



# Global Environment Facility

**Leonard Good**  
Chief Executive Officer  
and Chairman

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November 30, 2005

Dear Council Member,

The World Bank, as the Implementing Agency for the project, ***Bhutan: Sustainable Land Management***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with the World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in September 2005, and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the World Bank satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at [www.theGEF.org](http://www.theGEF.org). If you do not have access to the Web, you may request the local field office of the World Bank or UNDP to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

A handwritten signature in black ink, appearing to be "L. Good", written over a faint, larger version of the signature.

✓ cc: Alternate, Implementing Agencies, STAP

# OFFICE MEMORANDUM

DATE: November 28, 2005

TO: Mr. Leonard Good, CEO/Chairman, GEFSEC

FROM: Steve Gorman, GEF Executive Coordinator



EXTENSION: 35865

SUBJECT: **BHUTAN: Sustainable Land Management Project  
Submission for Final CEO Endorsement**

1. Please find attached the electronic file of the GEF Project Document for the above-mentioned project for your final review and endorsement. This project was approved for Work Program entry at the July 27, 2005 Intersessional, under streamlined CEO endorsement procedures. We would appreciate receiving your response, so that we may finalize the Bank Board submission, by December 6, 2005, but preferably earlier.
2. The GEF Project Document is fully consistent with the objectives, scope, and overall cost of the proposal approved at the July 2005 Council meeting. During final preparation some adjustments to project objectives, description and sequencing of project components and planned outcomes have been made to bring more clarity to the project document. The overall scope, design and costs of the project remain unchanged. GEFSEC, STAP, and Council comments have also been addressed. Modifications to the Project Document and how comments have been addressed are detailed below:
  - *The link to UNDP's MSP for capacity development and mainstreaming SLM is outlined in Section C (1) on Page 7 of the Project Document*
  - *The monitoring and evaluation plan has been agreed with the Royal Government of Bhutan and is presented in Annex 3 of the Project Document*
  - *A Tripartite Memorandum of Understanding signed between the Royal Government of Bhutan, World Bank and Denmark on March 26, 2004 outlines the coordination and financing arrangements between Danida EUSPS and the World Bank SLM Projects (attached). Danida's program is now operational. The Royal Government of Bhutan has*

*confirmed their financial support to the implementation of project activities (refer Paragraph 12 of the attached Minutes of Negotiations)*

3. We received comments from the Swiss Council member (after the deadline for Council Comments) regarding (i) time frame for collecting required data; and (ii) external evaluation of project after initial start-up. The project takes cognizance that some issues need longer time to resolve and hence has training and demonstration designed to build local capacity and skills to independently address the medium and longer term sustainability concerns. The project will help develop a coherent and practical action plan that will be refined continuously as capacity is built and experiences from the pilot sites are gained. External evaluation of the project is envisaged.
4. We look forward to receiving your endorsement of the project for Bank Board approval.)

Many thanks.

Attachments :

GEF Project Document

Minutes of Negotiations

Tripartite Agreement between Denmark, World Bank and RGoB

cc: Messrs./Mmes. Ramankutty, GEF PROGRAM COORDINATION (GEFSEC);  
Esikuri (ENV), Khanna, Wedderburn, (ENV); ENVGC ISC,  
Regional Files

Document of  
The World Bank

Report No: 34479-BT

PROJECT DOCUMENT  
ON A  
PROPOSED GRANT FROM THE  
GLOBAL ENVIRONMENT FACILITY TRUST FUND  
IN THE AMOUNT OF USD 7.66 MILLION  
TO THE  
KINGDOM OF BHUTAN  
FOR A  
SUSTAINABLE LAND MANAGEMENT PROJECT

{November 23, 2005}

Environment & Social Development Sector Unit  
South Asia Region

## CURRENCY EQUIVALENTS

(Exchange Rate Effective April 2005)

Currency Unit	=	Ngultrum
44.91 Ngultrum	=	US\$1
1 Ngultrum	=	US\$0.022

## FISCAL YEAR

July 1 – June 30

## ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BAS	Budget and Administration System
CAS	Country Assistance Strategy
CBD	Convention on Biological Diversity
<i>Chiog</i>	Village or lowest administrative unit, with elected representative of <i>Tshogpa</i>
CTEM	Cleaner Technology and Environmental Management
DADM	Department of Aid and Debt Management, Ministry of Finance
DANIDA	Danish International Development Assistance
<i>Dasho</i>	Administrative Head of a district of <i>Dzongkhag</i>
<i>...Dzongda</i>	
DBA	Department of Budget and Accounts, Ministry of Finance
DEC	<i>Dzongkhag</i> Environment Committee
DOA	Department of Agriculture
DOF	Department of Forest
DOL	Department of Livestock
DPSIR	Driver, Pressure, State, Impact and Response
DYT	<i>Dzongkhag</i> Yargye Tshogdu (District Development Committee)
EIMS	Environmental Information Management System
EUSPS	Environment and Urban Sector Program Support (Danida)
FYP	Five-Year Plan
<i>Geog</i>	Local Government Administrative area
GFC	<i>Geog</i> Field Coordinator
GPT	<i>Geog</i> SLM Planning Team
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (German Technical Cooperation)
<i>Gup</i>	Head of a <i>geog</i> and of the GYT
GYT	<i>Geog</i> Yargye Tshogchung (Block Development Committee)
ICDP	Integrated Conservation and Development Programme
ICIMOD	International Center for Integrated Mountain Development
IFAD	International Fund for Agricultural Development
LOD	Liaison Office of Denmark
LUPS	Land Use Planning Section, Ministry of Agriculture
LWC	Local Working Committees
masl	meters above sea level
M&E	Monitoring and Evaluation
MEAP	Micro Environmental Action Plan
MoA	Ministry of Agriculture
MoF	Ministry of Finance

MoHCA	Ministry of Home and Cultural Affairs
MoU	Memorandum of Understanding
MTAC	Multi-sectoral Technical Advisory Committee
MTI	Ministry of Trade and Industry
MoWHS	Ministry of Works and Human Settlement
NECS	National Environment Commission Secretariat
NSSC	National Soil Service Center
OP	Operational Program
PDO	Project Development Objective
PIP	Project Implementation Plan
PMT	Project Management Team
PSC	Project Steering Committee
RAA	Royal Audit Authority
RGoB	Royal Government of Bhutan
RNR	Renewable Natural Resources
RNR-RC	Renewable Natural Resources – Research Center
SALT	Slope Agricultural Land Technology
SDC	Swiss Agency for Development and Cooperation
SDS	Sustainable Development Secretariat
SLM	Sustainable Land Management
SLMP	Sustainable Land Management Project
SNV	Netherlands Development Organization
TA	Technical Assistance
TOR	Terms of Reference
<i>Tseri</i>	Shifting Cultivation
<i>Tshogpa</i>	Elected head of a village ( <i>chiog</i> )
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNFCCC	United Nations Framework Convention on Climate Change

Vice President:	Praful Patel
Country Manager/Director:	Alastair McKechnie
Sector Manager:	Jeffrey S. Racki
Task Team Leader:	Malcolm A. Jansen

BHUTAN  
SUSTAINABLE LAND MANAGEMENT PROJECT  
PROJECT APPRAISAL DOCUMENT  
SOUTH ASIA  
SASES

<p>Date: November 23, 2005 Country Director: Alastair J. McKechnie Sector Manager/Director: Jeffrey S. Racki Project ID: P087039 Focal Area: Land degradation Lending Instrument: Global Environment Facility Grant</p>	<p>Team Leader: Malcolm A. B. Jansen Sectors: General agriculture, fishing and forestry sector (60%); General public administration sector (20%); Sub-national government administration (20%) Themes: Land administration and management (P); Environmental policies and institutions (P); Participation and civic engagement (S); Decentralization (S); Biodiversity (S) Environmental screening category: Partial Assessment Safeguard screening category: Limited impact</p>
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<b>Project Financing Data</b>
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<p><input type="checkbox"/> Loan   <input type="checkbox"/> Credit   <input checked="" type="checkbox"/> Grant   <input type="checkbox"/> Guarantee   <input type="checkbox"/> Other:</p> <p>For Loans/Credits/Others: Total Bank financing (US\$m.): 0.00 Proposed terms:</p>
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<b>Financing Plan (US\$m)</b>
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Source	Local	Foreign	Total
GLOBAL ENVIRONMENT FACILITY (GEF)	1.58	6.08	7.66
BORROWER/RECIPIENT	1.51	0.00	1.51
LOCAL COMMUNITIES	0.95	0.00	0.95
DENMARK: DANISH INTL. DEV. ASSISTANCE (Parallel Financing)	.83	4.94	5.77
<b>Total Program Cost</b>	<b>4.87</b>	<b>11.02</b>	<b>15.89</b>

<p><b>Borrower:</b> Ministry of Finance Tashichhodzong Thimphu Bhutan Tel: 975-2-322 717   Fax: 975-2-323 154 yankitw@hotmail.com</p>
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**Responsible Agency:**

Ministry of Agriculture, NSSC, P.O.Box 123, Thimpu, Bhutan  
 Tel: 975-2-351182; Fax: 975-2-351038; Email : <norbuc@druknet.bt>

**Estimated disbursements (GEF FY/US\$m)**

FY	2006	2007	2008	2009	2010	2011	2012	0	0
Annual	0.25	1.08	1.24	1.14	1.50	1.43	1.01	0.00	0.00
Cumulative	0.25	1.33	2.58	3.72	5.22	6.66	7.66	0.00	0.00

Project implementation period: Start March 1, 2006 End: June 30 2012

Expected effectiveness date: March 1, 2006

Expected closing date: December 31, 2012

Does the project depart from the CAS in content or other significant respects?  Yes  No  
**Ref. PAD A.3**

Does the project require any exceptions from Bank policies?  Yes  No  
**Ref. PAD D.7**

Have these been approved by Bank management?  Yes  No

Is approval for any policy exception sought from the Board?  Yes  No

Does the project include any critical risks rated “substantial” or “high”?  Yes  No  
**Ref. PAD C.5**

Does the project meet the Regional criteria for readiness for implementation?  Yes  No  
**Ref. PAD D.7**

Project development objective **Ref. PAD B.2, Technical Annex 3**

The Project Development Objective is to strengthen institutional and community capacity for anticipating and managing land degradation in Bhutan.

Global Environment objective **Ref. PAD B.2, Technical Annex 3**

The Project Global Objective is to contribute to more effective protection of trans-boundary watersheds in a manner that preserves the integrity of ecosystems in Bhutan.

Project description [*one-sentence summary of each component*] **Ref. PAD B.3.a, Technical Annex 4**

Component One – Pilot projects to demonstrate effective application of land degradation prevention approaches. The GEF project would support the piloting of integrated multi-sectoral planning and investment in SLM approaches in selected *geogs* in three *dzongkhags* as an incremental activity to ongoing government sector investments in these sites.

Component Two – Mainstreaming of practices for protection against land degradation. The objective of this component is to expand SLM approach to other *geogs* and *dzongkhags* based on the learning and experience of Component 1.

Component Three – Policy support and guidance for mainstreaming land degradation prevention practices. This component will bring lessons from component 1 and 2 to inform national policy and legislation.

Component Four – National level support for coordination of implementation of land degradation prevention practices. This component will support capacity building of Ministry of

Agriculture to effectively coordinate the implementation of multi-sectoral SLM approaches to anticipate and manage land degradation.

Which safeguard policies are triggered, if any? **Ref. PAD D.6, Technical Annex 10**

The safeguard policy for environmental assessment (OP/BP/GP 4.01), Forests (OP/BP 4.36), and Pest Management (OP 4.09) are triggered. The Natural Habitats (OP/BP 4.04), and Cultural Property (OPN 11.03) have applicability, however, care will be given when scaling up of activities during the course of project implementation to ensure that the impact on larger spatial areas is kept to a minimum. The Environmental Management Framework ensures that the environmental assessment and management process is incorporated into the entire land use planning and management process from the *chiog, geog, dzongkhag* and central levels.

Environmental Assessment: This is applicable given the project's emphasis on land management spanning over large spatial territories. However, potential adverse environmental impacts on human populations or environmentally important areas including wetlands, forests, grasslands, and other natural habitats, are limited. These impacts will be site-specific, with few being irreversible. An Environment Assessment and Environmental Management Framework have been developed to ensure all environmental issues are considered in project planning, implementation and monitoring.

Pest Management: The project might involve, on a limited scale, procurement and use of pesticides to enhance crop production. However, the procurement and distribution of pesticides in Bhutan is well controlled through a centralized system and there will be no procurement of pesticides classified as Class Ia, Ib and II by WHO. IPM training will be given and applied to the extent possible.

Forests: The project envisages community and private forestry, and afforestation/ reforestation of barren/degraded areas and catchment areas to curb land degradation. However, the project will not engage in commercial forestry activity.

Significant, non-standard conditions, **if any**, for:

**Ref. PAD C.7**

Board presentation:

There are no conditions for Board presentation

Loan/credit effectiveness:

There are no conditions for Project Effectiveness

Covenants applicable to project implementation:

**BHUTAN**  
**Sustainable Land Management Project**

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**IBRD MAP 34324**

## A. STRATEGIC CONTEXT AND RATIONALE

### 1. Country and sector issues

The Kingdom of Bhutan is a small landlocked country in the Eastern Himalayas with an area of 40,076 km<sup>2</sup> and a population of 734,340 averaging just over 19 people per km<sup>2</sup>. Located in the young and rugged Himalayan range, the population of Bhutan must make its living within fragile and inherently unstable ecosystems. Bhutan's usable land resource is limited owing to difficult and high mountain terrain, vast areas of snow and barren rocks, and large forests – which currently cover some 72.5 percent of the country. This forest area, which includes scrub forest, is mandated to remain above 60 percent of the national territory in perpetuity. Arable land makes up less than 8 percent of Bhutan's territory, most of it located in the central valleys and southern foothills, and in these relatively flat areas, agriculture must contend with the other development activities of a population which is growing at 2.5 percent per year. Population growth has led to split inheritance among families, and consequently farmlands are becoming fragmented resulting in less investment in sustainable land management by farmers. The average rural household now owns 3.48 acres of land, often spread over different agro-ecological zones and altitudes.

Being a predominantly agrarian society, 79 percent of Bhutan's population live in rural areas and subsist on an integrated livelihood system of crop agriculture, livestock rearing, and use of a wide variety of forest products. Some 98 percent of Bhutan's poor live in rural areas, where poverty is nine times greater than in urban areas. In general, poverty tends to be high in remote areas, where difficult terrain and climatic conditions constrain productivity as well as access to roads, markets and basic services. One of the factors affecting poverty is ownership and access to productive assets, including land. More than half the rural families have less than two hectares of land. Land degradation and fertility loss are important causes of poverty in Bhutan, where 32 percent of the population is classified as poor by standards that include a food poverty line. The promotion of sound and sustainable management of natural resources is therefore deeply significant to a strategy for reduction of poverty.

The rural landscape is highly susceptible to landslides, soil run-off, and seasonal floods owing to its characteristically steep terrain, fragile geologic conditions, and heavy rains. In areas of intensive land use, soil erosion, landslides and forest degradation, and depletion of soil fertility in agricultural land have become increasingly evident. This situation was recently evidenced in Radhi *geog*, an important agricultural production area in Eastern Bhutan. Over the last 30 years the *geog* has been affected by severe land degradation and catastrophic landslips. With an area of only 29 km<sup>2</sup>, Radhi encompasses a multitude of problems associated with land degradation – high population density, overgrazing, deforestation, fragile geologic conditions, and heavy monsoon rains. Since 1970s, around 10% of the land area of the *geog* has been lost or rendered unproductive due to land degradation and landslides. Consultations with RGOB and local residents during project preparation revealed that around 35% of the households in Radhi have been affected, rice production has decreased by 25-50%, average household income reduced by 25% and about 40% of the forest and grazing area reduced as a result of land degradation. Simultaneously, during this period, the human population has increased by 15-20% and cattle population by 50% placing added stress on an already overburdened ecosystem. There is general understanding that anthropogenic factors such as overgrazing, deforestation, poor farming practices and reduced fallow periods under *tseri* (shifting cultivation), poor soil and irrigation

water management, and development of infrastructure such as roads have contributed to the land degradation problem.

The problems of Radhi have raised serious concern with RGoB who is afraid that similar situations could extend to other parts of the country, bringing potential loss to life and property (mainly from landslides), productivity losses, lower returns from public and private investments in infrastructure and farmlands, and the cumulative undermining of environmental stability. All of these could have significant social and economic impacts. The Government is also concerned about the potential risks to Bhutan's hydropower installations – which represent half of the revenue the country spends on public service provision. Since most of this hydropower is sold to India, watershed degradation could have a significant impact on Bhutan's foreign revenue, as well as for the livelihoods and well being of the majority of the country's rural population. The RGoB has therefore placed a high priority on a strategy designed to anticipate and avoid future land degradation problems.

However, reversing land degradation is constrained by a number of institutional, legal and economic impediments. First, planning is conducted in an uncoordinated manner that scatters investment across disparate line departments and thus renders integrated natural resource planning difficult. Second, confused and often contradictory policies and legislation have impeded the application of sustainable land management practices. Third, local communities have little or no influence in decision making on land use alternatives, have no redress system to resolve conflicts relating to rights to grazing and forest resource use, and therefore little incentive to shift to more sustainable uses of the land. Fourth, compounding these problems is a lack of credible baseline information on the status of natural resources. Finally, and most importantly, there is insufficient information on the farm level constraints and opportunities, and the incentives affecting current and potential land use choices. For instance, there is no understanding of why farmers adopt farming techniques that will deplete their asset base. In short, despite the policy priority given to land management in Bhutan, there remain significant obstacles to developing preventive and remedial policies. The key objective of this project is to support RGoB's efforts to address these problems.

**Royal Government of Bhutan commitment:** The Royal Government's commitment to addressing land degradation issues is strong. The 82<sup>nd</sup> session of the National Assembly in July 2004 recommended a review of the 1979 Land Act, and a high level technical meeting chaired by the Minister of Agriculture in October 2004 called for urgent attention to land degradation. In July 2005 a land conservation campaign took place across eastern Bhutan spearheaded by the Minister of Agriculture. The draft Constitution of Bhutan (*Tsa Thrim Chhenmo*) published on 26 March 2005 reiterates the Royal Government's intention to conserve biodiversity and prevent ecological degradation. For the ongoing Ninth Five Year Plan covering 2002-2007, the country has five overall goals, one of which is the preservation and promotion of cultural heritage and environment conservation.

Policy level initiatives to combat land degradation have been initiated. These include the development of new grazing policy and information management systems at central and *dzongkhag* level related to Sustainable Land Management (SLM) with Danida support. In addition the Ministry of Agriculture has decided to shift from sector-based to area-based planning to address land degradation in the next Five-Year Plan period. The important role of

empowering *dzongkhag* and *geogs* in land management has now gained policy recognition in Bhutan.

**Eligibility for GEF Support:** In 2003, Bhutan ratified the UN Convention to Combat Desertification (UNCCD) and was eligible to receive GEF support under the new Operational Program 15 on Sustainable Land Management. Bhutan is Party to the Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC), both ratified in 1995. RGoB is expected to shortly commence the preparation of a National Action Plan to combat desertification that would be linked to, and complement the design of this project.

## **2. Rationale for Bank involvement**

The RGoB asked for support from GEF under its Operational Program 15 (Sustainable Land Management) implemented by the World Bank to address its critical land degradation situation. The Bank shares RGoB and donor recognition of the need to rationalize the use and management of Bhutan's extremely limited available land resource, to avoid further cumulative deterioration of the resource, and to ensure long term environmental sustainability. The Bank is actively working with GEF and other donors in a number of countries to develop similar initiatives in sustainable land management. The Bank's comparative advantage is that it has experience in Bhutan, it is a GEF Implementing Agency, it would supplement existing Danida financing, and has an agenda that actively promotes community driven and participatory approaches.

## **3. Higher level objectives to which the project contributes**

The project will support further RGoB efforts to both prevent and reverse land degradation and to mainstream sustainable land management into its development planning framework. It will also help RGoB mainstream sustainable land management into the development planning framework. In the long term, it will assist the country to protect its valuable forests and biodiversity, contribute to sustainability of agricultural productivity and help improve livelihoods and well being of its people. The project activities will help safeguard and harness the environmental services vital to local communities as well as the nation's hydropower capacity that accounted for around 48 percent of RGoB's total revenue during 2000-2002. The project will contribute to meeting GEF's global goals of protecting trans-boundary water bodies and provide national programs with opportunities to interface with international activities relating to CBD, UNCCCF, and UNCCD.

The new Country Assistance Strategy (2006-2009) emphasizes the need to support environmental efforts that might be critical to achieving the strategic objectives of the CAS. Specifically, the Sustainable Land Management Project will foster approaches, tools, and interventions to reverse damage to land due to weak policies, overgrazing, forest degradation and unsustainable agricultural practices. The effort will also help support decentralized decision making on land management issues and help broaden the sources of livelihood and well-being of selected local communities in Bhutan.

## **B. PROJECT DESCRIPTION**

### **1. Lending instrument**

The project will be financed by a GEF grant of US\$7.66 million. The project activities will be supported through parallel financing of around US\$5.77 million from Danida, and support from

RGoB through its Renewable Natural Resources Programs of the Ministry of Agriculture, which is estimated to be equivalent to around US\$1.51 million.

## 2. Project development objectives and key performance indicators

*Project Development Objective:* The development objective of the Project is to strengthen institutional and community capacity<sup>1</sup> for anticipating and managing land degradation in Bhutan.

*Key indicators of success:* The key indicators are listed in the Result Framework (see Annex 3). For the development objective, these pertain to the following in the participating *geogs*:

1. Increase in number of farmers practicing sustainable land management techniques
2. Number of *geogs* implementing land degradation prevention development plans

## 3. Project global objective and key indicators

*Project Global Environmental Objective:* The global objective of the project is to contribute to more effective protection of trans-boundary watersheds in a manner that preserves the integrity of ecosystems in Bhutan.

*Key Indicator of Success:* Expected outcomes at the end of the project period are:

1. 10 percent reduction of sediment flow in selected micro-watersheds in pilot *geogs*

The Project Objectives will be achieved using the following guiding principles:

- Support a **bottom-up planning approach** that focuses on community priorities and decisions.
- **Phased implementation**, starting initially in three *geogs* and later extending to additional *geogs* as adequate capacity is built in the pilot *geogs*.
- Support **decentralization** by strengthening the role of communities, *geogs* and *dzongkhags* in planning and implementation, and increasing their potential for becoming sustainable agents of natural resource management change.
- Ensure that **community decisions on sustainable land use options** are guided by appropriate knowledge and information about farmer incentives.
- Adoption of an **integrated multi-sectoral approach** as a strategy for improving the management of natural resources.

## 4. Project components

*Overview:* The GEF increment supports four complementary, mutually, reinforcing components that are aligned with the Danida's Environment and Urban Sector Program Support (EUSPS).

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<sup>1</sup> "capacity" is referred here to more broadly cover human resource capacity, policies, incentives, technologies and knowledge

**Component One – Pilot projects to demonstrate effective application of land degradation prevention approaches (GEF - US\$1.37M).** The pilots will be implemented in three *geogs*. The three pilot *geogs* were selected to represent a variety of the land degradation pressures in Bhutan. These are Nangkor in Zemgang *Dzongkhag*, Phuntsholing in Chhukha *Dzongkhag* and Radhi in Trashigang *Dzongkhag*. This part of the project has three sub-components. First, it will support a GIS-based biophysical and socio-economic mapping exercise to identify the causes and incidence of land degradation. Second, information generated through the mapping exercise will be used to identify “hot-spots” and to assess the presence or absence of incentives that currently guide farming practices and inform community decisions. Third, it will support community decision making and prioritization of potential sustainable land management (SLM) investments at the *chiog* level. The project will finance a range of activities including: capacity building for community decision making and planning, training of *geog* staff to plan and implement SLM activities in a multi-sectoral manner, investments at the community and farm levels to strengthen the adoption of SLM practices, monitoring to validate SLM investments, and national and regional level workshops to discuss results and scaling-up implementation. Physical investments at the farm and community level might include vegetative conservation measures, terracing, forest and rangeland regeneration, reforestation, etc. where necessary. The results of the pilots will be used to replicate the application of SLM investments and policies to other *geogs*.

**Component Two- Mainstreaming of practices for protection against land degradation (GEF - US\$4.41M)** This component will support the scaling up of the pilots to six additional *geogs* (two in each of the pilot *dzongkhags*) based on the lessons learned from Component 1. Support to additional *geogs* will be phased, starting in *geogs* where there is substantial potential for success of SLM interventions and where existing capacity is adequate. In addition, it will facilitate coordinated and participatory planning at the *dzongkhag* level which integrates the cross sectoral impacts of development (e.g. infrastructure, roads, irrigation, power, agriculture and industrial development). Inter-*dzongkhag* conflicts (particularly over grazing) and inter-sectoral conflicts over land use and planning will be resolved at this level. Capacity building efforts will precede replication to new *geogs*. Under this component, the project will support on-the-ground investments, technical assistance, community cross-site visits, training, research and awareness programs, new analytical tools, geographic information systems and databases.

**Component Three - Policy support and guidance for mainstreaming land degradation prevention practices (GEF - US\$1.05 million)** This component will bring lessons from Component 1 and 2 to inform national legislation and policy pertaining to watershed management, upland agriculture and livestock, forestry, urban planning and infrastructure development. It will provide technical assistance to develop guidelines for mainstreaming SLM principles into RGoB’s five-year plans, and *geog* and *dzongkhag* five-year and annual plans. This would be undertaken through compilation and dissemination of lessons learned from pilot sites, policy guidance notes, capacity building and awareness workshops.

**Component Four: National level support for coordination of implementation of land degradation prevention practices (GEF - US\$0.81M).** This component would further support RGoB’s efforts to strengthen and build capacity within the Ministry of Agriculture (MoA) to systematically and effectively coordinate a program of activities in order to help anticipate and

manage land degradation in the country. It will provide over-arching support across different sectors (i.e. agriculture and natural resources, roads, infrastructure, irrigation, etc.) and different levels of government (i.e. *geog*, *dzongkhag* and central levels) for supporting SLM activities. This would be achieved through project support for technical assistance, training, equipment, and management information systems.

## **5. Lessons learned and reflected in the project design**

The project design reflects lessons from a number of ongoing and completed projects.

The *Bhutan Trust Fund for Environmental Conservation* established in 1991 demonstrated the need for a reliable funding source additional to and independent of income from the trust fund in order to carry out benchmark activities. The *National Capacity Self-Assessment for Global Environmental Management* (UNDP) accrued substantial experience with stakeholder consultations – and significant relevance for the work of the SLMP. The lessons from the *Integrated Management of Jigme Dorji National Park* (1997-2003)(UNDP-GEF) underscore the value of maintaining a flexible and adaptive approach to project design and implementation, and of ensuring that realistic targets were set commensurate with actual staff strength and that adequate remuneration was provided. *The Energy and Environment Project*, UNDP Bhutan (April 2004) showed the advantages of demonstration projects with a bottom-up entry point to policy formulation, particularly with respect to the sustainability of policy impacts. The *UNDP/GEF Small Grants Program* (SGP) indicates that where stakeholder consultations were cursory, projects suffered from lack of community motivation and understanding of project objectives. The visibility of benefits are key to community participation. Where benefits were tangible and immediate, community participation was strong. This was most notable in the *Biomass Fuel Efficiency Project* in Tsirang, the *Shingneer Watershed Management Project*, and the *Cane and Bamboo Management Project* in JSWNP.

## **6. Alternatives considered and reasons for rejection**

A number of alternatives were considered during project preparation. The first alternative was to strengthen the existing sectoral approach among individual sector agencies. This was rejected because experience shows that it is not conducive for achieving better land management outcomes. The second alternative was to introduce a mechanism for ‘payment for environmental services’ based on values assigned to specific ecosystem functions or utilities – thus changing the bases on which resource allocation decisions are made. It was rejected because detailed data required for attributing effects to specific causes are not available in Bhutan, and downstream users are either still willing to live with the negative environmental impact or are not yet ready to consider compensating upstream inhabitants for what they consider to be free ecosystem services. The third alternative was to introduce a community based decision making system that effectively incorporates ecological, economic and social dimensions into sustainable land use decisions and investments at the *chiog* (village), *geog*, *dzongkhag* and central levels. This cross sectoral approach was found the most appropriate. Project preparation supported team building across sectors and between stakeholders. A cross-sectoral Multi-sectoral Technical Advisory Committee (MTAC) guided project preparation and helped avoid compartmentalization between disciplines. Intensive stakeholder participation at community and local government level would

make different actors aware of each other's concerns and priorities, and ensure that planning is locally driven and outcomes would be locally owned.

## C. IMPLEMENTATION

### 1. Partnership arrangements

*Co-financing Arrangements:* SLMP will be financed by a GEF grant. Danida will provide parallel financing to the project through its EUSPS program. EUSPS is designed to strengthen rural and urban environmental management through support to the Ministry of Agriculture, Ministry of Works and Human Settlements, Ministry of Trade and Industry, the National Environment Commission Secretariat and *Geogs* and *Dzongkhags*. While EUSPS emphasizes policy and planning at the central level for its natural resources management component, SLMP will work mainly from the ground up, promoting mechanisms for sustainable land management at the *chiog* and *geog* level and feeding results upwards into the *dzongkhag* level - informing revisions of the policy and regulatory framework. The EUSPS-SLMP complementarity will increase the efficiency in the use of human and financial resources, reduce the risk of overlap and competition for project staff and minimize the cost of implementing and administering programs. A Memorandum of Understanding signed between RGoB, Danida and the World Bank on 26 March 2004 outlines the cooperation between the programs. SLMP and EUSPS will coordinate their annual work plans and budgets for submission to the joint Project Steering Committee.

*Linkages with Decentralized Rural Development Project:* The RNR Centers supported through DRDP would play an important role in the dissemination of lessons and best practices developed in the SLM pilots. The Centers will support development of replication strategies based on pilot experiences, help in raising awareness and providing feedback on policy issues, research needs, extension support to concerned departments and MoA and vice versa. In addition, DRDP's capacity building of RNR extension staff at the *geog* and *Dzongkhag* levels will help support the replication of SLM lessons to additional *geogs* and *dzongkhags*. Capacity building in environmental assessment would complement DRDP's effort to improve environmental management of the infrastructure investments at the *geog* and *dzongkhag* levels.

*Linkages with the UNDP/GEF Medium Sized Capacity Building Project:* Lessons learned from the pilot activities under SLMP will directly feed into the preparation of the National Action Plan (NAP) to combat land degradation. Capacity building efforts under UNDP's capacity building project will largely focus on *dzongkhags* that are not covered under SLMP and help expand experiences and lessons from SLMP through cross visits, training, workshops, etc. This would greatly facilitate the replication of SLM lessons throughout the country. In addition, the collaboration between SLMP and UNDP's capacity building project, would facilitate mainstreaming of SLM approaches in different sectors and levels of government and influence policies and regulations pertaining to land resource utilization and management, as well as the implementation of NAP in Bhutan. Coordination between the two projects is greatly strengthened by the recent RGoB decision to bring the management of both projects under the same directorate within MoA. During project implementation, coordination will be further strengthened through common annual work planning exercises, joint supervisions and annual workshops to review and document learning and lessons.

## 2. Institutional and implementation arrangements

Implementation arrangements will be based on existing government structures. A Project Director, selected from existing staff within Ministry of Agriculture (MoA), will be responsible for overseeing project activities, ensuring timely reporting, and assisting with project supervision. The Project Director will be supported by a small team (Project Management Team or PMT) consisting of existing staff within MoA and will also include a project manager and accountant. The PMT will be supported by technical assistance. Implementing arrangements will be decentralized. Full details are in Annex 6. The following summarizes the implementation arrangements:

- **Chiog level:** The *Tshogpa* will facilitate the planning and implementation of activities at the *chiog* (village) level, with support from the *Geog* SLM Planning Team (see below). *Chiog* households will collectively be responsible for formulation of SLM plans at the *chiog* level that would feed into the *geog* level plans.
- **Geog level:** The *Geog Yargye Tshogchung* (GYT) will be the implementing agency with the *Gup* as the chief executive as per provisions of the GYT *Chathrim*. The Renewable Natural Resource (RNR) Extension staff based in the *Geogs* will be responsible for facilitating the implementation of the project through technical advice, demonstrations and delivery of technical inputs. They will be supported by a *Geog* SLM Field Coordinator selected from existing MoA staff and 2-4 social mobilizers selected from the local community. A *Geog* SLM Planning Team comprising the *Geog* SLM Field Coordinator, RNR staff and social mobilizers will play a very important role in coordinating and overseeing the implementation of activities at the *geog* level in the initial years of project implementation. The *Geog* SLM Field Coordinator will subsequently move to other *geogs* to support replication efforts.
- **Dzongkhag level:** The *Dzongkhag Yargye Tshogdu* (DYT) will support the implementation of project activities at the *Dzongkhag* level with the *Dzongdag* (*Dzongkhag* head) as the chief executive as per the DYT *Chathrim*. The DYT will play an important role in helping resolve inter- and intra-*dzongkhag* conflicts (e.g. grazing, forest use, etc.). The DYT will also help support cross-sectoral planning at the *Dzongkhag* level so as to integrate non-RNR sectors. *Dzongkhag* RNR staff will also provide technical support (as required) to the *Geog* SLM Planning Team for implementation of project activities.
- **Central Level:** MoA will provide oversight and guidance to field activities at the *Dzongkhag* and *Geog* levels and use lessons from the pilot sites to inform national policy. The PMT will help coordinate and oversee implementation of project activities within MoA. The existing Multi-Sectoral Advisory Committee (MTAC) representing key sector ministries will provide advisory and operational technical support to the PMT and *geog* planning teams. The inter-ministerial Project Steering Committee (PSC) chaired by MoF and set up under Danida's EUSPS will provide policy support for implementation of SLM activities. It will also help coordinate with Department of Budget and Accounts (DBA) on matters of fund flow and project accounting, and coordination with Royal Audit Authority (RAA) on project audits.

***Financial management and procurement:*** The proposed project financial management and disbursement arrangements will support RGOB's efforts at promoting decentralization and achieving ownership of the project by the *Dzongkags* and *Geogs*. Accordingly, for all project expenditures to be incurred through *Dzongkhags*, funds will be budgeted, recorded, accounted and reported in their books. Similarly for activities to be incurred at the *Geog* level, funds will be budgeted, recorded, accounted and reported in the books of the *Geogs*. The disbursement for decentralized activities will be made through normal *Dzongkhag* and *Geog* Letter of Credits (LOCs). Training of local level *geog* and *dzongkhag* staff in financial management, procurement, disbursements, and financial progress monitoring is envisaged.

### **3. Monitoring and evaluation of outcomes and results**

***SLMP Monitoring Framework:*** The monitoring system recognizes the limited baseline information on natural resources. In the initial year of project implementation, the project would support the development and application of new analytical tools for establishing biophysical and socio-economic baselines that will inform *chiog* and *geog* SLM planning. The project will feature two complementary monitoring arrangements. One follows the MOA's Manual for Monitoring and Evaluation, which is presently used by *geog* RNR staff and which clearly is segregated by sectors in its reporting format and serves to monitor financial progress. As a complementary measure, additional formats will be added to MoA's manual in order to capture the new approach of multi-sectoral planning and to generate the important lessons learnt from a new multi-sectoral approach. The integration of the new multi-sectoral monitoring approach into the current MoA Manual will be initiated early in project implementation. Training of the *Geog* Coordinator, the SLM GPT and *Geog* RNR staff in using a new monitoring system will be facilitated by technical assistance and training. The training includes the design of format, logistics of its implementation, resources required and linkages to the MOA's Manual as well as definition of storage and access to data.

### **4. Sustainability and Replicability**

***RGoB commitment and ownership:*** The introduction of the SLM approach was confirmed by the Minister of Agriculture at a high level technical meeting in October 2004. The Minister called for 'actions to arrest the land degradation situation immediately' and for the 'formulation of a land management and soil conservation master plan' carried out by a multi-sectoral PSC and MTAC overseeing the project.

***Institutional sustainability:*** The project's institutional arrangements are based on existing RGoB institutional systems, program management, flow of funds, and accounting and reporting. In particular, it will support RGoB's ongoing efforts to strengthen capacity and organizational structures within the MoA to systematically and effectively coordinate and better manage land degradation prevention activities in Bhutan. A recent executive order issued by the Minister of Agriculture mandates MoA to coordinate land management activities across sectors and different levels of government and the project will help strengthen this function. The proposed project approach of working within existing government institutions and mandates will entail institutional sustainability for SLM. In addition, project activities will be phased to ensure adequate capacity is built before the pilots are scaled to other *geogs* so that it can be sustained.

***Fiscal sustainability:*** The project is not expected to impose long-term burdens on the national, *dzongkhag* or *geog* budgets. The aim of the project is to improve the effectiveness of existing budgetary allocations for RNR sectors at the *geog* level and not to expand public deficits. Project expenditure at the pilot *geog* level will largely focus on one-time small investments on the land so that future costs would only relate to maintenance by the farmers themselves. The implementation of activities at the farmer and community level will be undertaken by the farmers themselves so that no additional burden will be placed on the *geog* staff. While there would be some additional budgetary requirement at the *geog* level in the initial years, it is envisaged that future SLM investments at the *geog* level would be financed within existing *geog* RNR budgetary allocations. The pilots are designed to demonstrate the benefits of SLM and catalyze its expansion to other *geogs*. The extension of SLM to other *geogs* would be based on a more effective reallocation of existing *geog* RNR funds rather than adding to budgetary expenses. The proposed area-based approach to land management will help generate cost savings by avoiding duplication of efforts and lost opportunities, and increase the effectiveness of investments. To test the financial sustainability and government commitment to this approach, the project will fund SLM investments in the pilot *geogs* for only the first three years of the project period, by which time RNR planning and investment at the pilot *geog* level would have moved to an area-based SLM approach, that would be funded within existing government RNR allocations to the *geog*.

In terms of fiscal capacity at the *geog* level, three reasons suggest that this should not be a major concern. First, during project preparation meetings, *geog* staff and farmer representatives revealed strong support for project objectives and activities. There is also strong client demand for the project. Second, the proposed activities are consistent with *geog* mandates and have been identified by the *geogs* as priority concerns. Third, the project proposes capacity building and skills development that will ensure effective utilization of project funds by the *geogs*. Technical assistance and oversight by MoA will greatly facilitate expansion of *geog* capacity and help resolve implementation bottlenecks. Finally, project outcomes will be monitored to assure that funds are adequately and well spent.

At the *Dzongkhag* level, capacity building and technical assistance support would strengthen the capability of the *dzongkhag* RNR staff to support SLM activities at the pilot *geogs* and its further expansion to other *geogs* in the same *Dzongkhags*. The project will extend training opportunities to other *geogs* and *dzongkhags* as part of the effort to build capacity for replication of SLM. It is anticipated that additional budgetary expenses would not be incurred following the completion of the project to support *dzongkhag* RNR staff participation in replication efforts. Similarly, the project will support training, improved mapping and planning capabilities in several central level agencies that would serve as a valuable resource for future replication of SLM throughout the country.

Critical risks and possible controversial aspects

RISKS	RISK MITIGATION MEASURES	RISK RATING WITH MITIGATION
<b>To Project Development/Global Environment Objective</b>		
<p>RGoB sector agencies unwilling to integrate their annual plan investments in a way that support area-based planning for SLM</p> <p>Farmers are too poor, and incentives are not adequate to influence adoption of long term SLM approach</p>	<p>The inter-ministerial Project Steering Committee (PSC) helps to mainstream SLM; PSC provides access to the Central Council of Ministers (CCM) that endorses policies and legislation; Multi-sectoral Technical Advisory Committee ensures coordination between line agencies. This will facilitate area-based planning.</p> <p>Participatory bottom-up planning approaches ensure poverty issues are internalized in the adoption of SLM approach. Incentive systems better understood and costs/constraints to shifting to more sustainable options recognized and integrated in planning and investment activities. Policy and planning decisions guided by good economics.</p>	<p>M</p> <p>M</p>
<b>To Component Results</b>		
<b><i>Component 1: Pilot projects to demonstrate effective application of land degradation prevention approaches</i></b>		
<p>Innovative land management technologies not compatible with household manpower</p> <p>Monitoring arrangements do not capture the SLM lessons and have limited value to policy.</p>	<p>All technological land management options will include manpower analysis</p> <p>Limited Logical Framework Analysis will be conducted for all field trials and land management interventions so that they are guided by clearly formulated objectives, anticipated outputs and success indicators to lend themselves to monitoring and up-scaling</p>	<p>M</p> <p>M</p>
<b><i>Component 2: Mainstreaming of practices for protection against land degradation</i></b>		
<p>The replication of pilot to other <i>geogs</i> may suffer from lack of capacity and skilled manpower in new <i>geogs</i></p> <p>The <i>dzongkhags</i> and <i>geogs</i> may not wish to abandon sector-based planning</p>	<p>Activities will be phased to address capacity constraints. Early identification and training of additional field staff ensures the required manpower is available before scaling up to new <i>geogs</i>. Geog SLM Planning Team rotates to new <i>geogs</i> to support implementation and capacity development.</p> <p>The RGoB's guidelines for the 10<sup>th</sup> Five Year plan recognizes area-based planning as the foundation for development plans allowing SLM concerns to be included cross-sectorally</p>	<p>L</p> <p>M</p>
<b><i>Component 3: Policy support and guidance for mainstreaming of land degradation prevention practices</i></b>		
<p>EUSPS-supported review, revision and drafting of legislation not completed in a timely manner and not able to support SLM approach due to</p>	<p>Shared PSC between EUSPS and SLMP to ensure synergy and timely implementation; MoU signed between Danida, RGoB and World Bank to ensure collaboration EUSPS and SLMP; SLMP and Danida EUSPS seminars on policy issues</p>	<p>L</p>

sector-based regulatory framework		
<b><i>Component 4: National level support for coordination of implementation of land degradation prevention practices</i></b>		
Existing coordination arrangements not able to influence wider decision making of land matters	PSC and MTAC would play an important role in wider dissemination and application of SLM.	L
<b>Overall risk rating</b>		<b>M</b>

## 5. Loan/credit conditions and covenants

There are no conditions for Board presentation or for Project Effectiveness

## D. APPRAISAL SUMMARY

### 1. Economic and financial analyses

The analysis focuses on the value of reducing the rate of forest loss over the next 20 years – on the basis of a few key parameters. If this base return justifies or is close to justifying the scale of the proposed investment then the acceptability of project from the points of view of both the Bhutanese economy and the rest of the world should be more likely than not. Currently, the rate of loss in forest area is estimated at 0.5 percent per year. The analysis considers a reduction in this rate of area loss to 0.25 percent per annum after 20 years of implementing improved land use planning and management. This rate of forest loss might be considered insubstantial but it is a crude global estimate and based on limited time series data.

As there is little empirical data on the land degradation profile, it is assumed that under the no-project scenario, total domestic agricultural yields (i.e. the productivity of each unit of land) are maintained at current levels and that production needs are met by expanding the area under cultivation - at the expense of forest land. In the future with the project, again no productivity loss or gain is assumed due to avoided degradation. Thus yields are held at their current rates and it is assumed that the *aggregate* level of agricultural production declines because there is less expansion into forest areas. Since no account is taken of the on-farm productivity benefits of the project, these highly conservative assumptions guard against exaggerating the true benefits of the project. Hence if the project is deemed beneficial without taking account of on-site benefits, it would also qualify when farm productivity improvements are included in the analysis.

There are few sources of data on the local benefits of forest land. Hence, the analysis compares the global benefits of converting forest area to agriculture in the future without the project to the global benefits and domestic costs of converting a smaller area. A global focus is justified because of GEF support for the project, but in reality the focus on the global dimension is a consequence of the paucity of data on farm productivity in Bhutan.

The outcome of the analysis estimates that the benefit-cost ratio is 3.7, and the ERR to be 21 percent. The implication is clearly that the project yields substantial global benefits even without consideration of the on-farm benefits of sustainable land management. The preliminary

estimation of the project's benefits and costs on the basis of these parameters suggests that the scale of the proposed investment in relation to the conservatively estimated potential benefits considered here should be more than adequate. The proposed project would finance the installation of institutional capacity within Bhutan to monitor and evaluate data that would clarify these valuation issues and provide much needed information on the on-site benefits and costs of sustainable land management practices.

## **2. Technical**

The Ministry of Agriculture has experience in the various sectoral aspects of land management, including management of soil, livestock, forests, and agriculture. The technical inputs concerning these aspects are provided by the RNR staff in the *dzongkhags* and the RNR extension staff in the *geogs*. The project will also provide additional technical assistance and investment support for implementation of SLM activities at the *chiog* level based on community priorities and needs. The project will also assist in the review and formulation of policies and tools that will help integrate sustainable land management principles at the *geog*, *dzongkhag* and national levels. It will also assist in developing thematic maps that include natural resources, human resources and potential hazards. The implementation and monitoring of environmental policies at the *dzongkhag* level are weak and public information is limited due to both human and capital capacity constraints. This project will provide assistance in building the capacity of the *dzongkhag*, RNR staff, and Ministry of Agriculture officials to prepare, implement, and monitor EIAs and environmental management activities.

## **3. Fiduciary**

Financial management and disbursement arrangements have been streamlined, to the extent possible, to use the existing government system which is deemed adequate. The MoA, which has experience in implementing Bank financed projects, will be the implementing agency and have overall responsibility for the financial management of the project. One of the issues of concern in early part of implementation of a previous project managed by MoA was the submission of audit reports on time. However, MoA did take steps in the latter part of implementation of that particular project to submit the subsequent audit reports on time. Though these reports had qualifications, these were not of any material effect.

Project financial management and disbursement arrangements will support the Royal Government of Bhutan's efforts to promote decentralization and greater ownership by the *dzongkhags* of project activities undertaken at the *dzongkhag* and *geog* levels. Accordingly, for all project expenditures to be incurred by *dzongkhags* and *geogs*, funds will be budgeted, recorded, accounted, and reported in the books of the *dzongkhags* and *geogs*.

All project disbursements will initially follow the transaction-based system. Close supervision will be conducted to graduate the project to report-based disbursement. Project funds will be deposited into a special account to be opened in the Royal Monetary Authority, and will be managed according to terms and conditions acceptable to IDA. Disbursements from the special account will follow the normal government procedure for making payments, as described in the *Financial and Accounting Manual of the Royal Government of Bhutan*. Project accounts will be

kept on a cash accounting basis. Annual external auditing of project accounts will be carried out by the Royal Audit Authority, the supreme audit institution in Bhutan which is acceptable to IDA. The internal audit function will be carried out by MOA internal auditors. Separate terms of reference have been agreed and will apply to the external audits.

The PMT in MOA will receive the copy of the Budget Accounting System (BAS) reports from each of the implementing agencies (*Dzongkhags* and *Geogs*) and will be consolidated by the PMT to generate the Financial Management Reports (FMRs). These FMRs will be submitted to IDA on a half-yearly basis. The format for FMRs was discussed during pre-appraisal and has been confirmed during negotiation. The FMR formats have been simplified to facilitate easy extraction of necessary information from the existing government accounting system (BAS). Capacity strengthening and building in financial management will be carried out during the project period at the *dzongkhag* and *geog* levels.

#### **4. Social**

The project is expected to yield positive social impacts by providing rural communities opportunities to achieve higher incomes through enhanced agricultural productivity and more productive use of land resources. The project will follow a participatory and inclusive process of direct and systematic engagement with beneficiary communities in the selection, implementation, and monitoring of the activities supported by the project. Consultations with communities revealed strong support for addressing land degradation problems. They identified the main positive impacts of the project as a reduction in incidents of landslides and flash floods, improvement in forest conditions, improvements in livelihoods, and in farming practices.

Project activities are unlikely to result in significant adverse social impacts. No spatial relocation of persons, or appropriation of privately owned land is foreseen. While some adverse impacts may result from possible restrictions on access to natural resources by local communities, the project is community-based and such restrictions would be the result of decisions at the community level. The project identifies appropriate measures to mitigate any adverse impacts which might arise, and with careful attention to vulnerable members of the community. The provisions of World Bank Operational Policy 4.12 are not applicable to the project. Nonetheless, a Process Framework for the participation of local communities in the implementation of SLM project activities has been developed to ensure transparency and equity. It details principles and processes for assisting communities to manage any potential negative impacts. Since the exact social impacts of access will only be identified during project implementation, the Process Framework will ensure that mitigation of any negative impacts which result from restrictions on access to resources be based on participatory resource mapping. The mapping will involve all affected stakeholders, and with their consent, will determine the scale of restriction and the type of mitigation measures to compensate any loss of income. Any changes in how local populations exercise customary tenure rights in the project sites will emerge from a consultative process satisfactory to the World Bank. Annual project work plans including management arrangements for community access to resources in project sites and associated mitigation measures will require World Bank agreement. Field based consultations found no indication of the presence of social groups in these communities with a social or cultural identity distinct from the dominant

society – such that their identity would make them vulnerable or disadvantaged by the development process.

### **Stakeholder Consultation**

The major stakeholders relevant to project are policy makers, national and district government agencies, national and district technical and research institutions, civil society organizations (although limited in Bhutan) and academic institutions. Local stakeholders comprise local government agencies, farmers, herders, forest dependants, local municipalities and their populations, and other local citizens. During project preparation the involvement of these stakeholders occurred through participation in: (i) national consultations and workshops; (ii) meetings of the Multi-Sectoral Technical Advisory Committee and Project Steering Committee; (iii) field surveys and study visits; (iv) *geog* and *chiog* level workshops and meetings; and (v) *dzongkhag* level consultations. Detailed stakeholder assessments and consultations were conducted in each of the three pilot project locations.

During project implementation, stakeholder participation will be included in all project components at varying levels of intervention. At the community level local participation is specifically identified and budgeted as a key input to the components devoted to the demonstration and scaling up of SLM approaches. In particular, the planning framework outlines the process for community participation in resource mapping, planning, and decision making, implementation and monitoring of SLM activities, with specific arrangements for the resolution of conflicts over resource use. Workshops, exchange visits, and study tours will provide for wider dissemination of SLM learning and experiences. At the national level, consultations will be ensured through the existing Project Steering Committee and Multi-Sectoral Technical Advisory Committee as well as workshops and consultations with relevant line ministries, DYT and GYT members, academia and civil society for sector policy and legislation review and revision.

## **5. Environment**

As the project's principal objectives relate directly to sustainable use of land resources and reversal of the current pace of land degradation, few adverse environmental impacts are foreseen. Project design is based on a highly consultative and participatory process. The three pilot sites for the project's initial intervention experience various degrees of land degradation caused by over-grazing, landslides, poor water management and agricultural practices. The project will assist the *geogs* and *dzongkhags* in the integrated management of the land based on the needs of the people to reverse land degradation and reduce the degree of erosion taking place.

Since participatory land use management and environmental assessment system is relatively new in Bhutan and there is limited experience in implementing the environmental assessment process, capacity building activities are included in the Environmental Management Framework for the communities, *geog* RNR sector staff and *dzongkhag* environment committees (DEC). The entire environmental assessment process will be managed by the *dzongkhag* environmental committee (DEC) and channeled directly to the relevant competent authority or National Environment Commission.

## 6. Safeguard policies

This is a category B project. The safeguard policies on environmental assessment (OP/BP/GP 4.01), forests (OP/BP 4.36), and pest management (OP 4.09) are triggered. Policies on natural habitats (OP/BP 4.04), and cultural property (OPN 11.03) have some applicability and care would be taken during replication to other *geogs* to ensure such impacts are anticipated and managed. Environmental Management Framework ensures that the environmental assessment and management process is incorporated into the entire land use planning and management process from the *chiog*, *geog*, *dzongkhag* and central levels.

- **Environmental Assessment:** This is applicable given the project's emphasis on land management spanning over large spatial territories. However, potential adverse environmental impacts on human populations or environmentally important areas including wetlands, forests, grasslands, and other natural habitats, are limited.. An Environmental Management Framework has been developed to ensure all environmental issues are considered in project planning, implementation, and monitoring.
- **Pest Management:** The project might involve the procurement and use of pesticides on a limited scale to enhance crop production. However, the procurement and distribution of pesticides in Bhutan is well controlled through a centralized system and there will be no procurement of pesticides classified as Class Ia, Ib and II by WHO. Training on methods of integrated pest management (IPM) will be provided to the extent possible.
- **Forests:** The project envisages community and private forestry, and afforestation/reforestation of barren/degraded areas and catchment areas to curb land degradation. However, the project will not engage in commercial forestry activity.

<b>Safeguard Policies Triggered by the Project</b>	Yes	No
<a href="#">Environmental Assessment (OP/BP/GP 4.01)</a>	[x]	[ ]
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	[ ]	[x]
Pest Management ( <a href="#">OP 4.09</a> )	[x]	[ ]
Cultural Property ( <a href="#">OPN 11.03</a> , being revised as OP 4.11)	[ ]	[x]
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	[ ]	[x]
Indigenous Peoples ( <a href="#">OD 4.20</a> , being revised as OP 4.10)	[ ]	[x]
Forests ( <a href="#">OP/BP 4.36</a> )	[x]	[ ]
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	[ ]	[x]
Projects in Disputed Areas ( <a href="#">OP/BP/GP 7.60</a> )*	[ ]	[x]
Projects on International Waterways ( <a href="#">OP/BP/GP 7.50</a> )	[ ]	[x]

## 7. Policy Exceptions and Readiness

There is no policy exception sought under the project.

\* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

## **Annex 1: Country and Sector or Program Background**

### **BHUTAN: Sustainable Land Management Project**

#### **General Development Context**

The country's overarching development philosophy is that of "Gross National Happiness", first propounded by His Majesty King Jigme Singye Wangchuck in the 1970s. Around the tenet of Gross National Happiness, the country has designed its vision document *Bhutan 2020*. To maximize Gross National Happiness, *Bhutan 2020* outlines five main development themes: (a) human development; (b) development of culture and heritage; (c) maintain distinctive identity; (d) balanced and equitable development; (e) good governance; and (f) environmental conservation to ensure that development choices are based on environmental sustainability and that the biological productivity and diversity of the natural environment are not impaired.

#### **Environmental Context and Issues**

Environmental conservation has consistently occupied a pivotal place in the national development agenda. Strong conservation ethics, underpinned by the traditional reverence for nature, have influenced the country's approach to environment long before global concerns for environment were raised. 72.5 per cent of the country is under forest cover and national mandate exists to maintain at least 60 per cent of the country under forest cover in perpetuity.

Bhutan's natural environment is one of the most outstanding in the world. Stable and farsighted political leadership, low population size, traditional reverence for nature, delayed modernization, environmentally sensitive development policies, and rugged topography have all contributed to the nation's positive state of environment. Diversity in wild flora and fauna, which includes more than 5,500 species of vascular plants, 770 species of birds and 170 mammals, is one of the highest in Asia. Bhutan's natural environment is also of enormous importance for its watersheds. The protection of these watersheds is crucial to sustain hydropower development and agriculture, which are the mainstays of the Bhutanese economy..

However, the rural landscape is very susceptible to landslides, soil run-off, and seasonal floods because of natural factors such as steep terrain, fragile geologic conditions, and heavy rains, which annually average above 3,500mm in the southern region and 1,000mm in the central region, and intensify during the period from June to September. In areas of intensive land use, soil erosion, landslides and forest degradation, and depletion of soil fertility in agricultural land are becoming increasingly visible and accelerating the degradation of the land. Anthropogenic factors associated with land degradation are overgrazing, deforestation, reduced fallow periods under *tseri* (shifting cultivation), poor soil and irrigation water management, and development of infrastructure such as roads. In areas with high population density and intensive livelihood practices, rural land degradation is most severe causing loss of life and property (mainly from landslides), reduced productivity from public and private investments in infrastructure and farmlands and a cumulative undermining of environmental stability. Such land degradation can result in potential damage to hydro-power installations on which half of the country's revenue

that is spent on services to the population is based on. The degradation of the watersheds could have significant impact on the economy of Bhutan and the livelihood and well being of the majority of the rural population in the country.

Nearly 30 percent of the cultivated area in the country is under *tseri* or other forms of shifting cultivation, which in many places may be the only feasible low-input system of crop production. Livestock is owned by 90 percent of the rural families, but titled pasture land comprises only about 3.8 percent of the land area. Consequently, the limited availability of grazing lands, means that overgrazing can result in loss of forest cover, increased erosion and soil losses and increase the risk of pollution of water sources. The annual rate of forest degradation in Bhutan is estimated at 0.5 percent and the total area of degraded forests is estimated at 231,600 hectares according to the master plan for forestry development of 1991. Further fuelwood, fodder and other forest products continue to be collected from the catchment forests without replenishment or sustainable practices. As a result, overgrazing persists and exacerbates land degradation in many areas.

The reversal of land degradation is at present constrained by a number of institutional barriers among line agencies to integrated natural resources planning as well as imperfect policy and legislation that prevent sustainable land management planning with an ecosystem approach. Current planning is done on a sectoral basis that spreads investments rather than integrates them holistically for sustainable land management. There is a lack of empowerment and capacity with stakeholders at lowest appropriate level to prepare natural resources management plans and conflicting national policies and regulations regarding land use and tenure. Weakening of traditional indigenous NRM systems due to overlay of central level laws and rules has destabilized local level initiatives and local resource mobilization. The lack of credible baseline information on natural resources and documented research on incentives affecting current land use management constrains the introduction of integrated land management approaches.

### **Institutional setting for land and environment management**

The National Environment Commission serves as an overall environmental advisor to the RGoB, prepares through its secretariat, NECS, environmental legislation, oversees compliance monitoring of the Environmental Assessment Act, 2000, and associated regulations and guidelines, and coordinates the implementation of the National Environment Strategy and national obligations to international environmental conventions. The NECS implements environmental advocacy and awareness programs for local authorities and communities and conducts training programs to develop the operational capacity of sectoral agencies and *Dzongkhag* Administrations for decentralized environmental assessment and monitoring.

The Ministry of Agriculture (MoA) is the overall authority for management of renewable natural resources, which includes agriculture, livestock development and forestry/ nature conservation. Within the MoA, the Land Use and Statistics Section undertakes land use planning and statistical works related to the RNR sector and the National Soil Service Center (NSSC) has the responsibility of providing technical services for soil and soil fertility management. The Department of Forestry Services (DFS), Department of Agriculture Services (DAS), and Department of Livestock Services (DLS) maintain technical staff at the *dzongkhag* and *geog* levels to guide and technically support local communities in the management of renewable

natural resources. Other agencies that are concerned with land use and management include the Ministry of Works and Human Settlements (MoWHS); the Ministry of Trade and Industry (MTI); and the National Environment Commission (NEC). The MTI has a Department of Geology and Mines that conducts geologic hazard and risk assessments and monitors natural hazards

The decentralization policy of RGoB empowers the *Dzongkhag Yargye Tshogdus* (DYTs) and below them the Block or *Geog Yargye Tshogchungs* (GYTs), elected bodies that have regulatory and administrative powers, to plan and implement development activities, including those pertaining to sustainable natural resource management. The DYT and GYT receive technical support from seconded line agency staff. The current Ninth FYP (2002-2007) is sector-based derived from annual plans and wish-lists prepared by *dzongkhag* and *geog*, however, guided by a menu of technical programs offered by the central line agencies. There is strong move towards introducing area-based, cross-sectoral planning, however there is a lack of tools, methodology and capacities at all levels as well as vertical integration of this concept.

### **Policy and Legal Framework**

The following make up the core of the policy and legal framework for land and environmental management in Bhutan: (1) ***Dzongkhag Yargye Tshogdu and Geog Yargye Tshogchung Chathrims, 2002***: legislation for *dzongkhag* and *geog* level decentralized policy and decision-making; (2) ***Land Act, 1979***, includes regulations/procedures for land registration and transfer of land ownership, land tenure and usufruct rights, infrastructure development such, and land encroachment; (3) ***Forest and Nature Conservation Act, 1995***, covers forest management, social and community forestry, soil and water conservation, forest fire prevention etc.; (4) ***Draft Grazing Act, 2004***; (5) ***National Environment Strategy, 1998***; (6) ***Environmental Assessment Act, 2000***; (7) Others: Livestock Act and By-Laws, 1980; Mines and Minerals Management Act, 1995; Pasture Development Act, 1997; and Biodiversity Action Plan for Bhutan, 2002.

## Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

### BHUTAN: Sustainable Land Management Project

The World Bank's program of assistance in Bhutan began in the early 1980s. In the area of natural resource management, earlier projects focused on forest management and were sectoral in approach. Operations are generally rated satisfactory – having contributed to capacity development of government personnel and introduction of new practices for project management.

#### Projects financed by the Bank

Project Title	US\$ million	Institution	Approval	OED Rating
Third Forestry Development Project (closed 30 Jun 2002)	5.4	IDA	6 Jul 1993	Outcome: <i>Moderately unsatisfactory</i> Institutional development: <i>Modest</i> Sustainability: <i>Not -evaluated</i> Bank performance: <i>Unsatisfactory</i> Borrower performance: <i>Satisfactory</i> Quality of ICR: <i>Satisfactory</i>
Rural Access Project (with technical assistance from SNV) (ongoing)	WB: 11.6 SNV: 1 RGoB: 2.3	IDA	10 Oct 1999	<u>PSR Ratings:</u> Implementation progress: <i>Satisfactory</i> Development objective: <i>Satisfactory</i>
Bhutan Urban Development Project (ongoing)	WB: 10.8 RGoB: 1.43	IDA	9 Sep 1999	<u>PSR Ratings:</u> Implementation progress: <i>Satisfactory</i> Development objective: <i>Satisfactory</i>
Decentralized Rural Development Program	7.0	IDA	1 Mar 2005	<u>PSR Ratings</u> Implementation progress: <i>satisfactory</i> Development objective: <i>satisfactory</i>

#### Projects financed by the GEF

Project Title	Duration	Budget RGoB* (in US\$)	Budget Donor (in US\$)	Total
Bhutan National Greenhouse Gas Project Phase (IA: UNDP)	1997-2003	Not available (NA)	GEF: 396,000	296,000
National Biodiversity Conservation Strategy (IA: UNDP)	1997-2003	NA	GEF: 281,300	281,300
Integrated Management of Jigme Dorji National Park (IA: UNDP)	1997-2003	378,569	GEF: 1,500,000 UNDP: 270,662	2,149,231
Removing Barriers to Mini and Micro Hydropower Development for Decentralized Rural Electrification	1997-2003	28,000	GEF: 228,500 Swedish Fund: 135,000	391,500

(IA: UNDP)				
Linking and Enhancing Protected Areas in the Temperate Broadleaf Forest Ecoregion of Bhutan (IA: UNDP)	2003-2007	420,000	GEF: 792,000 WWF: 643,000	1,855,000
Self Assessment and Action Plan Development for National Capacity Building in Bhutan for Global Environmental Management (IA: UNDP)	2004-2005	22,780	GEF: 199,100	221,880
National Adaptation Program of Action for Climate Change	2004-2005	NA	GEF: 199,000	199,000
Small Grants Program	Started in 1998. Replenishment every 2 years	NA	GEF: 478,407	478,407

### Financed by other Donor Agencies

Project Title	Donor	Duration	Budget RGoB*	Budget Donor	Total
Environment Sector Program Support	DANIDA	1998-2003	NA	DKK 85 million	DKK 85 million
Urban Sector Program Support	DANIDA	1999-2004	NA	DKK 77 million	DKK 77 million
Environment and Urban Sector Program Support	DANIDA	2004-2008	NA	DKK 110 million	DKK 110 million
RNR Extension Program in the Districts of Bumthang and Trongsa	Helvetas	1998-2002	NA	CHF 1.6 million	CHF 1.6 million
Natural Resources Training Institute – Phase III	Helvetas	1998-2002	Nu 40.64 million	CHF 1.7 million	CHF 2.97 million
Natural Resources Training Institute – Phase IV	Helvetas	2002-2006	NA	CHF 1.6 million	CHF 1.6 million
East Central Region Agriculture Development Program	Helvetas	2002-2007	NA	CHF 2.5 million	CHF 2.5 million
RNR Research System – Phase II	SDC	2002-2003	NA	CHF 4.17 million	CHF 4.17 million
Participatory Forest Management	SDC	2002-2007	NA	CHF 3.8 million	CHF 3.8 million
Rural Development Training Project	SDC	2003-2007	Nu 23.16 million	CHF 2 million	CHF 2.72 million
RNR Research System – Phase III	SDC	2004-2006	NA	CHF 2.8 million	CHF 2.8 million
Wang Watershed Management Project	EC	2001-2007	Euro 4.1 million	Euro 9.2 million	Euro 13.3 million
Second Eastern Zone Agricultural Project	IFAD, SNV, UNCDF	2000-2005	US\$ 5.06 million + US\$ 0.62 million (by beneficiaries)	IFAD: US\$ 9.51 million SNV: US\$ 2.11 million UNCDF: US\$	US\$ 17.83 million

				0.53 million	
Environment Friendly Road Construction	SNV, SDS	2003-2005	RGoB: Nu. 5.1 million	SNV: Nu 33.6 million SDS: Nu. 39.3 million	Nu. 78 million
Community-based Biodiversity Conservation and Ecosystem Management	SDS <sup>2</sup>	2004-2008	Nu. 15 million	Nu. 87 million	Nu 102 million
Strengthening Environmental Management and Education in Bhutan	UNDP	1996-2002	NA	US\$ 0.668 million	US\$ 0.668 million
Support for Implementation of Micro Environmental Action Plans	UNDP	2003-2005	NA	US\$ 0.181 million	US\$ 0.181 million
Road Improvement Project	ADB	2001-2004	US\$ 3.2 million	US\$ 9.6 million	US\$ 12.8 million
Urban Infrastructure Improvement Project	ADB	1999-2005	US\$ 3.4 million	US\$ 4.8 million	US\$ 8.2 million
Bhutan-German Sustainable RNR Development in Punakha-Wangdue Valley	GTZ	2001-2005	NA	Euro 3.5 million	Euro 3.5 million
Conservation Management Planning for Sakten Wildlife Sanctuary	MacArthur Foundation	2003-2006	NA	Nu. 26.3 million	US\$ 26.3 million

*\*N.B. - RGoB budget is generally in-kind contribution calculated in terms of recurrent costs for RGoB staff time, and use/ rental of office space, utilities and equipment for project-related activities. RGoB budget is not always defined in project documents. Where RGoB budget has been defined in project documents, the figures have been provided in the above tables and where such figures have been provided in local currency, they have been converted into the donor currency to get the total project budget using approximate exchange rate.*

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<sup>2</sup> Sustainable Development Secretariat – Secretariat for collaboration between Netherlands, Costa Rica, Bhutan & Benin

### Annex 3: Results Framework and Monitoring

#### BHUTAN: Sustainable Land Management Project

PDO	Results/ Outcome Indicators <sup>3</sup>	Use of Results Information
<p><u>Project Development Objective:</u> is to strengthen institutional and community capacity for anticipating and managing land degradation in Bhutan</p> <p><u>Global Environment Objective:</u> To protect trans-boundary watersheds in a manner that preserves the integrity of ecosystems in Bhutan.</p>	<p>- Number of <i>geogs</i> effectively adopting land degradation prevention plans</p> <p>- 30% increase in number of farmers practicing sustainable land management techniques in pilot <i>geogs</i></p> <p>- 10% reduction in sediment flows in selected micro-watersheds in pilot <i>geogs</i> by end of project</p>	<p>At supervision and mid-term assess success of project planning, implementation, and capacity building efforts and make recommendations for future interventions</p> <p>At supervision and mid-term assess effectiveness of application of analytical tools and extent to which SLM practices being adopted by farmers, make recommendations for future interventions</p>

Intermediate Results	Result Indicators for Each Component	Use of Outcome Monitoring
<p><b>Component One: Pilot projects to demonstrate effective application of land degradation prevention approaches</b></p> <p>a) Inventories, resource assessment and socio-economic profiles developed to guide local level planning for SLM</p> <p>b) <i>Chiog</i> and <i>geog</i> level SLM frameworks under implementation</p>	<p><b>Component One</b></p> <p>-GIS based analytical tool developed and used to track SLM, identify land degradation ‘hot-spots’ in <i>geogs</i> and prioritize SLM investments</p> <p>Survey instruments for assessing the presence or absence of incentives for guiding farming practices developed and implemented</p> <p>-20% of degraded forest land regenerated and grazing lands improved</p> <p>- 30% of <i>tseri</i> lands converted to sustainable land cover</p>	<p><b>Component One</b></p> <p>Year 2 onwards, review usefulness of tools, and adjust according to needs</p> <p>YR 2 onwards; assess if incentives for community actions are appropriate, realign planning and incentives if progress not satisfactory.</p> <p>YR 2 onwards; evaluate understanding of project goals and modalities and adjust capacity building program to address adequacies</p>
<p><b>Component Two: Mainstreaming of practices for protection against land degradation</b></p> <p>a) SLM practices scaled up in new <i>geogs</i></p> <p>b) inter and intra <i>dzongkhag</i></p>	<p><b>Component Two</b></p> <p>- Number of <i>geogs</i> and <i>chiogs</i> independently implementing land degradation prevention SLM plans</p>	<p><b>Component Two</b></p> <p>YR2-YR3 assess number of lessons documented and if criteria for replication developed</p>

<sup>3</sup> Percentages are notional and may be revised following baseline surveys early in project implementation

<p>conflicts over resource use resolved</p> <p>d) awareness and capacity building of staff and farmers in sustainable land management.</p>	<ul style="list-style-type: none"> <li>- Number of inter- and intra <i>dzongkhag</i> and <i>geog</i> conflicts over grazing and forest use resolved</li> <li>- 80% of RNR staff, DYT and GYT members in pilot <i>geogs</i> trained in multi-sectoral SLM approaches</li> <li>- 50% of farmers in pilot <i>geogs</i> trained in application of SLM technologies</li> </ul>	<p>YR2 onwards, assess if DYT and GYT using framework plans to control such impacts , re-align training if needed</p> <p>YR2 onwards determine if results of training being applied to planning and on-the-ground investments; low levels indicate training methods and techniques not appropriate or ineffective or strategy needs to be changed</p>
<p><b>Component Three: Policy support and guidance for mainstreaming of land degradation prevention practices</b></p> <p>a) lessons from pilots and additional sites guiding mainstreaming of SLM</p>	<p><b>Component Three</b></p> <ul style="list-style-type: none"> <li>- SLM planning guidelines included in 10<sup>th</sup> 5-Year Plan and 11<sup>th</sup> 5-Year Plan by YR6</li> <li>- at least nine target <i>dzongkhags</i>’ and <i>geogs</i>’ annual development planning processes incorporating SLM</li> <li>- at least five revised sector level policies and legislation incorporating SLM principles brought from project lessons</li> <li>- at least ten local level resource management regulatory systems/agreements formulated/adopted by <i>geog</i> and local communities for SLM outcomes</li> </ul>	<p><b>Component Three:</b></p> <p>Evaluate if lessons from field reaching policy makers in timely and adequate manner</p> <p>Yr 2 onwards; low numbers might indicate field activities not designed to provide appropriate learning or documentation weak.</p> <p>YR2 onwards, determine extent to which lessons from field feeding into national policy and legal reforms</p> <p>Review effectiveness of arrangements for conflict resolution; low numbers might suggest improvements in institutional arrangements at <i>geog</i> and <i>dzongkhag</i> levels.</p>
<p><b>Component Four: National level support for coordination of implementation of land degradation prevention practices</b></p> <p>a) MoA is strengthened and actively supporting mainstreaming of SLM</p> <p>b) PSC and MTAC effectively supporting planning and mainstreaming multi-sectoral SLM approach</p> <p>c) project structure fully functional and has well defined financial, monitoring and information management system in place</p>	<p><b>Component Four:</b></p> <ul style="list-style-type: none"> <li>- sector agency annual plans incorporating SLM</li> <li>-Number of meetings of PSC covering SLM concerns and issues</li> <li>- Number of MTAC meetings supporting the mainstreaming and monitoring of inter-sectoral or inter-departmental collaboration on SLM issues</li> <li>- Annual works plans being implemented on time and on target</li> <li>- M&amp;E system in place</li> </ul>	<p><b>Component Four:</b></p> <p>YR 2 onwards, gauge extent to which these entities effectively supporting inter-sectoral collaboration</p>

## Arrangements for Monitoring

Outcome Indicators	Baseline	Target Values						Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	YR6	Frequency and reports	Data collection instrument	Responsibilities
<b>Project Development Objective:</b>										
(a) Number of <i>geogs</i> effectively adopting land degradation prevention practices	0	0	3	3	6	9	+9	Annual progress reports	Annual plans. Studies	MoA, MTAC
(b) 30% increase in number of farmers practicing SLM techniques in pilot <i>geogs</i>	NA	Baseline developed	3%	8%	12%	20%	30%	Annual progress reports	Studies, monitoring	<i>Geog</i> GYT, PMT/MoA RNR Centers
<b>Project Global Objective:</b>										
(b) 10% reduction in sediment flows in selected micro-watersheds in pilot <i>geogs</i>	NA	Baseline developed	0%	2%	5%	7%	10%	Annual reports	Specific monitoring studies	GYT, MoA, RNR Centers
<b>Results Indicators for Each Component</b>										
<b>Component one:</b>										
(a) GIS based analytical tools developed and used to track SLM, identify land degradation hot-spots and prioritize SLM investments	Limited analytical tools available	Training of staff	Data gathering	Tools developed for upscaling	Costs of applying tools assessed and adapted	Wider application of tools and development of handbook	-do-	Annual progress reports, special reports	Field reports, monitoring	MoA, central agencies, researchers
(b) Survey instruments for assessing the presence or absence of indicators for guiding farming practices developed and implemented	Baseline information lacking	Surveys initiated, tools developed	Survey tools implemented	Further application of tools	-do-	-do-	-do-	Annual progress and study reports	Maps, inventories, baselines	Central agencies, survey depts..
(c) 10 % of degraded forest land regenerated and grazing lands improved	Baseline data not adequate	Baseline developed	2%	6%	10%	15%	20%	Annual progress and study reports	Monitoring reports, studies	<i>Geog</i> teams, RNR staff
(d) 30 % of <i>tseri</i> lands converted to sustainable land cover	Baseline data not adequate	Baseline developed	4%	8%	12%	20%	30%	Annual progress and study reports	Monitoring reports, studies	<i>Geog</i> teams, RNR staff, MoA
<b>Component two:</b>										
(a) Number of intra- and inter <i>Dzongkhag</i> and <i>geogs</i> conflicts over grazing/ forest use resolved	SLM planning frameworks lacking	Baseline developed	Implementation of plan based conflict resolution in selected <i>geogs</i>	Phased extension of implementation	-do-	-do-	-do-	Special studies and reports		<i>Geog</i> RNR staff
(b) 80% of RNR staff, DYT and GYT members in pilot sites trained in multi-sectoral SLM planning and	NA	10%	30%	50%	70%	80%	+80%	Annual progress reports	Evaluation reports by participants	MoA, MTAC, DEC

implementation in pilot <i>geogs</i>											
(c) 50% of farmers in pilot <i>geogs</i> trained in application of SLM technologies	NA	10%	20%	30%	40%	50%	+50%	Annual and special reports,	Survey reports	MoA, GYT, RNR centers	
<b>Component three:</b>											
(a) SLM planning guidelines included in 10 <sup>th</sup> and 11 <sup>th</sup> five-year plans	Current 5 year plan pays limited attention to SLM	Guidance note developed	10 <sup>th</sup> Year Plan with SLM			Field lessons help revise guidelines	11 <sup>th</sup> five year plan with SLM	MTR, ICR	SLM workplans, workshops	MoA, PSC, MTAC	
(b) At least nine target <i>geogs</i> and <i>dzongkhags</i> annual development planning processes incorporating SLM	Plans currently prepared sectorally	Training of GYT, DYT, etc	3 <i>Geog</i> and <i>dzongkhag</i> plans multi-sectoral	3	6	9	+9	Annual progress reports	Monitoring reports,	MoA, MTAC	
(c) At least five revised sector policies and legislation incorporating SLM principles	Currently lacks attention to SLM	Guidance notes developed	1	2	3	4	5	Annual progress reports	Studies, monitoring	MoA, MTAC	
(d) At least 10 local level resource management regulatory agreements formulated for <i>geogs</i> and local communities for SLM outcomes	Some traditional non-formal systems exist	Baseline studies	1	2	3	6	+10	Annual progress reports	Local level monitoring, studies	MoA, <i>Goeg</i> RNR staff	
<b>Component four:</b>											
(a) sectoral agencies integrate SLM in annual plans	Sectoral agency plans lack SLM integration	Guidance developed	0	1	4	6	8	Annual reports	Sectoral plans	MoA, MTAC	
(b) Number of meetings of PSC covering SLM concerns	PSC exists	2/year	2/year	2/year	2/year	2/year	2/year	Annual progress reports	Monitoring, minutes of meetings	MoA	
(c) Number of MTAC meetings in support of multi-sectoral and inter-departmental collaboration for SLM	MTAC exists, but not fully functional	4/year	4/year	4/year	4/year	4/year	4/year	Annual progress reports	Monitoring, minutes of meetings	MoA	
(d) Annual work plans being implemented on time and meeting targets	NA	0	3	3	6	9	+9	Annual reports	Work plans	MoA	
(e) M&E system in place and functional	NA	M&E in place, baselines established	Impact monitoring being undertaken	-do-	-do-	-do-	-do-	Annual progress reports	Monitoring results	MoA	

## Annex 4: Detailed Project Description

### BHUTAN: Sustainable Land Management Project

The objective of the proposed Project is to strengthen institutional and community capacity for anticipating and managing land degradation in Bhutan. In this case, “capacity” is referred more broadly to include strengthening of human resource capacity, policies, incentives, technologies and knowledge for better management of the land resources in the country. To achieve this, the Project will finance pilot projects, the mainstreaming and replication of sustainable land management practices beyond the pilots, information generation for policy guidance and institutional strengthening. There are four components.

#### **Component 1: Pilot projects to demonstrate effective application of land degradation prevention approaches (GEF US\$1.37M and EUSPS US\$0.60M)**

The GEF project will support the piloting of integrated multi-sectoral, area-based participatory planning and investment in SLM in the three *geogs*. The pilot *geogs* were selected to represent a cross-section<sup>4</sup> of the land degradation pressures in the country. Planning and implementation will proceed in a staggered fashion in the three pilot *geogs* beginning with a few *chiogs* (villages) initially and later extending to cover all of the *chiogs* within a particular *geog*. *Chiogs* will be prioritized on the basis of the severity of the land degradation problem, such as extent of deforestation and overgrazing and unsustainable irrigation and agricultural practices. The complementary EUSPS effort would support the preparation of geog profiles. It will review the tenorial, legal and administrative systems that will set the framework for ownership of land and water resources. To implement this component, the project will support capacity building for community decision making and planning, training of geog staff to plan and implement sustainable land management activities in a multi-sectoral manner, investments at the community and farm levels to strengthen the adoption of SLM practices, and national and regional level workshops to discuss results and scaling-up implementation. The specific activities under this component are:

*Conducting Resource Mapping:* The first step in the process is the conduct of participatory biophysical and socio-economic mapping at the *chiog* level. The resource mapping exercise at *Chiog level* will be supported by base and thematic maps produced by the Central Agencies (Component 2). The SLM Planning Team, *Geog* RNR staff and communities will undertake preparation of local inventories of the: (a) scale of resource utilization (pasture, fuelwood, agriculture, animal husbandry, etc); (b) extent of land degradation and condition of lands and potential erosion threat areas; (c) existing unsustainable resource uses, and the type, nature and extent of such uses; (d) customary rights and overlapping or conflicts in resource use within and from outside the *chiog* and/or *geog*; (e) condition of village infrastructure, in particular irrigation, water supply and erosion structures; and (f) farm level economics (i.e. revenue resources, costs, investments, etc.). This information will guide the preparation of the *chiog* and later *geog* SLM

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<sup>4</sup> The choice of the three pilot sites were guided by the need to represent a variety of degradation pressures and client priorities and demands.

framework plan. The framework plan will form the basis for the development of the respective five-year and annual SLM action plans.

*Defining Community Priorities and Investments:* The next step involves the preparation and implementation of the *chiog* investment plans to address land degradation. The *Geog* SLM Planning Team will facilitate community decision making and prioritization of potential SLM interventions at the *chiog* level, addressing private, common, open access and government lands for inter-sectoral interventions in agriculture, livestock and (community) forestry. The Project will finance innovative and indigenous technologies and methodologies for promotion of sustainable agriculture, including irrigation water management, rangeland and pasture development, and forest management. The *chiog* five-year SLM action plans would be funded by the project for the first three years and in subsequent years would be mainstreamed into *dzongkhag* and *geog* plans for funding by the RGoB through the existing decentralized financial system.

This ecosystem based planning approach to SLM will address and facilitate consensual resolution of inter-*geog* and inter-*dzongkhag* conflicts in resource use originating from contradictions between the existing right holding regimes and the administrative boundaries. Separate funds to address specific inter-*geog* or inter-*dzongkhag* natural resource management conflicts is included under this component.

*Validating SLM investments:* The monitoring system will capture the new approach to multi-sectoral planning methodologies and results. This will specifically address organizational costs and benefits, institutional and financial sustainability, farmer incentives and impacts of the on-the-ground investments on land degradation. Monitoring criteria will be set up together with stakeholders in the *chiogs* and include explicit criteria related to gender, tenure and poverty. Data from the physical and socio-economic surveys, profiles and baselines that feed into the SLM Framework Plan will guide the development of these time-bound indicators that are simple to collect. Monitoring data from the *chiogs* will be consolidated at *geog* level and fed to *dzongkhag* and to MOA to consolidate lessons for wider application and policy revisions.

*Documentation and Dissemination of Lessons:* The feasibility of institutionalizing innovative administrative and technical approaches for multi-sectoral SLM planning and implementation would be assessed based on pilot results. *Geog* and *Dzongkhag* RNR staff will participate in studies on the transaction costs and benefits of implementing the multi-sectoral SLM approach in order to identify synergies for future incorporation of the SLM approach into their regular work programs. In addition, the project will support studies to assess the sustainability of a variety of institutional models that would be investigated in the pilots in order to identify the enabling conditions for sustainability and replication. Information on the existing tenurial and regulatory arrangements of the *chiog* level would provide the baseline to evaluate the most appropriate and sustainable systems of rights and responsibilities and institutional framework for optimal SLM of grazing lands, paddy lands, dry lands, forest, water, streams, etc. This will contribute to the definition of the enabling conditions for institutional sustainability under different natural resource regimes. Dissemination of pilot lessons would provide opportunity for replication. RNR Centers will play an important part in documenting and dissemination of results and preparation of replication strategies at the *Dzongkhag* level. National and regional workshops will facilitate dissemination of pilot lessons and help inform legal and policy reform.

**Component 2: Mainstreaming of practices for protection against land degradation (GEF US\$4.41M and EUSPS US\$4.07M)**

The component would support the replication of the SLM approach to other *geogs* and *dzongkhags* based on the learning and experience of Component 1. This will be done through funding of SLM in six new *geogs* and mainstreaming the new approach in the governmental institutional system. This would entail the introduction of new organizational arrangements for multi-sectoral planning, capacity and skills development, budgetary realignment and analytical tools for promoting the SLM approach. The new organizational arrangement encompasses national, *dzongkhag* and *geog* level modalities that would guide the future preparation of their respective annual and five-year plans for land use and land management. Capacity building efforts will precede replication to new *geogs*. The EUSPS effort will complement the SLMP project through its support for the development of *dzongkhag* administrative and technical MIS systems and capacity building that facilitates local decision-making and monitoring. The specific activities under this component are:

*Developing analytical tools for bio-physical and socio-economic baselines:* The Project will support the development of base maps that would be used for plotting resource inventories at the *chiog* and *geog* level, hazard mapping, land capability, biodiversity richness mapping, and thematic information (such as tenure, trans-human routes, livestock distribution and community based management regimes). It will also support the development and application of tools for analysis of socio-economic baseline (related to poverty, gender, farm level economics and tenure) and institutional aspects (related to management of grazing lands, private paddy and dry lands, open access resources, forests and water) at *chiog* and *geog* levels. The generation of these analytical tools will take place through the investments carried out under Component 1. The information generated through this process will inform a more holistic approach to SLM and development of the *chiog* and *geog* framework and action plans. These tools will be packaged to allow for the replication of the SLM approach to other *geogs* and *dzongkhags*.

*Replicating SLM approaches to other geogs and dzongkhags .* The project will support the adoption of SLM lessons learnt from the pilot sites to six other *geogs* in the same three pilot *dzongkhags* covered under Component 1. The replication to new *geogs* will be staggered, and will only take place after adequate capacity has been built in the new *geogs*. *Geog* RNR staff will visit pilot *geogs* as part of the learning before replication. The *Dzongkhag* administration will participate actively in setting up criteria for replication. The *pilot Geog* SLM coordinator will move to new *geogs* to plan and implement SLM investments with *geog* RNR staff from the new *geogs*..

The expansion of the SLM approach to the additional *geogs* would facilitate further testing of the analytical tools and planning approach. In addition, as part of the expansion effort, the project will support some limited financing for *geogs* outside the nine project sites to respond to specific land degradation issues (e.g. over-grazing of alpine pastures, inter-*dzongkhag* grazing conflicts, urban-rural resource use conflicts, etc). This will be facilitated by the establishment of a funding mechanism to support the proposed activities. In addition, the project will provide technical support and training to facilitate coordinated planning at the *dzongkhag* level to help integrate cross sectoral impacts of development (e.g. infrastructure, roads, irrigation, power, agriculture

and industrial development) on a pilot basis in a few interested *dzongkhags*. The replication of the SLM model to *Dzongkhag* level will be supported by capacity building for planning and mainstreaming of SLM at the *Dzongkhag* level.

*Generating knowledge for SLM policy guidance.* The Project supported studies and field experiences would be largely geared towards generating information for SLM policy guidance. A needs assessment would be completed early in the project to identify specific knowledge requirements and information gaps. Some of the likely study topics might cover indigenous knowledge and practices, rural-urban relationships in utilization of natural resources, resource use and local institutional and tenurial relationships, indigenous grazing practices, etc. Workshops and seminars to discuss study results and field-based experiences and learning will be supported by the project and help provide recommendations for policy guidance.

*Building capacity for inter-sectoral planning and mainstreaming.* The project will support extensive training through learning-by-doing where RNR staff and staff of other agencies will plan together with villagers under guidance of trainers and consultants. Also formal training through workshops, study visits, post-graduate and specialized training sessions will be conducted to build capacity for SLM replication.

### **Component 3: Policy support and guidance for mainstreaming land degradation prevention practices (GEF US\$1.05M and EUSPS US\$1.1M)**

This component will support activities related to the regulatory arrangements for land management. The project will bring incremental lessons learnt from investments at the pilot sites (Components 1 and 2) to guide national level review of policy and legislative frameworks. In this way, the new modes of integrating sector planning for sustainable land management at *chiog*, *geog* and *dzongkhag* level will inform the guidelines for preparation of the tenth (2007-2011) and eleventh (2011-2016) five-year plans, inform the revision of key national level policies and acts, including watershed management, upland agriculture, grazing, forestry, urban planning and infrastructure development. To facilitate this process, the project will support compilation and dissemination of lessons from pilot sites, preparation of policy guidance notes, technical assistance, capacity building and awareness workshops. The complementary EUSPS effort will support decentralized environmental capacity development, improved *dzongkhag* administration planning and information management for decentralized land management, and policy and legal reforms. Specific activities under this component of the project are the following:

- *Facilitating mainstreaming of SLM approaches in Tenth and Eleventh Five Year Plans*
- *Facilitating mainstreaming of SLM approach in dzongkhags' and geogs' five-year and annual development planning processes.*
- *Facilitating integration of SLM principles into sector level policies and legislation, and*
- *Facilitating local level resource management regulatory systems at the chiog and geog levels.*

**Component 4: National level support for coordination of implementation of land degradation prevention practices (GEF US\$0.81M)**

This component supports the further strengthening of capacity of the MoA to effectively coordinate the implementation of activities for preventing or managing land degradation in Bhutan. A critical aspect of this component is to help RGoB in its efforts to further rationalize the organizational structure of MoA to enable it to systematically and effectively coordinate between different sectors and different levels of government (*geog*, *Dzongkhag* and central agencies) to achieve sustainable land management outcomes. RGoB is currently actively considering some internal re-organization of MoA to make it more relevant and integral to management of land resources. The project will support this effort. In this respect, the project will provide operational support, capacity building, equipment and information management systems, as well as establishing capacity and systems for financial management and procurement.

## Annex 5: Project Costs

### BHUTAN: Sustainable Land Management Project

#### Total Project Costs

Project Cost By Component and/or Activity	Local US \$million	Foreign US \$million	Total US \$million
1. Pilot Projects to demonstrate effective application of land degradation prevention approaches	.298	0.870	1.188
2. Mainstreaming of practices for protection against land degradation	.733	2.872	3.605
3. Policy support and guidance for mainstreaming land degradation prevention practices	.187	.688	.875
4. National level support for coordination of implementation of land degradation prevention practices	.102	.578	.680
Total Baseline Cost	1.320	5.008	6.328
Physical Contingencies	.132	.501	.633
Price Contingencies	.132	.572	.703
<b>Total Project Costs</b>	1.583	6.081	7.664
Interest during construction	0.00	0.00	0.00
Front-end Fee	0.00	0.00	0.00
<b>Total Financing Required</b>	1.583	6.081	7.664

#### Total Program Costs (Including Danida, Borrower, & Beneficiary Funding)

Project Cost By Component and/or Activity	Local US \$million	Foreign US \$million	Total US \$million
1. Pilot Projects to demonstrate effective application of land degradation prevention approaches	.782	1.335	2.116
2. Mainstreaming of practices for protection against land degradation	1.948	6.040	7.988
3. Policy support and guidance for mainstreaming land degradation prevention practices	.335	1.546	1.881
4. National level support for coordination of implementation of land degradation prevention practices	1.053	.578	1.631
Total Baseline Cost	4.118	9.499	13.617
Physical Contingencies	.412	.950	1.362
Price Contingencies	.340	.572	.912
<b>Total Program Costs</b>	4.870	11.021	15.891
Interest during construction	0.00	0.00	0.00
Front-end Fee	0.00	0.00	0.00
<b>Total Financing Required</b>	4.870	11.021	15.891

## Annex 6: Implementation Arrangements

### BHUTAN: Sustainable Land Management Project

The implementation of the Project will be coordinated by MOA through its National Soil Service Center (NSSC). RGoB has recently moved NSSC as a central unit within DoA which will strengthen its role in coordination and implementation of SLM activities. In addition, there has been a re-emphasis on cross-sectoral coordination and improving institutional mandates in support of SLM. A Project Management Team (PMT) within NSSC will be responsible for coordinating the implementation of the project. The PMT will comprise of a Project Director and Project Manager that have been selected from existing staff within NSSC. An Accountant and secretarial staff would support the PMT. The Project Director will be overall responsible for coordination with the MTAC, the EUSPS and the pilot *dzongkhag* and *geog* administrations. International and National Technical Assistance support to the MOA is envisaged to facilitate project implementation and provide on the job training to staff in the pilot *geogs*. The inter-ministerial Multi-Sectoral Technical Advisory Committee (MTAC) will provide regular advisory and operational technical support to the MOA and the pilot *geogs* and *dzongkhags* and support the alignment between the project activities and the respective sectoral plans and programs of the government. The implementation arrangements for the project are based on existing government structures but with a cross-sectoral PSC, MTAC and local level cross-sectoral teams to support the mainstreaming the SLM approaches in RGoB development planning. Specific institutional arrangements at the various levels of government are discussed below:

**Chiog level:** The *Tshogpa* (village head) will facilitate the planning and implementation of activities at the *chiog* (village) level, with support from the *Geog* SLM Planning Team. *Chiog* households will collectively be responsible for formulation of SLM plans at the *chiog* level that would feed into the *geog* level plans. The SLM plans at the *chiog* level would identify priorities and needs of the villages. In order to facilitate participation of local villages, the *tshogpa* will organize *chiog* meetings and mobilize local community participation, disseminate project information and mobilize community feedback, prepare social and environmental screening with guidance of the GPT and assist the GPT in the socio-economic and ecological baseline surveys. All *chiog* households will be represented in all decision-making fora. An executive *chiog* committee will be elected to participate in PRA exercises, discuss and reach consensus on intra- and inter- community agreements and decision making with facilitation of the GPT, discuss and develop community SLM proposals relating to management and regulation of use of land and other resources, as well as dialogue with neighboring *geogs* on intra *geog* issues, as appropriate with guidance and assistance of the GPT.

**Geog level:** The *Geog Yargye Tshogchung* (GYT) will be the implementing agency with the *Gup* as the chief executive as per provisions of the GYT *Chathrim*. The Renewable Natural Resource (RNR) Extension staff based in the *Geogs* will be responsible for facilitating the implementation of the project through technical advice, demonstrations and delivery of technical inputs. They will be supported by a *Geog* SLM Field Coordinator selected from existing MoA staff and 2-4 social mobilizers selected from the local community. They together, would comprise the *Geog* SLM Planning Team. The GYT together with the *geog* RNR staff will help scrutinize the SLM *chiog* SLM plans and help integrate them into the *Geog* SLM Action Plan.

The *Geog* SLM Action Plan would be to be integrated into the overall *Geog* Annual Development Plan in order to solicit funding for the SLM plans through the normal budgetary channels. The GYT will also liaise with other government agencies active in the respective *geogs/dzongkhags* to coordinate project implementation and to be able to access resources from other programs and projects. The GYT will also ensure that appropriate technical guidance is provided through the *geog* RNR extension staff or *dzongkhag* staff to the *Geog* SLM Planning Team and *chiogs* to implement and monitor SLM and alternative livelihood investments for villagers. The GYT or DYT, as appropriate, will also review and approve intra-community and inter-community agreements related to the regulation and management of access to resource use. In the initial years of the project, the *Geog* SLM Field Coordinator will play a very important role in coordinating and overseeing the implementation of activities at the *geog* level. The *Geog* SLM Field Coordinator will later move to new *geogs* to support replication efforts.

***Dzongkhag level:*** The *Dzongkhag Yargye Tshogdu* (DYT) as the *dzongkhag*'s elected body will be responsible for implementation of the new SLM approach as well as spearheading negotiations with neighboring *dzongkhags* on grazing and other natural resource conflicts. The DYT will also help support cross-sectoral planning at the *Dzongkhag* level so as to integrate non-RNR sectors. *Dzongkhag* RNR staff will provide additional technical support to the *Geog* SLM Planning Team in implementation of project activities. The *Dzongkhag* Environmental Committee (DEC) is expected to be responsible for coordination of SLM activities between the *geog* and *dzongkhag*, and participate in the monitoring of lessons learned from the multi-sectoral approach of the project. The DEC will advise and guide the replication of SLM activities to other *geogs* within the *dzongkhag* during the third year of the project, and thereafter. The DEC consists of the existing *dzongkhag* RNR staff, planning officer, engineer, and *Dzongkhag* financial officer.

***Central Level:*** MoA will provide coordination and oversight support to field activities at the *Dzongkhag* and *Geog* levels and use lessons from the pilot sites to inform national policy. The Project Management Team (PMT) within MoA will help coordinate and oversee implementation of project activities within MoA. The existing Multi-Sectoral Advisory Committee (MTAC) representing key sector ministries will provide advisory and operational technical support to the PMT and *geog* planning teams. The inter-ministerial Project Steering Committee (PSC) chaired by MoF and set up under Danida's EUSPS will provide policy guidance. It will help coordinate with the with the Department of Budget and Accounts (DBA) on matters of fund flow and project accounting, and coordination with Royal Audit Authority (RAA) on project audits. Central level agencies will help prepare base maps, land hazard maps, soil capability maps, forest functioning maps, etc. that will guide the preparation of *chiog* plans.

The financial management and procurement will be carried out primarily by the *geog* that receives a Letter of Credit, and the *dzongkhag* financial officer for consolidating reporting. The capacity of the *geog* would not be sufficient and training of local level *geog* staff in financial management, procurement, disbursements and financial progress monitoring is necessary. Training of *geog* level staff is envisaged also in the World Bank-assisted on *Decentralized Rural Development Project*, which covers three-quarters of all *geogs* in Bhutan. The SLMP will piggy-back on this training. Flow of funds and financial reporting is based on the RGOB system. Project funds once withdrawn from the Special account with RMA will be deposited in the

Government Budget and then follow the RGoB system where the funds flow through the Department of Budget and Accounts (DBA) of the Ministry of Finance directly to the relevant agencies charged with the implementation of project activities through a Letter of Credit. The SLM Work Plans that are an outcome of *chiog* planning will be integrated at the *geog*, *dzongkhag* and line agency level and presented as the overall Project Annual Budget in support of a PIP that clearly designates the shared responsibility for implementation of activities among stakeholders even though only one sector agency may be assigned the role as ‘lead agency’ in the present RGOB’s activity-based planning, budgeting and financial reporting system. The Project Director will have overall responsibility for project financial management.

## **Annex 7: Financial Management and Disbursement Arrangements**

### **BHUTAN: Sustainable Land Management Project**

#### **Executive Summary**

The project will have a satisfactory financial management system, for the budgeting, fund flows, internal controls, accounting, reporting and audit of the GEF funds (including counterpart RGoB funds and local community contributions). Financial management and disbursement arrangements have been streamlined, to the extent possible, to use the existing government system. The National Project Management Team (PMT) headed by a Project Director, at the Ministry of Agriculture (MoA), will facilitate the implementation of the project. The MoA will have overall responsibility for financial management of the project and the Project Director shall have appropriate level of financial power delegated by the Secretary of the Ministry of Agriculture. The MoA will also appoint a full time Finance Officer with good experience in RGoB accounting and donor financial management.

Project's financial management and disbursement arrangements will support RGoB's efforts for promoting decentralization and greater ownership by the *dzongkhags* and *geogs* of project activities undertaken at the dzongkhag and *geog* level. The Budget Accounting System (BAS) will be used for accounting and reporting of project financial progress. Project components will be aligned by the BAS classification. All project expenditures to be incurred by *dzongkhags* and *geogs*, will be budgeted, recorded, accounted and reported in the books of the *dzongkhags* and *geogs*.

All project disbursements will follow the transaction based system. However on achieving a satisfactory financial management system, IDA will recommend that the Project follow the report based disbursement system. Project funds will be deposited into a special account to be opened in the Royal Monetary Authority and will be operated by Department of Aid and Debt Management, according to terms and conditions agreed between DADM and IDA. Funds transferred from the Special Account will be according to normal government procedures followed for other World Bank projects in Bhutan (*funds will be withdrawn by DADM and deposited in the Government Budget Account maintained by the Bank of Bhutan in local currency by Department of Budget and Account (DBA) and transaction based or quarterly releases will be made as per the annual work plan of the project to the respective implementing agencies through the normal budget accounts*).

Project accounts will be kept on a cash basis of accounting. Annual external auditing of project accounts will be carried out by the Royal Audit Authority, which is the supreme audit institution in Bhutan.

The MOA has agreed to produce the FMRs on a half-yearly basis for reporting the financial progress to the Bank. The formats for FMR were discussed during appraisal and has been re-confirmed at negotiations. The FMR formats have been simplified to facilitate easy extraction of necessary information from the existing government system.

Financial management training will be necessary for strengthening the capacity of the accounting staff in the PMT, MOA, *Dzongkhags* and at the *Geog* levels.

Overall, Bhutan has a record of satisfactory financial management system in Bank financed projects. Financial management system of the government is prescribed in the Financial Management Manual, dated 2001. RGoB has computerized the entire public sector accounting and reporting system.

A country level issue that could impact on the project is the accounting and reporting relationships between the *dzongkhags/geog* and the central line ministry (AFD-MOA). The RGoB encourages greater decentralization and increased ownership by the *dzongkhags/geogs*, and prefers that for activities to be carried out by them, budget appropriations and expenditures are shown in the records of the *dzongkhags/geogs* rather than in the records of central line ministries. However, given that the *dzongkhags* and *geogs* are not accountable to the line ministries, the latter have difficulties in receiving accounts and reports on time. Further this approach diminishes the ownership and motivation of the *dzongkhags* and *geogs* as such programs are seen to be driven by the central line agencies. However to increase ownership of the *dzongkhags* and *geogs*, the project activities of the *dzongkhags* and *geogs* will be budgeted at their level. For the convenience of consolidation and preparing the withdrawal applications, a copy of the monthly budget report sent by the *dzongkhags* and *geogs* to DBA will be submitted to Project Finance Officer in the PMT in MoA. In addition to this funds request for budgeted activities at the decentralized levels for the project will be submitted to Project Finance Officer, PMT, MoA who will further review the proposal with the Project Director, PMT and approve the request for fund releases from the Government Budget Account (GBA) to the respective *dzongkhag* and *geog* LC accounts. If the copy of the DBA monthly reports are not received by Project Finance Officer of PMT, MoA, DBA will not release further funds to the defaulting *dzongkhag* and *geog* implementing agencies.

### **Planning, Budgeting and Accounting**

The project financing activities are under the following four components: (a) Pilot projects to demonstrate effective application of land prevention approaches; (b) Mainstreaming of practices for prevention of land degradation; (c) Policy support and guidance for mainstreaming land degradation prevention practices; and (d) National level support for coordination of implementation of land degradation prevention practices.

### **Risk Analysis**

<b>Risk</b>	<b>Rating</b>	<b>Risk Mitigation Measures</b>
Delays in submission of monthly budget reports by the <i>dzongkhags</i> and <i>geogs</i> may result in disbursement lags and delays in preparation and submission of quarterly FMRs.	M	FMR reports have been simplified and budget account heads aligned with the project components/sub-components to facilitate direct extraction of the information from BAS. Thus <i>Dzongkhag/Geogs</i> can submit a copy of the BAS report to PMT who will extract the respective accounts from the BAS.

## Strengths and Weaknesses

The project has the following strengths: (i) the key implementing agency is the Ministry of Agriculture which has previous experience in managing Bank financed projects; and (ii) the use of existing RGoB Budget Accounting System for accounting, reporting, and disbursing funds for project activities. Further, the networking of the BAS system between DBA and MoA is in progress.

The project has the following weaknesses:

<b><i>Significant weaknesses</i></b>	<b><i>Resolution</i></b>
The shortage of capable and experienced Accountant in the MOA for managing the Financial aspects of the project	RGoB has appointed a dedicated Finance Officer to work on the project. Additional training will be provided to staff on financial management procedures.
As majority of the activities are to be implemented by the <i>geogs</i> , staff capacity is of a concern.	RGoB will conduct periodic workshops/seminars to train the Accountants in FM and IDA will supplement the workshops during project launch and supervisions

## Implementing Entity

The Ministry of Agriculture will implement the project. A PMT within MoA will be supported by a Multi-disciplinary Technical Advisory Committee (MTAC) comprising of members from different ministries for technical support and coordination. At the local level the day to day management will be handled by the local committees comprising of the local communities representatives and local administration.

## Flow of Funds

Project funds will be deposited into the Special Dollar Account (SA), to be opened at the Royal Monetary Authority (RMA). The SA will be used for all expenditures of the project and will be operated by DADM in MoF. Periodically, the FMRs generated for reporting the financial progress by the PMT will be submitted to DADM for further preparation of withdrawal claims applications for replenishments from IDA.

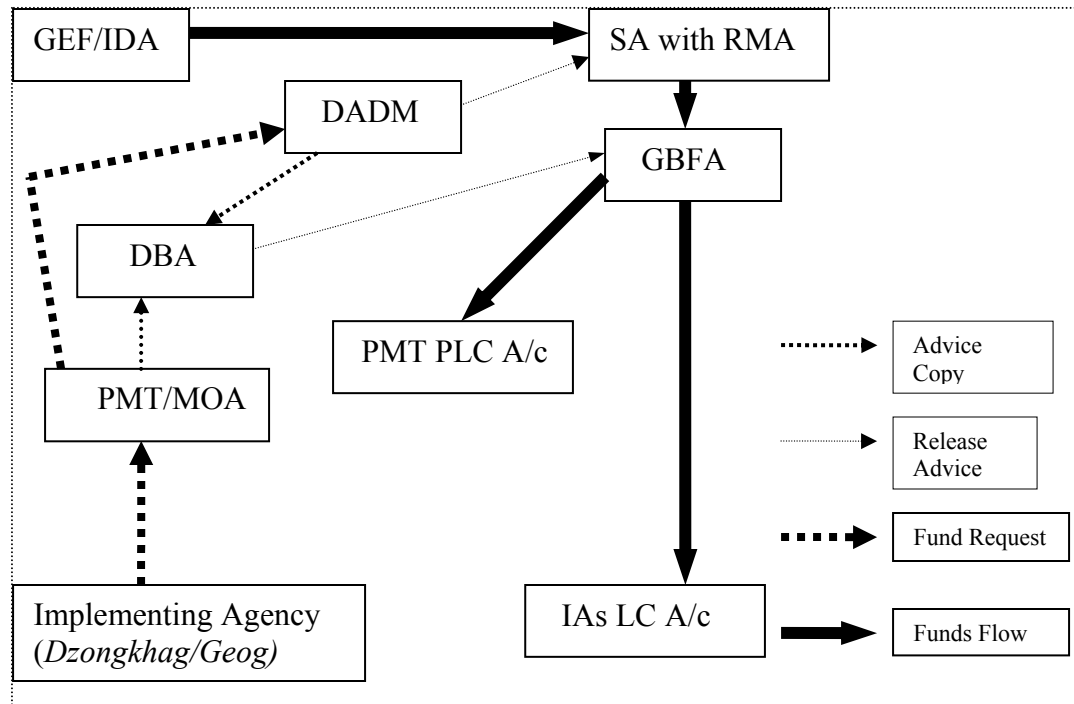
The project financial management and disbursement arrangements will support RGoB's policy of decentralization. Accordingly, for all project implementing expenditures to be incurred through various central agencies, *dzongkhags* and *geogs*, funds will be budgeted, recorded, accounted and reported in their books of accounts. Similarly, all the release from DBA to these agencies will be directly to their PLC/LC accounts. In doing so, the DBA will endorse a copy of the release letter to the PMT in MoA to keep it informed. Based on the progress and expenditure report submitted by the implementing agencies/units (*Dzongkhags* and *Geogs*), the PMT in MoA shall advise further releases of funds by DBA to these implementing agencies.

The implementing agencies and the implementing units (such as *dzongkhag* and *Geogs*) shall submit expenditure statements on a monthly basis as required under RGoB rules to DBA with a copy to PMT in MoA. The PMT shall consolidate monthly expenditure statements (BAS reports) and submit FMR on a half-yearly basis in the agreed formats to IDA.

Funds will be withdrawn from the SA and transferred as advance to the Government Budget Fund Account (BFA) by DADM. These transfers are based on requests approved by the PMT in MOA for project activities. Based on the approved request, DBA will release funds on a quarterly basis to the respective PLC/LC accounts of the implementing agencies. A PLC is DBA's authorization to a bank to honor payments from each implementing agencies up to the specified limit. After the first release by DBA to the implementing agencies, further releases will be based on subsequent approval/clearance by MPT of MoA. This procedure is followed for better management of funds and receiving reports on time from the implementing agencies.

Each implementing agency will issue payment instructions (issue checks) against the PLC/LC for meeting program expenditure. Periodically (usually monthly), each implementing agency will report to the PMT of MoA and DBA on the fund utilization (within 45-60 days from close of each months) against the funds released. The PMT shall maintain proper books of account to enable preparation of Financial Monitoring Reports and processing withdrawal claims on a timely basis.

**Figure 1: Flow of Funds – Requisition and Sanctions**



## **Reporting and Monitoring**

The Project will follow RGoB reporting and monitoring formats, but address the Result Monitoring Framework of the PAD and also capture the global environmental benefits. The *Dzongkhag/Geog* Accountant will submit a copy of the monthly budget report (BAS) to the Project Finance Officer in the PMT, MoA on financial progress. The Accounts Officer in MoA in turn will consolidate the overall financial progress and report in the agreed FMR format within 45 days to DADM and IDA after the end half year.

## **Disbursement Arrangements.**

The project will follow transaction based disbursements. IDA may switch to report based disbursement on satisfactory financial management supervision recommendations. The current Country Financing Parameters will be adopted for the project funds (GEF funds). As mentioned above, centralized and decentralized expenditure will be accounted and maintained separately. The supporting documents for expenditures at the *Dzongkhags* and *Geogs* will be maintained in the respective finance divisions. Withdrawal of funds from the GEF grant may be made on the basis of direct payments, special commitments, reimbursements and replenishments to the Special Account. Full documentation is submitted with the withdrawal applications except for the following contracts where statements of expenditures may be used for reimbursements and replenishments to the Special Account:

Contracts for civil works costing less than US\$500,000

Contracts for goods and equipment costing less than US\$200,000

Contracts for Consultancy services with individuals costing less than US\$50,000

Contracts for consultancy services with firms costing less than US\$100,000

All training expenses

## **Special Account.**

The Project Fund will be deposited in the SA to be opened in the Royal Monetary Authority of Bhutan and operated by DADM authorized signatory. The authorized allocation will be US \$500,000. DADM will submit periodical reconciliation statements along with the withdrawal claims

## **Staffing**

The AFD in MoA currently has some experienced staff to oversee financial management. However, there is a shortage of qualified finance officers and transfers are frequent. The RGoB has agreed to ensure that adequately qualified and experienced personnel, acceptable to the IDA, is available, on a full-time basis in the PMT. Prior to any transfer of such dedicated personnel and trained finance officers, RGoB will ensure that there is sufficient transitional time for the succeeding candidate to be trained on-the-job.

## Accounting Policies and Procedures

Project accounts and books of records will be maintained according to the prevailing rules of the RGoB, i.e. Financial Rules and Regulations (July 2001). The cash basis of accounting will be followed.

In order to facilitate reporting by project components, MoA will ensure that at the time of budget requisition, budget activity and sub-activity codes will be aligned with the components and sub-components of the project. For accounting by the *Dzongkhags* and *Geogs*, a similar pattern will be followed at the budget preparation stage. This will facilitate expenditure recording by project components using the BAS.

## Audit

**Internal Audit:** The Internal Audit Unit in the MoA will also review activities of the project so that by the end of the project life all the implementing agencies will be covered by the internal audit. In order to enable the Internal Audit Unit to carryout this function, the MoA will provide all relevant and necessary documentation so that activities of the project can be included in the annual internal audit work plan. MoA has agreed that any exceptional internal audit reports on project activities will be made available to the Royal Audit Authority and IDA during project review/supervision. The Internal Audit Unit normally reports directly to the Minister/Secretary of MoA.

**External Audit:** Consolidated project accounts will be audited each year by the Royal Audit Authority, which is the Supreme Audit Institution (SAI) in Bhutan and is acceptable to IDA for auditing Bank financed projects. The format of the financial statements will consist of the consolidated FMRs of the project along with a statement reconciling credit disbursements, as per claims submitted to IDA and balances available in the Special Account, as reported in the FMRs.

The PMT in MoA will be responsible for preparing the consolidated project financial statements and forwarding them for DADM's review and submission to RAA by March 31 of each financial year.

For monitoring of the Audit reports by IDA, DADM will follow the action given in the table below:

Implementing Agency	Audit	Auditor	Due by
Ministry of Agriculture	Project/SOE	Royal Audit Authority	Dec 31
DADM, MoF	Special Account	Royal Audit Authority	Dec 31

## Format of Financial Statements

FMR format has been agreed with the PMT and this format has been simplified to capture the project activities directly from BAS. These formats have been reconfirmed project negotiations, and are in accordance with the guidelines issued by the Bank on November 30, 2002.

## Allocation of Grant Proceeds

	Category	Amount of the Allocated (Expressed in USD)	% of Expenditures to be Financed
A	Civil works, goods, consultants' services, equipment, incremental operating costs, training, workshops, etc.	7,660,000	100%

## Financial Covenants

- ◆ MoA will ensure that a satisfactory financial management system is maintained throughout the project period.
- ◆ RGoB will ensure that adequately qualified and experienced financial management personnel, acceptable to the IDA, is available on a full-time basis and throughout the entire project implementation period, for overseeing financial management and disbursements of the project.
- ◆ Submit to the IDA audited annual financial statements of the project, no later than six months after the end of the fiscal year, i.e. by December 31.
- ◆ Produce FMRs and submit to the IDA no later than 45 days following the end of the reporting period agreed during project negotiations.

## Supervision Plans

The project will require periodic financial management supervision. After project launch, it will be necessary to provide training on the Bank's disbursement guidelines and other financial management procedures applicable for the project to the project staff in the PMT of MoA, DBA, *Dzongkhags* and *Geogs*

## Action Plan

Action	Responsible Person	Target Date
Agreed on Financial Monitoring Reports (FMR) formats	IDA/RGoB	At Negotiations (completed)
Experienced Project Finance Officer/Accountant posted	IDA/DBA/MoA-PPD	At Negotiations (completed)
Agree on formats for annual project financial statements for audit	IDA/RGoB	At Negotiations (completed)
Training/Workshops programs plans on Financial Management and Disbursement Procedures for the project to all finance staff involved in the project	DADM/MoA	At Project Launch stage and thereafter on an annual basis.
Agree on TOR for Internal Audit and External Audit	DADM/MoA	At Negotiations (completed)

## Annex 8: Procurement

### BHUTAN: Sustainable Land Management Project

#### A. General

Procurement of the proposed project under the GEF Grant would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The general description of various items under different expenditure category is described below. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank Project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

**Procurement of Works:** Works procured under this Project, would include office renovation costing US\$55,000. Procurement will be done using National Standard Bidding Document (SBD) agreed with (or satisfactory to) the Bank or with NCB conditions below or shopping. The Project does not involve procurement by communities. Works estimated to cost US\$30,000 or below will be procured through shopping.

#### National Competitive Bidding (NCB) Provisions

All NCB contracts shall be awarded in accordance with the provisions of Paragraphs 3.3 and 3.4 of the Guidelines for Procurement under IBRD Loans and IDA Credits (May 2004). In this regard, all NCB contracts to be financed of the Grant shall follow the following principles:

- a) Only the model bidding documents for NCB agreed with RGoB Task Force (amended from time to time) shall be used for bidding.
- b) Invitations to bid shall be advertised in at least one widely circulated national daily newspaper, at least 30 days prior to the deadline for the submission of bids
- c) No special preference shall be accorded to any bidder either for price or for other terms and conditions when competing with foreign bidders, state owned enterprises, small-scale enterprises or enterprises from any given State.
- d) Except with the prior concurrence of the bank, there shall be no negotiation of price with the bidders, even with the lowest evaluated bidder
- e) Re-bidding shall not be carried out without the prior concurrence of the bank. The system of rejecting bids outside the pre-determined margin or bracket of prices shall not be used
- f) Extension of bid validity shall not be allowed without the prior concurrence of the Bank:  
(i) for the first request if it is longer than eight weeks; and (ii) for all subsequent requests for the extension irrespective of the period {such concurrence shall be considered by the Bank only in cases of *Force Majeure* and circumstances beyond the control of the Purchaser/Employer}

- g) Rate contract entered into by the State shall not be acceptable as a substitute for NCB procedures. Such contracts shall be, however, acceptable for any procurement under National Shopping Procedures.
- h) Two or three envelope systems shall not be used.

**Procurement of Goods:** Goods procured under the Project would include office furniture, computers and laptops, motor cycles, field survey and other field equipment, planting materials, chemicals and field implements, and workshop materials and documents,. The total value of goods is estimated at US\$3.52 million. The procurement will be done using National SBD agreed with the Bank complying with NCB conditions as in Works, described earlier. Goods estimated to cost US\$30,000 or below will be procured through shopping. Software will be procured through direct contracting.

**Procurement of Non-Consulting Services:** The project envisages support for development of base and thematic maps, services for stakeholder consultation meetings, GIS mapping, services for mass media productions, visual aids production, film documentations, etc. The procurement will be done using the Bank's standard bidding document for non-consulting services.

**Selection of Consultants:** The project envisages various technical assistance supports covering land management, biodiversity, rangeland management, GIS etc. This will be provided by engaging International consultant using Bank's standard RFP documents. Short lists of consultants for services estimated to cost less than US\$ 200,000 or equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

**Operational Costs:** Rental of vehicles and cost of fuel and maintenance for departmental vehicles related to the implementation of the project, and office running costs would be procured using the Implementing Agency's administrative procedures which were reviewed and found acceptable to the Bank. The project operational costs will also include reimbursement of remuneration for social mobilizers in the *Geog* SLM Planning teams and office secretary for central MoA (@US\$150/person/month), subscription of technical journals (US\$1,000/year) and costs related to advertisement of tenders.

**Others:** The project envisages extensive capacity building through training, seminars, networking, etc. estimated to cost an aggregate sum of around US\$600,000. This would cover travel costs of the participants, training documentation, hiring of audio-visual equipment etc. RGoB may procure these in accordance with its own procurement procedures provided the cost on each occasion does not exceed US\$5,000. The project envisages supporting four masters level courses at internationally reputed institutions which is estimated to cost US\$200,000. In addition, the project also envisages sending ten staff involved in the project for short term courses overseas estimated to cost US\$60,000.

## **B. Assessment of the Agency's Capacity to Implement Procurement**

Procurement activities will be carried out by National Soil Service Center of the Ministry of Agriculture. The Agency is staffed by a Director and supported by other staff, who are procuring

items like chemicals, lab testing equipment, computers, vehicle spares, furniture, etc. for its own use following RGoB's procurement procedures. NSSC/MoA has recently handled a SNV Assistance for US\$3.4 million involving technical assistance. It is currently handling a Danida support project of Kroner 4.8 million. Procurement under the Danida project follows RGoB's own procurement procedures. RGoB is strengthening the existing set up by addition of a Project Manager, Administrative Officer and Accountant to implement the SLM project. All procurement will be handled by NSSC/MoA. No procurement is envisaged at the *Dzongkhag* level

Procurement under the project will be essentially by Shopping and employment of individual consultants. It would involve direct contracting for specialized services like software. NSSC/MoA has already taken actions to finalize the bidding documents for NCB goods and works although only very few procurement involves NCB.

An assessment of the capacity of the Implementing Agency to implement procurement actions for the project has been carried out by Debabrata Chakraborti on various dates. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement and the Ministry's relevant central unit for administrative and finance.

Most of the issues/risks concerning the implementation of the project have been identified and include:

1. NSSC/MoA has no experience in Bank's Procurement Procedures
2. Low financial delegation to Director of NSSC/MoA.

The corrective measures which have been agreed are: (i) training of staff of NSSC/MoA on financial management and procurement which is being arranged with the launch of the DRDP of MoA; (ii) enhancing delegation of authority of Director, NSSC/MoA to the shopping limit of US\$30,000 against existing delegation of US\$250 equivalent.

The overall project risk for procurement is leverage.

### **C. Procurement Plan**

The Borrower, has developed a Procurement Plan for project implementation which provides the basis for the procurement methods. This plan has been agreed between the Borrower and the Project Team on October 7, 2005 and is available at NSSC office in Semkotha, Thimpu. It will also be available in the Project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

### **D. Frequency of Procurement Supervision**

In addition to the prior review, supervision is to be carried out from the Bank offices. The capacity assessment of the Implementing Agency has recommended half yearly supervision missions to visit the field and carry out post review of procurement actions.

## Details of Procurement Arrangements Involving International Competition

### 1. Goods and Works and Non-Consulting Services

(a) List of contract packages which will be procured following ICB and Direct Contracting

1	2	3	4	5	6	7	8	9
Reference Number	Contract (Description)	Estimated Cost US\$	Procurement Method	P-N A Q	Domestic Preference (Yes/No)	Review by Bank (Prior/Post)	Expected Bid Opening Date	Comments
1	Specialized computer software	20,000	DC	No	No			

(b) ICB Contracts estimated to cost above US\$200,000 per contract for goods and US\$500,000 for works and all Direct Contracting will be subject to prior review by the Bank

### 2. Consulting Services

(a) List of Consulting Assignments with short-list of International Firms

The project does not envisage engaging International firms. However, it may engage international individual consultants. All selection of Individual Consultants estimated to cost over \$US 50,000 will be subject to prior review by the Bank.

(b) Consultancy services estimated to cost above US\$100,000 per firms, US\$50,000 for Individuals and Single Source selection of consultants for assignments will be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants: Short list of consultants for services estimated to cost less than US\$200,000 equivalent per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

## Annex 9: Economic and Financial Analysis

### BHUTAN: Sustainable Land Management Project

#### Base Analysis

The analysis focuses on the value of reducing the rate of forest loss over the next 20 years – on the basis of modest assessments of a few parameters. If this base return justifies or is close to justifying the scale of the proposed investment then the acceptability of project from the points of view of both the Bhutanese economy and the rest of the world should be more likely than not.

Currently, the rate of loss in forest area is estimated at 0.5 percent per year. The analysis considers a reduction in this rate of area loss to 0.25 percent per annum after 20 years of implementing improved land use planning and management.

This rate of forest loss might be considered insubstantial but it is a crude global estimate and based on limited time series data. RGoB are concerned that the severe erosion and land degradation problems found in Radhi could be replicated elsewhere. If proactive measures are not undertaken the rate of forest area loss in a future without the Project is likely to be much greater than estimated here for the baseline analysis.

Within Bhutan it is believed that most of this forest loss is due to population pressures to open new agricultural land, though the main drivers of deforestation are poorly understood due to a lack of data. The possible losses in production from agricultural lands might be attributed to a range of land management practices that have induced gradual long-term losses in soil and soil fertility. However, as there is little empirical data on the land degradation profile, hence it is assumed that under the no-project scenario, total domestic agricultural yields (i.e. the productivity of each unit of land) is maintained at its current level and that production needs are met by expanding the area under cultivation - at the expense of forest land. In the future with the project, again no productivity loss or gain is assumed due to avoided degradation. Thus yields are held at their current rates and it is assumed that the *aggregate* level of agricultural production declines because there is less expansion into forest areas. Since no account is taken of the on-farm productivity benefits of the Project, these highly conservative assumptions guard against exaggerating the true benefits of the Project. Hence if the Project is deemed beneficial without taking account of on-sight benefits, it would qualify when farm productivity improvements are included in the analysis.

There are few sources of data within Bhutan which can be used to approximate the value of goods and services from net forest land that would be lost in a future without the Project, through conversion to agricultural use. The following summary is a possible valuation based on the ranges of values estimated for forest goods and services provided by tropical forests elsewhere.<sup>5</sup>

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<sup>5</sup> David Pearce, “How Valuable are the Tropical Forests? Demonstrating and Capturing Economic Value as a Means of Addressing the Causes of Deforestation,” seminar paper for Conseil d’Analyse Économique, Séminaire Économie de L’Environnement et du Développement Durable, Paris, December 2001.

**Table: Possible Economic Values of Bhutan Forests (US\$/ha/year)**

<i>Forest Good or Service</i>	<i>Low Range Value</i>	<i>Mid-Range Values</i>
Conventional Logging (annualised value)	50	200
Fuelwood	10	20
Non-Timber Forest Products	20	50
Genetic Information	0	0
Recreation	2	240
Watershed Benefits	15	420
Climate Benefits	13	13
Biodiversity Other Than Genetics	2	0
Amenity	0	0
Non-use Values	2	12
Total	114	955

Timber logging values refer to the sustainable payoffs of harvesting in tropical forests. Given problems of accessibility and the slow growth rate of Alpine species, sustainable timber harvests in Bhutan are likely to be at the lower end of this range. Recreation in this instance refers primarily to foreign tourism and its multiplier effects throughout the economy. Given the current size of tourism in Bhutan recreation is not expected to have a high level of income generating capacity. Existing hydro-electric facilities contribute to national income through sales of electricity to India and potential exists to expand capacity further. The figure of US\$ 15 suggested here is a conservative estimate given that watershed benefits encompasses all present downstream services, commercial and non-commercial (including the avoidance of flood damage within and outside Bhutan). The climate benefits are an estimate based on a gross present value annualized over one hundred years. The values of genetic information have not been included as estimates proposed for forests that may be similar to those found in Bhutan are highly controversial. It is also difficult to describe how domestic amenity value for forests would be defined within the context of Bhutan. The lower bound figure of the biodiversity benefits is used again to avoid overestimating benefits. Based on other country experiences, a conservative estimate of the total value of forests goods and services in Bhutan is in the order of US\$ 114 per hectare per year. It seems likely that this lower bound significantly under-estimates the true global and national benefits of Bhutanese forests.

The average production of grains (wheat, barley and maize) on rainfed land in Bhutan is about 1 570 kilograms per hectare. The import parity border value of this production is approximately US\$ 162 per ton, or about US\$254 per hectare. After allocating about 60 percent of this value of production for the value of inputs (mostly local labor) the net value per hectare of agricultural land is approximately US\$102.

The analysis compares the global benefits of converting forest area to agriculture in the future without the project to the global benefits and domestic costs of converting a smaller area. The analysis therefore clearly understates the true benefits. A global focus is justified because of GEF support for the Project, but in reality the focus on the global dimension is a consequence of the paucity of data on farm productivity in Bhutan.

Schematically, the incremental benefits of conserving forest land in the future with the project are the following in the analysis:

$$\Delta F * \text{Agricultural Benefits per ha per year} + \Delta F * \text{Forest Benefits per ha per year}$$

Where  $\Delta F = \text{Forest Area with Project} - \text{Forest Area without Project}$

Estimated project costs of US\$16 million are subtracted from this incremental benefit stream to produce the stream of incremental net project benefits.

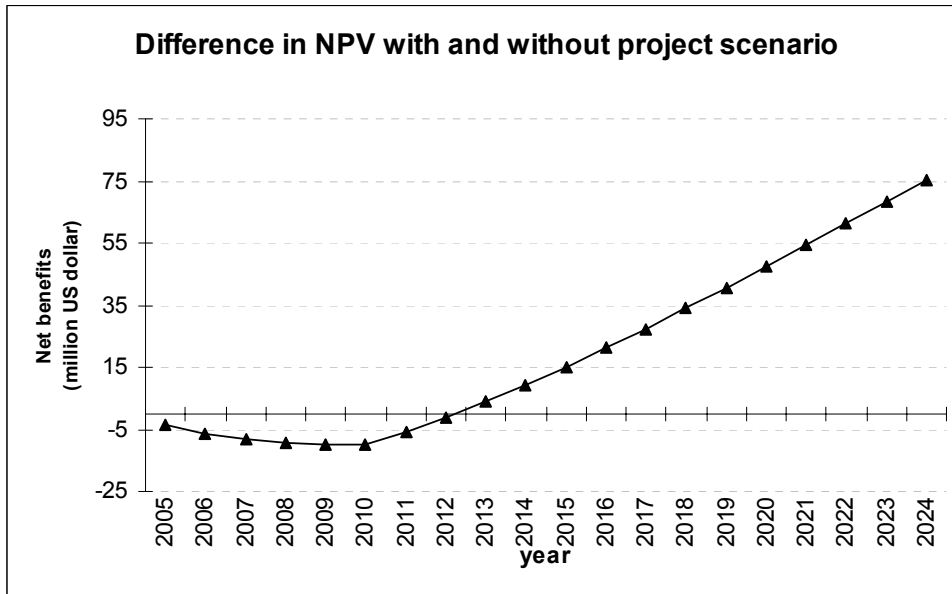
Forest areas in Bhutan comprise about 29,050 square kilometers, according to the most recently published official statistics. At the current estimated rate of loss in forest area in Bhutan (0.5 percent per annum), forest area 20 years from now would amount to about 1.8 million hectares.

Under the proposed project, this rate of forest loss should be reduced significantly in the long run. The analysis considers a reduction to a rate of 0.25 percent a year after ten years from the start of the implementation of the project. This implies that twenty years from now the forest area would amount to 1.1 million hectares as a result of the processes and practices introduced under the project.

Project costs are estimated at US\$16 million. Using as an initial estimate a value of US\$ 114 per hectare per year as the total economic value of forest land, and an opportunity cost of conversion (i.e. the benefits from agriculture of US\$102, the benefit-cost ratio is estimated at 5.4, and the ERR at 20. The implication is clearly that the project yields substantial global benefits even without consideration of the on-farm benefits of sustainable land management.

Figure 1 shows the profile of net benefits (appropriately discounted). Unsurprisingly, there is a lag before project benefits outweigh project. In the first eight years of project implementation the net present value of benefits without project are higher than those with the project. Thereafter the net present value of net benefits with the project, dramatically escalate due to the cumulative benefits of avoided deforestation. Clearly, extending the simulation horizon would further raise the expected benefits accruing from the project.

Figure 1: Difference in Net Present Value with and without project scenario



The preliminary estimation of the project’s benefits and costs on the basis of these parameters suggests that the scale of the proposed investment in relation to the conservatively estimated potential benefits considered here should be more than adequate. The proposed project would finance the installation of institutional capacity within Bhutan to monitor and evaluate data that would clarify these valuation issues and provide much needed data on the on-site benefits and costs of sustainable land management practices.

<b>BHUTAN</b>											
<b>Sustainable Land Management Project</b>											
<b>Economic Analysis: Table 1.</b>											
<b>Project Analysis Based on Break Down Agricultural Use and Total Forest Economic Values With and Without Project (USD million)</b>											
	2,005										
Border Value of Grains (USD/t)	162	162	162	162	162	162	162	162	162	162	162
Output (t/ha)	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57
Annual productivity loss (without project) (% per year)	0%										
Gross Value of Production (USD/ha)	254	254	254	254	254	254	254	254	254	254	254
Labour as % of Gross Value	0.6										
Value of Labour (USD/ha)	153										
Net Value Agricultural Use of Forest Land(USD/ha)	102	102	102	102	102	102	102	102	102	102	102
Conversion Value of Forest Land (USD/ha)	0										
Total Economic Value of Forest Land (USD/ha)	114										
Initial Forest area (ha)	2,904,781										
Rate of Loss w/o Project (% p.a.)	0.005										
Rate of Loss w Project (% p.a.)	0.0025										
	Year										
	1	2	3	4	5	6	7	8	9	10	
	2,005	2,006	2,007	2,008	2,009	2,010	2,011	2,012	2,013	2,014	
Total Forest Areas (ha)	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	
Forest Area Future w/o Project	2,904,781	2,759,542	2,621,565	2,490,487	2,365,962	2,247,664	2,135,281	2,028,517	1,927,091	1,830,736	
Agricultural Area w/o Project	0	145,239	283,216	414,294	538,819	657,117	769,500	876,264	977,690	1,074,044	
Total area benefits w/o project	331,145,029	329,363,818	327,671,667	326,064,123	324,536,957	323,086,149	321,707,881	320,398,527	319,154,640	317,972,948	
NPV benefits	331,145,029	326,102,790	321,215,240	316,474,625	311,873,636	307,405,385	303,063,376	298,841,491	294,733,956	290,735,329	
Incremental NPV	331,145,029	657,247,819	978,463,060	1,294,937,685	1,606,811,322	1,914,216,706	2,217,280,083	2,516,121,573	2,810,855,529	3,101,590,858	
IRR											
Total Forest Areas (ha)	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	
Forest Area Future w Project	2,904,781	2,832,161	2,761,357	2,692,323	2,625,015	2,559,390	2,495,405	2,433,020	2,372,195	2,312,890	
Agricultural Area w Project	0	72,620	143,424	212,457	279,766	345,391	409,376	471,761	532,586	591,891	
Total area benefits w project	331,145,029	330,254,424	329,386,083	328,539,451	327,713,984	326,909,155	326,124,446	325,359,354	324,613,390	323,886,076	
NPV of Benefits	331,145,029	326,984,578	322,895,876	318,877,154	314,926,698	311,042,844	307,223,980	303,468,544	299,775,020	296,141,937	
Project costs	3,667,000	3,667,000	3,667,000	3,667,000	3,667,000	3,667,000	3,667,000				
NPV of Costs	3,667,000	3,630,693	3,594,746	3,559,154	3,523,915	3,489,025					
Net benefits/cost	327,478,029	326,587,424	325,719,083	324,872,451	324,046,984	323,242,155	326,124,446	325,359,354	324,613,390	323,886,076	
NPV costs - benefits	327,478,029	323,353,885	319,301,130	315,318,000	311,402,783	307,553,819	307,223,980	303,468,544	299,775,020	296,141,937	
Incremental NPV	327,478,029	650,831,914	970,133,044	1,285,451,044	1,596,853,827	1,904,407,646	2,211,631,626	2,515,100,170	2,814,875,190	3,111,017,128	
IRR											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Incremental NPV WITHOUT PROJECT	331,145,029	657,247,819	978,463,060	1,294,937,685	1,606,811,322	1,914,216,706	2,217,280,083	2,516,121,573	2,810,855,529	3,101,590,858	
Incremental NPV WITH PROJECT	327,478,029	650,831,914	970,133,044	1,285,451,044	1,596,853,827	1,904,407,646	2,211,631,626	2,515,100,170	2,814,875,190	3,111,017,128	
Difference NPV	-3,667,000	-6,415,905	-8,330,015	-9,486,641	-9,957,495	-9,809,060	-5,648,457	-1,021,403	4,019,661	9,426,269	
IRR	19.97%										
Benefits	96,754,397										
Costs	17,975,508										
BENEFIT / COST RATIO	5.38										

BHUTAN										
Sustainable Land Management Project										
Economic Analysis: Table 1.										
Project Analysis Based on Break Down Agricultural Use and Total Forest Economic Values With and Without Project (USD million)										
Border Value of Grains (USD/t)	162	162	162	162	162	162	162	162	162	162
Output (t/ha)	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57	1.57
Annual productivity loss (without project) (% per year)										
Gross Value of Production (USD/ha)	254	254	254	254	254	254	254	254	254	254
Labour as % of Gross Value										
Value of Labour (USD/ha)										
Net Value Agricultural Use of Forest Land(USD/ha)	102	102	102	102	102	102	102	102	102	102
Conversion Value of Forest Land (USD/ha)										
Total Economic Value of Forest Land (USD/ha)										
Initial Forest area (ha)										
Rate of Loss w/o Project (% p.a.)										
Rate of Loss w Project (% p.a.)										
	11	12	13	14	15	16	17	18	19	20
	2,015	2,016	2,017	2,018	2,019	2,020	2,021	2,022	2,023	2,024
Total Forest Areas (ha)	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781
Forest Area Future w/o Project	1,739,200	1,652,240	1,569,628	1,491,146	1,416,589	1,345,760	1,278,472	1,214,548	1,153,821	1,096,130
Agricultural Area w/o Project	1,165,581	1,252,541	1,335,153	1,413,635	1,488,192	1,559,021	1,626,309	1,690,233	1,750,960	1,808,651
Total area benefits w/o project	316,850,340	315,783,863	314,770,710	313,808,214	312,893,843	312,025,191	311,199,971	310,416,012	309,671,251	308,963,729
NPV benefits	286,840,480	283,044,566	279,343,023	275,731,541	272,206,057	268,762,734	265,397,952	262,108,292	258,890,528	255,741,611
Incremental NPV	3,388,431,338	3,671,475,904	3,950,818,927	4,226,550,468	4,498,756,525	4,767,519,259	5,032,917,211	5,295,025,504	5,553,916,032	5,809,657,642
IRR										
Total Forest Areas (ha)	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781	2,904,781
Forest Area Future w Project	2,255,068	2,198,691	2,143,724	2,090,130	2,037,877	1,986,930	1,937,257	1,888,826	1,841,605	1,795,565
Agricultural Area w Project	649,713	706,090	761,057	814,651	866,904	917,851	967,524	1,015,955	1,063,176	1,109,216
Total area benefits w project	323,176,944	322,485,540	321,811,421	321,154,156	320,513,322	319,888,509	319,279,316	318,685,353	318,106,239	317,541,603
NPV of Benefits	292,567,871	289,051,438	285,591,296	282,186,145	278,834,721	275,535,799	272,288,189	269,090,737	265,942,323	262,841,859
Project costs										
NPV of Costs										
Net benefits/cost	323,176,944	322,485,540	321,811,421	321,154,156	320,513,322	319,888,509	319,279,316	318,685,353	318,106,239	317,541,603
NPV costs - benefits	292,567,871	289,051,438	285,591,296	282,186,145	278,834,721	275,535,799	272,288,189	269,090,737	265,942,323	262,841,859
Incremental NPV	3,403,584,999	3,692,636,437	3,978,227,733	4,260,413,878	4,539,248,599	4,814,784,398	5,087,072,587	5,356,163,324	5,622,105,648	5,884,947,507
IRR										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Incremental NPV WITHOUT PROJECT	3,388,431,338	3,671,475,904	3,950,818,927	4,226,550,468	4,498,756,525	4,767,519,259	5,032,917,211	5,295,025,504	5,553,916,032	5,809,657,642
Incremental NPV WITH PROJECT	3,403,584,999	3,692,636,437	3,978,227,733	4,260,413,878	4,539,248,599	4,814,784,398	5,087,072,587	5,356,163,324	5,622,105,648	5,884,947,507
Difference NPV	15,153,660	21,160,532	27,408,806	33,863,410	40,492,074	47,265,139	54,155,376	61,137,821	68,189,616	75,289,865
IRR										
Benefits										
Costs										
BENEFIT / COST RATIO										

## Annex 10: Safeguard Policy Issues

### BHUTAN: Sustainable Land Management Project

*Safeguard issues:* The screening category of the project is B. The safeguard policy for Environmental Assessment (OP/BP/GP 4.01), Forests (OP/BP 4.36), and Pest Management (OP 4.09) are triggered. The Natural Habitats (OP/BP 4.04), and Cultural Property (OPN 11.03) have limited applicability. Due to the inherent highly consultative and participatory design of the project, most of the environmental and none of the social safeguard policies apply. The discussion of the policies and their applicability is given below.

- **Environmental Assessment:** This is applicable given the project's emphasis on land management spanning over large spatial territories. However, potential adverse environmental impacts on human populations or environmentally important areas including wetlands, forests, grasslands, and other natural habitats, are limited. These impacts will be site-specific, with few being irreversible. An Environment Assessment and Environmental Management Plan have been developed to ensure all environmental issues are considered in project planning, implementation and monitoring.
- **Natural Habitats:** This is not applicable because since the pilot project sites do not fall inside any protected area, and when the project activities are scaled up to other sites no activities will be conducted inside protected areas. The project will not entail any conversion or degradation of natural habitats given that the individual activities will be at *chiog-* or household-scale and in essence be about improving natural resource management directly or indirectly.
- **Pest Management:** The project might involve, on a limited scale, procurement and use of pesticides to enhance crop production. However, the procurement and distribution of pesticides in Bhutan is well controlled through a centralized system and there will be no procurement of pesticides classified as Class Ia, Ib and II by WHO. IPM training will be given and applied to the extent possible.
- **Forests:** The project envisages community and private forestry, and afforestation/ reforestation of barren/degraded areas and catchment areas to curb land degradation. However, the project will not engage in commercial forestry activity.
- **Cultural Property:** This is not applicable since the project will not permit any activity that will impact cultural property.. The protection of cultural properties is under the purview of the MoHCA and is built in the mandate of the DYT's and GYT's. No development activities that may have impact on cultural resources can be implemented without clearance from the Ministry.
- **Other:** The project does not involve dams, international waters, or disputed areas.

## **Environmental Safeguard Policy Issues**

**Introduction:** While the Project is inherently about improved environmental management, certain project activities may have subtle or indirect adverse environmental impacts which if overlooked may accrue into bigger impacts. It is in this context and in keeping with the principle of environmental sustainability which the RGoB and its project partners – WB, GEF and DANIDA – share that this Environmental Management Framework has been prepared.

Specifically, the Environmental Management Framework (EMF):

- describes the country's environmental conditions as well as those pertaining to the sites identified for implementation of the project interventions in the field;
- examines the country's existing policies, regulations, guidelines and procedures for environmentally sustainable development in relation to the WB environmental safeguard policies that are likely to be triggered by the project;
- assesses local perception and understanding of the project especially with regards to its benefits, impacts and issues and the willingness and capacity to address potential adverse environmental impacts;
- identifies potential adverse environmental impacts of probable project activities and provides corresponding mitigation measures;
- provides a framework to operationalize environmental management measures based on existing national environmental policies, regulations and guidelines, and in concord with the requirements of relevant WB safeguard policies.

**Methodology:** The EMF has been prepared using information derived from literature review and stakeholder consultations. Various policies, laws, regulations and guidelines related to environmental management were extensively reviewed to make a comparative assessment with WB safeguard policies relevant to the project. In addition, documents pertaining to SLMP planning were reviewed. This included the report of local level stakeholder workshops conducted in the pilot sites and the Report of Project Formulation Processes and Outcomes, which is a consolidation of the processes and outcomes of local level stakeholder workshops, project design workshop and decision makers' workshop.

Stakeholder consultations were done at both local and central levels. Local-level consultations were carried out with primary stakeholders, specifically the local communities, GYT members and geog RNR extension agents. At the central level, consultative meetings were held with the SLMP-Working Group, which includes representation from all the major stakeholder agencies: Ministry of Works and Human Settlement; Ministry of Trade and Industry; National Environment Commission Secretariat; and the Ministry of Agriculture and its Departments of Agriculture, Forestry, Livestock, and Survey and Land Records.

**Environmental Policies:** World Bank environmental safeguard policy that is likely to be triggered by this project is Environmental Assessment (OP 4.01), Forestry (OP 4.36), and Pest Management (OP 4.09). The other policies of Natural Habitats (OP 4.04), and Cultural Property (OP 4.11) have very limited applicability.

Bhutan's Environmental Assessment Act, 2000, establishes procedures for the assessment of potential effects of strategic plans, policies, programs, and projects on the environment, and for the determination of policies and measures to reduce potential adverse effects and to promote environmental benefits. It makes environmental clearance mandatory for any project/ activity that may have adverse impact(s) on the environment. To support the implementation of the Environmental Assessment Act, 2000, the National Environment Commission has issued the Regulation for the Environmental Clearance of Projects, 2002, defining responsibilities and procedures for the implementation of the environmental assessment process. Furthermore, sectoral guidelines currently exist for highways and roads, industrial projects, mines, urban development, forestry, hydropower, power transmission and distribution lines, and tourism projects; environmental codes of practice for storm water drainage, underground and overhead utilities, and tourism activities; and environmental discharge standard.

The National Forest Policy, 1974, places priority on conservation of forests and associated resources for their ecological values, such as soil and water conservation and contribution to production of food, water and energy. Economic benefit from forest resources is considered secondary and is to be derived within sustainable limits. The Forest and Nature Conservation Act, 1995, is the principal legislation for forest and nature conservation. The legislation is enforced through the implementation of Forest and Nature Conservation Rules, 2000, which covers forest management, prohibitions and concessions in Government Reserved Forests, forestry leases, social and community forestry, transport and trade of forestry produce, protected areas, wildlife conservation, soil and water conservation, and forest fire prevention.

Pesticide procurement and distribution is well controlled through a centralized system and are legally governed by the Pesticides Act of Bhutan, 2000. The purpose of the Act, among other things, is to ensure that integrated pest management is pursued, limiting the use of pesticides as the last resort and minimizing harmful effects on humans and the environment consequent to the application of pesticides. Integrated pest management guidelines are in place and being implemented as a regular programme of the National Plant Protection Center.

Although currently there is no specific legislation for protection of cultural properties, provisions for protection and maintenance of various cultural properties are embedded in various laws and regulations, particularly Thrimzhung Chenmo (the mother law) and the GYT and DYT Chathrim, 2002. Moreover, official clearance of the Ministry of Home and Cultural Affairs and the consent of the concerned GYT and DYT are pre-requisite for environmental clearance of any project/ activity that is located within 50 meters of a sacred landscape or site.

In addition to above and in the context of decentralized governance, the DYT and GYT Chathrim, 2002, mandate the DYT and GYT to exercise authority and regulations for environmental management at the local level.

**Potential Environmental Impact of the Project:** The potential adverse environmental impacts from the project are likely to be small and limited with on-the-ground investments taking place at household and chiog levels. On the whole, the project has been identified as a "Category B" project based on World Bank classification for Environmental Assessment.

The project impacts are expected to be moderate to low, for which mitigation measures can be readily designed and applied. As currently conceived, project activities that may have some adverse environmental impacts include: cash crop production, promotion of improved cattle breeds and stall-feeding, swapping or conversion of land, reforestation/ afforestation, community and homestead forest plantations, construction of soil stabilization/ protection structures, rehabilitation of small rural infrastructure, and alternate income-generating activities. By and large, these activities will be contributing to the improvement of environmental conditions and local livelihoods.

However, it is recognized that the activities above will have certain subtle or indirect adverse environmental impacts for which simple mitigation measures will be necessary. A list of potential adverse environmental impacts from the project is provided in the EMF. During project implementation, site- and design-specific environmental assessments will be carried out to more accurately and comprehensively identify potential adverse environmental impacts and corresponding mitigation measures.

During field consultations it was evident that the local communities were willing and confident to implement mitigation measures, where necessary. They felt that the project will not have any significant potential adverse environmental impact(s) and, therefore, will entail simple mitigation measures which they can readily implement with guidance from geog project team and geog RNR extension agents. The geog RNR extension agents shared the views and confidence of the local communities to implement mitigation measures and expressed their own ability to provide technical guidance.

**Institutional Arrangements:** The implementation of the EMF will involve a number of institutions ranging from *chiogs* at the local community level to line Ministries/ Departments and National Environment Commission Secretariat at the central level.

- ***Chiogs*** will be responsible for field investigation, preparation of environmental information and implementation of mitigation measures with guidance and assistance from the Geog SLMP Planning Team.
- **The Geog SLMP Field Coordinator** will have the responsibility of reviewing and verifying environmental information prepared by the *chiogs*, oversight and monitoring in the field with the support of the Geog SLMP Planning Team, and mobilization and coordination of technical assistance required for implementation of mitigation measures.
- **The Dzongkhag Environmental Committee** will be responsible for reviewing environmental information and issuing/ denying environmental clearance for activities that are assigned to them as the Competent Authority, forwarding environmental information to the relevant Competent Authority or the National Environment Commission Secretariat for activities for which they are not the Competent Authority, and periodic monitoring to ensure compliance with environmental terms and conditions.
- **At the central level**, the relevant Competent Authority will review environmental information and issue/deny environmental clearance for activities listed in Annex 2 of the Regulation for the Environmental Clearance of Projects, 2002, and the National Environment Commission Secretariat will do the same for activities not listed in Annex 2. The relevant Competent Authority and the National Environment Commission

Secretariat will also have the responsibility for sporadic field checks to ensure compliance.

- **The PMT/MOA** will keep track of the implementation of the Environmental Management Framework as a part of their overall project management responsibility. It will also have the responsibility to coordinate between the National Environment Commission Secretariat/ central agencies and geog project team to implement capacity building activities reflected in this Framework.

## Operationalizing the Environmental Management Framework

**Negative List of Activities:** This negative list of activities has been compiled based on the laws, regulations and guidelines of the Royal Government of Bhutan and the World Bank safeguard policy requirements. Any activity belonging to this list will not be included in the project:

Activity	Source/ Basis
Any activity involving construction, settlement, land use, plantation and extraction of forest products inside the core zone of a protected area.	Forest and Nature Conservation Rules 2000 – Chapter VI Sec 62
Any activity that entails conversion of natural habitat harboring any globally threatened or nationally protected species. Annex 9 of EMF provides the list of globally threatened and nationally protected species of birds and mammals in Bhutan.	WB Safeguard Policy on Natural Habitats (OP 4.04)
Any activity that may cause disturbance or pollution of a water source or watercourse	Forest and Nature Conservation Rules 2000 – Chapter III Sec 22 (1) a and b
Any activity that involves cutting of trees or land clearance within 100 feet on either side of the banks or edge of the rivers, streams, water courses or water sources kept as riparian reserve for conservation	Forest and Nature Conservation Act 1995 – Sec 14 (a) Forest and Nature Conservation Rules 2000 – Chapter VIII Sec 70 (6) c
Any activity that involves land clearance on slopes greater than 45 degree (100%);	Forest and Nature Conservation Act 1995 – Sec 14 (a) Forest and Nature Conservation Rules 2000 – Chapter VIII Sec 70 (6) c
Any activity that involves the procurement and/or use of pesticides categorized as Class Ia, Ib and II as per WHO Classification. Annex 10 of EMF provides the list of pesticides belonging to the above classes.	WB Safeguard Policy on Pest Management (OP 4.09)

**Initial Environmental Screening:** Before selection, every proposed project activity will be subjected to initial environmental screening to determine if it: (a) belongs to the negative list of activities; (b) does not belong to the negative list but requires environmental clearance according to Annex 2 of the Regulation for the Environmental Clearance of Projects, 2002; and (c) does not belong to the negative list and does not require environmental clearance. If it is (a), the proposed activity will not be taken up. If it is (b), the proposed activity will be subjected to environmental assessment procedures established by the Royal Government of Bhutan. If it is (c), the proposed activity will be included in the project. However, if it is likely to have certain adverse

environmental impact, an environmental impact mitigation plan (format 3 provided in **Annex 6 of EMF**) will be prepared for internal project use.

***Environmental Management Framework:*** The EMF outlines the mitigation, monitoring and institutional measures to be taken during implementation and operations to eliminate the adverse environmental and social impacts, offset them, or reduce them to acceptable levels. Any activities that may cause a negative impact will have an environmental mitigation plan. The EMF also includes a capacity building plan and the budget necessary to implement the EMF.

## **Social Aspects**

Social sustainability is a keystone of World Bank and Global Environment Facility's development assistance. The principle of socially sustainable development is also manifested in Bhutan's vision statement *Bhutan 2020: A Vision for Peace, Prosperity and Happiness*. To guide the implementation of the SLMP in a socially sustainable manner, the Ministry of Agriculture has carried out a Social Assessment (SA). Specifically, the SA: (i) identifies primary stakeholders and social issues; (ii) assesses the participation of the primary stakeholders in project formulation and design, and their views on project benefits and impacts; and (iii) defines a process framework for participation of local communities in implementation and monitoring of sustainable land management at project sites.

This assessment has been prepared on the basis of consultations with primary stakeholders and information derived from literature review. Various policies, laws, regulations and guidelines relevant to social management in the context of World Bank social safeguard policies pertaining to Involuntary Resettlement and Indigenous Peoples were extensively reviewed. In addition, documents pertaining to SLMP planning were reviewed. This included the report of local level stakeholder workshops conducted in the pilot sites and the Report of Project Formulation Processes and Outcomes, which is a consolidation of the processes and outcomes of local level stakeholder workshops, project design workshop and decision makers' workshop. Stakeholder consultations were done at both local and central levels. Local-level consultations were carried out with primary stakeholders, specifically the local communities, *Geog Yargye Tshogchung* (GYT) members and geog Renewable Natural Resources (RNR) extension agents, for 2-3 days in each pilot project site. The consultations with local communities involved group discussions and household interviews. Altogether, 67 local people were consulted: 18 in Radhi *geog*; 26 in Nangkor *geog*; and 23 in Phuentsholing *geog*. During the field consultations, special attention was given to including women and vulnerable people. At the central level, consultative meetings were held with the SLMP-Working Group, which includes representation from all the major government agencies: Ministry of Works and Human Settlement; Ministry of Trade and Industry; National Environment Commission Secretariat; and the Ministry of Agriculture and its Departments of Agriculture, Forestry, Livestock, and Survey and Land Records.

Key findings from these consultations indicate that project affected people at the identified pilot sites strongly support the idea of having a project to address land degradation problems. Local people – especially in Radhi and Phuentsholing *geogs*, where land degradation is severe and where people have experienced significant losses from landslides and flash floods – were able to strongly relate to SLMP's objectives and viewed it to be extremely valuable. They identified the

main positive social impacts of the project as: reduction in incidents of landslides and flash floods, improvement of forest conditions, and improvement in livelihoods and farming practices.

It is highly unlikely that proposed project activities will result in any significant adverse social impacts, including the physical relocation of people or the acquisition of privately owned land. Some adverse impacts may arise from potential restriction on access by local communities to natural resources in the pilot sites. Since the project is community-based where the community using the resources decides to restrict access to natural resources and identifies appropriate measures to mitigate adverse impacts, if any, on affected people including the more vulnerable members of the community, the provisions of the World Bank's O.P. 4.12 are not applicable to the project. However, to ensure transparency and equity, a Process Framework (PF) for the participation of local communities in the implementation of sustainable land management activities by the project has been developed to detail the principles and processes for assisting communities to manage any negative potential impacts. Since the exact social impacts of access will only be identified during project implementation, the Process Framework will ensure that mitigation of any negative impacts deriving from any potential restriction access by communities to natural resources (e.g. grazing land) will be based on a participatory resource mapping, involving all affected stakeholders, and on their consent regarding the scale of restriction and the type of mitigation measures to compensate any loss of income. Any desired changes by the communities in the ways in which local populations exercise customary tenure rights in the project sites will not be imposed on them, but will emerge for a consultative process satisfactory to the World Bank. Annual project work plans including management arrangements for community access to resources in project sites and associated mitigation measures will require World Bank agreement.

Restrictions by surrounding communities to utilize resources are possible, but such restrictions to resource access are not expected to be introduced by the government or project entities. Rather, they will be based on the consent of the community. In fact, specific forms of resource use may continue on a reduced scale or may be restricted, but these actions would evolve through an internal community decision making process, and alternative income or resource generations measures will be agreed with those who may face the loss of some income as a result of restrictions.

Field based consultations also indicated that there were no social groups present in these communities with a social and cultural identity distinct from the dominant society that would make them vulnerable to being disadvantaged in the development process. Since project activities are based on local demands and identified through a highly participative and inclusive process, the policy required of the World Bank's OD 4.20 on Indigenous Peoples to ensure the participation of indigenous and vulnerable groups in the decision making through out the planning and implementation phase of the project, and that these groups are provided assistance in accordance to their priorities are addressed by the design of the project. To effectively monitor project impacts on the vulnerable, the socio-economic baseline established for the project will include specific data on representative vulnerable households (e.g. women and women headed households, the most poor, farmers with marginal land holdings and the landless).

To assess the precise nature and magnitude of social impacts, each proposed activity under the project will be subjected to social screening. The project does not intend to undertake any activity that requires the physical relocation of people or acquisition of private or community land. Social screening will identify where the potential for such impacts is possible, and ensure that such activities are excluded from the project. In addition, it will identify if the proposed activity entails restriction of access to natural resources and ensure that such have activities have gone through the consultative process. If the proposed activity entails restriction of access to *tsamdo* or forest resources, the *tshogpa* will organize a *chiog* meeting to discuss with the local community the rationale of the activity and seek community consensus for the activity.

For each pilot project geog, a *Geog* SLM Planning Team (GPT) will be constituted to provide technical and planning inputs for implementation of project supported activities. The GPT would consist of a *Geog* SLM Field Coordinator (GFC) and 2-4 social mobilizers. The GPT's primary responsibility will be: (i) information dissemination, social mobilizations and strengthening of the *chiog* role in local decision making and prioritization of local needs that would feed into the overall *geog* level plans; (ii) the assessment of extent of land degradation and baseline scenario and identification of underlying causes for such degradation in the respective *chiogs*; (iii) facilitation of a multi-sectoral approach to community decision making on options for sustainable management of vulnerable community, public and private lands to reverse or mitigate against existing or potential future land degradation in the *chiogs*; (iv) implementation of sustainable land management activities in conjunction with local communities, including controls/rules established by the communities on the use of these lands; (v) implementation of community development and income generating activities to mitigate any limitations in community induced restrictions on resource access; (vi) monitoring of community sustainable land management activities; (vii) liaising with RNR and other sector staff to support the multi-sectoral approach to land management at the *chiog* levels; (viii) ensuring that social and environmental screening and mitigation action are planned and implemented at the *chiog* level; (ix) ensure that local communities have access to technical support and capacity development in the implementation of SLM activities from the project or *Dzongkhag* administration; and (x) evaluate regularly with *geog* RNR staff the lessons and experiences from multidisciplinary planning approach. All management arrangements and community investments at the *chiog* level will be detailed in a *chiog* SLM annual plan that would form a memorandum of understanding between the respective *chiogs* and the GPT.

To enable implementation of communally-agreed restriction of access to natural resource, the GPT will help the local community draw up an intra-community agreement if users belong to the same *chiog*. Where users (even if secondary) include communities from different *chiogs* but within the same *geog*, the GPT will help the concerned communities to draw up an inter-community agreement. The GPT will facilitate the development of these agreements in coordination with the GYT. All intra- and inter-community agreements between communities of the same *geog* will be reviewed and approved by the GYT with the *Gup* as the approving signatory. The development of the agreements will be on a case-by-case basis. Apart from defining the restrictions, it will define mechanisms or measures to prevent violation and redress grievances under the oversight of the GYT. Where restriction of access to natural resource involves communities from different *geogs* or *dzongkhags*, the GPT will help the local

communities within the geog to prepare a community proposal for submission to the DYT through the GYT.

The PMT/MoA will provide overall support at the national level for planning and implementation of the SLM approach in the pilot *geogs* and for their up-scaling, as well as facilitate and monitor the development and promotion of the policy, regulatory and legal reform for implementation of multi-sectoral SLM activities throughout Bhutan. The PMT will also coordinate with the line agencies for delivery of project specific activities and support to the *geogs* and *dzongkhags* as well as liaise with Danida's EUSPS project. The PMT/MoA will be supported by a multi-sectoral Technical Advisory Committee to ensue sectoral inputs to the multi-sectoral working mode. A Project Steering Committee at the national level will help coordinate between SLM project and Danida's EUSPS activities, including selection of new *geogs* for up-scaling, capacity building, information management, technical documentation of lessons and experiences and impact assessment as well a use of long and short term consultants and the conduct of joint reviews and evaluation.

Training will be needed for *Geog* SLMP Field Coordinators, *Geog* SLMP Planning Teams, GYT members, and geog RNR extension agents, on the implementation of the Process Framework with special attention to developing their knowledge and skills for community orientation, consultative planning, and PRA tools and techniques. This training will need to be conducted at the immediate onset of project implementation in each geog where SLMP activities are to take place.

Recording and redressing grievances will be established at the geog level and implemented under the oversight of the GYT.

## Annex 11: Project Preparation and Supervision

### BHUTAN: Sustainable Land Management Project

	Planned	Actual
GEF Pipeline Approval	11/11/2003	12/11/2003
PCN review	12/22/2003	01/20/2004
Initial PID to PIC	12/22/2003	02/10/2004
Initial ISDS to PIC	12/22/2003	01/30/2004
GEF Council Approval	11/19/2004	07/29/2005
Appraisal	08/15/2005	10/03/2005
Negotiations	11/21/2005	
Board/RVP approval	01/17/2006	
Planned date of effectiveness	02/15//2006	
Planned date of mid-term review	02/29/2009	
Planned closing date	02/29/2012	

#### Key institutions responsible for preparation of the project:

Ministry of Agriculture, Thimpu, Bhutan

#### Bank staff and consultants who worked on the project included:

Name	Title	Unit
Ai Chin Wee	Senior Operations Officer (TTL until November 30, 2004)	MNSRE
Malcolm Jansen	Senior Environmental Specialist (TTL since January 01, 2005)	SASES
Yuka Makino	Natural Resource Mng. Specialist	SASES
Afshan Khawaja	Senior Social Specialist	SASES
Mahadavan Balachandran	Financial Management Specialist	SARFM
Manvinder Mamak	Financial Management Specialist	SARFM
Roger White	Consultant	
Barry Deren	Consultant	
Kirsten Ewers-Andersen	Consultant	
Debabrata Chakraborti	Procurement Specialist	SARPS
Ali Awais	Lawyer	LEGMS
Thao Le Nguyen	Senior Finance Officer	LOAG2
Ghazali Raheem	Consultant	
Yeshey Lhendup	Consultant	
Christian Pieri	Consultant	
Gary Costello	Consultant	
Richard Damania	Natural Resource Economist	SASES
Cecilia Belita	Senior Program Assistant	SASES
Siet Meijer	Consultant	SASES
Frederick Swartzendruber	Consultant	SASES

Bank funds expended to date on project preparation:

1. Bank resources (BBGEF): US\$322,547
2. Trust funds: US\$0
3. Total: US\$322,547

Estimated Approval and Supervision costs:

1. Remaining costs to approval: US\$ 40,000
2. Estimated annual supervision cost: US\$80,000

## **Annex 12: Documents in the Project File**

### **BHUTAN: Sustainable Land Management Project**

1. RGoB, Bhutan Vision, 2001
2. RGoB, DYT Chathrim, 2002 (revised)
3. RGoB, GYT Chathrim, 2002 (revised)
4. RGoB, 9<sup>th</sup> Five-Year Plan
5. RGoB/NEC, 9<sup>th</sup> Five-Year Plan, Environmental Sector Plan (2002-2007)
6. RGoB/MoA, 9<sup>th</sup> Five-Year Plan, RNR Sector
7. RGoB/Norad, State of the Environment, Bhutan, 2001
8. RGoB/MoA, Renewable Natural resource Statistics, 2000
9. RGoB/NEC, The Middle Path, National Environment Strategy of Bhutan, 1998
10. RGoB/MoA, Manual of Monitoring and Evaluation Procedures
11. RGoB/MoF, Poverty Reduction Strategy Paper, 2004
12. RGoB/NEC, Institutionalizing and Strengthening of the EA Process, 1999
13. RGOB/MoA, Community Based NRM in Bhutan, A Framework, 2002
14. RGoB, Biodiversity Action Plan for Bhutan, 2002
15. RGoB, Bhutan Trust Fund for Conservation, Annual Report, 2002
16. Danida, Environment and Urban Sector Program Support, 2003
17. Walter Roder, Grazing Management of Temperate Grasslands and Fallows
18. Chencho Norbu etal, Types of land degradation in Bhutan,
19. Helvates, East Central Region, Agricultural Development Project Document, 2002
20. Wang Watershed Management Project, 2001
21. Decentralized and Participatory Planning for NRM in Bhutan, 2001
22. UNDP, Capacity Building for SLM Project, Draft Proposal, 2005
23. WWF, Project Proposal, Bhutan Integrated Biodiversity Information System, 2002
24. World Bank, Country Assistance Strategy, 2002

## Annex 13: Statement of Loans and Credits

### BHUTAN: Sustainable Land Management Project

Project ID	FY	Purpose	Original Amount in US\$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
P087150	2005	Decentralized Rural Development	0.00	7.00	0.00	0.00	0.00	6.26	0.18	0.00
P074114	2004	Education Development Project	0.00	31.00	0.00	0.00	0.00	28.46	4.13	0.00
P083169	2004	HIV/AIDS and STI Prevention and Control	0.00	0.00	0.00	0.00	0.00	4.89	-0.13	0.00
P057570	2000	DEVELOPMENT PROJECT	0.00	10.80	0.00	0.00	0.00	1.97	1.49	1.52
P059481	2000	RURAL ACCESS ROADS	0.00	11.60	0.00	0.00	0.00	2.88	2.51	0.00
P009574	1998	EDUCATION II	0.00	13.70	0.00	0.00	0.00	1.45	1.43	1.39
<b>Total:</b>			0.00	74.10	0.00	0.00	0.00	45.91	9.61	2.91

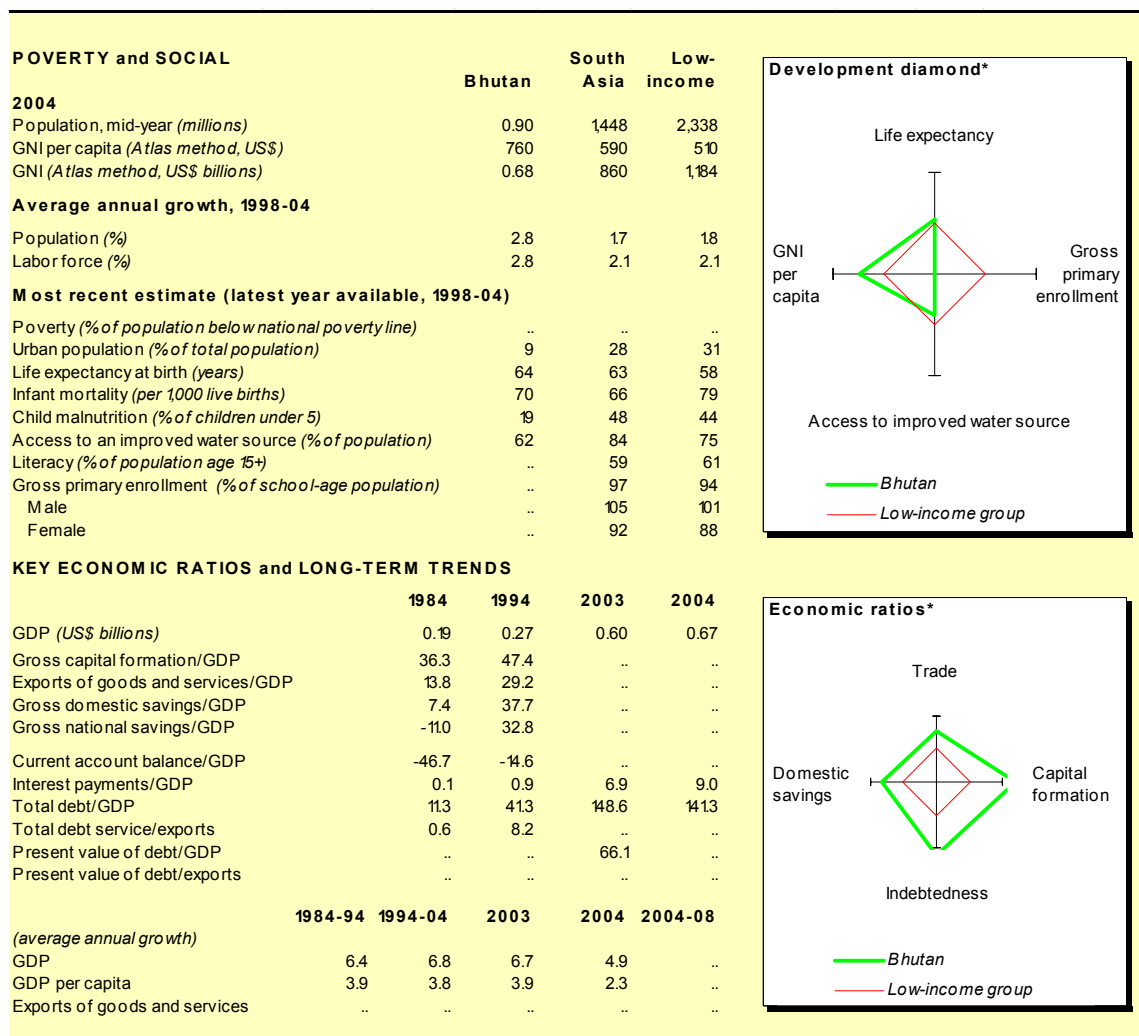
### BHUTAN STATEMENT OF IFC's Held and Disbursed Portfolio In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
2004	BRCL	10.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00
Total portfolio:		10.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic.
Total pending commitment:		0.00	0.00	0.00	0.00

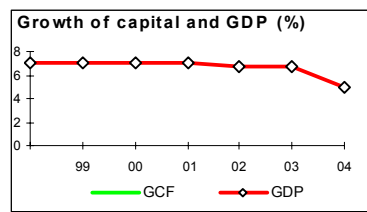
## Annex 14: Country at a Glance

### BHUTAN: Sustainable Land Management Project



#### STRUCTURE of the ECONOMY

	1984	1994	2003	2004
(% of GDP)				
Agriculture	54.3	42.0	33.2	..
Industry	20.2	29.6	39.5	..
Manufacturing	5.3	10.7	7.7	..
Services	25.6	28.4	27.3	..
Household final consumption expenditure	68.2	43.9	..	..
General gov't final consumption expenditure	24.4	18.5	..	..
Imports of goods and services	42.7	39.0	..	..



	1984-94	1994-04	2003	2004
(average annual growth)				
Agriculture	2.8	4.0	4.1	..
Industry	10.7	9.4	7.3	..
Manufacturing	14.8	3.2	10.1	..
Services	8.6	7.0	8.3	..
Household final consumption expenditure	..	..	..	..
General gov't final consumption expenditure	..	..	..	..
Gross capital formation	8.3	..	..	..
Imports of goods and services	..	..	..	..

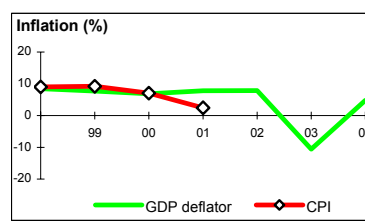
Note: 2004 data are preliminary estimates.

This table was produced from the Development Economics LDB database.

\* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will

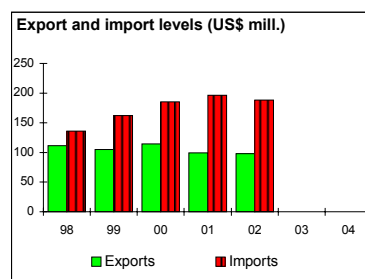
**PRICES and GOVERNMENT FINANCE**

	1984	1994	2003	2004
<b>Domestic prices</b>				
(% change)				
Consumer prices	..	5.9	..	..
Implicit GDP deflator	9.8	10.5	-10.6	4.8
<b>Government finance</b>				
(% of GDP, includes current grants)				
Current revenue	..	19.4	..	..
Current budget balance	..	1.3	..	..
Overall surplus/deficit	..	-17.5	..	..



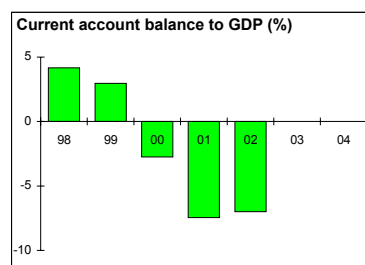
**TRADE**

	1984	1994	2003	2004
(US\$ millions)				
Total exports (fob)	15	63	..	..
Agricultural products	..	8	..	..
Electricity	..	17	..	..
Manufactures	..	..	..	..
Total imports (cif)	68	93	..	..
Food	..	29	..	..
Fuel and energy	..	11	..	..
Capital goods	..	..	..	..
Export price index (2000=100)	..	..	..	..
Import price index (2000=100)	..	..	..	..
Terms of trade (2000=100)	..	..	..	..



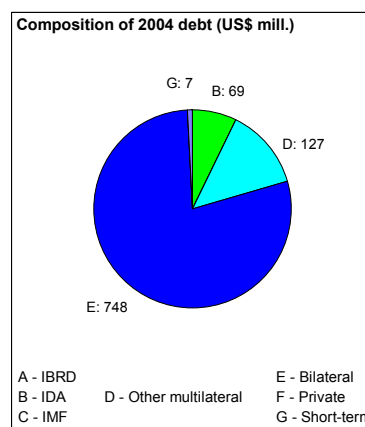
**BALANCE of PAYMENTS**

	1984	1994	2003	2004
(US\$ millions)				
Exports of goods and services	33	84	..	..
Imports of goods and services	120	130	..	..
Resource balance	-87	-47	..	..
Net income	0	0	..	..
Net current transfers	0	7	..	..
Current account balance	-87	-40	..	..
Financing items (net)	88	52	..	..
Changes in net reserves	-1	-13	..	..
<b>Memo:</b>				
Reserves including gold (US\$ millions)	..	107	..	..
Conversion rate (DEC, local/US\$)	11.4	31.4	46.6	45.3



**EXTERNAL DEBT and RESOURCE FLOWS**

	1984	1994	2003	2004
(US\$ millions)				
Total debt outstanding and disbursed	21	113	885	951
IBRD	0	0	0	0
IDA	2	23	64	69
Total debt service	0	7	46	127
IBRD	0	0	0	0
IDA	0	0	1	1
Composition of net resource flows				
Official grants	18	26	0	..
Official creditors	11	13	284	66
Private creditors	0	-2	0	0
Foreign direct investment (net inflows)	0	1	0	..
Portfolio equity (net inflows)	0	0	0	..
World Bank program				
Commitments	0	0	0	0
Disbursements	2	1	4	5
Principal repayments	0	0	1	1
Net flows	2	1	4	5
Interest payments	0	0	1	1
Net transfers	2	1	3	4



Note: This table was produced from the Development Economics LDB database.

## **Annex 15: Incremental Cost Analysis**

### **BHUTAN: Sustainable Land Management Project**

#### **General Environmental Conditions**

The Kingdom of Bhutan, with a total area of 40,076 km<sup>2</sup>, is a small, landlocked, mountainous country in the Eastern Himalayan region. It is bordered by the Indian states of Arunachal Pradesh to its east, Assam and West Bengal to its south, and Sikkim to its west. The northern border is shared with the Tibetan Autonomous Region of China.

The strong conservation ethic of the Bhutanese people and a relatively low human population density have until recently contributed greatly to the preservation of the country's rich biological diversity. Conservation is a central tenet of Buddhism, the dominant religion. RGoB's policy has been to ensure that the process of development in all its aspects should be consistent with maintaining the environmental and cultural integrity of the country. This guiding principle is the essential basis for Bhutan's sustainable development strategy, which was elaborated further in the 1990 Paro Resolution on Environment and Sustainable Development. Twenty-six percent of the country is under protected area management. In 1995, the 73rd Session of the National Assembly ruled that not less than 60 percent of the country must remain under forest cover.

As yet Bhutan has little to sell to the outside world to pay for its numerous needs. Foremost among these needs is the cost of funding its social development. The very policies that preserve Bhutan's rich natural beauty and biodiversity restrict the commercial exploitation of the raw material upon which most national development schemes are based in other countries. There are tight restrictions on commercial logging aimed at preserving the forest cover, soil and water resources.

Land under cultivation is only 7.8 percent of the total land area of the country. Even of this small area, too high a proportion is on slopes that are too steep for cultivation without the risk of erosion in the short term. Nearly 30 percent of the cultivated area is under *tseri* or other forms of shifting cultivation, which is supposed to be phased out on environmental grounds (Ministry of Planning 1996), but, in many places where it is practised, it may be the only feasible low-input system of crop production. As there is no evidence of the existence anywhere in the county of an equivalent area that is suitable for permanent cultivation, the phasing out of shifting cultivation is a major challenge to be addressed.

Livestock owned by 90 percent of rural families are an important source of meat, milk, draught power and manure. At present land for pasture comprises only around 3.8 percent of the land area. The major source of cattle feed comes from grazing and foraging in the forest. Thus, the threats of permanent damage to increasing areas of forest cover and risk of pollution of water sources are very real. Any permanent damage to forest areas in water catchment areas would have serious consequences for the high-priority hydropower sector. A deterioration of water quality also affects populations beyond Bhutan's borders. Bhutan has four major, fast-moving river systems that drain into India. Water quality in India is potentially at risk and increases in run-off affect the risks of downstream flooding as well.

Despite pressures of development and limited economic opportunities, RGoB has made it a policy to avoid over-exploitation of its forests and minerals. The Government has chosen instead to forego immediate economic gains and has placed a higher priority on the conservation of natural resources. Nevertheless, environmental concerns linked to current land uses are becoming increasingly salient.

The country has presently approximately 29,045 km<sup>2</sup> under forest cover, comprising 72.5 % of the country's total area according to the land use survey of 1995, conducted by the Ministry of Agriculture. The survey categorizes a total of 3,258 km<sup>2</sup> of this area as degraded forest area and natural scrub forest. An additional area of about 950 km<sup>2</sup> has been identified as areas of land erosion and landslides.

The Department of Forestry has recently estimated the annual rate of forest degradation in Bhutan at 0.5 %, based on a comparison to data collated by the 1991 master plan for forestry which indicated that degraded forestland amounted to 2,316 km<sup>2</sup>. Although this assessment appears reasonable in view of available land use data and anecdotal observations, time series data are substantially incomplete and/or at too broad a scale to shed much information on processes contributing to current and potential problems. This preliminary estimate of forest degradation is an average figure that obscures the severity of damage concentrated in relatively few areas. Similar data problems exist regarding the extent, frequency and severity of land degradation outside forest areas. Much work needs to be done towards setting up a practical environmental information system that could generate useful geostatistics. In the meanwhile, current statistical 'snapshots' suggest areas of concern in line with past in-country analyses and some which appear to be inconsistent. The following tables illustrate some of these issues.

**Table 1: Distribution of Principal Land Uses by *Dzongkhag* and Distribution of Land Holders**

<i>Dzongkhag</i>	% Total Area of Bhutan	Forest Area as % of Total Area	Pasture Area as % of Total Area	Agricultural Area as % of Total Area	% Distribution of All Land Holders
Bumthang	6.8%	4.5%	0.6%	0.1%	1.8%
Chhukha	4.5%	3.9%	0.1%	0.4%	5.2%
Dagana	3.5%	2.8%	0.0%	0.4%	2.8%
Gasa/Punakha	13.4%	5.8%	0.6%	0.1%	2.9%
Haa	4.3%	3.4%	0.3%	0.1%	1.5%
Lhuntse	7.2%	5.4%	0.2%	0.3%	3.9%
Mongar	4.9%	4.3%	0.0%	0.5%	6.7%
Paro	3.2%	2.1%	0.2%	0.2%	3.6%
Pemagatshel	1.3%	0.7%	0.0%	0.6%	3.9%
Samdrup Jongkhar	5.8%	4.5%	0.0%	1.1%	6.4%
Samtse	3.9%	3.2%	0.0%	0.6%	12.0%
Sarpang	5.7%	4.8%	0.0%	0.7%	8.7%
Thimphu	4.8%	2.7%	0.8%	0.1%	2.9%
Trashigang/T. Yangtse	9.3%	7.2%	0.4%	1.1%	19.7%
Trongsa	4.5%	3.9%	0.2%	0.3%	2.1%
Tsirang	1.6%	1.2%	0.0%	0.3%	8.9%
Wangdue Phodrang	10.0%	7.4%	0.4%	0.2%	4.1%
Zhemgang	5.3%	4.6%	0.0%	0.6%	2.9%
Total	100.0%	72.5%	3.9%	7.7%	100.0%

**Table 2: Distribution of Forest, Pasture and Agricultural Areas by Dzongkhag**

<i>Dzongkhag</i>	Area (ha)	Forest Area (ha)	Pasture Area (ha)	Agricultural Area (ha)
Bumthang	272524	180347	25649	4008
Chhukha	180347	157903	4008	16031
Dagana	140270	112216	0	16031
Gasa/Punakha	537032	232447	24046	4008
Haa	172331	136262	12023	4008
Lhuntse	288554	216416	8015	12023
Mongar	196377	172331	0	20039
Paro	128246	84162	8015	8015
Pemagatshel	52100	28054	0	24046
Samdrup Jongkhar	232447	180347	0	44085
Samtse	156300	128246	0	24046
Sarpang	228439	192370	0	28054
Thimphu	192370	108208	32062	4008
Trashigang/T. Yangtse	372716	288554	16031	44085
Trongsa	180347	157903	8015	12023
Tsirang	64123	48092	0	12023
Wangdue Phodrang	400770	296570	17634	8015
Zhemgang	212408	184354	0	24046
Total	4007700	2904781	155499	308593

**Table 3: Breakdown of Principal Land Uses by Dzongkhag**

<i>Dzongkhag</i>	% Area of Dzongkhag Under Forest	% Area of Dzongkhag Under Pasture	% Area of Dzongkhag Under Agriculture
Bumthang	66.2%	9.4%	1.5%
Chhukha	87.6%	2.2%	8.9%
Dagana	80.0%	0.0%	11.4%
Gasa/Punakha	43.3%	4.5%	0.7%
Haa	79.1%	7.0%	2.3%
Lhuntse	75.0%	2.8%	4.2%
Mongar	87.8%	0.0%	10.2%
Paro	65.6%	6.3%	6.3%
Pemagatshel	53.8%	0.0%	46.2%
Samdrup Jongkhar	77.6%	0.0%	19.0%
Samtse	82.1%	0.0%	15.4%
Sarpang	84.2%	0.0%	12.3%
Thimphu	56.3%	16.7%	2.1%
Trashigang/T. Yangtse	77.4%	4.3%	11.8%
Trongsa	87.6%	4.4%	6.7%
Tsirang	75.0%	0.0%	18.8%
Wangdue Phodrang	74.0%	4.4%	2.0%
Zhemgang	86.8%	0.0%	11.3%

**Table 4: Areas of Degraded Forest/Scrub Forest by Dzongkhag**

<i>Dzongkhag</i>	Scrub/ Degraded Forest (ha)	% Total Scrub/ Degraded Forest	% of <i>Dzongkhag</i> Forest Classed as Degraded/Scrub
Bumthang	46447	14.3%	25.8%
Chhukha	3198	1.0%	2.0%
Dagana	3801	1.2%	3.4%
Gasa/Punakha	67514	20.7%	29.0%
Haa	28199	8.7%	20.7%
Lhuntse	42850	13.2%	19.8%
Mongar	3757	1.2%	2.2%
Paro	7927	2.4%	9.4%
Pemagatshel	269	0.1%	1.0%
Samdrup Jongkhar	2759	0.8%	1.5%
Samtse	2044	0.6%	1.6%
Sarpang	2201	0.7%	1.1%
Thimphu	17222	5.3%	15.9%
Trashigang/T. Yangtse	43320	13.3%	15.0%
Trongsa	17910	5.5%	11.3%
Tsirang	175	0.1%	0.4%
Wangdue Phodrang	33873	10.4%	11.4%
Zhemgang	2347	0.7%	1.3%
Total	325813	100.0%	

**Table 5: Distribution of Forest Areas Identified by the Forest Department as Degraded**

<i>Dzongkhag</i>	Forest Areas Identified as Degraded (ha)	% Total Degraded Areas	% of <i>Dzongkhag</i> Scrub/Degraded Area
Bumthang	25	0.7%	0.1%
Chhukha	800	21.6%	25.0%
Dagana	171	4.6%	4.5%
Gasa/Punakha	75	2.0%	0.1%
Haa	15	0.4%	0.1%
Lhuntse	263	7.1%	0.6%
Mongar	283	7.7%	7.5%
Paro	266	7.2%	3.4%
Pemagatshel	130	3.5%	48.2%
Samdrup Jongkhar	105	2.8%	3.8%
Samtse	91	2.5%	4.5%
Sarpang	174	4.7%	7.9%
Thimphu	257	6.9%	1.5%
Trashigang/T. Yangtse	777	21.0%	1.8%
Trongsa	55	1.5%	0.3%
Tsirang	66	1.8%	37.9%
Wangdue Phodrang	97	2.6%	0.3%
Zhemgang	51	1.4%	2.2%
Total	3700	100.0%	

**Table 6: Distribution of Areas of Soil Erosion and Landslides**

<i>Dzongkhag</i>	Landslides/ Erosion (ha)	% Total Landslides/ Erosion
Bumthang	4330	4.5%
Chhukha	279	0.3%
Dagana	78	0.1%
Gasa/Punakha	51119	53.6%
Haa	6188	6.5%
Lhuntse	2855	3.0%
Mongar	156	0.2%
Paro	7657	8.0%
Pemagatshel	29	0.0%
Samdrup Jongkhar	789	0.8%
Samtse	697	0.7%
Sarpang	307	0.3%
Thimphu	8081	8.5%
Trashigang/T. Yangtse	279	0.3%
Trongsa	226	0.2%
Tsirang	50	0.1%
Wangdue Phodrang	12176	12.8%
Zhemgang	134	0.1%
Dzongkhag	95430	100.0%

If the data area correct, which date back to 1995, the tables show a considerable mix of conditions. Some *dzongkhags* have substantial areas of scrub/degraded forests such as Bumthang, but a relatively small percentage of the areas identified as degraded (due to overgrazing, shifting cultivation, etc) as opposed to being natural scrub forests. In Chhuka, a relatively small area of the *dzongkhag's* forest areas has been identified overall as scrub/degraded, but a large portion of this area has been identified as degraded. In Gasa and Punakha *dzongkhags* combined a substantial percentage of the forest area has been identified as scrub/degraded, but apparently only a small area within this area is degraded. Nevertheless, Gasa and Punkha together have the largest areas of soil erosion and landslides. In some *dzongkhags* the distribution of land holders seems to correlate with the distribution of degraded forest areas but not with the distribution of areas of soil erosion and landslides. Similarly some *dzongkhags* with relatively larger areas of land under cultivation also correspond with larger areas of forest degradation, but not with soil erosion and landslides. The earlier 1991 Master Plan for Forestry Development employed such data to show that in absolute magnitudes the *dzongkhags* of of Samtse, Chhukha, Zhemgang, Sarpang, Monggar, Trashigang and Samdruk Jongkhar have the largest areas of degraded forest; although, the inclusion of Zhemgang does not appear to be correct (as explained below large-scale assessments of physical degradation do not necessarily reflect degradation of forest quality).

Despite the fact that current land statistics for Bhutan are of limited utility for exploration or diagnosis, they are consistent with a consensus among technical staff and local governance within the country that the heterogeneous topography of Bhutan when coupled with local socio-economic conditions are generating distinctive environmental problems that are not readily generalized. The impacts of these distinctive local problems, however, are cumulative within watersheds and downstream of watersheds.

The local consensus draws the following conclusions: :

- a) A large part of degraded forest and non-forest land is clustered around human settlements.
- b) Degraded forests are concentrated in the tropical and subtropical hardwood zones, but other ecological zones are also affected.
- c) The largest part of the degraded forest land is on south –west slopes where inappropriate farming practices on un-terraced and some terraced fields contribute to degradation.
- d) On the south-west slopes, a majority of the degraded forest land has a slope of more than 100 percent.
- e) Degraded forest land is mostly concentrated to the southern part of the country.
- f) The loss of local ecosystem l services provided by forests adjoining settlements is locally perceivable, but the services provided over larger areas – as in the scale of a watershed – are not well understood locally.
- g) Over-grazing is a significant and an increasingly prevalent mechanism contributing to land degradation, and is not necessarily clustered around settlements.
- h) Agricultural and livestock land uses that generate land degradation problems are frequently interactive: land degradation is best addressed by considering issues concerning rural livelihoods in concert, not in isolation of one another.
- i) Deforestation, forest fires and cultivation contribute to the occurrence of landslides, resulting in damage to infrastructure and areas that support sustainable rural livelihoods.
- j) Poor water management also contributes to the loss of areas that could be sustainably managed for agricultural and other uses.
- k) Inappropriate alignment and construction of farm and feeder roads and the construction of other poorly sited buildings and infrastructure contribute to the risks of landslides and soil erosion.

The problems associated with forest and land degradation are exemplified by conditions in the eastern region of the country.

### ***Conditions within the Eastern Broadleaved Forests***

One difficulty in measuring forest degradation is that damage may be manifest not so much as by the loss of physical cover of land by forest as by a loss of species composition. The eastern broadleaved forests are temperate climax forests of great age. Ages of 150 to 300 years for the upper canopy dominants are not unusual and have been confirmed by counting growth rings in recently felled trees in harvested areas. The majority of the species of trees present in the canopy comprise just two main families dominants (*Lauraceae* and *Fagaceae*). Judging from the scattered occurrence of large decaying fallen logs, old shattered and rotting stumps and standing dead snags, mortality of the larger trees has occurred continuously in the past at a slow rate, creating gaps into which seedlings of the canopy are recruited. This natural process is continuing to the present day, where branches are shed from snags and whole trunks fall to the ground creating new gaps. Where they have been unaffected by humans or domestic livestock, these forests have become over-mature, senescent communities in which net biomass accumulation approaches zero or may even from time to time be negative.

Nevertheless, this type of forest can be considered healthy still, if the structure, species composition and ecosystem processes are all within the historical range exhibited by that system. The historical reference period is that period during which regional climate has not changed enough to cause a significant directional change in ecosystem potential.

Undisturbed stands may be called healthy under this definition, but it is difficult to consider the 150-300-year-old broadleaved forests of eastern Bhutan as a future renewable timber resource in the commonly accepted sense of the term (however, other harvestable, shorter-lived, non-timber resources such as bamboo in these forests are potentially renewable). After a timber harvesting event, the replacement canopy tree species may be capable of reaching a commercially viable size in 100 –150 years under appropriate silvicultural conditions, including employing artificial regeneration where necessary, but, the time required to do so (a span of more than four to six human generations) greatly exceeds society's current economic and/or social time scales for people's forward thinking and far outstrips the time horizon for future official planning. That is, these forests are renewable for timber only on a geological time scale, not on a much shorter socio-economic time scale. This geological time scale is also very long in relation to the relatively short time now being predicted over which significant global climate change is conjectured to take place and which in turn could cause natural forest type boundaries in Bhutan to shift in terms of both latitude and elevation.

Most of the accessible eastern broadleaved forests are utilised by people living in or near them. The continuing extension of main, feeder and forest access roads makes more and more of these forests accessible to both planned and unplanned commercial and non-commercial human use.

Data show that past selective commercial logging and introduction of large numbers of cattle in the span of one human generation and within one-tenth of one forest upper canopy generation, for example in Korila Forest Management Unit (FMU), have altered an apparently climax forest to one in which the size distributions of timber trees now do not exhibit a perfect reverse-J shape. This is because new seedling regeneration, and mortality of the larger un-logged trees left behind, both occur more sporadically now than was the case before the disturbances. The climax forest has reverted to a serial one. Germinating seedling numbers do not translate into reasonable numbers of saplings and poles in the case of the palatable gap opportunist canopy timber species. Under the influence of heavy grazing, the result is an early successional forest in which the mainly palatable timber trees are failing to regenerate and instead are being replaced by mainly non-palatable non-timber trees. The disturbed stands are therefore unhealthy and in decline both economically and ecologically.

In some areas having less forest coverage than average for the country – Radhi in the Trashigang *dzongkhag*, for example –past land management practices have produced acute conditions. Landslides have become more frequent and extensive as a result of over-grazing, intensive land use practices and poor water management in all eastern *dzongkhags*. In varying degrees these problems are replicated in other parts of the country.

### *Conditions in Western and Central Bhutan*

In western and south western Bhutan blue pine dominates the flora of valley bottoms and is replaced by *populus*, mixed conifers and *Rhododendron* at higher altitudes. Agriculture is pursued relatively intensively in that most of the agricultural land is not left fallow at any time of the year. Competition among alternative land uses is evident in many places. For example, many *sokshing* lands – Government forests registered in an individual's name for the collection of leaf litter – have been converted for horticulture.

The consequences of land use competition are particularly demonstrated in Phuentsholing *geog* in Chhuka *dzongkhag*, which borders India in the southwest of the country. Here, environmental concerns include the following.

- Fuelwood, fodder, and other forest products continue to be collected from the catchment forests without replenishment or sustainable practices. Forests near the border are excessively exploited because they are also illegally used for grazing and collection of fuelwood, fodder and small timber by the burgeoning population on the Indian side. The porous international border makes it difficult for the local forest authorities to enforce controls and restrictions. While data on forest degradation is lacking, local government officials and villagers suggested that forest may have degraded by 20 to 25 per cent over the last 15-20 years.
- Free grazing by cattle is common and is a major impediment to forest regeneration. Double grazing also occurs with migratory herds from Haa and Paro coming to the *geog* in winter because of customary grazing rights owned by the people from these two *dzongkhags*.
- Urban and industrial expansion and attendant development of infrastructure such as roads are major environmental disturbances. There is also increased pollution of air, water and land due to growth in industrial and urban activities. Due to rampant population growth and high housing rental in Phuentsholing Urban Area, settlements of squatters have spawned in peripheral areas, causing pollution and degradation of adjacent forests. According to Phuentsholing Urban Population Survey, September 2003, there are some 125 families, making up altogether 649 people, living in various slums.
- In order to meet growing construction demands in Phuentsholing and adjoining *geogs*, particularly Dala *geog* where the country's largest power project – Tala Hydroelectric Project – is under construction, there is increased quarrying along roads and riverbeds for stone and sand. This is contributing to destabilization of slopes and riverbeds.

In contrast, in central Bhutan, there are areas where population density is significantly less than average for the country as a whole, the environmental issues related to land use are somewhat different, and may represent a preliminary stage of problems that are more fully developed elsewhere.

In Nangkor *geog* of Zhemgang *dzongkhag* provides an example. The *geog* is characterized by rugged terrain and steep slopes with pockets of gently sloping lands. Shifting cultivation is the most dominant land use for agriculture. Given that *tseri* is the most dominant form of agricultural land use, average landholding per household is relatively large. The *geog* has very good forest cover, with nearly 85 per cent of the total area being forested. Pasture is only 0.7 per cent of the total area, but this area is also used by herders from the adjoining Bumthang *dzongkhag* who possess customary grazing rights over much of the pasture in the *geog*.

Although Nangkor, as *geog* representative of Zhemgang *dzongkhag* as a whole, would not appear to have the same population-related problems associated with other regions of Bhutan, it has a number of environmental issues that can become more severe in the future:

- Reduced fallow period, partly induced by legal factors, has made *tseri* unsustainable and is, consequently, contributing to land degradation. Also, there is a desire among the local community to transit from subsistence agriculture to market-oriented farming practices now that market accessibility has been greatly improved with the construction of the Dakpai-Buli road. Local people are also finding *tseri* increasingly unviable due to crop depredation by wild animals and growing shortage of farm labor, especially to guard against crop depredation. The transit from *tseri* to more intensive farming will be environmentally challenging as it will necessitate increased farm inputs and services, including physical infrastructure.
- Although the local livestock population is not very significant, grazing is intensive in some areas due to double grazing, involving resident cattle during summer and migratory herds from Bumthang in winter. Patches of degraded forests have been created in areas where cattle herders camp during the grazing season.
- Human-wildlife conflict, more significantly in the form of crop depredation by wild animals (wild boar, deer, monkey, etc) and to a lesser extent livestock depredation by predators (leopard, wild dog, tiger, etc), is also a key issue. With much of the *geog* being forested and a good habitat for wildlife, incidents of crop and livestock depredation by wildlife are much more common than in many other parts of the country.
- With improved accessibility as a result of the construction of Dakpai-Buli feeder road, the *geog*'s rich forest resources are now more exposed for exploitation. There is a plan to open a forest management unit (FMU) in the area for commercial logging. While logging in the country is by policy required to be within the limits of annual allowable cut based on sustained yield principle, it has its repercussions in terms of disturbance to ecologically sensitive areas, opening up the forest further with construction of logging roads, and deterioration of the existing feeder road and making it prone to landslides due to movement of heavy logging trucks and machinery.

Much of the environmental management policy and legislation development work in Bhutan has taken place over the last ten years. Key policies, legislation and regulations have been established in principal areas to provide the basis of an environmental management policy and legal framework. These instruments include:

- The National Forest Policy, 1974
- The Forest and Nature Conservation Act, 1995
- Forest and Nature Conservation Rules, 2000
- The Environmental Assessment Act, 2000
- Regulation for the Environmental Clearance of Projects, 2002
- Regulation for Strategic Environmental Assessment, 2002
- The Pesticides Act of Bhutan, 2000
- The Mines and Minerals Management Act, 1995
- The Biodiversity Act of Bhutan, 2003
- Draft Urban Act

While these enactments constitute a rather comprehensive basis for a practical policy and legal framework, these efforts have not led to a regular institutional process for incorporating technical, environmental considerations in land use planning and practices at the *chiog* (village), *geog*, *dzongkhag* and national levels, particularly across sectors (forestry, livestock, agriculture, wildlife, rural and urban infrastructure, and water).

## **Analysis**

### **The Baseline Scenario**

The Baseline Scenario includes activities undertaken by following parties.

**Government.** The Government will maintain current levels of expenditure for rural development in the pilot areas of the Project and elsewhere in the country in the sectors of forestry, livestock, agriculture and rural infrastructure. Projected baseline costs in the future without the Project are based on average annual expenditures of the Ninth Five-Year Plan. These planned expenditures include planned expenditures at the *dzongkhag* and *geog* levels for capital and current cost outlays in agriculture, livestock, forestry, roads (including mule tracts), power and telecommunications. They also include expenditures in the areas of human resource development (HRD) and environmental regulation.

**Donors and IFIs.** The RGoB heavily relies on the support of external donors to finance the priorities outlined in its five-year development plans. Under the baseline scenario this support continues within the framework of the Ninth and Tenth Five-Year Plans.

**Baseline Costs.** The full Baseline Scenario is therefore estimated to cost approximately **USD 173.4 million** in 2005 constant values, or approximately **USD 196.5 million** including price contingencies. This estimate includes financial resources allocated or to be allocated for activities related to agriculture, livestock, forestry and rural infrastructure, including roads, telecommunications and power, HRD and environmental regulation. This baseline scenario is consistent with current national development goals and institutional capacity.

**Baseline Benefits and Constraints.** Under the Baseline Scenario the Government will continue to pursue priorities set out in its development planning, which at the local and national levels does not embody sustainable land use management, integrated across technical sectors. Incremental improvements in rural livelihoods and some reduction in poverty will be achieved but in time will become increasingly more difficult to maintain as losses in soil fertility and grazing pressures on fragile lands increase requirements for agricultural inputs and demands to convert forest areas, in areas more remote from settlement areas than is now the case, for shifting cultivation undertaken in compensation for declining farm incomes. In some locations *tseri* in principle can be carried out responsibly, provided suitable soil conservation precautions are undertaken and cultivation follows appropriate practice. Current institutional and administrative conditions, however, are not such to assess or guide a proper role for *tseri* cultivation in sustainable land management in rural areas, and trends in land degradation with its associated downstream impacts are likely to continue without perceivable abatement in the future. At the same time difficulties in sustaining rural livelihoods would occasion pressures upon urban areas due to expanding migration and so exacerbate on-going land use disturbances at the boundaries of rural and urban areas.

### **GEF Alternative**

**Scope.** The GEF Alternative embodies a project that will intervene in several significant areas, including local governance, technical capacity building, human resource development, on-the-ground forest/rangeland investments, targeted research, information dissemination and environmental monitoring in order to realize potential global benefits for sustainable land management and biodiversity conservation. In particular, the GEF Alternative will provide

- assistance to support participatory processes that promote SLM planning and decision making,
- environmentally beneficial approaches (e.g., capacity building in land use planning and management, in analysis of geographic information, in incentive and other policy frameworks) that improve the effectiveness and sustainability of land management,
- increased investments in the rehabilitation of pasture lands and promotion of innovative forest rehabilitation/development,
- knowledge generation and demonstration of best alternatives to inappropriate land use,
- environmental monitoring of land degradation trends.
- incremental support for the additional project administration requirements

Under the GEF Alternative resources that would become available under the remainder of the Ninth Five-Year Plan and during the Tenth Five-Year Plan are expected to have a fuller and more sustainable developmental impact than would be the case under the baseline scenario. This would occur as all stakeholders, at both local and central levels, will have the tools and capability to decide upon the use of financial physical resources for development in a manner oriented to achieving the implementation of sound, comprehensive land use management.

**Cost.** The total cost of the GEF Alternative is estimated for the 6 years period at the level of about **USD212.4 million** (including contingencies). The Baseline Scenario, GEF Alternative and incremental costs, as well as corresponding local, national and global benefits, are displayed in summary form in the following table.

### Incremental Cost Analysis Summary

Project Component	Baseline	Alternative (Baseline +Increment)	Increment
<p><b>Component 1:</b> Pilot projects to demonstrate effective application of land degradation prevention approaches</p>	<p>Continuation of standard agricultural extension messages within <i>geogs</i>.</p> <p>Increased agricultural production and limited poverty reduction. Limited experience on identification and adoption of SLM practices.</p> <p>Cost: USD 97.7 million</p>	<p>Transition to more sustainable livelihoods by supporting pilot activities in SLM. Increased community involvement in land and NR management leading to:</p> <ul style="list-style-type: none"> <li>• A slowing of the rate of local deforestation.</li> <li>• Reversal of ecological and economic decline of forests.</li> <li>• Reduction of frequency and severity of landslide damage to local infrastructure and livelihoods.</li> <li>• Improved soil fertility and restoration of agricultural land.</li> <li>• Preservation of hydro-electric generation potential and supplies of clean and renewable energy</li> <li>• Sustainable rural livelihoods.</li> <li>• Reduction of pressure to open new <i>tseri</i> lands.</li> </ul> <p>Demonstration and development of viable incentives within and between local communities in support of:</p> <ul style="list-style-type: none"> <li>• Reducing damage caused by excess runoff and siltation.</li> <li>• Reducing local flood damage and potential damage to hydro-electric infrastructure and national income.</li> </ul>	<p>Enhancement of ecosystem services such as water quality, flood control, land productivity, improved biodiversity and C sequestration.</p> <p>Demonstration of reduction of impacts of land degradation and identification of replicable models for other rural areas in Bhutan and South Asian and Southeast Asian regions.</p> <p>Maintenance of water quality and water quantity over time of targeted trans-boundary watersheds and rivers.</p> <p>Reduction of risks of downstream flooding in and outside of Bhutan.</p> <p>Increased storage of greenhouse gases and carbon sequestration in targeted <i>geogs</i>.</p> <p>Decreased deforestation and preservation of land cover in targeted <i>geogs</i>.</p> <p>Improved conservation of flora of potential pharmacological value.</p> <p>Reduction of risks to habitats serving as refuges for fauna whose populations have declined or are endangered in other areas of the Himalayan range.</p> <p>Preservation of landscapes that have influenced the development and</p>

		<ul style="list-style-type: none"> <li>• Preserving fauna and flora in fragile alpine ecosystems.</li> <li>• Preserving the knowledge and use of indigenous medicine</li> <li>• Protection of riparian habitats</li> <li>• Reduction of sediment flows.</li> </ul> <p><b>Cost:</b> USD 100.1 million</p>	<p>continuity of a distinct Bhutanese culture, society and heritage.</p> <p><b>Cost:</b>          GEF: USD 1.37 million          Danida: USD 0.60 million          Other: USD 0.48 million          Total: USD 2.45 million</p>
<p><b>Component 2:</b>          Mainstreaming of practices for protection against land degradation</p>	<p>On-going staff training within technical line agencies on sector-specific topics.</p> <p><b>Cost:</b> USD 96.9 million</p>	<p>Preparation of wide range of stakeholders for SLM and improved livelihood opportunities; expansion of SLM throughout the kingdom.</p> <p>Development of appropriate tools and techniques for SLM.</p> <p>Increased national and local understanding of ecological, economic and social consequences of alternative uses of natural resources.</p> <p>National research programmes adapted towards local SLM; research staff trained to conduct re-oriented research agendas.</p> <p>Improved local capacity for sustainable land use decision making.</p> <p>Capacity for interagency participation in the management and development of watersheds and water management.</p> <p>Progress towards the development of an Environmental Management Information System and local geostatistical expertise.</p> <p><b>Cost:</b> USD 106.2 million</p>	<p>Increased capacity in the Himalayan region for effective control of land degradation and biodiversity conservation outside of a formal protected area system.</p> <p>Local capacity in place to contribute more effectively to the achievement and monitoring of SLM for local and global benefits.</p> <p><b>Cost:</b>          GEF: USD 4.41 million          Danida: USD 4.07 million          Other: USD 0.83 million          Total: USD 9.31 million</p>
<p><b>Component 3:</b> Policy support and guidance for</p>	<p>Efforts through traditional sectoral</p>	<p>An improved legal, policy and planning/institutional</p>	<p>Demonstration of good governance regarding</p>

mainstreaming land degradation prevention practices	<p>approaches address broad range of NRM issues especially linked to food security and poverty reduction.</p> <p><b>Cost:</b> USD 1.9 million</p>	<p>framework for SLM management, providing basis for effective adoption of more sustainable on-farm practices and off-farm interventions.</p> <p>Land degradation issues mainstreamed into the local and national development process. An improved approach is developed to plan and promote more sustainable land use, reducing pressure on ecosystem integrity.</p> <p>Increased community commitment in the responsible use of natural resources.</p> <p>Sustainable land use management fully integrated into wider environmental management programs locally and nationally.</p> <p><b>Cost:</b> USD 4.1 million</p>	<p>conservation and sustainable use of biodiversity – practices that can be adapted and replicated in other parts of the region.</p> <p>Institutional capacity in place to contribute more effectively to integrated management of land and other natural resources.</p> <p><b>Cost:</b>  GEF: USD 1.05 million  Danida: USD 1.10 million  Other: USD 0 million  Total: USD 2.2 million</p>
<b>Component 4:</b> National level support for coordination of implementation of land degradation prevention practices	<p>No suitable coordination structure for such a project currently exists.</p> <p><b>Cost:</b> USD 0 million</p>	<p>Project management and co-ordination.</p> <p><b>Cost:</b> USD 1.9 million</p>	<p><b>Cost:</b>  GEF: USD 0.82 million  Danida: USD 0 million  Other: USD 1.15 million  Total: USD 1.97 million</p>
<b>Total Cost</b>	<b>Baseline:</b> USD 196.5 million	<b>Alternative:</b> USD 212.4 million	<b>Increment:</b> GEF: USD 7.66 million Danida: USD 5.77 million Other: USD 2.46 million Total: USD 15.89 million

## Annex 16: STAP Roster Review

### BHUTAN: Sustainable Land Management Project

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26<sup>th</sup> May 2005

#### 1. INTRODUCTION

This Report follows the standard Terms of Reference for STAP reviews and the specific ToRs provided by the World Bank to the reviewer (20 May 2005). This review focuses on the three substantive components of the project (total financing, US\$15.88 million), to be financed by GEF and co-financed by Danida and local partners in Bhutan GEF assistance requested is US\$7.66 million (48% project costs) with co-financing in cash of US\$5.76 million (36%) and local financing in cash and kind of US\$2.46 million (16%). The co-financing proportion of the project is 52%. Leveraging by GEF-financing is, therefore, substantial and at an amount relatively good for a project of this nature in a country with the developmental and environmental constraints of Bhutan.

In addition to project management (GEF cost, US\$0.8 m), the three components with substantial potential global environmental benefits are:

- (1) SLM Planning, Policy, Legislative, and Regulatory Framework established for management of land resources in Bhutan (GEF US\$1.05m; co-fin. US\$1.1m) (this is now referred to as Component 3)
- (2) SLM Approaches Demonstrated & Validated in Pilot *Geogs* (GEF US\$1.4m; co-fin. US\$0.6 m) (this is now referred to as Component 1)
- (3) Institutional system for SLM established sustaining the multi-sectoral approach (GEF US\$4.4 m; co-fin. US\$4.1 m) (this is now referred to as Component 2)

Although there is little reference in the project brief, there are substantial inter-linked developmental benefits in the proposal directed at the poorest sections of the rural community in Bhutan. As the strategic context discussion points out, Bhutan has one of the highest population growth rates, little cultivable land and possibly substantial hidden poverty<sup>6</sup>. Bhutan is ranked 136 in UNDP's 2003 Human Development Index rankings, behind India and only a little above Nepal. SLM is essentially targeted at the shifting cultivators who constitute the greatest immediate threat to global environmental assets in Bhutan. So this project's justification is greatly enhanced by its dual role in protecting the environment and enhancing developmental goals – see Recommendation No. 1.

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<sup>6</sup> Bhutan has a well-developed Poverty Reduction Strategy. See Royal Government of Bhutan (2004) Poverty Reduction Strategy Paper: Ninth Plan Main Document. Department of Planning, Ministry of Finance, Thimpu. <http://www.undp.org.bt/poverty/poverty%20reduction%20strategy%20paper.pdf>

The GEF funding is therefore requested to provide incremental assistance to assure the safe and environmentally-sustainable management of sloping lands in Bhutan, an internationally important country for biodiversity of mountains and tropical forests and a source of considerable sediment and land degradation that affects adjacent areas and neighbouring countries. To an admirable degree, incremental GEF funding for environmental benefits is to be based operationally on cost sharing with Danida.

## 2. KEY ISSUES

### A. Scientific and Technical Soundness of the Project:

The Bhutan Sustainable Land Management (Bhutan-SLM) Project is designed as a joint project with Danida and the Royal Government of Bhutan (RGoB). It shares project management costs with its main co-financer, Danida, with the active participation of the relevant Bhutanese government agencies. It is good to have this high-level national and international level stakeholder involvement.

The Kingdom of Bhutan is the guardian of world-class global environmental assets. It has 72.5% of its total area under forest, which is under increasing pressure. It contains a large and important biodiversity representative of the Eastern Himalaya<sup>7</sup>. As pointed out in the Brief and supported from other sources<sup>8</sup>, Bhutan has a strong conservation ethic built into society and reflected in the 30.2% of the country under protected area status. Further, Bhutan has a Biodiversity Action Plan (2002), with a National Biodiversity Management Board<sup>9</sup> to oversee the plan's operation. An SLM project in Bhutan with its large area of sloping land and landscapes containing so much wild and managed biodiversity will complement and add value to these baseline strengths in the country. The project's attention to planning, policy, legislative and regulatory framework issues as well as to the demonstration of SLM issues and their embedding into Bhutanese institutions is to be welcomed.

The project's Outputs/Components/Intermediate Results (Annex 3, Results Framework)<sup>10</sup> address the 'underlying causes' (cf. Table on p.ii of Summary) of land degradation well. Policy failure and institutional structures that cannot handle cross-sectoral issues are principal reasons for problems in implementing SLM. Technical issues, such as lack of appropriate technologies, are less important but will still be addressed in Component 2. In summary, the Components intend to tackle:

1. Planning, policy and legislation (49% GEF funded)
2. SLM investment activities – demonstration and validation (70% GEF funded)
3. Institutions and capacity (52% GEF-funded)
4. Project Management/implementation of Activities (50% GEF-funded)

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<sup>7</sup> WWF & ICIMOD. 2001. *Ecoregion-based Conservation in the Eastern Himalaya. Identifying Important Areas for Biodiversity Conservation*. Katmandu: WWF Nepal Program.

<sup>8</sup> <http://earthtrends.wri.org> Bhutan pages

<sup>9</sup> <http://www.biodiv.org/doc/world/bt/bt-nbsap-01-p2-en.pdf>

<sup>10</sup> Note that Component titles in the Results Framework and elsewhere in the Brief do not exactly correspond (e.g. Comp.3 has "and capacity" added in Ann.3) – titles should be harmonised.

These adequately cover the range of activities that will be needed to address sustainable land management, and it is welcome to note that the balance in outputs reflects the intention of the project to institute change at a national level, rather than attempt to emulate (duplicate) standard activities of national agencies. This reviewer is pleased to note that quantitative targets in GEF-financed and non-financed Results Indicators are indicated in the Results Framework (Annex 3)<sup>11</sup>. This strengthens the project and will provide good guidance to project management and subsequent evaluations.

Notwithstanding the non-technical bias of the project, substantial attention is devoted in Component 2 to implementation of a number of technical measures, represented as targets for completion from Year One onwards. A fairly standard approach is to be adopted where the project via its central agency partners will undertake surveys of biophysical and socioeconomic information. A 'Framework Plan for SLM' will then be constructed and the project will fund activities for the first three years. It appears that a target-driven approach will be adopted where local professionals in pilot *geogs* will have to meet performance indicators. This is a dangerous route to follow as evidenced in an analysis of FAO-implemented and World Bank-funded projects undertaken by Norman Hudson.<sup>12</sup> The Brief states that "full participation of all stakeholders" will happen and that a 'Community Driven Development approach' will be used. This is essentially a top-down approach with consultation; an approach that has been tried many times but which fails adequately to address community interests and viewpoints. This reviewer is worried that (a) the time frame of 3 years for financial support and (b) the professionally-led approach will invite the same failures as seen elsewhere, where local people will walk away from the SLM technologies after the project and revert to traditional forest-degrading practices. See Recommendation 2 below.

This reviewer would have liked to see some economic rationale for the SLM approaches that are to be introduced. This relates partly to 'sustainability' of the project – see below – but also to justifying the expenditure of considerable resources in Component 2 on what are to be pilot demonstrations. If the pilots are to be up-scaled after the project to other communities, then the economic and financial benefits and impacts on livelihoods will need to be assessed. It would be good for the project proposal to build in monitoring and evaluation techniques into the planning of SLM activities rather than tack them onto the end (see Results Framework, page 2). This reviewer believes that the only way to have SLM approaches spontaneously taken up is to ensure their economic rationality and social acceptability. See Recommendation 3.

The project proposes an elaborate institutional arrangement with an 'SLMP facilitation structure' including a Project Management Unit (PMU) linking with a Project Steering Committee (PSC), Multi-Sectoral Technical Advisory Committee (MTAC) and a Dzongkhag SLMP Coordination Committee. It is debatable whether creating such new structures within the existing institutional architecture of Bhutan is wise. Probably it is necessary. The PMU must liaise with line ministries

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<sup>11</sup> However, at the time of review quantitative indicators had not been finalised for some of the activities in Component 2 – these should be decided with partner agencies in the light of what would be reasonable to accomplish with the time and finance available.

<sup>12</sup> See Hudson, N.W. 1991. A study of the reasons for success or failure of soil conservation projects. *FAO Soils Bulletin 64*, UN Food and Agriculture Organization, Rome. In Hudson's sample only 56% of projects were rated 'successful', and he reports World Bank evaluations with failure rates of over 40%. He gives an excellent checklist of 'good project design requirements' (p.viii Summary)

and have the high-level backing afforded by the PSC and MTAC. Especially as MTAC is to meet monthly, it will provide a mechanism to cross-cut entrenched sectoral views and insist on co-operation and the implementation of a high-level of local participation. The question that must be asked, however, is how sustainable are these new structures – see Section F. below.

### **B. & C. Global Benefits and GEF Context:**

The global benefits and GEF context are taken together because the delivery of global environmental benefits is the main criterion for GEF support and involvement to achieve the incremental benefits under the UN environmental conventions.

Identifying the incremental benefits for OP15 sustainable land management projects is an inexact science. Annex 15 (seen only in early draft) presents the incremental cost analysis. There is more work and some reorganization to be done to the ICA and attached matrix and this has been discussed with the World Bank directly. Aspects that will need attention are the inclusion of Broad Developmental Goals that can easily be rooted in Bhutan’s FYPs; specification of baseline activities upon which the project will build (this reviewer suspects that the baseline as currently reported is understated); and identification of proportions of components allocated to GEF-finance and co-finance, based upon whether global environmental or domestic benefits accrue.

The project has excellent potential to support the goals of the GEF. The proposal supports the Operational Program 15 *Sustainable Land Management* to a significant degree. The project sensibly fits the overall operational goal of OP15: “to catalyze partnerships with other organizations working on land management issues, land users and other stakeholders at the local, national, regional and global levels to provide coordinated financial and technical support to address land degradation in a way that achieves long-term global environmental benefits in the context of sustainable development” (OP15, 2003 revision, p. 7). A strength of this project is that it harnesses bilateral donor support from Danida, and builds a strong cross-sectoral form of partnerships for SLM objectives. The experience of this project should provide generic lessons and it is hoped these will be distilled to inform the process in other countries that also need to change institutionally and build human capacity in SLM.

Further, the project implicitly addresses OP15’s Program Objective “to mitigate the causes and negative impacts of land degradation on the structure and functional integrity of ecosystems; reduce carbon dioxide emission and improve carbon sequestration; or stabilize sediment storage and release in water bodies” (OP15, 2003, p.7). There is very significant potential for the project to make a major contribution to other global environmental assets through the synergies of SLM with biodiversity conservation, control of climate change and protection of international waters. This reviewer was disappointed that little is made in the Project Brief of this great potential for supporting GEF objectives and operations. Only in Annex 15 and the incremental cost matrix was there any direct mention of synergetic global environmental benefits. Indeed, the project will play a major part in supporting Bhutan’s ratifications of the UNCBD and UNFCCC, as well as UNCCD. See Recommendation 4.

Under the UNCCD, the project meets some of the global objectives<sup>13</sup> : viz, “adopting an integrated approach addressing the physical, biological and socio-economic aspects of the processes of desertification and drought; .....and the promotion of the use of existing bilateral and multilateral financial mechanisms and arrangements that mobilize and channel substantial financial resources to affected developing country Parties in combating desertification and mitigating the effects of drought”. The project does less well in showing how Bhutan can integrate “strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought.” If the suggestions made above (and Recommendation 1) are implemented, then this link to poverty and livelihoods of local people will be established satisfactorily.

#### **D. Regional Context:**

Bhutan is in many ways unique. It has its own national philosophy and a strong conservation ethic. It has also been largely isolated from outside influences for hundreds of years, until very recently. Yet, in environmental terms, Bhutan displays a strong regional representation. It is typical of the Eastern Himalayas and has borders in common with similar areas in India (Sikkim, Assam, Arunachal Pradesh). It shares many of the problems of South Asia in SLM.<sup>14</sup> It is part of the IPGRI South Asia Network on Plant Genetic Resources (SANPGR), established in 1990, through Bhutan’s National Biodiversity Centre. Bhutan is also an active participant in ICIMOD networks<sup>15</sup> that span the Hindu-Kush Himalaya. It is to be hoped that the project will use these networks to upscale generic lessons to regional partners with hilly terrains such as Nepal, China, Pakistan and India.

#### **E. & F. Replicability and Sustainability:**

Replicability and sustainability are taken together because the issues are interlinked. The project is in one respect a ‘pilot’ for the introduction and validation of SLM approaches locally in Bhutan. Implicit here is that it will influence up-scaling and affect decisions taken by areas of the country outside the immediate project. To justify this, the project has designed institutional and human capacity building to ensure that the views and cross-sectoral planning skills are in place to ensure this replicability and long-term sustainability of project outputs.

In addition, there is also good scope for replication of the approach and concept regionally – see Section D immediately above.

The proposal includes a useful ‘Critical Risks’ analysis in the Summary. Two areas of sustainability are critical for the continuation of the project and its approaches in Bhutan. The first is how far the Component 2 activities can be embedded into geogs and there be spontaneous

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<sup>13</sup> UNCCD – see <http://www.unccd.int/convention/text/convention.php?annexNo=-2>

<sup>14</sup> See comparative tables and discussion in the UNCCD sponsored meeting report, July 2004: <http://www.unccd.int/regional/asia/meetings/subregional/colombo2004/SACEPdocument.pdf>

<sup>15</sup> See <http://www.icimod.org/> where Bhutan, despite its size, plays a prominent role in the International Centre for Integrated Mountain Development.

uptake. Suggestions and recommendations on this have already been made by this review, partly to ensure sustainable up-scaling of project outputs and lessons.

The second area of sustainability that may turn out to be critical is whether the new institutional structures turn out to be enduring and continue to be able to cross sectoral divides in line ministries (i.e. replicability). They will also need to foster new ways of dealing with multi-sectoral challenges in SLM approaches. In that the project will sponsor substantial human capacity building, there should be broad confidence that this aspect of sustainability is assured. Nevertheless, it is an aspect that needs close monitoring because views and approaches change only slowly.

This reviewer would like the project explicitly to address sustainability questions such as:

What are the long-term vision and goals for the project and its partners?

What written commitments has the project obtained about continuation?

What contingency plans are there for key personnel and partnership changes?

What plans are there for incorporating the project within the RGoB sector agencies commitments)?

What plans are there for additional funding and support for the project beyond the time of the original grant?

What project promotion and marketing plan is there for raising awareness of the project and updating and disseminating its products?

Only some of these questions are answerable at this stage, but they will all need to be addressed by project completion. However, during the appraisal phase of the project and as part of initial project activities – and certainly as part of Component 4 – replicability and sustainability questions should be explicitly addressed. See Recommendation 5.

### ***3. Secondary Issues***

Linkages to other focal areas

The project is targeted at land degradation control, which is itself multi-focal with important links to biodiversity, climate change (via carbon sequestration) and international waters. Recommendations have already been made to strengthen the articulation of these links as part of the justification for global environmental benefits.

#### ***Linkages to other programs and action plans at regional or sub-regional levels***

The project has good national linkages through the Project Management Unit and its relationship to line ministries and regional offices. There is a stated intention in the project brief to build synergies between national programs and activities associated with CBD, UNFCCC and

UNCCD. There is, however, little mention of other GEF-supported projects in Bhutan, and GEF Secretariat may well want to see clearer linkages in the proposal.<sup>16</sup> See Recommendation 6.

#### Other beneficial or damaging environmental effects

The project is fundamentally ‘environmental’, seeking to build a sustainable basis for using land and protecting national environmental assets that are globally important. No other beneficial or damaging environmental effects are noted.

#### Degree of involvement of stakeholders in the project

GEF attaches the greatest importance to stakeholder involvement. The proposed project is closely linked to relevant stakeholders at national level. The primary stakeholders in local communities are specifically identified as a target for benefits, while government agencies are the main beneficiaries of capacity building. The project brings together the key agencies in data collection and management (cf Implementation Arrangements). This reviewer is impressed by the attention to stakeholder involvement, and the concentration of effort in the proposal to embrace a wide range of institutions. The only area where it is felt that a change of emphasis is needed is on the degree and type of participation with local people. This is already commented upon above.

#### ***Capacity-building aspects***

Component 3 is for institutional strengthening and capacity-building. Capacity enhancement is especially intended in inter-sectoral planning for SLM and the mainstreaming of concepts. This is to be welcomed and it is hoped that up-scaling will be ensured through these trained staff. It is not entirely clear how the proposers see capacity as actually being built in order to ensure skills in sustainable land management (although the training of 7 postgraduates is mentioned in Annex 3).

#### ***Innovativeness of the project***

Innovation of this project primarily arises from its focus on building inter-sectoral planning and programmes that cross the divisions between the interests of sectoral agencies. It is hoped that lessons may be learned of a more generic nature on how this is best done. The approach of the project is to build this capacity through new institutions that draw upon key staff of other agencies. .

### ***4. Overall Assessment and Recommendations***

The project has a sound scientific and technical basis. It contains sound argumentation and has objectives that are sensible and rational. There is good evidence that the project offers good long-term solutions for sustainable land management in Bhutan, a country of greatest mountain biodiversity. Suggestions for enhancing the proposal technically, strengthening its justification,

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<sup>16</sup> See, for example, UNDP-GEF *Integrated Management of Jigme Dorji National Park*. Total finance US\$2.528 million, 1996-2002; World Bank-GEF *Trust Fund for Environmental Conservation*, GEF finance US\$10 m. Plus a number of MSPs and Enabling Activities. See <http://www.gefonline.org/projectList.cfm>.

minimising the risk of failure of some of the interventions and for building wider applicability are made below.

This STAP review commends the project to the GEF as an appropriate use of funds entrusted and an eminently suitable vehicle to drive forward sustainable land management that will help protect land resources, conservation of biodiversity of mountain and forest ecosystems in the Eastern Himalaya, and international waters in the river systems flowing through South Asia.

### ***Recommendations on Points that Should be Considered for Strengthening***

**Recommendation 1. Developmental benefits.** The project has substantial potential developmental benefits which enhance the fundamental reasons for GEF involvement through (1) potentially securing a more sustainable environmental future by addressing the poorest sections of the rural community; and (2) creating the institutions and policies that assure that development proceeds without exploiting global environmental assets. The reviewer feels that the case is insufficiently made in the draft Brief, especially in its ‘Strategic Context and Rationale’ (main brief) and ‘General Development Context’ (Annex 1).

***Response by the Project Team*** *The Project Team agrees that the original draft did not adequately reflect the development benefits of sustainable land management, in particular for the poor rural communities, but this aspect has been strengthened in the project summary document and project brief (PAD). Poverty is now widely viewed as encompassing both income and non-income dimensions of deprivation—including lack of income and other material means; lack of access to basic social services such as education, health, and safe water; lack of personal security; and lack of empowerment to participate in the political process and in decisions that influence someone’s life. Extreme vulnerability to external shocks is now seen as one of its major features. Being a predominantly agrarian society, 79% of Bhutan’s population live in rural areas and subsist on an integrated livelihood system of crop agriculture, livestock rearing and use of a wide variety of forest products. A large majority of Bhutan’s poor (around 98%) live in rural areas, where poverty is six times greater than urban areas. One of the factors affecting poverty is ownership and access to productive assets, including land. More than half the rural families have less than two hectares of land. Land degradation and loss of fertility are among the causes of poverty in Bhutan, where 32% of the population is classified as poor by standards that include a food poverty line. The promotion of sound and sustainable management of natural resources is an important strategy for reduction of poverty. Clearly, the GEF project has developmental benefits by combining an integrated sustainable land management approach with poverty reduction that addresses this vulnerability. Livelihood strategies and food security of the poor depend directly on healthy ecosystems and the diversity of goods and ecological services they provide. The poorest are most dependent on environmental income in relative terms. Poor people are affected by natural resource degradation and biodiversity loss much more than the better off because of their limited assets and their greater dependence on common property resources for their livelihoods. Hence, degradation of natural resources would hurt the poorest the most. Soil and water degradation and the loss of pest and drought-resistant crop and livestock varieties are major threats to improving agricultural productivity. Improving environmental management in ways that benefit the poor requires policy and institutional changes that cut across sectors. The GEF project will through its planning process at lowest*

*level empower civil society, in particular poor and marginalized groups, influence environmental management policy and planning processes and expand public access to environmental information. It will reduce the poor's vulnerability to environmental hazards and natural resource – related conflicts. It will protect the environmental assets and livelihood opportunities of the poor and attempt to reduce environment-related conflict by improving conflict resolution mechanisms in the management of natural resources and biodiversity and by addressing the underlying political and economic issues that affect resource access and use. It will improve poverty-environment monitoring and assessment by strengthening local level institutions and government to monitor environmental change.*

**Recommendation 2. Community participation and drivenness.** Component 2 needs to reflect current thinking and approaches on technology introductions at local level. Participation needs to be at a high level, using techniques that have been validated from other projects.<sup>17</sup>

**Response by the Project Team** *The Project Team believes that the proposed approach would not be target driven but participatory and learning-by-doing. There are two kinds of plans, a Framework Plan and Action Plans at the Dzongkhag and Geog levels. The first contains data and visions for SLM and is not budgeted, the second kind of plans comprises a number of SLM Action Plans that are defined by villagers themselves under guidance from information in the Framework Plan and the Action Plans are budgeted.*

*The Framework Plan is not a fundable Plan but a document that carries long term vision statements by local communities and authorities based on data generated through surveys, partly by central level agencies (hazard mapping, soil capability, forest function etc) and partly by local villagers and RNR officers, for instance through 3-D modelling (see below). The Framework Plan itself will contain a number of (OP 15- related) indicators for sustainable land management in the geog and include attention to externalities and cross-geog issues and even cross-geog/dzongkhag issues such as Chumey herders' rights in Nangkor geog and similar problems in Radhi geog. The Framework Plan will also include attention to other pressures coming from outside, such as impact from FMU activities, both on the forest and its rich biodiversity and on the feeder road to Buli that will suffer under logging trucks for which it is ill suited. Thus, the indicators of the Framework Plan will be of biological and physical nature as well as of policy, socio-economic and tenurial (right-holding) nature. The Framework Plan itself should be a technical document, though it may be appropriate for it to be supported by legislation and in some circumstances to be adopted as a legal document. The Framework Plan may have management objectives defined for each important feature of the ecosystem (land and water and biodiversity) of the geog and for all other important features related to the functions and values of the local ecosystem in combating land degradation (“deterioration of the natural potential of land that affects ecosystem integrity either in terms of reducing its sustainable ecological productivity or in terms of its native biological richness and maintenance of resilience”).*

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<sup>17</sup> See, for example, the community mapping toolbox developed by IAPAD, including 3-D Mapping that engages with communities so that they determine the technologies with professional guidance rather than instruction. <http://www.iapad.org/toolbox.htm>

*Under the Framework Plan chiog and geog SLM Action Plans will be consequently be developed in a fashion described in Attachment 1 to Annex 4 of the Project Brief and PAD. The planning framework developed for the project outlines the approach for participation of local communities in all aspects of planning, decision-making, implementation and monitoring of sustainable land management activities to be supported by the project. The Action Plans are developed bottom-up and in a participatory manner by villagers with the Geog Planning Team and Geog RNR staff, and the Action Plans will be budgeted. As the monitoring framework and the definition of indicators is part of the planning process, only activities for which local communities can define the success criteria/indicators will be implemented. In this way the definition of indicators becomes part of a local level capacity building process.*

*The tools for involving the villagers in the Framework Planning Process and carry over into the Action Plans may be 3-Dimensional models of the land built from papier mâché or photocopies of 1:20.000 maps cut and glued together as a visual representation of the geog's ecosystem, its hazards, land degradation/slides, productive activities etc. A participatory 3-D Model is a community-based tool, which merges GIS-generated data and peoples' knowledge. It can portray various kinds of information, also that generated by research. This low cost technology has been used in many projects with great success among local level stakeholders. The 3-Dimensional Modeling integrates participatory land and water mapping, and spatial information (contour lines) to produce a stand-alone scaled relief model which is a user-friendly and relatively accurate research, planning and management tool. Local communities together with tshogpas (and trained facilitators) produce sketch maps portraying land and water issues and transfer the information to blown-up topographical paper maps. Later, following validation by all parties involved, information from the topographical map may be transposed with minimal distortion to a GIS-generated map and returned to the communities for re-validation. Once a consensus had been reached, community-land resource maps can be collated and used in subsequent consultations on sustainable land management. Both chiog and geog 3-D models may be built depending on the circumstances.*

*Skills to facilitate the construction of 3-D relief models with villagers may not be present in Bhutan and external expertise from Southeast Asia may be called upon.*

**Recommendation 3. Ensuring sustainability through economic rationality.** This review recommends that the project explicitly builds in economic and financial monitoring of the performance of interventions, and relates these to an overall livelihoods impact analysis. An appropriate M&E system should be introduced at the planning stages of Component 2, not added at the end.

**Response by the Project Team** *The Project Team agrees there must be an economic rationale for the SLM approaches. As stated in section B 5 of Project Brief (or PAD) text (lessons learnt) the visibility of benefits must be clear to the communities from the beginning and the economic and financial benefits of the investment must be sound. The economic rationality and incentives would be integral in the assessment of the land planning and use options under the project. The project would not be prescriptive in nature, but rather ensure that*

*options/activities supported under the project would evolve through informed decision making by communities based on their economic and financial benefits. The monitoring is clearly seen as integrated into the planning process (that monitoring sits at the bottom of page 2 of the Results Framework does not mean that it is tacked onto the end). As stated, each intervention, i.e. each action plan project will as part of the planning identify success criteria or indicators as an integrated part of the planning proper in order to create ownership and learn reasons for success and failures in order to up scale and replicate later. The monitoring will address both livelihood concerns, the ecosystem concerns as highlighted through the visions of the SLM Framework Plan, and the institutional concerns, meaning the work burden on the RNR staff to institutionalise the process of bottom up SLM Planning with the given manpower and logistics of work in areas where villages may be several days of walk apart.*

**Recommendation 4. Global environmental benefits and the GEF context.** This reviewer recommends that the significant potential of the project to address benefits other than land degradation control through synergies of SLM with biodiversity, climate change and protection of waters be elaborated in the text.<sup>18</sup> This should appear in the summary under ‘global environmental issues’, ‘eligibility for GEF support’ and possibly also in Annexes 1, 4 and 15.

**Response by the Project Team** *The Project Team has now highlighted the synergies between with biodiversity, climate change and trans-boundary waters in the revised documents. Synergetic global environmental benefits arise from the project’s support to UNCBD, UNFCCC and UNCCD. In the section of Project Summary Section on ‘Eligibility for GEF Support’ the said conventions are all mentioned and Bhutan’s ratification highlighted. It indicates a synergy with the SLMP as the Strategic Context had mentioned that Bhutan forms a major part of the Eastern Himalayan Ecosystem, which is identified as a Global Biodiversity Hotspot. The project will contribute to global benefits by working with the communities living within this biodiversity hotspot in helping them manage their landscape and natural resources while protecting these important habitats. One of the pilot sites is located in a watershed with a high presence of several globally significant species, such as Golden Langur (endangered on the IUCN red list), Rufous necked-hornbill and beautiful nuthatch (both vulnerable in the IUCN red list), tiger (endangered), dhole (vulnerable). The project also provides a carbon sequestration benefit for the global community by improved soil management in agriculture and preventing the loss of forests and habitat. One of the project sites will also address tseri, a form of slash and burn agriculture, which is practiced on steep land. Addressing tseri will produce the global benefit of reduce emission of greenhouse gases through the prevention of forest loss and restoration of degraded watersheds in other areas. By taking point of departure of the OP15, the SLMP relates to the UNCCD and captures the linkages to poverty reduction. The impacts of erosion, land degradation and deforestation are primarily felt by rural households, whose homes and livelihoods are frequently disrupted by landslides, and who face declining crop yields in areas affected by loss of soil nutrients and organic matter, damage to irrigation systems, waterlogging of soils, gully formation, and riverbank erosion. The project reflects a clear strategy for strengthening partnership arrangements with the donor community (particularly Danida), local farmers and other stakeholders and provides a coordinated approach to leverage financial and technical support for SLM.*

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<sup>18</sup> For some ideas on how to do this, see UNDP 2002. *Synergies in National Implementation of Rio Agreements*. <http://www.undp.org/seed/guide/synergies>

*Basin irrigated rice (“chhushing”) and short-fallow cropping systems are especially prone to depletion of soil nutrients and reduced soil biodiversity; waterlogging of soils is common in areas crossed by logging roads; wind erosion reduces crop yields and vegetation cover in valleys such as Wangdi; and cultivated lands are vulnerable to rill erosion during heavy pre-monsoon rains. In southern Bhutan, landslips and landslides are common, and can be triggered by even small seismic tremors, while the clay-rich soils of eastern Bhutan and areas such as Punakha and Lobeysa are highly vulnerable to gully and sheet erosion. Finally, many of the country’s most productive agricultural areas are concentrated along valley bottoms, where they are vulnerable to riverbank erosion, flooding, and deposition of silt and debris carried by flooding. These problems are especially serious in remote and isolated communities where food security is uncertain and where subsistence livelihoods provide very little margin for coping with natural disasters or crop failures. One-third of Bhutanese geogs are not connected to feeder roads, and the same proportion face food insecurity. In addition to the threats to agricultural production and food security, erosion resulting in land slides and the deposition of silt and debris in Bhutan’s river systems is a threat to the rapidly-growing hydropower industry, which needs reliable water supply to sustain much-needed revenue that currently underwrites some 40% of Bhutan’s development budget*

**Recommendation 5. Sustainability.** As part of project management (Component 4) and during the appraisal phase of this project, the questions posed about institutional sustainability (see F.) should be asked and commitments sought from the key agencies involved.

**Response by the Project Team** *The sustainability of project investments is a critical aspects that the Project Team has focused on (see Annex C section (b) of the Project Summary for additional details relating to sustainability). Specific comments of the reviewer are addressed below:*

**Long-term vision and goals of the project and partners:** *The long term vision of the project and RGoB is to ensure that area-based, multi-sectoral planning approaches would be instituted and mainstreamed into national policies, planning and regulatory frameworks for SLM in Bhutan. To this end the RGoB has already postulated moving towards an area-based planning and decentralized development mode for the 10<sup>th</sup> five-year planning process (2007-2011) and beyond. The decentralized development approach would move planning, decision making and financial control for government developmental activities to the dzongkhag and geog administrations and away from the sectoral agency controls. This would greatly facilitate a multi-sectoral approach to land management that is defined by the priorities of the local people and local governments rather than by the priorities and interests of the sector agencies. The sector agencies would be responsible for technical support and guidance to the dzongkhags and geogs in the implementation of the geog and dzongkhag five year and annual plans. The GEF project would greatly support RGoB’s efforts to test and demonstrate the application and usefulness of the area-based multi-sectoral planning approach that if successful could facilitate the expansion of the multi-sectoral approach to the rest of Bhutan. Clearly, RGoB has had a long interest and commitment towards promoting such an approach and the project provides a means to initiate and support such an effort.*

**Written commitments about continuation of SLM approach.** As mentioned in the preceding paragraph, the long-term commitment of the RGoB to environmental management is unquestionable. Preservation of the environment is one of the five overall goals governing the ongoing 9<sup>th</sup> five-year plan. The establishment and functioning of the high level Project Steering Committee and the Multi-Sectoral Technical Advisory Committee clearly demonstrates this commitment. Both these committees were actively and vigorously engaged in project design and are expected to guide its implementation particularly in ensuring the project lessons are mainstreamed national policy, regulatory and planning frameworks for SLM in Bhutan and integrated into the planning of the dzongkhag and geog five year frameworks and annual plans. A written request was made by the Ministry of Finance for World bank and GEF support for development of an integrated and cross-sectoral approach to SLM at both policy and project level in order to enable the mainstreaming this approach into the government's development planning.

**Contingency plans for key personnel and partnership changes.** The project is embedded within the existing structures of the government and its implementation will be carried out through the existing decentralized government structure, with technical support and guidance from existing RNR and other sector staff at the central, dzongkhag and chiog levels. The existing dzongkhag and chiog administration will be overall responsible for implementation of the project activities through their existing annual planning processes and plans, using existing staff and expertise. The intention is that SLM activities will be mainstreamed within existing dzongkhag and geog programs, plans and budgets, so that existing staff and resources will on the longer-term be responsible for SLM activities. The project is not creating new structures, but providing additional facilitation support through the PMU and geog planning teams in the short-term, particularly as the concept is new. It is however, anticipated that the geog planning teams will operate in each geog for a limited period of time, until RNR and geog staff are trained and capable of undertaking SLM activities, so certainly not for the entire period of the project. There will be a gradual phasing out of the geog SLM planning teams and a transfer of this responsibility to geog staff. Training and capacity building, including learning by doing, would support the up-scaling and mainstreaming of SLM approaches in other geogs and eventually throughout Bhutan. It is not the intention of the project to build new institutional structures at the expense of existing ones. The PSC and MTAC will continue to function beyond the project period to guide longer-term multi-sectoral planning, while the Dzongkhag Environmental/SLM Coordinating Committee is not project-specific, but a long-term need that RGoB has recognized to be necessary to ensure that local development is carried out in an environmentally sustainable fashion. The PMU is the only real structure that is project specific, but it will be very lean and only has a coordination and facilitation role. It will largely be comprised of existing staff of the MoA that already have a mandate and responsibility for land management.

**Plans for incorporating approach within RGoB sector agencies.** The role of the high level PSC and MTAC have been mentioned as a conduit for mainstreaming SLM approaches (based on lessons emanating from on-the-ground activities proposed under Component 2. Under the decentralized approach to development that has been introduced by the government, the role of the sector agencies is to provide technical and extension facilitation support to the dzongkhags and geogs for implementation of their annual development plans. RGoB has accepted the principle of area-based planning as opposed to sector-based planning and is actively pursuing

*such an approach in their development planning. Consequently, mainstreaming of SLM approaches will take place largely at the dzongkhag and geog levels and the sector agencies will need to equip and adjust to the new approach if they are to stay relevant in the development planning process in Bhutan. The project will provide extensive training and capacity building to sector agencies at the central, dzongkhag and geog levels to enable transition to the new approach.*

***Plans for additional funding and support beyond existing GEF Grant.*** *The support will support an approach that RGoB is already pursuing as part of its development agenda. It is anticipated that GEF funding will be largely aimed at development of the tools and capabilities for multi-sectoral planning and that support for SLM investment at the pilot geogs would be geared to demonstration of the new technologies and techniques for SLM. While funding for SLM activities might be an additionality at the geog level in the initial years, it is envisaged that multi-sectoral area based planning would gradually replace the sectoral based planning, so that future RGoB SLM investments at the geog (and later dzongkhag) level would be exclusively based on the multi-sectoral planning approach. Further, efforts would be made to ensure that the returns from the investments is sufficient to maintain interests with the farmers. In addition, the project support will largely focus on one-time investments on the land so that future costs would only relate to maintenance by the farmers themselves. All investments are on a significant cost-sharing basis (particularly for labor costs), which will serve to ensure farmers' motivation for the activity and future sustainability. The GEF project will therefore institute a participatory approach that would help in identifying priority SLM needs of the villagers on the basis of their technical, financial and manpower feasibility. The planning and implementation of project related SLM activities at the geog level would be largely defined within existing budgetary constraints that operate at the geog level, so as not to place an unduly large financial burden on RGoB into the future years and certainly beyond the GEF project period. The GEF project will support through the mediation of the social mobilizers the formation of local self-help groups, saving and user groups or cooperatives that will have the capacity to pool means for future investments. It is anticipated that RGoB would take over funding of the SLM five year plans in the pilot geogs from its regular development budget after an initial three years of project funding, so that there will be gradual transition to a more sustainable mode of financing.*

***Project promotion and marketing plans for raising awareness of the project and updating and disseminating its products.*** *The Land Management Campaign planned by the Minister of Agriculture in eastern Bhutan in July 2005, would provide the platform for creating awareness to land degradation in Bhutan and opportunities for their mitigation, including policy, planning and regulatory aspects. The government at the highest possible level is actively campaigning for change in behaviour and approaches to land management. In terms of the project, a number of activities have been identified and budgeted for creating awareness to results and experiences of the project, in particular the on-the-ground investments in the pilot geogs. While monitoring would document and record the merits of the proposed technologies and approaches to SLM, a communications strategy would be developed to help disseminate and create awareness of successes and failures to help and guide replication and up-scaling to other geogs and dzongkhags. In particular, project experiences and lessons would be disseminated through the annual national RNR Conference, Regional Research Planning Meetings and Annual Extension Review and Planning workshops. In addition, the project would support a number of seminars*

*and workshops, prepare background documents based on project SLM lessons that would guide sector strategy and legislation revision. The project would support study visits to pilot geog by staff of other dzongkhags and geogs to enable learning and experience of SLM work. Publications and audio visual materials would be developed for dissemination through radio, newspaper and other means so as to facilitate up-scaling of the SLM approach.*

**Recommendation 6. Linkages to other programs and action plans at regional or sub-regional level.** It is suggested that the proposal more clearly mentions other GEF-supported and related projects and briefly states how this SLM project will build on their outputs.

**Response by the Project Team** *All completed GEF supported projects in Bhutan are listed in Section B5 of Project Brief (and PAD) and lessons learnt are mentioned and explicitly applied in the design of the SLM Project. This is reproduced below.*

*Support from GEF was provided for the Bhutan Trust Fund for Environmental Conservation (April 2, 1998). A lesson at the start was the need for a reliable additional funding source not dependent on income from the trust fund in order to carry out benchmark activities. The National Capacity Self-Assessment for Global Environmental Management (UNDP) involved stakeholder consultations with relevance for future work. The lessons from the Integrated Management of Jigme Dorji National Park (1997-2003)(UNDP-GEF) emphasized the value of maintaining a flexible and adaptive approach to project design and implementation and to ensure that realistic targets were set commensurate with actual staff strength and that adequate remuneration was provided. The Energy and Environment Project, UNDP Bhutan (April 2004) highlights that policy impacts are often more sustainable if achieved through demonstration projects with a bottom-up entry point to policy formulation, that environmental goals and results are intricately linked to broader political and governance structures, that integration of organizational functions is necessary relying on incentives for information exchange and joint programming, and that capacity development needs to look beyond project duration for long-term impact rather than focus on short training and study tours.*

*The review of UNDP/GEF Small Grants Programme (SGP) indicates that where stakeholder consultations were cursory projects suffered from lack of community motivation and understanding of project objectives, that visibility of benefits was key to community participation as it is natural for local people to be reluctant to dedicate their time and energy on projects that do not demonstrate immediate benefits. Where benefits were tangible and immediate, community participation and zeal to do their bit was profound. This was most notable in the Biomass Fuel Efficiency Project in Tsirang, Shingneer Watershed Management Project, and Cane and Bamboo Management Project in JSWNP. In Ngatshang Integrated Land Management Project, which had an intense work plan because of the short project duration, the staff and students of the Ngatshang Community School found the project onerous. SGP projects have helped redefine forester-people relationship and promote the concept of Community-Based Organisations (CBO), which is a new concept in Bhutan. SGP can be regarded as a ground-breaking instrument in bringing about this concept in the country.*