

SUMMARY INITIAL ENVIRONMENTAL EXAMINATION REPORT

Supplementary Appendix to the
Report and Recommendation of the President
to the Board of Directors

on the

Proposed Loan and Technical Assistance Grant

To the Kingdom of Nepal for the

Decentralized Rural Infrastructure and Livelihood Project

(NEPAL)

This report was prepared by the Borrower and is not an ADB document.
The report is available on request.

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SUMMARY INITIAL ENVIRONMENTAL EXAMINATION¹

A. INTRODUCTION

The proposed Decentralized Rural Infrastructure and Livelihood Project (DRILP) will invest in different types of small-scale rural infrastructure sub-projects, primarily transport infrastructure, in the following 18 hill and mountain districts of Nepal : Far-western, *Baitadi, Bajhang, Bajura, Darchula*; Mid Western, *Dolpa, Humla, Jajarkot, Jumla, Kalikot, Mugu, Baglung, Gorkha, Lamjung, Myagdi*; Eastern, *Ramechhap, Okhaldunga, Solukhumbhu and Taplejung*. The districts are all remote, have limited infrastructure and are among the poorest administrative areas in one of the world's poorest countries. Difficult access and lack of infrastructure is one of the major constraints to development and poverty reduction in the project area.

B. DESCRIPTION OF THE PROJECT

The long-term goal of the SRIDP is to contribute to reduced rural poverty in hill and mountain areas of Nepal by providing the population with better access to income-earning opportunities and essential economic and social development services.

The project purpose is sustainable increased access to economic and social services, and enhanced social and financial capital for people in the project area, including poor people. To achieve this the SRIDP will extend the network of improved rural transport infrastructure in the districts, invest in small, community-level social and economic infrastructure and establish the practice of effective operation and maintenance. At the same time it will:

- i) provide paid employment on construction works;
- ii) increase people's awareness and participation, and empower rural communities for development;
- iii) Increase institutional capacity in the public, private and NGO sectors; and
- iv) increase accountability and transparency.

This combination of outputs is expected to result in sustainable improved access that enhances the livelihoods of rural people, including the poor.

The total estimated project cost is US\$62.3 million, including a loan of \$40 million from the ADB. The estimated civil works cost of the physical infrastructure is about \$32.0 million, made up of \$27.3 million for the main rural transport infrastructure subprojects, and \$4.6 million for supplementary investments in small, community-level infrastructure.

The SRIDP has three main components:

1. Rural Transport Infrastructure Development: extension of improved rural transport networks through investment in sub-projects for new construction and rehabilitation of rural transport infrastructure that are targeted at poor areas and are cost-effective and efficient in improving access. These sub-projects will be constructed applying the Labour-based, Environmentally-friendly and Participatory approach (LEP).
2. Rural Livelihood Enhancement: through awareness raising; information dissemination; community participation in planning, implementation, monitoring and auditing; provision of paid employment and operation of savings groups; and the promotion of wider development initiatives in the areas where improved access is provided. To reinforce

¹ This is a summary of the project IEE. The full project IEE has been prepared as a Supplementary Document.

community participation and empowerment, this component includes the funds for supplementary investments in small, community-level social and economic infrastructure within the influence area of the main transport infrastructure sub-projects.

3. Capacity Building: strengthening the management and monitoring capacity of local government bodies at district and village level, and the private and NGO sectors, to plan, design, construct, operate and maintain rural roads and other infrastructure in order to achieve a sustainable impact on poverty reduction. The project will also provide support to strengthen the capacity of the Ministry of Local Development (MoLD) and its Department of Local Infrastructure Development and Agricultural Roads (DoLIDAR) to provide overall guidance, direction and monitoring for management of the rural infrastructure sector. This will include strengthening environmental management capacity.

A menu of types of rural transport infrastructure sub-project eligible for SRIDP funding has been defined – construction or rehabilitation of District and Village Roads, and rehabilitation and upgrading of Main Trails and associated Trail Bridges – with limits on the physical size and cost of each sub-project. The other eligibility criteria include the requirement that a sub-project must not impact on an environmentally sensitive area.

Each main sub-project will be accompanied by supplementary investments in community-level infrastructure in VDCs (Village Development Committees) in its influence area. A menu of eligible schemes has been prepared, with size and cost limits. Eligible supplementary investments must show a clear access benefit related to the improved access provided by the main sub-project, benefit poor people, and avoid any impact on environmentally sensitive areas.

SRIDP will use the “Labour-based, Environmentally-friendly and Participatory” (LEP) approach for construction of transport infrastructure. As the name suggests, labour is to be used instead of equipment, the natural environment is conserved as much as possible and local interests and opinions are incorporated into the design and implementation of the investments. The main features of the LEP approach are: phased construction over three years; careful selection of the alignment of a road or sub-project site; balancing cut and fill as far as possible; rock blasting only in exceptional circumstances; use of low-cost and appropriate drainage and protection structures; and integration of bio-engineering and water management measures for slope protection.

The implementation of the project will be decentralised, with the District Development Committees (DDC) as the ‘project owners’, the Implementing Agencies. The project will adopt a “process-approach”, and hence the sub-project investments are not pre-identified during project preparation. Rather, they will progressively be identified, appraised and approved through a de-centralised and participatory process managed by the DDCs, but in accordance with defined selection criteria. There will be a very crucial project management role for DoLIDAR.

SRIDP will primarily use the Building Group modality for the construction works, providing paid employment for poor local people from within influence area of each sub-project. Works that require more specialised skills will be carried out through local contractors, and using some equipment.

C. DESCRIPTION OF THE ENVIRONMENT

All 18 SRIDP districts are hill or mountain areas, characterised by huge variations in altitude. Several Himalayan peaks are situated in the SRIDP districts, including Mount Everest, the highest peak of the world, with an altitude of 8,848m amsl. In contrast, altitudes in the river valley floors are low. For example, the altitudes of the Sunkoshi river valley floor areas in Ramechhap and Okhaldunga districts are as low as below 500m. Human habitation is generally found in the river valleys, gentler slopes and ridges below 3,000m.

The SRIDP districts are in the Higher Himalaya, and Lesser Himalaya (which includes Midlands and Mahabharat Range) zones. The whole hilly terrain of Nepal is physically fragile and unstable. All areas are not equally fragile however. It is possible to identify relatively stable and unstable zones at both macro and micro-levels. The Geological Map of Nepal shows a number of thrusts and faults in the SRIDP districts: the Main Central Thrust (MCT), Mahabharat Thrust (MT), Main Boundary Thrust (MBT), and faults. In a macro-view, zones around the thrusts are relatively unstable, as this may be associated with faults with highly fractured rocks. At micro-level there are extreme variations in stability. The technical and environmental appraisal of potential sub-projects must investigate and analyse the instability and erosion risks.

Sub-tropical, warm temperate, cool temperate, alpine and arctic climatic zones exist in the SRIDP districts. The climate varies substantially at local level within those zones due to combination of factors including slope aspects, altitude, and effects of rain shadow and relief.

The monsoon season (four months from June to September) is the main rainy season, when over 80% of total precipitation occurs. In the SRIDP districts, mean annual precipitation varies from less than 800mm to more than 2,000mm. Localised high and low rainfall areas exist as a result of orographic and rain shadow effects.

Over 6,000 rivers and streams drain the country. SRIDP districts are drained by some major rivers and a large number of their tributaries and sub-tributaries: the Mahakali, Chamelia, and Seti rivers in the Far-western cluster; the Kali Gandaki, Myagdi, and Badigad rivers in the Western cluster; and the Sunkoshi, Dudhkoshi, Likhu, and Khimti rivers in the Eastern cluster.

The ambient air quality is excellent in the SRIDP districts as they are remote rural areas. Indoor air pollution is common due to use of firewood, traditional wood stoves, and absence of proper ventilation in the houses.

The following legally protected areas are situated in the SRIDP districts: *Khaptad National Park, Rara National Park, Dhorpatan Hunting Reserve, She-Phoksundo National Park, Annapurna Conservation Area, , Sagarmatha National Park, and Makalu-Barun National Park and Conservation Area*. Besides their ecological importance, these areas are rich in bio-diversity including medicinal plants and are habitat for rare, endangered and threatened species of animal and plants.

The environmental eligibility and planning criteria proposed for sub-projects in the SRIDP mean that no sub-projects located in or near to these protected areas will be financed by the project.

Although legally not protected, there are several forests identified as worthy of protection, some of which are in SRIDP districts. These include: the *Binayak Gurel Lekh*, *Badi Malika Lekh*, *Bhateli-Gwani Lekh*, *Amarmani Lekh*, *Thodung*, and *Tambe Danda* forests. Community forestry programmes have been implemented in all the SRIDP districts. It is likely that some, or parts of, these forests have been handed over to the local communities.

The combined population of the 18 SRIDP districts is about 2.5 million. Out of this about 1.5 million are below the poverty line. A high proportion of population in the Far and mid-western cluster is from the high caste Hindus. All hill tribes (Sherpa, Tamang, Gurung, Magar) combined constitute the largest ethnic group in the Western and Eastern clusters. The Occupational Castes constitute a significant group in all the clusters. The status of women is universally lower than that of men in all project districts. The population density varies among the SRIDP districts from as low as 30 persons per sq.km to as high as 150. The southern parts are more densely populated than the northern parts.

Subsistence agriculture is the dominant livelihood practice in all SRIDP districts. Paddy rice, wheat, maize, millet and barley are the common crops grown. Agriculture provides seasonal or partial employment to a vast majority of the population.

In different parts of the SRIDP districts natural potential exists for cash crops and horticulture; particularly citrus, apple, fresh vegetables, seed production, tea, and cardamom, in addition to the cereal crops traditionally grown for subsistence. Promotion of these is however constrained by the absence of access and other infrastructure, support services, and linkages to markets. Potential also exists for development of hydro-power and tourism, and in some places mineral extraction.

Farmer-managed small-scale irrigation canals are important local infrastructure. These generally exist in the river valley bottoms and lower slope areas, where paddy rice cultivation is common. A large proportion of the rural population is served by community water supply schemes. The headquarters of some of the SRIDP districts are accessible by road; roads to the headquarters of the others are under construction. Within each district, lack of road access to the interior areas is a problem. Hired portering and self-carrying are the main ways of transporting goods. Trails and trail bridges are therefore important rural transport infrastructure at present. All the district headquarters have electricity, supplied through the national grid or by mini-hydropower projects. Most of the rural areas, however, have no electricity.

Formal and informal community and social institutions exist in the SRIDP areas; these are active in the welfare and benefit of the communities. There are several important cultural sites; the popularity and fame of some of these sites extends to the neighbouring districts.

The most common public health problem in the SRIDP district is gastro-intestinal disorders of various sorts, which are primarily related to drinking water, sanitation and personal hygiene practices.

In general, the mountains and hills of Nepal are renowned for their natural beauty. The SRIDP districts cover parts of the two most popular tourist destinations of Nepal: the Mount Everest region and Annapurna Conservation Area.

D. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental considerations are fundamental in the SRIDP approach and will be introduced from a very early stage of sub-project selection and planning rather than assessing already designed sub-projects. Emphasis is on internalisation of environmental considerations into each stage of the sub-project cycle. For example: avoidance of environmental damage as far as possible through proper planning; minimisation of the damage risk through environmentally sensitive design and the use of sound technology (LEP approach); and control of potential damage through proper management practices during implementation.

Each of the three main project components has been screened for its potential environmental impacts and their significance.

The Rural Infrastructure Investments

The largest part of the SRIDP investment will be in the provision of rural infrastructure – the main rural transport infrastructure sub-projects (under the Rural Transport Infrastructure Development component) and the supplementary investments in community-level infrastructure (under the Rural Livelihood Enhancement component). The environmental impacts of these sub-projects depend on their type, size, and location. Rural road construction sub-projects are of particular environmental concern. The sensitive environment, particularly physical (slope instability) and ecological, of the SRIDP districts means that there is a risk of damage from sub-projects if they are selected without adequate level of environmental considerations.

In SRIDP, it is therefore proposed that: a) environmental criteria are used for sub-project eligibility, planning, design and implementation; and b) each sub-project be individually screened for potential impacts on the environment.

The environmental eligibility criteria proposed effectively eliminate environmentally complicated or difficult sub-projects from being selected for SRIDP funding. The planning, design and implementation criteria minimise and control the adverse impacts and enhance the overall environmental quality of sub-projects.

To reinforce the adoption of the environmentally sensitive approach to planning and construction, each sub-project proposal must be individually screened for potential environmental impacts in accordance with HMGN procedures defined in the Environmental Protection Rules (1997, revised 1999). This, as well as satisfying formal HMGN and ADB requirements, will additionally ensure that sub-project specific environmental concerns are taken into consideration.

An Initial Environmental Examination (IEE) is necessary for the rural roads, farmer-managed irrigation schemes, community water supplies, and major motorable bridges envisaged in the SRIDP, and is sufficient unless they pass defined thresholds of potential environmental impacts or are located in defined environmentally sensitive areas, in which case a full EIA is

required. The SRIDP eligibility criteria are intended to eliminate any sub-projects that would require a full EIA. Each IEE will identify sub-project specific mitigation measures².

New construction, rehabilitation and upgrading of the trails, trail bridges, school and community buildings, and health posts is not likely to have significant adverse impacts on the environment. These sub-projects are, therefore, generally exempted from formal environmental appraisal under the HMGN Environmental Rules. However, screening, monitoring and other necessary mechanisms will be put in place under the SRIDP to ensure that they are planned and constructed in an environmentally sound manner.

The conventional cut-through method of construction used in road building results a number of adverse environmental impacts. These typically include: increased landslides and soil erosion, degradation of agricultural land, loss or degradation of vegetation or forest or wildlife, and degradation of existing local infrastructure. Effective application of the LEP approach proposed for the SRIDP will reduce any environmental risk to the minimum and acceptable level. However, the environmentally sound principles of LEP may not be followed fully in practice unless there is proper guidance and monitoring. Successful implementation of the LEP approach crucially depends on an adequate level of technical supervision by qualified technicians through their continuous presence at site. Lack of understanding of LEP among the beneficiaries, technicians and others is another constraint to the successful implementation of the LEP approach. The SRIDP will give emphasis to rigorous use of the LEP approach, environmental criteria and sub-project specific mitigation measures. Particular emphasis is given in the design of the SRIDP to ensuring the adequate level of technical supervision and monitoring, supported by training - lack of which has caused projects to suffer in the past.

Examples of the construction of one infrastructure scheme, particularly a road, adversely affecting other local infrastructure can be commonly found in Nepal. It is therefore proposed that, prior to starting construction of each sub-project, an updated inventory of the existing local infrastructure that is likely to be affected must be prepared, and consultations held with the beneficiaries and local bodies to find ways to avoid or minimise and control the impacts. The affected infrastructure must be reinstated to sub-project pre-construction condition or better.

SRIDP will employ local people for construction. This is expected to have positive economic, social and environmental impacts. In order to enhance the positive impacts, the project will organise orientation and training on labour-based road construction skills.

Although major accidents are not anticipated, as the construction will use labour-based methods, it will be necessary to train the workers in appropriate safety practices under different work conditions. A first aid box should always be available at each worksite. Concentrations of construction workers and their inappropriate sanitation practices could increase the incidences of water and sanitation diseases, particularly gastro-intestinal disorders. The SRIDP will provide on-site latrines and educate the workers in proper sanitation practices.

² A full IEE for one potential sub-project has been produced during the preparation of the SRIDP. See Supplementary Document 'Initial Environmental Examination, Ratnechaur-Bhakimli Village Road, Myagdi District'. Issued January 2002 and revised June 2003.

The improved access resulting from SRIDP investments can induce a variety of positive as well as negative impacts; including crop diversification, increasing income level, poverty reduction, and increased pressure on natural resources. The levels of significance of the induced impacts, both positive and negative, are not fully known at this stage. These will be monitored as part of the evaluation of the impacts of each sub-project. The information generated will be reviewed to identify the causes and factors for positive and negative impacts, and the findings used to devise a strategy to mitigate any negative impacts. During the implementation period the SRIDP will encourage the development of a system and practice at the district and centre for monitoring and review.

Awareness-Raising, Information Dissemination and Social Mobilisation Activities

These activities under the Rural Livelihood Enhancement component are not expected to result in adverse environmental consequences. Rather, positive environmental results may be anticipated because of the better understanding of the project by the beneficiaries and other stakeholders, and through the impact on the social environment in the communities.

In order to maximise the environmental benefit from this component it will incorporate environmental awareness and training activities. These will be targeted at elected representatives, political parties, DDC and VDC staff, technicians and communities.

Capacity Building

This component is not likely to have negative environmental implications; rather the increased capacity that results should be environmentally beneficial.

Activities to build environmental capacity will be incorporated in order to maximise environmental benefit from this component. Supporting DDCs, DoLIDAR and MoLD to perform their environmental responsibilities under the SRIDP will help to build their capacity. The involvement of district staff in carrying out environmental activities and the provision of practical, on-the-job training on the IEE procedure are some ways of helping to build human resources at district level. There are other programmes and projects that may also contribute in the capacity building of these agencies to discharge environmental responsibilities. Therefore, SRIDP should take a collaborative and coordinated approach to strengthen the environmental capacity of the concerned stakeholders.

E. INSTITUTIONAL REQUIREMENTS AND ENVIRONMENTAL MONITORING PROGRAMME

The Environmental Protection Act 2053 (1996) and Environmental Protection Rules 2054 (1997), revised 2055 (1999) supported by provisions scattered in other acts provide the basic legal framework for environmental appraisal in Nepal.

The Ministry of Population and Environment (MoPE), established in 1995, is the main institution mandated to formulate and implement environmental policies, plans and programmes at the national level. The Ministry of Local Development (MoLD), DDCs and DoLIDAR are the institutions directly involved in the conduct of IEEs for SRIDP funded sub-projects. DDCs, as owners or proponents of sub-projects, are responsible for screening and ToR preparation, commissioning IEE studies, and carrying out mitigating works. DoLIDAR, as a central level technical department which aims to facilitate and support DDCs, is responsible for providing back-up support to DDCs in carrying out their tasks and advising

the MoLD as necessary. The MoLD, as the concerned line ministry, is responsible for review and final approval of ToR and study reports of IEEs, and for managing environmental monitoring. MoPE comes into picture only if a sub-project requires an EIA.

MoPE, established in 1995, has some experience and now has reasonable capacity in processing and approving EIA measures. The MoLD has recently established an Environmental Management Section (EMS), which is mandated with the overall environmental responsibility of the ministry. Its remit is quite wide. The section is very small and has only two officer level staff plus two non-officer level staff. To date, the section has not carried out any review or approval of IEEs, or any monitoring. The section has extremely limited capacity to process and approve the IEE measures. DoLIDAR is also a relatively new institution. At present environmental assessment comes under the jurisdiction of its Planning, Monitoring and Donor Coordination section, which has three professional staff (all engineers). The Department has not commissioned any environmental appraisal or other environmental activity by itself, only on donor-supported projects in which external consultants carried out the work.

The capacity of the DDCs to undertake IEEs of sub-projects by themselves is extremely low. None of the nine DDCs where SRIDP investment is proposed has staff trained in environmental appraisal. Furthermore, to date none of these districts has carried out any IEE as prescribed in the Environmental Protection Rules.

Several private consultancy firms have experience of conducting IEEs of various types of rural infrastructure. Most of these companies however are located in Kathmandu, not in the districts. Furthermore, only few of them have permanent staff trained in environmental assessment. They generally depend on short-term consultants for the environmental tasks. Therefore, real capacity lies with the individual consultants rather than in the companies.

Environmental monitoring has been seriously lacking in most of the earlier rural infrastructure projects. In SRIDP there must be strong and independent monitoring mechanism at two different levels: i) overall project level; and ii) sub-project level. These are necessary in addition to the process checks and technical supervision by the Central Project Implementation Consultants and the District Implementation Teams.

The Environmental Management Section (EMS) of MoLD should coordinate the overall project level monitoring. Considering the resource and capacity constraints of the EMS and DoLIDAR, SRIDP will finance the monitoring (including use of local consultants) and provide necessary logistic and other support. The monitoring team should be independent of the implementation team, and should submit its report to MoLD as well as to ADB. The overall project level environmental monitoring will be carried out in the first, third and fifth years of implementation, preferably during the active construction seasons.

The District level SRIDP management team will make arrangements for sub-project level monitoring. It should constitute a monitoring team, which must be independent from the implementation team. Checks are necessary prior to and during construction. At least one monitoring in each construction season is necessary. Sub-project level monitoring should generally cover the following: disposal of construction spoils; forest and vegetation; landslides, erosion and instability; agricultural land and private property; local infrastructure; cultural, religious, archaeological and historical sites; occupational safety and public health; organisation of awareness programmes; and employment. For those sub-projects where an IEE has been prepared, the monitoring plan set out in that IEE will be followed.

Environmental management capacities at all levels are weak. To address these constraints in order to meet the environmental requirements of the project, and to contribute to capacity building, the SRIDP will:

1. Finance the costs of conduct of IEEs (using local consultants) and of environmental monitoring, including logistics and support costs.
2. Through the Central Project Implementation Consultants, provide capacity-building and awareness-raising support that will also demonstrate how the private sector can be used to fill capacity gaps. The consultants will provide a substantive input, by qualified and experienced domestic personnel, to: (i) assist in developing practical environmental guidelines, methodologies and institutional mechanisms as part of the Project Procedures Manual; (ii) advise DoLIDAR and the DDCs on environmental screening of all proposed sub-projects; (iii) provide training and advisory support to the DDCs for the preparation and conduct of IEEs; (iv) assist the EMS of MoLD in the review of IEE reports; (v) provide advice to DoLIDAR in checking the environmental compliance of sub-projects and supplementary investments approved by the DDCs; (vi) support the organisation, conduct and reporting of environmental monitoring; and (vii) organise awareness-raising activities and training to strengthen environmental management capacities in the VDCs, DDCs and DoLIDAR.

F. PUBLIC CONSULTATION AND DISCLOSURE

The public consultation is an integral part of subproject selection and design. The local stakeholders including affected persons and CBOs are consulted during the design phase to inform them about the road alignment and solicit their views on potential impact of the sub-project road. The environment assessment study team also consults local stakeholders during its fieldwork at sub-project levels.

A draft IEE report has been prepared with local consultations for Ratnechaur-Bhakimli sub-project. The further consultations will be conducted in February-March 2004 to finalize the IEE. As required by Nepal's Environmental Protection Rules 1997, the DoLIDAR/DDC will affix a notice in the concerned VDCs, DDC, school, hospital and health post requesting VDCs and concerned individuals' or institutions' opinions and suggestions on the IEE within 15 days. The 15 days notice shall also be published in a national level daily newspaper. The public hearing meetings will be conducted at VDC levels. The opinions and suggestions received from concerned people/institutions will be included in the IEE report, and endorsement of the VDCs will also be sought before DoLIDAR submits the IEE report to MoLD for the approval.

The IEE report will be accessible to interested parties and general public. The summary IEE report will be translated into Nepali language and circulated to concerned VDCs and DDC. The full IEE report will also be made available to interested parties on request.

G. FINDINGS AND RECOMMENDATIONS

The SRIDP districts are poor and remote, where access is extremely difficult. The areas are generally deprived of basic infrastructure and this is considered a major constraint to development.

There are a number of environmentally sensitive sites, protected areas and areas worthy of protection. In a general sense, the whole hilly terrain of Nepal including SRIDP districts may be termed as physically fragile and unstable. It is, however, possible to identify relatively stable and unstable zones at both macro and micro levels.

The impacts of the small rural infrastructure sub-projects, which will be identified, appraised and selected by the DDCs, depend on their type, size, location and the approach used for planning and construction. SRIDP proposes to use the LEP approach in the construction of these sub-projects, which is environmentally sound. The proposed environmental criteria for eligibility, planning, design and implementation of sub-projects further minimise the risks of significant adverse environmental impacts.

All of the SRIDP sub-projects will be environmentally screened, as per the prevailing environmental legislation of Nepal and ADB's environmental guidelines. Individual IEEs are required for those sub-projects which have chances of potential adverse environmental impacts; these IEEs will contain sub-project specific mitigation measures. The possibility of environmentally difficult or complicated sub-projects that require a full EIA being selected under the SRIDP has been eliminated through the environmental criteria for sub-project eligibility.

Therefore it is recommended that the SRIDP does not require further detailed environmental study or EIA. However, adequate levels of technical supervision, monitoring and awareness are crucial for the successful implementation of the environmentally-sound approach proposed in SRIDP. Experiences suggest that although many excellent recommendations have been made in the design of other rural infrastructure projects, the implementation of those recommendations has been questionable at best. It is therefore necessary to ensure that implementation follows fully the recommendations made in this report. The need for supervision and independent monitoring cannot be over-emphasised.

It is recommended that approval of sub-project IEEs by the Environmental Management Section of MoLD (which is the competent authority to do so), with support from the Consultants, be considered sufficient by the ADB, subject to prior review of an agreed sample of sub-project IEEs by the ADB. This is appropriate to provide the necessary oversight of compliance with SRIDP environmental requirements while at the same time avoiding the need for double approvals, and associated administrative procedures, for all sub-projects. Nepali legal provisions in essence also satisfy ADB's requirements. SRIDP, wherever appropriate and possible, should facilitate or support the EMS in the sub-project IEE approval process.

The main impacts of, and recommended mitigation measures for, the proposed SRIDP components are summarised in the Table at the end of this Summary IEE.

H. CONCLUSIONS

SRIDP will finance relatively small rural infrastructure sub-projects which, individually, have only minor environmental impacts. An array of environmental safeguards will be applied during selection, planning and design, and construction of these sub-projects. Besides, each

sub-project will be individually screened for potential adverse environmental impacts, and IEEs of individual sub-projects will be prepared, as necessary in accordance with the environmental regulations of HMGN and also satisfying the ADB environmental guidelines. The project can be classified as Environmental Category B project according to ADB's classification.

No additional environmental study or a follow up EIA is necessary for the overall SRIDP. It is recommended that this IEE is considered adequate for loan processing. It should be emphasised that environmental monitoring, and technical supervision and support, are extremely important and essential to ensure implementation of the stated environmental approach and practices.

Table: Summary Environmental Impacts and Mitigation Measures

Project Component/ Action	Environmental Impact (without mitigation)	Degree of Significance				Recommended Mitigation Measures
		D1	D2	D3	D4	
Capacity building	No negative impact. Increased capacity should be environmentally beneficial (positive impact)	+				Participate in or facilitate where appropriate the efforts for collaborative and coordinated approach to strengthen environmental capabilities of DDCs, DoLIDAR and MoLD Involve district level human resources, if available, in carrying out environmental appraisal and monitoring Provide practical, on the job IEE training at district level
Awareness raising, information dissemination, and social mobilisation	No adverse impact. Increased flow of information and better understanding of the project by stakeholders (positive impact)	+				Participate in or facilitate where appropriate the efforts for collaboration and coordination in raising environmental awareness Integrate environmental components/aspects in the project's awareness raising, information dissemination and social mobilisation activities
Investment in rural infrastructure						
Sub-project selection (identification, prioritisation, appraisal, and approval)	Sub-project could have minor to major adverse impacts depending on type, size, and location	– Can vary from D1 to D4				Use environmental criteria recommended in the project IEE for sub-project eligibility, planning, design, and implementation Screen each sub-project individually, in accordance with HMGN environmental legislation and ADB's environmental guidelines
Construction activities: clearing, excavation, filling, spoil disposal, masonry works etc.	Landslides, soil erosion and slope instabilities		– D2 to D3			Ensure rigorous use of LEP approach by providing sufficient and effective technical supervision/support; and through independent monitoring Organise orientation training and awareness-raising on LEP for different target groups (technicians, workers, Construction Committees) Prepare updated inventory of local infrastructure likely to be adversely affected and consult beneficiaries Reinstate the affected infrastructure to pre-construction condition or better
	Loss or degradation of agricultural land and private properties including houses		– D2 to D4			
	Loss or degradation of vegetation		– D2 to D3			
	Degradation or disruption of existing local infrastructure		– D2 to D3			
Employment of local labourers through Building Groups and local contractors	Employment to local people (positive impact)		+			Organise skill training and awareness programme for the workers
	Risks of accidents, occupational safety and public health problems		–			Provide first aid box at all work sites Construct on-site latrines at work sites Educate workers on work safety practices and proper sanitation practices
Improved access to the remote areas	Induced Impacts Variety of induced positive as well as negative impacts, exact nature unknown at this stage		x Level of significance unknown at this stage			Monitor the induced impacts of each sub-project, and review them to devise appropriate mitigation strategy Encourage development of monitoring and review system at district and centre

D1: No significant impact
D2: Small Impact
D3: Moderate impact
D4: Major impact

+ : Positive impact
– : Negative impact
x: Positive or negative impact depends on various factors

Note: Recommended mitigation measures will reduce the significance level of the negative impact to D1 (no significance), whereas positive impacts will be enhanced.