EXECUTIVE SUMMARY

1. Introduction

Royal Government of Bhutan has been implementing Rural Access Project (RAP) to improve rural access to market, schools, health centers, and other services in four Dzongkhag, eventually to improve the quality of life and productivity of rural communities under the financial assistance of World Bank and technical support from SNV Bhutan. Under this project, the Environmental Friendly Road Construction Technology was adopted to minimize the adverse environmental impacts and to enhance the project benefits to the extent possible. In order to predict environmental impacts during road constructions and subsequent operations, Environmental Assessment (EA) were carried out for all RAP sub-projects. Accordingly, suitable mitigation measures were designed and recommended to avoid and minimize such impacts.

With the encouraging progress of Rural Access Project, the Royal Government of Bhutan intends to implement the next phase of RAP as follow up/next credit of World Bank. The proposed Rural Access Project II will cover tentatively 65 to 75 Km of Feeder Roads. The sub-projects identified under RAP II include (i) Jangchucholing - Tashidingkha Road (14.3 Km) in Wangdue Dzongkhag, (ii) Kothakpa – Khar - Tsebar Road (10 Km) in Pemagatshel Dzongkhag, and (iii) Drujegang - Balung (42.5 Km) Dagana Dzongkhag. In order to facilitate the formulation of RAP II project, this study has been carried out to prepare consolidated experience of EA process adopted under RAP I and simplify the EA process for RAP II.

The main objectives of the present study primarily include the consolidation of EA experience of Environmental Friendly Road Construction Support Project and RAP I providing specific outputs with specific objective to institutionalizing the environmental conservation aspects covering:

- Assessment of applicable Royal Government of Bhutan's Environmental Policies and World Bank's safeguard policies in the form of regulatory framework,
- Assessment of existing institutional capacities to implement environmental management measures(plan), and future requirement of strengthening,
- Development of Environmental Framework, which provides key environmental issues, management measures and implementation mechanism as ready reference guide for addressing typical issues in rural access project.

2. Methodologies

The methodology adopted during the preparation of this document included the review of documents, interaction with stakeholders and information collected from the field during the course of EA studies of Jangchucholing - Tashidingkha Feeder Road Project, which is one of the sub-projects to be constructed under RAP II. The documents reviewed included various RGoB policies, legislation, regulations, and guidelines, as well as the World Bank Safeguard Policies. In addition other relevant documents reviewed included EA studies carried out during RAP I, Progress Report of RAP I and documents related to EFRC.

Consultative meetings and interviews were held with a number of institutions and people. Prominent among them included officials of DOR, NECS, SNV, and other stakeholders. The draft of this document was circulated for review by key stakeholders and comments received have been incorporated.

3. Review of Legal and Regulatory Framework

The RGoB has made considerable progress in the development of environmental law and regulations over the last five years. Much of this development has occurred since the initiation of RAP I, meaning that RAP II will take place in a substantially strengthened regulatory environment.

The most significant laws and regulations relating to environmental protection and with specific relevance to the transport sector are:

* Environmental Assessment Act (2000);
* Regulation on the Environmental Clearance of Projects (2002);
* Regulation on Strategic Environmental Assessment (2002);
* Sectoral Environmental Assessment Guidelines and Environmental Codes of Practice;
* Biodiversity Act 2003;
* Forest and Nature Conservation Act (1995);
* Forest and Nature Conservation Rules (2000);
* Road Act (2004);
* Land Act (1979);
* Mines and Minerals Management Act (1995); and
* Geog Yargay Tshogchung ("GYT") and Dzongkhag Yargay Tshogdu ("DYT") Chatrims (2002)

All but three of these laws and regulations have been enacted since 1999. The most important development in relation to the environmental assessment and management of road development is the implementation of the Environmental Assessment Act (EAA) (2000). The Act is of international "state of the art" standard, is well known to proponents, and is accepted as an integral part of business development activity in the country.

Another important development has been the promulgation of detailed administrative guidelines and regulations. The Regulation for the Environmental Clearance of Projects (RECOP) (2002) now provides adequate detail for the implementation of the EAA. The Regulation is also important because it provides the basis for delegating environmental clearance authority to line Ministries and other Competent Authorities (all of which are specified in Annex 2 of the Regulation).

Legal backing for the Strategic Environmental Framework envisaged by this consultancy is fully provided by the Regulation on Strategic Environmental Assessment (2002). While it has not been used to any significant extent to date, this Regulation provides a powerful basis for future investigation of the environmental impacts associated with policies, programmes, and plans. Analysis of SEA laws and regulations existing in other parts of the world shows that Bhutan's regulation is one of the strongest and all-encompassing.

These laws and regulations relating to environmental assessment are now supported by strong sectoral guidelines and codes of practice, developed by the NEC and by the Department of Roads. These documents help proponents through the environmental clearance administrative system, and assist them with the practicalities of preparing environmental assessment studies, Environmental Management Plans, and Environmental Monitoring Plans.

The World Bank's safeguard policy on Environmental Assessment will definitely be applicable to the sub-projects, and the safeguard policies on Natural Habitats may also be applicable, if the feeder roads fall either partially or fully inside Protected Areas or their buffer zones. A comparison of the dictates of these two World Bank policies and national laws and regulations indicates that the Bhutanese environmental regulatory system is entirely capable of meeting the World Bank's interests.

4. Institutional Arrangement for Implementation

The Department of Roads (DOR) will implement the Environmental Assessment and Environmental Management Framework in close partnership with National Environmental Commission and other stakeholders: In terms of Environmental Assessment implementation, the responsibilities will be based on existing institutional mechanism, which are summarized hereunder:

Ministry of Works and Human Settlement: Review of environmental information related to road projects prepared prior to the project implementation, solicit additional information from DOR if inadequate, provide or deny clearance, if it is listed in annex - 2 of RECOP, forward the documents to NEC requiring EA level studies, review Terms of Reference for EA studies, assess EA report and forward for approval to NEC, conduct environmental monitoring (spot checking or periodic), facilitate environmental monitoring and auditing by NEC.

Department of Roads/Rural Access Project: Field investigation covering feasibility studies, detailed design, implementation of projects, securing of no objection certificates from affected organizations, preparation of environmental information, submission of application of Environmental Clearance, drafting of Terms of Reference for EA studies, conduct EA studies (either through in-house staff or by engaging consultants), regular monitoring of implementation of EMP. Environment Unit under Department of Roads will primarily responsible for EA related activities.

National Environment Commission Secretariat: Review of Environmental Clearance applications and issuance/ denial of Environmental Clearance; determine if full Environmental Assessment is required; approve terms of reference for full Environmental Assessment; review Environmental Assessment report where full Environmental Assessment is carried out and issue/ deny Environmental Clearance based on such report; carry out periodic spot checks.

Local Government (DYT/GYT)/Local Communities: identification and prioritization of sub-projects, support DOR/RAP to carry out the preparation of environmental information of the project, dissemination of information, mobilization of communities and stakeholders, facilitation of public consultation, monitoring of EMP, and management of disputes.

Recommendations: Based on the review of institutional arrangement, the suitable recommendations have been made to enhance the capabilities of DOR/MOWHS officials and private sectors such as consultants and contractors. The capability enhancement for DOR/MOWHS officials includes training on EMP preparation and implementation, on the job training for EA studies, review and approval, and bio-engineering technology. Similarly, the recommendations are also made to enhance the capabilities of professionals working in relevant private sectors covering training on EA process, preparation and implementation of EMP and design and implementation bio-engineering works.

5. Potential Environmental Impacts

The Rural Access Project is expected to have moderate to low environmental risks, and the project can be identified as "Category B" project based on World Bank classification for Environmental Assessment. The sub-projects under RAP II need to undergo through Environmental Assessment level studies in accordance with the Environmental Assessment Act 2000 and its regulations.

The potential environmental adverse impacts based on the experience of RAP I, is presented in full reports along with the generic mitigation measures. The impact identification and possible mitigation measures are to be carried out with respect to the site specific conditions and requirements during the preparation of environmental information, and based on such information, the Terms of Reference are to be prepared for full scale EA.

6. Environmental Management Framework

The Sectoral Environmental Management Framework (EMF) outlines the mechanism and procedures for carrying out environmental assessment and management procedures at various stages of project ranging from project identification, feasibility studies, detailed engineering design, construction and subsequent operation and maintenance. The steps include the preparation of Environmental Information (Environmental Brief) required for screening, preparation of Terms of Reference for EA level studies, collection and analysis of environmental baseline information covering physical, biological, social and cultural aspects. In addition, the EMF also include the step for identification, prediction, and evaluation of environmental impacts, alternative analysis, design of mitigation measures, preparation and implementation of Environmental Management planning covering environmental monitoring, and auditing. The methodologies for every step is comprehensively described with formats and matrices, in the framework, which can be used as manual and it will sufficiently facilitate in minimizing the efforts to develop sub-project specific EAs / EMPs.