaction with the community forest management group members were:

- The community forest has generated some Nu. 300,000 in cash through sale of timber to private contractors. The timber sold was not extracted from standing trees but from trees that had fallen during windstorms. Local belief is that it is not auspicious to use timber from windblown or injured trees, hence the local community decided to sell it to outsiders rather than using it themselves;
- Half of the income generated by the community forests has been invested in activities of common welfare. This included the extension of the farm road beyond the community lhakhang, up to which government funding was available. The extension of the farm road has meant that all the households now have access to it. This basically suggests that there is strong communal affinity and sense of equitability among the local people. Other investments included plantation of degraded areas around the village and upgradation of the access bridge from a wooden one to steel. The community forest income has also helped local communities to do away with contributions from each household at the rate of Nu. 800 for annual local tshechu. The cost of the annual tshechu is now met from the community forest income and this has come as a great reprieve for the local communities, especially the poorer households who are generally hard of cash;
- The establishment of community forest has put a halt to timber extraction by outsiders, some of which was said to have occurred illegally in the past. This has resulted in the improvement of local forest conditions. Local demand of forest resources is limited, and therefore there is great potential for enhanced income generation through sale of surplus timber in the future;
- The local communities are well organized and there is a great deal of community cohesion. This could be largely attributed to the fact that the group is very manageable with 37 households and that they are homogenous with all of them being migrants who were resettled in the area some 40 years back.

2.2.7 Linkage between Community Forestry and PES

The community forestry programme presents an outstanding institutional platform for benefit-sharing on the lines of PES. This is clearly demonstrated by the integration of PES in the Yakpugang community forest. The existence of community forest made the process of

establishing a PES scheme in Yakpugang considerably easier. The Yakpugang PES scheme has benefitted immensely from the institutional set-up and social cohesion that already existed for the community forest management. On the other hand, the PES scheme has added tremendous economic value to the Yakpugang community forest and, thereby, strengthened the basis for the local communities to engage even more actively in the protection and management of their community forest.

Under current circumstances, community forests generate limited cash income for the local communities. The benefits are currently by and large limited to enhanced access to timber, fuel wood, and non-wood forest products. With transition from a subsistence economy to a market economy taking place in rural Bhutan, cash income generation from livelihoods is becoming increasingly important. PES offers the opportunity for the community forests to generate cash income from ecosystem services through institutional set-up and resource management activities that are already in place. Furthermore, as the national REDD+ programme develops in Bhutan, carbon sequestration from community forests can become a major ecosystem service that can be sold in international carbon market. This will considerably enhance the economic value of the community forests and further bolster the dual objectives of forest conservation and economic development.

2.2.8 Poverty Reduction

Despite an impressive growth in the Gross Domestic Product (GDP) and a steady improvement on the human development index (HDI) over the years, there is still a high level of poverty. According to the Poverty Analysis Report 2007 prepared by the National Statistics Bureau (NSB), an estimated 23.2 percent of the country's total population live below the national poverty line. Poverty in the country is mainly a rural phenomenon, with 30.9 percent of the rural population living below the total poverty line compared to 1.7 percent of the urban population. However, the depth of poverty is low, i.e. few citizens of Bhutan are facing extreme poverty.

The recent Five-Year Plans (FYPs) have spelt out poverty reduction as the overarching development goal with the Tenth FYP aiming to reduce the proportion of the population living below national poverty line to at least 15 percent by the end of the plan period. Poverty reduction as a key objective has been mainstreamed in the Tenth FYPs of the various development sectors. A salient feature of the Tenth FYP is its emphasis on the use of environmental resources as a development asset for socio-economic advancement and poverty reduction without impairing the productivity and diversity of the natural resources. Poverty-environment mainstreaming concept and approaches are being deliberated, developed and implemented to pursue environmental management and poverty reduction in synergic and mutually-reinforcing ways.

Benefit-sharing arrangements such as PES and community forestry have enormous potential to contribute to poverty reduction over the long term. However, at the present, PES is in a nascent stage and has not effectively considered pro-poor outcomes. Community forestry, although now a substantial programme, is still not mature enough to demonstrate the flow of

benefits to the poor. Moreover, until recently, the poverty reduction role of community forestry was only implicit in its broad socio-economic development objective. It was only with the formulation of the National Strategy for Community Forestry in 2010 and the National Forest Policy 2011 that the vision, objective and approaches for poverty reduction through community forestry have become explicit. Of late, community forest management plans have started incorporating specific pro-poor provisions. Examples include: preferential consideration in the allotment of timber from community forest; disbursement of interest-free loans from community forest funds for house construction, children's education, etc.; partial financial assistance for extraction of timber from community forests; free timber grants from the community forest; and financial support for house construction in the event of damage to homes by natural disaster.

2.2.9 General Issues

There are some general issues that concern the implementation of PES in Bhutan. These include:

- Economic valuation of environmental goods and services is ongoing as a part of the government's aim to establish green accounting in the national economic performance. Until such time the valuation is completed and established for national use, PES may have to rely on subjective assessments for establishing payment amounts. This in some cases may be acceptable depending on the local context but in many cases it may find resistance;
- Current work on PES is nascent. The project proposal for a national PES programme developed through the FAO/IFAD project has been only partially implemented because of financial constraint. Nearly half of the funds that were available were consumed in external technical assistance, further aggravating funding constraints. With the limited financial resources, PES work could not go beyond some capacity development and field assessments. Consequently, PES work exists in a provisional and piecemeal manner;
- PES is expected to involve a long gestation period because of the intricate technical, financial and policy issues and the lack of research and in-country cases to sensitize potential ecosystem service providers and, more importantly, potential buyers (e.g. tour operators) in an incremental and convincing manner.

2.3 Conclusions and Recommendations

Following are the key conclusions and recommendations of the review:

- There is limited professional understanding and almost non-existent public understanding of the PES concept and approaches. Therefore, a good amount of advocacy work and discourse is required to build up professional and public understanding based on good case studies and field research;

- The tourism sector possesses immense potential for PES. Together with hydropower, it represents the most relevant sectors for PES as it benefits considerably from the positive state of natural ecosystems maintained most often at high conservation costs to the local communities in terms of lost development opportunities and adverse economic impacts such as crop and livestock depredation by wildlife. Tourism policy references stress that the tourism industry is to operate on the principles of environmental sustainability, social and cultural responsibility, and economic viability. There is a need to demonstrate PES as a valuable tool to operate these principles and as a mechanism for sustainable tourism or eco-tourism that the tourism industry seeks to promote. In this regard, a detailed proposal for a PES-based benefit-sharing scheme focusing on eco-tourism services in Phobjikha valley has been developed and presented as a part of this report;

- The integration of community forestry and PES in Yakpugang is a very prudent strategy. Not only has this integration offset operational/ institutional costs for PES but has also added enormous economic value to the community forest. It is understood that the community forestry programme encourages forest extension agents and local community forest management groups to explore the possibility of integrating PES in community forestry;

- There is the risk of benefit-sharing approaches such as PES being misinterpreted or loosely applied. A programmatic framework defining the concept, principles and approaches for planning and implementing PES has been proposed and presented as a part of this report. This is expected to preempt misinterpretation or loose application and provide clear-cut guidelines on how to go about with PES;

- Bhutan's vast forest resources and the widespread implementation of community forests provide huge prospects for harnessing PES for carbon sequestration. Institutional and programmatic coordination will be required to foster linkage and synergy between REDD+ programme and community forestry programme. Institutional coordination between WMD and Social Forestry Division will be indispensable.

3. Proposal for a PES-based Benefit-sharing Scheme focusing on Eco-tourism in Phobjikha valley

3.1 Background

Phobjikha valley first came to limelight as an important conservation area in 1987, when the Royal Society for the Protection of Nature initiated monitoring and annual counts of the globally-threatened black-necked crane *Grus nigricollis* in the valley. Since then, conservation work in the valley has evolved to a multi-faceted programme primarily guided by the concept of integrating nature conservation and local socio-economic development in a mutually-reinforcing manner. This concept is congruous with the local tradition and way of life of harmonious co-existence between the local communities and nature.

The black-necked crane, which globally numbers between 10,070 to 10,970 individuals², is categorized as a vulnerable species on the World Conservation Union's (IUCN) Red List of Threatened Species and is listed as a totally protected species in Bhutan in accordance to the Forests and Nature Conservation Act 1995. The bird is endemic to the Tibetan plateau and migrates to the lower regions of the Himalaya in India and Bhutan during winters. The number of black-necked cranes arriving in Bhutan has averaged 424 individuals in the past 10 years³. Of these, two-third find their winter home in Phobjikha valley making it their most important habitat in the country. This can be largely attributed to the wide expanse of natural wetland, which is the largest in the country, hitherto low level of human disturbance, and perhaps growing human activities in other winter habitats.

Besides the black-necked cranes, the valley harbors a variety of other wildlife including the Bengal tiger *Panthera tigris tigris*, Himalayan black bear *Ursus thibetanus*, red panda *Ailurus fulgens*, red fox *Vulpes vulpes*, dhole or wild dog *Cuon aplinus*, sambar *Rusa unicolor*, satyr tragopan *Tragopan satyra*, and blood pheasant *Ithaginis cruentus*. The vegetation consists largely of mixed conifers, juniper and blue pine forests, and shrubs of rhododendron, daphne and berberis.

The valley supports some 4,700 people. The local communities primarily depend on crop farming and livestock-rearing for their livelihoods. The main crops include potato, buckwheat, wheat, and root vegetables such as radish and turnip, often grown as feed for livestock. Potato, which was introduced in the valley in the 1980s, is by far the most important cash crop. Livestock raised by the local communities include cattle, yak, sheep, pig, and poultry. Livestock rearing is practiced largely for dairy production and is based on a combination of stall-feeding and free-range grazing in the forests, natural wetlands and scrub meadows.

² BirdLife International's Species Factsheet 2012

³ Records of annual counts maintained by the RSPN

Perched on a spur overlooking the main valley floor is Gangtey Goempa, a monastery established in 1613 by Gyalse Pema Thinley, the grandson and mind reincarnation of the great saint and Nyingmapa master Pema Lingpa. The monastery serves as one of the main seats of the Nyingmapa school of Buddhism in the country. The extensive complex consists of the goempa itself and several other buildings which include monks' quarters, prayer hall, meditation centers and monastic classrooms. It is known that the black-necked cranes circumambulate the monastery when they arrive in and depart from the valley, manifesting a deep spiritual connection between the birds and the goempa.

3.2 Rationale for the Scheme

3.2.1 Natural environment is a major draw-card for tourism in Bhutan

Tourism in Bhutan has grown by leaps and bounds since its advent in 1974, despite the country's policy of 'high value, low impact' tourism which is exercised primarily through a robust tariff structure and regulated tour operations. From 6,393 in 2001, tourist arrivals have increased to 9,249 in 2005 and to 40,873 in 2010⁴. In 2011, the country received 64,028 high-end tourists and gross tourism earnings reached US\$ 47.68 million (about Nu. 2,350 million), an increase of 32.52 percent over the previous year⁵. The natural environment is one of the most important factors that draw tourists to the country. Tourists exit surveys in 2011 reveal that 60.1 percent of the international tourists and 86.9 percent of the regional tourists associated the country with the keyword 'natural'⁶. The natural environment, along with culture and hospitable society, enhances tourist experience and contributes to the repeat value of tourism⁷. Thus, it can be said that the tourism industry is a major beneficiary of the positive state of natural environment and consequently there is considerable stake for the industry if the natural environment is to deteriorate. Yet, at the present, there is little by way of direct plough-back of tourism benefits into local conservation efforts which goes into the maintenance of the positive state of the natural ecosystems.

3.2.2 Immense potential for eco-tourism in Phobjikha valley

Phobjikha valley is potentially one of the most touristic landscapes in all of Bhutan. Over the past few years, it has increasingly become a favoured destination for tourists. Data collected from the Tourism Council of Bhutan for assessment of tourism in Phobjikha by RSPN show that tourist number has grown from a few hundred tourist bed-nights in 2005 to more than 6,000 tourist bed-nights by 2008. While data for the more recent years have not been collated, based on the 2004-2008 growth trend it is estimated that tourism in the valley may have grown to at least 10,000 tourist bed-nights by 2011. This would translate to annual gross tourism earnings of USD 2 million (roughly Nu. 100 million) or annual net earnings of USD

⁴ Bhutan Tourism Monitor Annual Report 2011, Tourism Council of Bhutan.

⁵ Press Release on Tourist Arrivals in Bhutan in 2011, Tourism Council of Bhutan.

⁶ Bhutan Tourism Monitor Annual Report 2011, Tourism Council of Bhutan.

⁷ The tourists exit survey in 2011 reveals that more than 68 percent of the international tourists and 91 percent of the regional tourists intend to visit Bhutan again.

1.3 million (roughly Nu. 65 million) for the tour operators. The agrarian way of life, black-necked cranes, wide expanse of natural wetland, alpine meadows, vast tracts of pine forests, scenic villages with cottage-like traditional homes, and the serene Gangtey Goempa among other things provide a rare and magnificent combination of cultural and natural resources for developing and promoting tourism in the valley.

While the growth in tourism is certainly a welcome development, one must recognize early on the vulnerability of the natural ecosystem to increased human activity that tourism could bring about. Strategies and mechanisms to promote tourism that is environmentally sustainable and socially responsible will be extremely vital. These will need to engender inclusive forms of tourism that integrates local community development and nature conservation needs. Phobjikha valley offers a tremendous opportunity for eco-tourism as there is a favourable platform built over many years of work on conservation and sustainable livelihoods by the local communities through their own initiative as well as external interventions. It is now a matter of integrating conservation and sustainable livelihoods in the business of tourism in order to generate mutual benefits over a long term. The proposed scheme presents a major first step towards the idea and objective of eco-tourism based on local community partnership.

3.2.3 Mechanism to mitigate high conservation costs incurred by local communities and incentivize them for good environmental practices

Local communities in Phobjikha and elsewhere in the rural areas live with numerous conservation costs. They are subjected to state restrictions on natural resource use so as to maintain the natural ecosystem in a healthy state. Certain development components have taken place belatedly in Phobjikha as they were considered to be inimical to the natural environment. A key example in this regard is the access to electricity, which came to the area only in 2010 when sufficient funds became available to install crane-friendly underground electric cable connections as opposed to overhead electric cables which would have caused harm to the cranes during their flights⁸. Furthermore, the positive state of natural ecosystem has meant increase in wildlife population, which in turn has led to increased crop and livestock depredation. Crop depredation by wildlife (particularly wild pig and deer) is rated by the local communities as the most critical constraint to farming⁹. Ninety-seven percent of the farmers are affected by it. The RNR Statistics 2009 compiled by the MoAF reveal that the farmers in Gangtey gewog lost 50.92 metric-tons of potato to wildlife while those in Phobji gewog lost 116.8 metric-tons of potato in 2008. The same source also reveals that livestock depredation by wildlife is also high: Gangtey gewog lost 19 cattle, 8 yaks, and 9 horses; and

⁸ The Austrian Government funded the underground cable electrification project in Phobjikha valley.

⁹ According to RSPN's Socio-economic Analysis of Phobjikha, December 2011, 45.3 percent of the local respondents cited crop depredation by wildlife as the most critical farming constraint while 23.5 percent cited insufficient labor as the most critical constraint. Other critical constraints included lack of equipment (8.6 percent), insufficient cash (7.0 percent), pest and disease (3.2 percent), transportation and storage difficulties (2.7 percent), shortage of arable land (2.4 percent), and poor soil (1.6 percent).

Phobji gewog lost 21 cattle and 2 horses to wild predators in 2008. In monetary term, losses from crop and livestock depredation by wildlife would translate to more than Nu. 5 million¹⁰.

It is at such high conservation costs to the local communities that our natural environment is being conserved for the overall national good, which includes revenue generation for key economic sectors such as hydropower and tourism. Given the immense potential for ecotourism in Phobjikha valley as a result of the magnificent state of natural ecosystem, it is deemed rational to propose a benefit-sharing scheme based on ecotourism. It offers a self-sustaining mechanism to mitigate the conservation costs to the local communities and incentivize them for sustainable management of the natural environment, which in turn is a key asset to promote and sustain the tourism industry.

3.2.4 Living up to the policy and principles of sustainable tourism

The tourism industry in Bhutan is to operate on the principle of sustainability, meaning that tourism must be environmentally and ecologically friendly, socially and culturally acceptable, and economically viable. The draft tourism policy paper articulates the vision to foster a vibrant industry as a positive force in the conservation of the environment, promotion of cultural heritage, safeguarding the sovereign status of the nation, and for significantly contributing to GNH.

The proposed PES-based benefit-sharing scheme will be in keeping with the principle of socio-environmental responsibility that the tourism industry seeks to follow as a part of their policy vision and to contribute to the GNH. It will practically enable the tourism industry to participate in and demonstrate a tangible process of sustainable tourism at the grassroots level.

3.3 Structure of the Scheme and Ecosystem Service Prospects

3.3.1 Basic Structure and Approach

The structure of the proposed scheme is based on the concept and model of PES, involving ecosystem service providers and ecosystem service recipients. Under such a scheme, the former will undertake a set of activities to deliver certain ecosystem services that will benefit the latter, who in return will pay an agreed fixed amount annually to the former for the services provided and upon verification of these services by a group of intermediaries.

In consultation with the local stakeholders, the following ecosystem services have been identified for consideration in the proposed benefit-sharing scheme:

- Eco-recreational service through **community management of a network of nature trails** that can be used for trekking tourism;

¹⁰ Calculated at the rate of Nu. 15 per kg and Nu. 40-50,000 per livestock head.

- Aesthetic and sanitary service through **community-based management of solid waste** so that the valley is free of haphazard and unsafe disposal of waste at all times for the health and visual benefit of the tourists as well as local residents;
- **Black-necked Crane Festival**, on 11th November of every year¹¹, to celebrate the arrival of the black-necked cranes, promote awareness about local culture and natural heritage, and provide opportunities for the tourists to savor local culture, including mask dances, folk songs, local handicrafts and food.

A new concept such as the proposed benefit-sharing scheme will not be readily implementable as time will be required to build stakeholder understanding, consensus and implementation readiness for the proposed scheme. In this regard, a year-and-half (18 months) preparatory phase is proposed preceding the launch of the scheme and commencing from January 2013.

Since the proposed scheme will be the first of its kind in the country¹², it is recommended that it be first tried for three years, starting from July 2014 upon completion of the preparatory phase. A detailed evaluation of the scheme would be required at the end of three years. Depending on the results of the evaluation, the primary stakeholders may decide to renew the scheme with or without modifications.

3.3.2 Community management of a network of nature trails

Phobjikha valley and the surrounding landscapes are among the most scenic in all of Bhutan. Several foot trails, which were traditionally used by the local communities to commute from one village to another before the roads came in, cut across these landscapes and offer incredible vistas for trekking and nature recreation. A few of these trails, such as the Gangtey trek, are already popular among tourists. Some of the trails have been redeveloped through project-based support mobilized by RSPN from various external donor agencies. Since external project-based support would not be always available, local community members identified maintenance of a network of nature trails for inclusion in the proposed PES-based benefit-sharing scheme, which if successful, would be a self-sustaining financing mechanism.

As a part of the benefit-sharing scheme, the local communities will manage a network of nature trails which can be used for trekking by tourists. The local communities, through preparatory support from the government and its development partners, will carry out improvement works and redevelop a network of nature trails so that they are suitable for trekking by tourists. Thereafter, they will maintain the nature trails through the proposed benefit-sharing scheme. The following nature trails have been identified for the scheme:

¹¹ Coinciding with the birth anniversary of the Fourth King of Bhutan, which is celebrated as a national holiday.

¹² Although there is already a PES scheme operational in Mongar between Yakpugang community forest management group and Mongar municipality for drinking water, this particular scheme in Phobjikha entails a far more elaborate approach and set of activities.

- (1) Kumbhu-Langtey trail (walking distance¹³: 3 hours/ 12-14 km);
- (2) Moel-Shasila-Khelekha trail (walking distance: 6 hours/ 22-25 km);
- (3) Khemdo-Danghal-Jhichela-Langtey trail (walking distance: 6 hours/ 22-25 km);
- (4) Tangchey-Chendebji trail (walking distance: 5 hours/ 18-20 km);
- (5) Tshelela-Gogona trail, also known as Gangtey trek (walking distance: 4 hours/ 15-18 km);
- (6) Talachen-Wangchelakha trail (walking distance: 7 hours/ 25-28 km);
- (7) Kikhorthang-Tsikhona-Khemdo trail (walking distance: 2 hours/ 9-10 km); and
- (8) Gangtey valley boardwalk along the marshland up to the site of old school.

3.3.3 Community-based solid waste management

Solid waste management activities were first introduced in the valley in 2003 with public awareness campaigns and distribution of waste bins to the shops by RSPN through financial support from WWF. Subsequently, some basic infrastructure for solid waste management has been developed in the valley through collaborative efforts between the local communities and RSPN and with financial and technical assistance from JICA. This includes a landfill, community waste collection facilities, and a tractor for transportation of waste to the landfill. In addition, survey and mapping of solid waste collection points have been carried out and a framework for waste collection and disposal has been formulated in consultation with the local communities. At the present, solid waste management is not a major issue and is basically limited to Gangtey Goempa and Tabiding localities. However, with growth in local population and increase in tourism activities, solid waste management is likely to become a major socio-environmental challenge.

Recognizing the potential adverse impacts of solid waste on people's health and on tourism, a community-based solid waste management system will be established and implemented to keep the valley free of haphazard and unsafe disposal of waste. This will contribute to maintenance of the aesthetic value of the valley and reduction of health risks to the people, benefitting both tourists and local residents. During the preparatory phase, existing infrastructure for solid waste management will be improved. This would entail increasing the number of community waste collection facilities, procurement of an additional tractor (Farmtrac 60 Loadmaxx) for more frequent waste collection as well as a back-up, construction of garage to protect the tractors from harsh weather conditions¹⁴, installation of signage on do's and don'ts at strategic locations, expansion of the existing landfill, and a major clean-up campaign to clear the valley of all the waste that has accumulated as a result of limited reach of existing waste collection services.

After the requisite infrastructure for community-based solid waste management system is in place, the proposed benefit-sharing scheme is expected to sustain the operations of the

¹³ The walking distances are approximations.

¹⁴ Oil-freeze and consequent operational malfunction during winters is a major problem.

system. Currently, there is consensus for cash contribution of Nu. 100 from each household, Nu 10,000 from the tourist resorts/ chain hotels, and Nu. 5,000 from the local hotels for solid waste management. Once the proposed benefit-sharing mechanism becomes operational, the contributions from the hotels can be merged into the scheme and the local residents can be exempted from cash contributions.

Concurrently, outside the benefit-sharing scheme, some activities will be undertaken to reduce, reuse and recycle waste. For example, RSPN will carry out composting trials in collaboration with local hotels and resorts. Even though not a part of the scheme itself, such initiatives are expected to complement the solid waste management work carried out through the scheme.

3.3.4 Black-necked Crane Festival

This festival was initiated by RSPN in 1998 to boost tourism in the valley and to promote awareness about the black-necked cranes and their natural habitat among the visitors. The event has become an annual feature and now appears in the itineraries of various tour operators. It has been hitherto organized through financial contributions from a few philanthropic individuals and voluntary cash donations collected during the festival itself. Once the proposed benefit-sharing scheme becomes operational, the cost of organizing the festival can be met through it without having to depend entirely on ad hoc sources. Preparatory cost will be limited to procurement of a sound system for use for musical events and public announcements during the festival. The festival will be held on 11th November each year, commemorating the birth anniversary of the Fourth King of Bhutan and as a tribute to him for his conservation leadership and GNH vision.

The festival will celebrate the arrival of the cranes, promote awareness about local culture and natural heritage, and provide opportunities for cultural interaction between the tourists and local residents and for the visitors to savor local culture, including mask dances, folk songs, local handicrafts and food.

3.4 Creating a Win-win Situation

The proposed benefit-sharing scheme is expected to be mutually advantageous for the primary stakeholders in the following ways:

- It will incentivize the local communities for sustainable management of their natural ecosystem, which in turn functions as an asset for the development of tourism industry;
- Degradation of the natural ecosystem will affect the business of tourism. The tour operators therefore have a stake in the natural ecosystem but they do not currently have a direct say in the state of affairs concerning local environmental management. The benefit-sharing scheme will allow them to have a say in local environmental management affairs, especially with regards to the nature trails, solid waste management and Crane Festival;

- It will motivate the local communities and enhance their sense of ownership of the natural ecosystem as they will be receiving direct benefits as a result of its positive state;
- Participation in the benefit-sharing scheme will help the tour operators in marketing and projecting their corporate socio-environmental responsibility. In this regard, it is recommended that the MoAF award certificates of appreciation to all the participating tour operators. In addition, a list of all the participating tour operators with the signature and seal of the Honorable Minister of Agriculture and Forests/ Honorable Secretary of Agriculture and Forests and a brief explanation of the scheme could be displayed in the offices of ABTO, TCB, RSPN, MoAF, WMD, and NRED, and in the hotels/ resorts and RSPN Information Centre in Phobjikha;
- It could develop into a self-sustaining financing mechanism for maintenance of the nature trails, solid waste management, and Crane Festival, freeing up the local communities from dependency on ad hoc and uncertain sources;
- Knowledge of the scheme could help draw more high-end tourists, who are generally aware about socio-environmental issues and appreciative of businesses that integrate socio-environmental responsibilities.

3.5 Implementation Plan

3.5.1 Preparatory Activities

Advocacy, Sensitization and Consensus-building

A great deal of advocacy and sensitization work will be required to create understanding about the concept, advantages and potential risks of the proposed benefit-sharing mechanism among the stakeholders at various levels. Advocacy and sensitization will be required at policy level as well as at operational level. A progressive series of information dissemination, dialogue and consultations will be required to develop understanding and consensus among the stakeholders, leading to agreement for, and launch of, the proposed scheme.

The following activities are proposed for advocacy, sensitization and consensus-building:

- **Development of advocacy materials** including brochures, booklets and PowerPoint presentations for dissemination during the workshops.
- **A High-level Policy Workshop** involving senior representatives from the MoAF and its relevant departments, RSPN, MoEA, Tourism Council of Bhutan, Association of Bhutanese Tour Operators, Wangdue Dzongkhag Administration, GNHC Secretariat, National Environment Commission Secretariat, and international agencies such as UNDP, DANIDA, SNV and JICA. The objectives of the workshop should be to: (a) introduce the subject of benefit-sharing for ecosystem services with particular emphasis on PES model; (b) highlight the relevance of the concept to the country; (c) illustrate the linkages and relevance of the concept to GNH development philosophy, Economic Development

Policy 2010, sustainable tourism, corporate social responsibility, and to sectoral policies such as the National Forest Policy 2011 and Bhutan Water Policy 2007; and (d) present the proposed benefit-sharing scheme and elicit policy-level feedback.

- **A Mid-level Professional Workshop** involving representatives from the Watershed Management Division, Nature Recreation and Ecotourism Division, Tourism Council of Bhutan, Association of Bhutanese Tour Operators, RSPN, Phobjikha Environmental Management Committee, Wangdue Dzongkhag Administration, GNHC Secretariat, National Environment Commission Secretariat, and international agencies such as UNDP, DANIDA, SNV and JICA. This workshop will have the same objectives as the High-level Policy Workshop but for a different category of audience who have more of operational/ mid-level management responsibilities and, consequently, focus more on operational aspects of the concept and proposed scheme.
- A series of **Primary Stakeholders' Consultation Workshops** is proposed to inform and sensitize the primary stakeholders, namely the tour operators and the local communities represented by Phobjikha Environmental Management Committee, about the proposed benefit-sharing scheme and elicit their feedback. Four workshops are recommended, each covering not more than 50 participants. At the end of each workshop, it is recommended that participants' appraisal be carried out through a detailed questionnaire which includes assessment of each participant's understanding of the proposed benefit-sharing scheme and their willingness to pay.
- Following the primary stakeholders' consultation workshops, a series of **core-group meetings** (approx 2-4 hours duration each, about 4 meetings over a period of one year) is proposed to discuss, fine-tune and reach consensus on the proposed benefit-sharing scheme. These meetings may involve only a small group of 3-4 members each from the Phobjikha Environmental Management Committee and ABTO as primary stakeholders and 2 representatives each from Watershed Management Division and RSPN as intermediaries. Disclosure of the outcomes of these core-group meetings to the larger group of primary stakeholders and mobilization of their feedback will be critical for this process to be productive, participatory and transparent.
- **Seal-the-deal/ scheme launch meeting** between the primary stakeholders, in presence of intermediaries and scheme proponents, to endorse the proposed benefit-sharing scheme, sign the contractual agreement, and, thereby, launch the scheme. Donor and media presence at the event will be important to generate support and create public awareness.

Development of Infrastructure and Community Readiness

This will primarily involve improving the basic infrastructure and facilities pertaining to the nature trails and community-based solid waste management so as to enhance the readiness of the local communities to carry out the agreed set of activities for the proposed benefit-sharing scheme. The local communities outlined the following activities for implementation during the preparatory phase:

Related to nature trails:

- Kumbhu-Langtey trail: improvement of trail, and installation of signage (with map) at the start and end points and directional signs at key locations along the trail;
- Moel-Shasila-Khelekha trail: improvement of trail, installation of signage (with map) at the start, mid-way and end points and directional signs at key locations along the trail, and development of a resting place;
- Khemdo-Danghal-Jhichela-Langtey trail: improvement of trail and installation of signage (with map) at the start, mid-way and end points and directional signs at key locations along the trail;
- Tangchey-Chendebji trail: improvement of trail, installation of signage (with map) at the start and end points and directional signs at key locations along the trail, and development of a resting place;
- Tshelela-Gogona trail, also known as Gangtey trek: improvement of trail, and installation of signage (with map) at the start and end points and directional signs at key locations along the trail;
- Talachen-Wangchelakha trail: improvement of trail, installation of signage (with map) at the start, mid-way and end points and directional signs at key locations along the trail, and development of 2 resting places one at Maniting and the other at Thablachen;
- Kikhorthang-Tsikhona-Khemdo trail: improvement of trail, installation of signage (with map) at the start and end points and directional signs at key locations along the trail, and development of a resting place;
- Gangtey valley boardwalk up to the site of old school: construction of elevated boardwalk along the trail to the bird blind and onward to the site of the old school, and installation of signage at key locations along the boardwalk.

Related to solid waste management system:

- Installation of community waste collection facilities at 13 additional locations along the identified waste collection route;
- Procurement of an additional tractor (Farmtrac 60 Landmaxx) for more frequent waste collection and to serve as a back-up;
- Construction of a garage for protection of the tractors from harsh weather conditions;
- Installation of public signs/ message boards at 15 key locations on do's and don'ts with regards to waste management;
- Expansion of the existing landfill to enhance its capacity;
- A major clean-up campaign to clear wastes that have accumulated in various places due to limited reach of the existing waste collection service.

Supplementary Activities

- Procurement of a sound system for musical events and public announcements during the Black-necked Crane Festival;
- An in-country study tour for 20-25 local community members on improvement and maintenance of nature trails and solid waste management. Possible sites to visit include Dochula/Lamperi Royal Botanic Park, Kuenselphodrang Nature Reserve, and Thimphu City Corporation's solid waste management facilities. Before the site visits, illustrated presentations by resource persons from the Department of Forests and Park Services, TCC, and Greener Way¹⁵ will be extremely useful;
- A tailor-made training on management of funds accrued from the benefit-sharing scheme with emphasis on investment on community development activities that have wide-ranging impact and high potential for poverty reduction;
- Awarding of certificates of appreciation to the participating tour operators and display of list of participating tour operators with a brief explanation of the scheme in the offices of ABTO, TCB, RSPN, WMD, NRED, MoAF, and in the hotels/resorts and RSPN Information Centre in Phobjikha.

3.5.2 Institutional Roles and Responsibilities

Phobjikha Environmental Management Committee

The local communities, as a party to the benefit-sharing scheme, will be institutionally represented by the Phobjikha Environmental Management Committee (PEMC). The PEMC was constituted in 2005 as a local community body for conservation and community development in Phobjikha valley. It is made up of representatives from local community institutions, women, religious and business communities, local government sectors, and RSPN. The committee is governed by a constitution which describes its purpose and objectives, powers and duties, membership, and working procedures. Key functionaries include a chairperson, a secretary and a treasurer. Also embedded in the committee is management of the Phobjikha Conservation Fund created from donations received from philanthropic individuals and institutions, and from surplus incomes generated through various community enterprises.

With regards to the benefit-sharing scheme, the key roles and responsibilities of the PEMC will be to:

- Coordinate and manage the implementation of activities specified for the preparatory phase to ensure that requisite infrastructure and system for undertaking the benefit-sharing scheme are in place before its launch;

¹⁵ A private waste collection and recycling firm with operations in Thimphu and Paro.

- Coordinate and manage the agreed set of activities for delivery of ecosystem services that constitute the benefit-sharing scheme, and ensure that they are carried out as stipulated in the agreement signed with the service buyers;
- Participate in monitoring and verification missions as observers and provide information necessary to facilitate the monitoring and verification processes;
- Maintain all documentation with regards to the implementation of the activities undertaken as a part of the benefit-sharing scheme;
- Manage funds accrued from the benefit-sharing scheme as a part of the Phobjikha Conservation Fund with particular emphasis on investment in community development activities that have wide-ranging impact and high potential for poverty reduction.

Association of Bhutanese Tour Operators

As a collective entity, the tour operators are represented by the Association of Bhutanese Tour Operators (ABTO). At the present, ABTO has some 440 tour operators as its members. The association is a not-for-profit organization, founded in 2000, to represent and protect the collective interest of the tourism industry. For the proposed scheme, ABTO will be the natural choice to institutionally represent the tour operators. Their key roles and responsibilities will be to:

- Participate in monitoring and verification missions as observers and provide feedback to the monitoring and verification team during the process of monitoring and verification;
- Bring to the notice of the PEMC should they observe or come to know about any discrepancy in the implementation of the activities undertaken as a part of the benefit-sharing scheme.
- Review and fine-tune the proposed payment structure for the benefit-sharing scheme;
- Mobilize payments from the tour operators and disburse payments annually to the PEMC upon recommendation of the monitoring and verification missions carried out for the benefit-sharing scheme;
- Represent the tour operators in the core group meetings meant for discussion and fine-tuning of the benefit-sharing scheme, and disseminate the outcomes of such meetings to the wider group of tour operators.

Watershed Management Division, Department of Forests and Park Services

The Watershed Management Division was created in 2009 with the vision to ensure effective and integrated watershed management to maintain and improve water and watershed conditions and contribute to sustainable livelihoods through benefit-sharing mechanisms such as payments for ecosystem services. Among its many functions is the development, institutionalization and operationalization of a PES programme to incentivize local

communities for good environmental practices that generate ecosystem services. In view of the foregoing function, Watershed Management Division will be the principal proponent of the benefit-sharing scheme. Its main roles and responsibilities will be to:

- Mobilize funds from potential donor agencies for implementation of the activities specified for the preparatory phase, in consultation with and with approval from the GNHC Secretariat;
- Guide, facilitate and monitor the overall implementation of the preparatory phase and ensuing benefit-sharing scheme;
- Spearhead and organize the recommended advocacy and sensitization workshops, and document and disseminate the outcomes of these workshops;
- In collaboration with RSPN, facilitate dialogue and consultation between the primary stakeholders to reach consensus on the proposed benefit-sharing scheme;
- Lead and coordinate monitoring and verification missions to assess and ascertain the fulfillment of the conditions of the benefit-sharing scheme, and document and disseminate the outcomes of these missions;
- Mediate between the primary stakeholders on technical/ programmatic aspects should there be disagreement/perceptual difference during the course of the implementation of the benefit-sharing scheme.

Royal Society for the Protection of Nature

RSPN has been supporting conservation work in Phobjikha valley since it was founded in 1987. It is the country's only non-governmental organization fully dedicated to the conservation of nature and environmental management. With a field coordination office in Phobjikha, RSPN staff work very closely with the local communities, PEMC in particular, on activities related to sustainable tourism, solid waste management, Black-necked Crane Festival, environmental education, and alternative livelihoods. With regards to the benefit-sharing scheme, it is envisaged that their key roles and responsibilities will be to:

- Monitor, guide and facilitate the implementation of field activities to be undertaken during the preparatory phase. This will also include documentation and reporting of the implementation of the field activities.
- Collaborate with, and provide organizational and technical support to, the Watershed Management Division in advocacy, sensitization and consensus-building for the benefit-sharing scheme.
- Participate as a core member in the monitoring and verification missions for the benefit-sharing scheme.

3.5.3 Monitoring and Verification

Once the benefit-sharing scheme becomes operational, it is recommended that a monitoring mission in November/December and a verification mission in May/June December are carried out each year. The monitoring mission is to assess the status of the agreed set of activities undertaken as a part of the benefit-sharing scheme and identify any issues that may require rectification. The verification mission is to verify whether or not that the agreed set of activities has been carried out and the conditions of delivering the ecosystem services are being met. Monitoring and verification missions will be carried out by the following team of 5 members:

- A representative from the Watershed Management Division as the team leader
- A representative from RSPN as a core member
- A representative from Wangdue Dzongkhag Administration as a core member
- A representative from ABTO as an observer member
- A representative from PEMC as an observer member

The following indicators and verification framework is proposed:

Activity/ Service	Indicators	Means of Verification
Community management of nature trails	<ul style="list-style-type: none"> ▪ Physical condition of the trails ▪ Number of tourists using the trails ▪ % of trekking tourists satisfied with the conditions of the trails 	<ul style="list-style-type: none"> ▪ Direct observations and key informants' interviews during the monitoring and verification missions ▪ Survey of the tourists through a brief questionnaire at the time of check-out from the tourist accommodations
Community-based solid waste management	<ul style="list-style-type: none"> ▪ Occurrence of haphazard and unsafe disposal of waste ▪ % of tourists visiting Phobjikha satisfied with the solid waste management situation in the valley 	<ul style="list-style-type: none"> ▪ Direct observations and key informants' interviews during the monitoring and verification missions ▪ Survey of the tourists through a brief questionnaire at the time of check-out from the tourist accommodations
Crane Festival	<ul style="list-style-type: none"> ▪ Annual occurrence of the festival ▪ Number of tourists attending the festival 	<ul style="list-style-type: none"> ▪ Direct observations and key informants' interviews during the monitoring and verification mission ▪ Guest registration records from the tourist accommodations

Each mission will culminate in a report articulating its findings and recommendations. Annual payments for ecosystem services are to be released by ABTO only upon recommendation from the verification mission. Hence, the verification mission report will need to be

completed and made available to the primary stakeholders at least a week prior to the expected date of payment release.

3.5.4 Work Plan and Budget for the Preparatory Phase

Activity	Resources Requirement		Time frame/ Frequency	Expected Results
	Budget	Cost Item		
1. ADVOCACY, SENSITIZATION AND CONSENSUS-BUILDING				
Development of advocacy and public information materials	150,000	Communication consultant, printing of the materials	January 2013	Advocacy materials available for dissemination and to support various planned workshops
High-level Policy Workshop on Benefit-sharing of Ecosystem Services and Proposed Benefit-sharing Scheme	75,000	Workshop information materials, food, conferencing facility, documentation and production of workshop report	2 nd or 3 rd week, January 2013	Concept and proposed scheme introduced, discussed and understood at the policy level
Mid-level Professional Workshop on Benefit-sharing of Ecosystem Services and Proposed Benefit-sharing Scheme	75,000	Workshop information materials, food, conferencing facility, documentation and production of workshop report	1 st or 2 nd week, February 2013	Concept and proposed scheme introduced, discussed and understood at the mid-level professional level
Sensitization Workshops for Primary Stakeholders of the Proposed Benefit-sharing Scheme – a series of 4 workshops	340,000	Workshop information materials, food, conferencing facility, participants' sitting fees, documentation and production of workshop report	1 st - 2 nd week of March 2013. A series of 4 workshops, each of 1 full day and covering about 50 participants	Concept and proposed scheme introduced, discussed and understood among the primary stakeholders and their willingness to participate assessed
Core Group Meetings between primary stakeholders facilitated by key intermediaries	25,000	Tea and snacks, documentation and dissemination of meeting outcomes	A total of 4 meetings once every 2-3 months over the period from April 2013 to March 2013	Understanding and consensus on the proposed benefit-sharing scheme reached among the primary stakeholders
Seal-the-deal/ scheme launch meeting between	20,000	Tea and snacks, conferencing	May or early June 2014	Contractual agreement signed between the

Activity	Resources Requirement		Time frame/ Frequency	Expected Results
	Budget	Cost Item		
primary stakeholders and in presence of key intermediaries, donor agencies and media.		facility, production of the documents, public relations and media work		primary stakeholders and scheme launched amid media coverage
Total Amount Required for Advocacy, Sensitization and Consensus-building	685,000			
2. IMPROVEMENT OF NATURE TRAILS				
Kumbhu-Langtey trail	150,000	Labor and material	During lean working season between January 2013 to April 2014	A network of 7 nature trails, collectively covering more than 120 km, improved to be suitable for use by tourists. This will include installation of signage and development of resting places where necessary along the trails.
Moel-Shasila-Khelekha trail	250,000	Labor and material		
Khemdo-Danghal-Jhichela-Langtey trail	220,000	Labor and material		
Tangchey-Chendebji trail	200,000	Labor and material		
Tshelela-Gogona trail	120,000	Labor and material		
Talachen-Wangchelakha trail	180,000	Labor and material		
Kikhorthang-Tsikhona-Khemdo trail	130,000	Labor and material		
Construction of boardwalk along Nakey chhu marshland*	2,400,000	Labor and material (funds already available from RSPN project)	To executed by RSPN as per their project plan	Boardwalk along the Nakey chhu marshland constructed for easier access to crane habitat and sighting of cranes.
	3,650,000			
*Secured	2,400,000			
Actual Required	1,250,000			
3. IMPROVEMENT OF SOLID WASTE MANAGEMENT INFRASTRUCTURE				
Installation of community waste collection facility at additional locations	325,000	Material and labor	By November 2013, i.e. before the Black-necked Crane Festival	Improved infrastructure and system for community-based solid waste management in place
Procurement of an additional tractor	900,000	Material		
Construction of a garage for the tractors	250,000	Material and labor		
Installation of sign boards/ message boards on do's and don'ts	225,000	Material and labor	50% completed by November 2013 and the rest by May	

Activity	Resources Requirement		Time frame/ Frequency	Expected Results
	Budget	Cost Item		
			2014	
Expansion of the existing landfill's capacity	100,000	Material and labor	By May 2014	
Clean-up campaign to clear up accumulated waste	50,000	Daily wage and refreshment	By November 2013	Accumulated waste cleared, creating a positive benchmark for solid waste management
	1,850,000			
4. SUPPLEMENTARY ACTIVITIES				
Procurement of a sound system for the Crane Festival	75,000	Material	By November 2013	Sound system available for Crane Festival
In-country study tour for local community members on improvement and maintenance of nature trails and with solid waste management	150,000	Subsistence allowance, transport, accommodation, training materials, resource persons	April/May 2013	Enhanced understanding among local communities about improvement and maintenance of nature trails, and solid waste management.
Training workshop for PEMC members on management and investment of community funds for wide-ranging community development and poverty reduction	75,000	Training materials, food, subsistence allowance, trainers	June 2014	Enhanced knowledge for community fund management/ investment among the PEMC members.
Awarding of certificates of appreciation and display of list of participating tour operators	50,000	Design and printing	May or early June 2014, during the scheme launch	Tour operators acknowledged, instilling in them a sense of pride of their role in the scheme.
	350,000			
5. COORDINATION, MONITORING AND BACKSTOPPING BY PROJECT PROPONENT AND INTERMEDIARIES				
WMD (Overall monitoring and guidance)	130,000			Preparatory phase implemented with coordination, guidance, and proper monitoring.
RSPN (Field monitoring and guidance)	100,000			
ABTO (communication/ coordination with tour)	70,000			

Activity	Resources Requirement		Time frame/ Frequency	Expected Results
	Budget	Cost Item		
operators)				
	300,000			
Overall Budget Summary (Figures in Nu)				
1. Advocacy, sensitization and consensus-building				685,000
2. Improvement of nature trails (excluding budget earmarked for boardwalk construction under RSPN project)				1,250,000
3. Improvement of solid waste management infrastructure				1,850,000
4. Supplementary activities				350,000
5. Coordination, monitoring and backstopping				300,000
Total Amount				4,435,000

3.6 Payment Amount and Structure

3.6.1 Payment Amount

The following amounts are proposed for annual payment, totaling Nu. 600,000:

Activity	Type of Ecosystem Service	Proposed Amount (Nu)/ year
Community management of a network of nature trails	Eco-recreational service	250,000
Community-based solid waste management	Aesthetic and sanitary service	240,000
Black-necked Crane Festival	Culture-based recreational service	110,000
		600,000

To put things in perspective, the proposed payment amount will constitute less than 0.6 percent of the estimated gross earnings and 1 percent of the estimated net earnings from tourism in Phobjikha valley. The proportion is expected to decrease further with the growth of tourism in the valley. While it constitutes only a fraction of tourism earning, it will be a principal and consistent source of revenue for the Phobjikha Conservation Fund and a considerable improvement over the Nu. 450,000 it has accumulated since its inception in 2005¹⁶.

¹⁶ Personal communication with RSPN Project Manager in Phobjikha.

3.6.2 Payment Structure

As per records maintained by the Tourism Council of Bhutan, there were 741 registered tour operators in 2011. However, only 368 of them did business in 2011. If the proposed payment is to be shared equally among all the operational tour operators, then each operator would have to shell out about Nu. 1,600 annually for the benefit-sharing scheme. However, there are several tour operators who handle only a handful of tourists. So, it is recommended that tour operators handling less than 20 tourists in a year be left out from the payment for the benefit-sharing scheme. Based on 2011 data, this will mean 184 tour operators could be included in the payment structure. The following stratified cost-sharing, based on the volume of tourists handled by the tour operators, is proposed for the payment:

Category of tour operators	Number of tourists (2011 baseline)	Number of tour operators	Contribution to the scheme (Nu)	Total Amount (Nu)
A	More than 2,000	2	25,000	50,000
B	1,000 – 2,000	4	15,000	60,000
C	500 – 999	8	8,500	68,000
D	100 – 499	65	4,000	260,000
E	50 – 99	46	1,500	69,000
F	20 – 49	60	800	48,000
Luxury hotels/ resorts in Phobjikha	Not applicable	2	10,000*	20,000
Local hotels/ guest houses in Phobjikha	Not applicable	5	5,000*	25,000
Total Amount				600,000

**These amounts are based on consensus reached with tourist accommodations in Phobjikha through the RSPN project for contribution to solid waste management.*

3.6.3 Fund Management and Investment

The funds accumulated from the benefit-sharing scheme will be maintained as a part of the Phobjikha Conservation Fund, which will be managed in accordance with the constitution of PEMC. The utilization and investment of the funds will pertain to the following two components:

Meeting the costs of providing ecosystem services

The use of the funds accumulated from the benefit-sharing scheme will need to be first and foremost for maintaining the nature trails, managing solid waste, and organizing the annual Crane Festival. It is roughly estimated that on average Nu. 360,000 (i.e. 60 percent of the PES fund) will be expended annually on these activities.

Pro-poor fund utilization and investment

It is suggested that the remaining 40 percent of the PES fund, amounting to Nu. 240,000 per annum, be accumulated to build an endowment which can be used to help poor and vulnerable households (e.g. those headed by a woman with no adult male member to assist, with higher ratio of dependent members due to health issues and age (too young or too old), or with no land or small landholdings) in the following ways:

- Financial grants (up to a maximum of Nu. 30,000 per household) to recover from crop/livestock depredation by wildlife or damage of property by natural disasters;
- Soft credits (up to a maximum of Nu. 50,000 with not more than three percent interest per annum) for procurement of equipment and inputs required for enhancing their livelihoods;
- Grants (up to a maximum of Nu. 15,000) for funeral rites in the event of death in the family;
- Investment in community development enterprises that have wide-ranging impact and high potential for poverty reduction.

The endowment should become operational only upon accumulation of minimum of Nu. 500,000 and should have at least a reserve of Nu. 250,000 at all times for financial contingency.

4 Programmatic Framework for PES as a Pro-poor Benefit-sharing Mechanism

4.1 Preamble

Well-functioning ecosystems and landscapes provide a wide range of goods and services for human well-being. However, current market structures in most countries around the world do not take into account that these goods and services are sustained by good environmental practices of the land users or as a result of state regulations on natural resource use which limit local community access and use. Many people or development sectors benefit or profit from ecosystem services but they do not pay for them. This means that people who manage ecosystems, particularly the local communities, do not have the opportunity to financially gain from conservation practices which sustain ecosystem services for others. Furthermore, there are many situations where local communities bear a high cost for conservation, for instance crop depredation by wildlife or prohibitions on certain land use, whilst it is the outsiders who benefit from the services of healthy natural ecosystem.

PES is the practice of offering incentives to land users in exchange for good environmental practices or compensating them for restrictions on the use of natural resources that sustain or enhance ecosystem services. Globally PES is a new paradigm of environmental economics and, in Bhutan, it was introduced in the last five years or so¹⁷.

4.2 PES and Overall Country Development Context

4.2.1 PES and Gross National Happiness

Conceptually, PES directly correlates to at least three of the four pillars of GNH development philosophy as outlined below:

Equitable socio-economic development: By and large, it is the rural communities who live in close interaction with the natural ecosystems and depend on them for their livelihoods. So, morally, it is they who should be benefitting most from the positive state of the country's natural ecosystems. On the contrary, it is the rural communities who form the majority of the country's poor. The Poverty Analysis Report 2007 reveals that 98.1 percent of the country's poor live in the rural areas. PES provides the opportunity to reduce this inequity. It will serve as a tool for ploughing back economic benefits from ecosystem services to the rural communities whose good environmental practices sustain these services or who bear the conservation costs of maintaining the natural ecosystems.

¹⁷ It is not known exactly when PES was discussed as a concept in Bhutan. Existing literature suggest that the PES concept became more prominent with the conduct of a PES Feasibility study in October-November 2009. Furthermore, it is the recent policies such as the Bhutan Water Policy 2007, Bhutan Sustainable Hydropower Development Policy 2008 and National Forest Policy 2011 that mention PES in specific terms.

Environmental conservation: PES provides the opportunity to demonstrate that our environmental resources have economic value beyond timber, fuel wood, and other tangibles, and can generate economic benefits through non-extractive methods. It will enhance the economic rationale for the conservation of environmental resources and consequently enlarge political and public understanding and support for environmental conservation.

Good governance: Skewed distribution of economic benefits resulting from the conservation of natural ecosystems can result in the breakdown of sense of ownership and affinity for natural resources among the local communities. This may give rise to resentment and apathy for conservation policies and laws, resulting in difficulties in enforcement and governance. On the other hand, when natural ecosystems bring direct economic returns local communities will only become more motivated to contribute to better environmental governance.

4.2.2 PES and Economic Development Policy

Bhutan's new Economic Development Policy, launched in 2010, has been formulated with the vision to promote a green and self-reliant economy. Its strategies include diversifying the economic base with minimal ecological footprint, and harnessing and adding value to natural resources in a sustainable manner. In integrating rural economic development and ecosystem conservation and adding economic value to natural resources and that too in a non-extractive manner, PES very well fits in to the scheme of green economic development. In fact it can evolve into a self-sustaining mechanism that combines economics and environmental conservation.

4.2.3 Policy Framework for PES

PES in Bhutan can mainly take place within the policy framework provided by the following:

Bhutan Sustainable Hydropower Development Policy 2008 states that “in order to utilize water resources in a sustainable manner for hydropower generation, it is important to protect water catchment areas by promoting sustainable agricultural/ land use practices and nature conservation works. The MoAF in collaboration with the MoEA shall work out the modalities for integrated sustainable water resources management. A minimum of 1 percent of royalty energy in cash shall be made available on annual basis to MoAF for this purpose (12.4).” The plough back mechanism is further reinforced in the EDP.

Bhutan Water Policy 2007 states that economic tools for environmentally beneficial practices shall be promoted (6.3.2). It further stipulates that “the Royal Government shall ensure that adequate funds and resources are ploughed back for watershed protection and management. The plough back mechanism shall be used as an important tool for water resources management and development (6.4.2).”

National Forest Policy 2011 states “enabling payment for environmental services” as one of its main features (2.i). It also mentions among its sub-objectives: “pursue options for the payment for watershed services to cover the costs of maintaining and improving watershed conditions and services (2.5.3.v)”. The policy further encapsulates the principles of equity and

justice in terms of access, optimal utilization of forest resources and its ecosystem services and contribution of forest products and services for poverty reduction through integrated approach (2.1.i and 2.1.ii).

The draft **Tourism Policy** paper advocates the principle of sustainability to ensure that tourism business is environmentally friendly, socially responsible and economically viable. It articulates the vision to foster the tourism industry as a positive force for the conservation of the environment, promotion of cultural heritage, safeguarding the sovereign status of the nation, and significantly contributing to GNH.

4.3 Conceptual Framework

4.3.1 Definition of PES

The following definition of PES, adapted from various literatures, is proposed:

“A mechanism, which becomes effective through a voluntary agreement, under which one or more buyers purchase a well-defined ecosystem service or a set of ecosystem services by providing financial or other incentives to one or more sellers who undertake to carry out a set of environmental management practices on a continuous basis that will sustain, restore or enhance ecosystem services at specified levels.”

4.3.2 Key Principles

PES schemes are to be guided by the following key principles:

- Provider gets, user pays: Those who provide ecosystem services get paid for doing so and those who benefit from such services pay for their provision;
- Not to be driven by external forces but by self-interest of the service providers and service users;
- Cost of fulfilling the conditions for providing the services should not outweigh the income generated by the scheme;
- Payments have to be fixed for an agreed duration and disbursed annually from service users to service providers;
- Participatory and inclusive approach so that PES schemes are broad-based and do not alienate any group of the local community, especially the poor and vulnerable, from the benefits or adversely impact their livelihood or access to natural resource.

4.3.3 Types of Ecosystem Services

Four broad types of ecosystem services can be identified for PES schemes in Bhutan:

- Water and watershed services for drinking water, agriculture and hydropower;

- Soil erosion control and flood regulation services for agriculture, protection of human settlements and infrastructure, and hydropower;
- Carbon sequestration and storage for international carbon markets;
- Aesthetic services through landscape beauty for tourism and recreation.

4.4 Strategic Framework

4.4.1 Vision and Objectives

The long-term vision for PES is “a vigorous socio-environmental management system that creates socio-economic equity, reduces poverty, enhances environmental sustainability, and promotes human wellbeing.”

Specifically, PES is envisaged to:

- Contribute to GNH and green economy;
- Enhance rural income and reduce rural poverty;
- Serve as a self-sustaining financing mechanism for conservation;
- Bolster non-extractive economic value of natural ecosystems and enhance the economic rationale of conservation.

The primary objectives of PES are to:

- Incentivize rural communities for good environmental practices; and
- Create income for rural communities from non-extractive methods of natural resource use.

4.4.2 Implementation Strategy

Strategy 1: Developing capacity for planning, implementing and monitoring PES schemes

Capacity development would include staff training, development of planning and monitoring toolkits, knowledge resources and advocacy materials, and mechanisms for coordination and collaboration between WMD and other agencies within the government as well as in the civil society. Training support will need to include extension staff in the dzongkhag and gewogs and partners in the civil society and private sector.

Strategy 2: Implementing and evaluating the pilot PES schemes

Complete the implementation of the Yakpugang PES scheme and initiate the implementation of the proposed PES scheme in Phobjikha valley. On completion, carry out in-depth

evaluation of the pilot PES schemes to assess key outcomes, identify issues, draw lessons, and determine next steps.

Strategy 3: Carrying out an inventory and feasibility assessment of community forests and ICDPs for PES schemes

It is envisaged that community forests and ICDPs will be the primary candidates for PES schemes as institutional set-up and social mobilization arrangement pre-exist in these programmes, and, thereby, cut down the upfront costs and preparatory time of setting up the schemes. An inventory and feasibility assessment of all community forests and ICDPs will need to be carried out to identify the best candidates for PES schemes. The feasibility assessment will need to be based on a set of criteria which includes social, economic and environmental parameters. Alternatively, simple SWOT analysis may be adequate for the feasibility assessment.

Strategy 4: Scaling up PES schemes

Based on the feasibility assessment and employing the lessons and experience from the pilot PES schemes, scale up the implementation of the PES schemes in other regions. For the PES schemes to be well-planned and executed, it will be very important to ensure that the scaling up does not exceed the implementation capacity of WMD and its partners. Geographic distribution of the PES schemes will need to be considered during scaling-up to ensure that there is regional balance.

Strategy 5: Synergizing with the national REDD+ programme

The national REDD+ programme, which is being developed with assistance from UN-REDD programme, will constitute a very important component of PES. So, integrating the national REDD+ programme in the overall PES programme will be important so that there is synergy and no duplication of efforts and resources. This should not be a major issue given that both REDD+ and PES programmes are programmatically managed by WMD. Nonetheless, internal mechanism will be desirable to ensure coordination and synergy between the two programmes.

Strategy 6: Integrating poverty reduction

PES schemes are not innately meant to reduce poverty. However, given that poverty is both a global and nation concern and poverty reduction is the centerpiece of the country's development policy and objectives, there will be conscious efforts to integrate pro-poor outcomes in the PES schemes. This would include preference to gewogs and dzongkhags with high poverty incidence in the selection of potential PES schemes¹⁸, participatory and inclusive approaches in the design of PES schemes so that the interests of all groups of the local

¹⁸ However, the over-riding conditionality will be that such gewogs or dzongkhags have well-defined ecosystem services that could be sold to a known entity of beneficiaries.

community are fully considered, and incorporation of provisions in PES schemes to maximize fund utilization and investment in favor of the poor and vulnerable.

4.5 Institutional Set-up

4.5.1 Central Government Agencies

Ministry of Agriculture and Forests

MoAF is the apex government agency with the mandate for planning and implementing policies, plans, programmes and projects for sustainable management of natural resources and food production to ensure equitable social and economic well-being of the people. Within the MoAF, the Department of Forests and Park Services (DoFPS) is the principal technical agency for forest management and biodiversity conservation. WMD is the specific branch of DoFPS programmatically managing the PES and REDD+ programmes. Where PES schemes are integrated with community forestry, Social Forestry Division will be a principal collaborator for technical guidance and support.

Ministry of Economic Affairs

MoEA, previously known as the Ministry of Trade and Industry, is the principal agency for coordination, regulation, and facilitation of the affairs of key economic sectors, including hydropower and tourism which are dependent on ecosystem services such as watershed protection and landscape beauty.

4.5.2 Local Government Agencies

Dzongkhag Level

Development plans and programmes at the dzongkhag level are executed by the **dzongkhag administration**, which is headed by a Dzongdag (District Administrator) and made up of government staff for various technical and social development services such as agriculture, social forestry, livestock development, environmental impact assessment and monitoring, education, and health. Dzongkhag development plans and budgets are reviewed and approved by the **dzongkhag tshogdu** (district council). This body is made of gups and mangmis from all the gewogs in the dzongkhag and a representative from the municipality, and is chaired by one of the gups elected by the members. The **dzongkhag forestry sector**, which primarily provides rural extension services related to community forestry, will have the most direct role in terms of facilitation and technical support to the PES schemes in the field, particularly where such schemes are integrated in the community forestry programme.

Gewog Level

The **gewog administration** is run by a gup (elected head of a gewog) with planning and administrative assistance from a gewog administrative officer appointed by the government and technical support from sector staff such as extension agents for agriculture, forestry, and

livestock development. The plans and budgets for gewog development activities are reviewed and decided by the **gewog tshogde** (block committee), which is made up of the gup as chair and locally elected community members, namely mangmi (deputy to the gup) and tshogpas (representatives from villages/ group of hamlets). At the gewog level, **forestry extension agents** will have the most direct role in terms of guidance and monitoring of PES schemes that are integrated with community forestry.

4.5.3 Civil Society Organizations

The involvement of civil society organizations will be crucial in PES schemes. They can effectively complement government efforts to promote PES especially through advocacy and participatory approaches of social mobilization and rural development. **RSPN** specifically will have a pivotal role because of their forte and longstanding experience in engaging with local communities to promote sustainable livelihoods and environmental management. **ABTO** will have an important role where eco-tourism is involved for PES, as in the case of the proposed PES scheme in Phobjikha. Another potential CSO is the **Tarayana Foundation**, which primarily works on socio-economic upliftment of the poor and vulnerable communities in the rural areas through income-generating activities and self-help initiatives, some of which are based on sustainable use of natural resources.

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Acronyms

ABTO	Association of Bhutanese Tour Operators
CoP	Conference of Parties
DANIDA	Danish International Development Agency
DoFPS	Department of Forests and Park Services
ECP	Environment-Climate Change-Poverty
EDP	Economic Development Policy of Bhutan, 2010
FAO	Food and Agriculture Organization of the United Nations
FYP	Five-Year Plan
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission, formerly Planning Commission
ICDP	Integrated Conservation and Development Programme
IFAD	International Fund for Agricultural Development
JICA	Japan International Cooperation Agency
JSP	Joint Support Program on Capacity Development for Mainstreaming Environment, Climate Change and Poverty Concerns in Policies, Plans and Programs
MoAF	Ministry of Agriculture and Forests
MoEA	Ministry of Economic Affairs
MT	metric-ton (1,000 kg)
NRED	Nature Recreation and Ecotourism Division (Department of Forests and Park Services)
PEMC	Phobjikha Environmental Management Committee
PES	Payments for Ecosystem/ Environmental Services
PRA	Participatory Rural Appraisal
REDD	Reducing Emissions from Deforestation and Forest Degradation
RNR	Renewable Natural Resources
RSPN	Royal Society for the Protection of Nature
SNV	Netherlands Development Organization

TCB	Tourism Council of Bhutan
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
WMD	Watershed Management Division (Department of Forests and Park Services)
WWF	World Wide Fund for Nature (World Wildlife Fund in the US and Canada)

Glossary of Bhutanese Terms

Dzongdag	District Administrator
Dzongkhag	District
Dzongkhag Tshogdu	District Council
Gewog	Public administration unit made up of a block of chiwogs
Gewog Tshogde	Block Committee
Gup	Elected head of the gewog
Mangmi	Elected deputy to the gup
Reesup	Village forest guard
Tshogpa	Elected representative of village/ group of hamlets

Annex 1: List of People Met

Central Government Agencies

Mr. *Chadho Tshering*, Chief Forest Officer, Watershed Management Division, Department of Forests and Park Services

Mr. *Jamyang Phuntshok*, Meteorological Officer, Watershed Management Division, Department of Forests and Park Services

Mr. *Jigme Tenzin*, Forest Officer, Watershed Management Division, Department of Forests and Park Services

Mr. *Karma J Temphe*, Deputy Chief Forest Officer, Social Forestry Division, Department of Forests and Park Services

Mr. *Kaspar Schmidt*, Helvetas/ SDC Advisor, Participatory Forest Management Project, Social Forestry Division, Department of Forests and Park Services

Mr. *Kinley Tshering*, Forest Officer, Social Forestry Division, Department of Forests and Park Services

Mr. *Tashi Samdrup*, Forest Officer, Watershed Management Division, Department of Forests and Park Services

Non-Governmental Organizations

Mr. *Kinga Wangdi*, Programme Officer, Integrated Conservation and Development, Royal Society for the Protection of Nature

Dr. *Lam Dorji*, Executive Director, Royal Society for the Protection of Nature

Ms. *Rinchen Wangmo*, Programme Manager, Royal Society for the Protection of Nature

Ms. *Tshering Choki*, Field Coordinator (Phobjikha), Royal Society for the Protection of Nature

Mr. *Tshering Phuntsho*, Programme Coordinator (Conservation & Sustainable Livelihoods), Royal Society for the Protection of Nature

RNR-Research and Development Centers

Mr. *Choki Nima*, Research Assistant, RNR-RDC Wengkhari

Dr. *Pema Wangda*, Deputy Chief Forest Research Officer, RNR-RDC Yuesepang

Local Government Agencies

Mr. *Pema Rigzin*, Forest Ranger, Mongar gewog

Dasho *Sherab Tenzin*, Dzongdag, Mongar Dzongkhag

Mr. *Tshegay Wangchuk*, Junior Engineer, Mongar Thromde Office

Mr. *Tshewang Rinzin*, Surveyor, Mongar Thromde Office

Local Community Members

Yakpugang Community Forest Management Group

Mr. *Chokey*, member

Mr. *Karma*, Former chairperson

Mr. *Neten Dorji*, Reesup

Mr. *Sangay Dorji*, Chairperson

Mr. *Sherab Tenzin*, Secretary

Mr. *Sonam Zangpo*, Treasurer

Mr. *Tshewang Rigzin*, member

Masangdaza Community Forest Management Group

Ms. *Dorji Yangzom*, member

Mr. *Phuntsho*, Chairperson

Mr. *Ugyen Wangchuk*, Secretary

Ms. *Yonten Lhamo*, member

Phobjikha Environmental Management Committee

Mr. *Dampay Choezang*, Forest Beat Officer

Mr. *Dophu*, gup, Gangtey gewog

Mr. *Gyem Phub*, mangmi, Gangtey gewog

Mr. *Jamtsho*, gup, Phobji gewog

Ms. *Kesang*, Yusa, Gangtey gewog

Mr. *Nim Dorji*, mangmi, Phobji gewog

Mr. *Passang*, tshogpa, Tawa, Phobji gewog

Mr. *Pema Gayleg*, Agriculture Extension Officer, Gangtey gewog

Mr. *Phurpa*, chipon, Kumbu

Mr. *Satti*, tshogpa, Khemdo, Phobji gewog

Mr. *Singay Namgyal*, Livestock Extension Officer, Phobji gewog

Ms. *Sonam Zangmo*, Gewog Administrative Officer

Mr. *Yangka*, tshogpa, Moel

Mr. *Yeshey Wangdi*, Livestock Extension Officer, Gangtey gewog

Mr. *Yonten Gyeltshen*, Health Assistant