

**SRI LANKA: RENEWABLE ENERGY FOR  
RURAL ECONOMIC DEVELOPMENT  
PROJECT**

*Environment and Social Safeguards Assessment  
and Management Framework*

Prepared by

Administrative Unit – DFCC Bank  
Renewable Energy and Rural Economic Development

# **SRI LANKA: RENEWABLE ENERGY FOR RURAL ECONOMIC DEVELOPMENT PROJECT**

## **Environmental and Social Assessment and Management Framework**

### ***1.0 Purpose***

The Renewable Energy for Rural Economic Development Project (the Project), to be financed by IDA, will comprise of: support for expanding the commercial provision and utilization of renewable energy resources, with a focus on improving the quality of life in rural areas and utilizing electricity as a means to further income generation. The project will establish a vibrant rural renewable energy market with emphasis on private sector and community solutions, enabling increased energy access and higher productive consumption of electricity. This is consistent with strategies to invigorate the rural economy, empower and build assets of the poor and promote rural economic development and well-being. By providing a wider range of electrification options, the project would also create alternatives to monopolistic, state-led electricity provision and contribute to sector efficiency and reform goals. The project would address the strategic issues of expanding access in an economic manner and commercialization of rural energy grid and off-grid options with an emphasis on renewables. The project focus is not only on renewable energy development and its associated environmental benefits but also on rural economic development that renewable energy can stimulate and support. It is expected that the greater benefits flowing to the rural areas as a result of this choice would increase the rural communities' interest in and support for renewable energy.

Projects and Programs financed with IDA resources need to comply with World Bank Operational Policies. Therefore, sub-projects and components eligible for funding under this project will be required to satisfy the World Bank's safeguard policies, in addition to conformity with environmental legislation of the Government of Sri Lanka (GOSL). Activities to be financed under the grid connected component include both a continuation on a larger scale of the refinancing support for mini-hydro provided under the ongoing IDA financed Energy Services Delivery (ESD) Project, as well as an emphasis on two other commercially available renewable energy sources: wind and biomass. Of these activities, grid connected mini hydros, wind farms and biomass fueled power generation plants have the potential to trigger environmental safeguard policies. On the off grid side, the project will assist the development of and investments in various off grid options, including solar home systems (SHS), village hydro schemes and community based biomass energy systems. While it is not anticipated that there will be any major adverse environmental impacts in the off grid component, there is potential for environmental safeguards to be triggered by village hydro schemes and biomass energy systems.

World Bank policies and guidelines, pertaining to environmental safeguards, that may require consideration under this project are as follows:

- OP/BP/GP 4.01 Environmental Assessment

- OP/BP/GP 4.36            Forestry
- OP/BP/GP, 4.04        Natural Habitats
- OP 4.07                 Water Resource Management
- OD 4.12                Involuntary Resettlement
- OP/BP 4.37             Safety of Dams
- OP 4.09                Pest Management

However, based on the experience of the on-going ESD project and the sub-project eligibility criteria agreed with the Government of Sri Lanka (GOSL), the most likely safeguard policy to be triggered under this project will be OP/BP/GP 4.01 on Environmental Assessment. The other safeguard policies listed above will be considered to ensure minimal adverse environmental impacts due to the project.

The purpose of an environmental assessment (EA) is to identify environmental and social consequences of proposed sub-projects or components, in order to :

- Ensure the identification of potential environmental issues and social concerns early in the implementation of a proposed project to incorporate necessary safeguards in project design, and determine appropriate mitigation and compensation measures;
- Minimize risks to the project proponent;
- Avoid delays and extra costs which may subsequently arise due to unanticipated environmental and social problems;
- Ensure that the concerns of residents and affected communities are addressed and if required, plans made for the settlement and rehabilitation (R&R) of those residing in the selected sites for development; and
- Identify the potential for maximizing environmental resources management and socio-economic benefits to local communities within the scope of the sub-project.

The EA should cover physical-chemical, biological, socio-economic and cultural issues that are likely to arise during construction and operation activities as appropriate. Considering the sub-projects and components that may be financed under the project, it is anticipated that there will not be any irreversible environmental impacts to be dealt with. In fact the project has substantial positive environmental and social benefits. The negative impacts are limited to small scale mini and village hydro, biomass and wind energy plants. Overall, the use of renewable energy technologies will yield net positive environmental impacts. Solar home systems (SHS) and village hydro projects will result in the replacement of kerosene and other fuels that are currently used for lighting resulting in corresponding reductions in indoor air pollution. The expansion of grid connected mini hydro schemes and the introduction of wind power and biomass energy systems would likewise reduce the need for fossil fuel based power generation. The replacement of fossil fuel based power generation plants will reduce emissions of SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and particulates. This would result in improved air quality, particularly in already polluted urban environments, where the likelihood of new fossil fuel based power generation plants being located is greater due to infrastructure constraints in Sri

Lanka. Biomass energy systems have the added advantage of contributing to the reduction of the agricultural waste disposal problem.

The use of photovoltaics for electricity generation is fairly benign from an environmental point of view. The only potential environmental issue with regard to SHS is the disposal of lead acid or nickel-cadmium batteries used in SHS. The grid connected mini hydro as well as village hydro projects will be run-of-the river as opposed to storage projects, therefore, the long term environmental impacts are considered to be minor. Potential impacts could be associated with partial dewatering of a section of the riverbed from the intake until water is returned to the river downstream of the powerhouse and consequent impacts on aquatic life in the dewatered section, potential soil erosion caused by flushing flows discharged from sedimentation basins and by overflows at the forebays, potential ground instability caused by canal/pipe construction, cutting of trees for use of power poles for village hydro projects and adverse impacts due to construction of access roads. Commercial wind farms could have minor environmental problems, particularly with regard to interference in migration patterns of birds and noise caused by the aerodynamic interaction between the wind and turbine blades. While biomass energy systems pose a significant risk of reasonably high levels of air pollution, it is anticipated that the emissions will be less polluting than fossil fuel plants, considering the poor quality of petroleum fuels in Sri Lanka. Rapid expansion of biomass energy systems may result in accelerating deforestation.

As specific sub-projects and sites are yet to be identified, project specific environmental issues cannot be identified at this stage. The information given above identifies generic environmental issues associated with typical renewable energy systems, proposed under this project. An Environmental and Social Assessment Framework has been prepared, based on which project specific EAs will be conducted once sub-projects have been identified. In such circumstances, OD 4.01 requires that arrangements be made whereby the project implementing institutions undertake the functions of sub-project screening, EA review and implementation of mitigation and monitoring plans. This document describes the Environmental and Social Assessment Framework, which is a template, which will form the basis for undertaking sub-project specific environmental assessments once the specific sub-projects are identified. It is being submitted in lieu of a project EA and has formed the basis for appraising the environmental aspects of the project. It has also been made available for public review and comment in appropriate locations in Sri Lanka and in IDA's Public Information Center in accordance with BP 17.50 requirements of disclosure. Detailed EAs for individual sub-projects will be carried out by respective developers or implementing agencies and will be reviewed and cleared by the Central Environmental Authority or designated Project Approving Agency (PAA), as applicable, under prevailing national environmental legislation in Sri Lanka.

The first two EAs of mini hydro power, biomass, wind power projects will be submitted to IDA for review and clearance prior to disbursements for associated investments. In addition, the EAs for any sub-project that involves any form of involuntary resettlement, land acquisition, mini hydro projects greater than 5MW, biomass energy projects and wind energy projects greater than 10 MW, will be reviewed and cleared by IDA prior to

disbursement from the Credit line. In addition, other EAs will be submitted to IDA for review as and when the need arises or requested by IDA, to ensure conformity with World Bank safeguard policies.

## **2.0 Project Description**

The project will support the Government of Sri Lanka's efforts to find meaningful and sustainable solutions to meet the challenge of rural development, by the provision of electricity through: (i) financing and grant mechanisms for solar home systems and other solar energy applications in rural areas through private companies, NGOs and MFIs; (ii) developing and financing wind energy and biomass electricity projects; (iii) developing and financing small hydro projects, both grid connected and off-grid; (iv) promoting income generation and social service delivery improvements based on access of villages to electricity and (v) technical assistance for promotion of household energy efficiency, development of carbon trading mechanisms and integration of renewables into government policy, provincial council development strategies and sector reform initiatives. Co-financing would be sought for all five sub-components; in particular from GEF, which cofinanced ESD as well. The project also would finance complementary energy sector technical assistance related to renewable energy including: (i) energy efficiency and demand side management initiatives, especially in making these activities commercially viable and institutionally independent of the main utility; and (ii) technical assistance for sector reforms and addressing renewable energy issues as relevant to the sector reform and development strategy.

In particular, the project would include the following components:

**Grid-Connected Renewable Energy** – including both a continuation on a larger scale of the refinancing support for mini-hydro provided under the ESD Project, as well as an emphasis on two other commercially available renewable energy sources: wind and biomass.

After the successful implementation of a CEB 3MW pilot wind farm under the ESD project, some regional wind resource measurement supported by UNDP/GEF and specific evaluations of sites by a commercial company, the RERED project will support the further commercialization and up-scaling of wind development including exploring the possibility of off-shore development. The project will support technical assistance for business development, feasibility studies, and off-shore resource assessment. It will also provide long term financing for project developers.

Ad-hoc and small biomass (research) projects have lead to a limited basis of experience of grid connected biomass projects. The project will support the market initiation of viable grid connected biomass projects and will focus initially at two areas: small scale co-generation/gasification projects in the tea-industry, and larger scale dendro projects with potential biomass plantations. Technical assistance will be provided for business development, feasibility studies, and regional trade shows, as well as longer term financing for the developers through the Participating Credit Institutions. The need for

additional support for pilot biomass gasification investments will be determined during project preparation. An overarching issue for all grid connected renewables that will be addressed is the further optimizing of the standardized small power agreement and tariff.

**Solar PV Investments** – expanding on the successful market creation in the ESD Project, this component will provide refinancing and grant support for solar PV investments for household, commercial, and institutional use. In particular, the project will provide refinance, grant, and TA support to seek to solidify the existing middle-range solar home system market and expand service to other applications such as: i) smaller systems accessible to a poorer market segment; ii) community applications for health clinics, schools, street lighting, etc.; and iii) commercial systems for water pumping, telecom, and other applications. In this way, the project will both build economies of scale to solidify the market and increase outreach and awareness building to cater to access for poorer families. Further capacity building in respect of microfinance institutions and other household financing organizations serving limited communities is also necessary to expand credit access for remote communities.

**Independent Grid Systems** – again building on experience through ESD and other donor-funded activities, this component would support further commercialization of village hydro, community based biomass and wind energy systems through: i) refinancing and grant support for investments; ii) project preparation support; iii) and TA to address such issues as use of daytime supply for income generation activities, stranded cost, etc. The status of independent grids within the sector reform agenda also will be emphasized in the broader sector technical assistance.

**Energy Efficiency and Demand Side Management (DSM)** – the project will provide technical assistance for further development of energy efficiency service delivery in the private sector and development of a framework for sustainable implementation of energy efficiency programs under a reforms scenario. It is envisioned that responsibility of policy and regulatory issues related to DSM as well as the implementation of public policy type DSM programs will rest with the government, regulator, or utility, while private sector enterprises such as Energy Service Companies (ESCOs) will implement commercially viable energy efficiency projects.

**Technical Assistance** – In addition to the component-specific technical assistance described above, technical assistance to enhance the rural economic development potential of the investments would include:

- i) Study and Implementation Plan for Energy Applications in Key Rural Sectors such as Health, Agriculture, Education, and Water to enhance the impact of existing and planned investments in these sectors. These studies would preferably be sponsored by the respective ministries to increase ownership of the implementation plans. However, specific arrangements will be developed during project preparation.
- ii) Incorporation of renewable energy and energy efficiency/DSM in power sector reforms, including targeted studies on specific issues agreed with the

- Power Sector Reform Committee, policy development, advice on regulatory and legal issues, etc.
- iii) Development of Carbon Secretariat, which will provide support for key stakeholders to access internationally carbon funding mechanisms. This will include but not limited to: establishing of an appropriate institutional set-up (preferable an one-stop window), capacity building for Government officials and others, baseline preparation, and technical assistance for businesses and Government to meet due diligence criteria.
  - iv) Creation of Village Grid organization, to give voice to this growing constituency, and provide an opportunity for cross-fertilization among village electricity societies.
  - v) Monitoring and Evaluation – including both project investment goals as well as project impact with respect to rural economic development.

Private investments in renewable energy typically require long-term funds. In recognition of the critical scarcity of such funds in Sri Lanka, the ESD Project included an ESD Credit Program which provided such funds on a refinancing basis. During the ESD Project period, the general scarcity of long-term funds has increased. For this reason, the RERED Project will also include a Credit Program, modeled after the ESD Credit Program. In particular, credit institutions would be able to participate in the program based on demonstration of compliance with eligibility criteria developed in the ESD Project, that provide for the financial health and good governance of the institution. Participating Credit Institutions (PCIs) would then access RERED funds for eligible subprojects on the basis of Operating Guidelines again based on the ESD Operating Guidelines. As with ESD, the RERED Credit Program will be administered by DFCC Bank which has demonstrated outstanding capacity for this work.

### ***3.0 Government of Sri Lanka Environmental Regulations and Procedures***

In 1981 GOSL passed the National Environmental Act (NEA) and in 1982, created the Central Environmental Authority (CEA) as a regulatory and enforcement agency. The CEA's statutory and enforcement powers were strengthened significantly in 1988, by an amendment to the NEA. A cabinet level ministry to handle the subject of environment was created in 1990, with the appointment of a Minister of Environment to ensure that environmental issues will be given the required attention. GOSL also developed the Environmental Protection License (EPL) Scheme, with the CEA as the enforcing agency, as a regulatory instrument to set industrial pollution standards and control their discharges.

Under provisions of Part IV C of the NEA No. 47 of 1980 as stipulated in Gazette (Extra Ordinary) No. 772/22 dated June 24, 1993 GOSL made Environmental Assessment (EA) a legal requirement for a range of development projects. The list of projects requiring an EA are prescribed in the above Gazette notification. In addition, the Gazette notification includes a list of line ministries and agencies that are designated as Project Approving Agencies (PAA). With the change of government in August 1994, and the resulting re-allocation of Ministries, a new list of PAAs were specified—under subject area rather

than with the name of the Ministry, as listed originally—in Gazette (Extra Ordinary) No. 859/14 dated February 13, 1995.

Prescribed projects where EA is a legal requirement under the Power and Energy sector relevant to the project, includes the following: (i) Construction of hydroelectric power stations exceeding 50 MW capacity; (ii) Construction of thermal power plants having generation capacity exceeding 25 MW at a single location or capacity additions exceeding 25 MW to existing plants; (iii) Construction of nuclear power plants; (iv) All renewable energy based electricity generating stations exceeding 50 MWs; and (v) Installation of overhead transmission lines of length exceeding 10 kilometers and voltage above 50 Kilovolts. In addition, other prescribed projects listed in the above mentioned Gazette notification relevant to RERED project are as follows: (i) All river basin development and irrigation projects excluding minor irrigation; (ii) Conversion of forests covering an area exceeding 1 hectare into non-timber forest uses; (iii) Involuntary resettlement exceeding 100 families, other than resettlement effected under emergency situations; (iv) Extraction of timber covering land areas exceeding 5 hectares; (v) clearing of land areas exceeding 50 hectares; and (vi) All projects and undertakings irrespective of their magnitude, if located partly or wholly within 100 meters from the boundaries of or within any area declared under the National Heritage Wilderness Act; the Forest Ordinance; 60 meters from a river or stream bank and having a width of 25 meters or more at any point of its course; any archeological reserve, ancient or protected monument as defined or declared under the Antiquities Ordinance (Chapter 188); any areas declared under the Botanical Gardens Ordinance; and within 100 meters from the boundaries of or within any areas declared as a Sanctuary under the Fauna and Flora Protection Ordinance.

The EIA approval/disapproval can be granted by the PAA with jurisdiction over the project activity, only with the concurrence of the CEA. However, the project proponent is not permitted to perform the functions and duties of a PAA. Therefore, in the event of a PAA becoming the project proponent, the CEA will designate an appropriate PAA. In instances where the project would fall within the purview of more than one PAA, the CEA will determine an appropriate PAA or serve as the PAA. Any functions of the PAA related to the approval of the project can be devolved to a Provincial Council only with written concurrence of the Minister in charge of the subject of Environment.

According to GOSL procedure, all development activities require environmental clearance. In order to obtain such clearance, the project proponent has to fill in a Basic Environmental Information Questionnaire. The questionnaire requires information from the project proponent to enable the CEA to determine the level of environmental analysis required prior to providing approval for the project. Upon reviewing the questionnaire, the CEA determines whether the project requires an Initial Environmental Examination (IEE), or an Environmental Impact Assessment (EIA), or whether no further environmental analysis is required, depending on the nature of the potential impacts. The CEA review is based on the list of prescribed projects listed under provisions of Part IV C of the NEA No. 47 of 1980 as stipulated in Gazette (Extra Ordinary) No. 772/22 dated

June 24, 1993. All prescribed projects have to be subjected to environmental assessments, either through IEEs or EIAs.

### *3.1 The EIA Procedure*

In the event that an EIA is required, the PAA in consultation with CEA, is responsible for subjecting the preliminary information to environmental scoping, in order to set the Terms of Reference (TOR) for the EIA. The TOR is prepared by a Technical Committee (TC) comprising experts in the relevant field, appointed by the PAA. In developing the TOR, the regulations provide for the PAA to consider the views of state agencies and the public.

Upon submission of the EIA by the proponent, the PAA is required to determine whether issues referred to in the TOR have been addressed and notify the proponent of any inadequacies within 14 days. In the event any inadequacies are identified, the proponent is required to make necessary amendments and resubmit the report. Once accepted, in addition to the EIA being forwarded to the CEA by the PAA, notice is also placed in the Government Gazette and in a national newspaper published daily in Sinhala, Tamil and English languages inviting the public to make written comments, if any, to the PAA within 30 days. The notification would specify the times and places at which the EIA would be available to the public. As a minimum the report would be available at the CEA, PAA and in a GOSL agency in the locality of the proposed project. The environmental regulations have provisions for public hearings on the project although it is not mandatory. The PAA is required to forward all comments, either written or raised during any public hearing, to the project proponent for review and response within 6 days of completion of the public comment period. The proponent is required to respond to all such comments in writing to the PAA.

The TC appointed by the PAA would then evaluate the EIA and require the project proponent to respond to any queries raised by the TC. The TC would also evaluate the adequacy of the proponent's response to any comments raised during the public comments period. Upon completion of the evaluation of the TC, the PAA with the concurrence of the CEA, would grant approval for the implementation of the proposed project subject to specified conditions or refuse approval for implementation of the project, with reasons for doing so. The notification must be made within 30 days of the receipt of responses from the proponent. The PAA is required to specify a period within which a the approved project should be completed. In the event the proponent is unable to complete the project within the specified period, written permission for an extension has to be obtained from the PAA, 30 days prior to the expiration date.

The PAA is responsible for forwarding a report which contains a plan for monitoring the implementation of the approved project, to the CEA, within 30 days from granting approval. It is also the responsibility of the PAA to publish in the Government Gazette and in one national newspaper published in Sinhala, Tamil and English languages, granting approval for the project. It is mandatory that the project proponent inform the PAA of any alterations to the project as approved and/or the abandonment of the project.

The PAA shall, where necessary, obtain fresh approval in respect of any such alterations that are intended to be made to the approved project. The PAA in consultations with the CEA, would also determine the scope and the format of the supplemental report required to be submitted for such alterations.

### *3.2 The IEE Procedure*

Upon review of the preliminary information provided by the proponent, if the PAA determines that the project would have no long term adverse environmental impacts, an initial environmental examination (IEE) would be considered adequate. Under such circumstances, the proponent will be required to submit a detailed IEE for review and approval by the PAA. The IEE will identify potential environmental and social issues and the complexity of possible remedial actions. Upon reviewing the IEE, if the TC identifies any substantial environmental issues that may arise as a result of the proposed project, the proponent will be required to undertake a detailed EIA. In the event the IEE is considered adequate, then the project proponent is requested to prepare an Environmental Management Plan (EMP), to address any potential environmental and social issues as well as incorporate the PAA/CEA's approval conditions. The IEE review process is similar to the EIA review process, except for the level of detail and analysis involved, which is proportionate to the anticipated environmental and social impacts. The CEA has developed a custom made IEE questionnaire for mini hydropower projects. The Environmental Questionnaire for Mini Hydro Projects is more detailed than the general IEE questionnaire and is designed to capture environmental issues specific to mini hydro projects. This questionnaire is used by the CEA/PAA to determine whether the potential project results in long term irreversible or complex environmental and social issues and if so, it warrants an EIA. If no EIA is required, the proponent is required to prepare an EMP which contains remedial measures to address adverse environmental and social issues.

### *3.3 Environmental and Social Review of Community-based Renewable Energy Sub-Projects*

The on-going ESD project has demonstrated that the level of environmental and social impacts arising out of community based renewable energy projects are minimal. Therefore, all community based sub-projects will be required to fill in the Basic Environmental Information Questionnaire. It is anticipated that most community based renewable energy projects will be cleared based on this questionnaire. In the event that the information provided indicates that more in-depth environmental analysis is required, the IEE process will be followed. Particular attention will be paid to control of emissions from community based biomass energy plants.

### **4.0 Environmental Review Capacity**

The Administrative Unit of the DFCC Bank will ensure that all sub-projects eligible for financing from the Credit Line undertake environmental and social assessment based on

the procedures stated in the Environmental and Social Assessment Framework. The DFCC has the institutional capacity to undertake this activity.

### ***5.0 Adequacy of GOSL Environmental Clearance***

The composite GOSL environmental clearance process, in principle, is consistent with World Bank environmental and public disclosure requirements. The exception being the screening criteria adopted in the GOSL process, where project thresholds are used to determine the type of clearance required and the content of public consultation. However, all sub-projects financed by the RERED credit line, except for solar home systems, would be subject to the environmental assessment process described above, regardless of project thresholds.

Although the CEA's regulated EA procedure is less than a decade old, substantial progress has been made by the CEA and PAA's in evaluation of EIAs. Institutional strengthening of the CEA has been supported by projects financed by USAID, NORAD, the Government of the Netherlands, ADB and the World Bank. However, while implementation experience has been reasonably good, IDA will still review the first 2 EAs prepared for mini hydro power, biomass and wind power and provide concurrence prior to disbursements for associated investments.

In addition, EAs of mini hydro projects exceeding 5 MW and wind energy projects exceeding 10 MWs as well as biomass projects will be reviewed by IDA to ensure conformity with World Bank safeguard policies and concurred with prior to disbursement of funds from the credit line for these projects.

### ***6.0 World Bank Environmental and Social Safeguard Policies and its Relevance to the RERED Project***

Projects financed with IDA resources normally need to comply with World Bank Operational Policies. World Bank OP 4.01 requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that these projects are environmentally sound and sustainable. EA is a process whose breadth, depth and type of analysis depends on the nature, scale and potential environmental impact of the proposed project. A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas including wetlands, forests, grasslands and other natural habitats are less adverse than those of Category A projects. These impacts are site specific; few if any are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of an EA for Category B projects may vary from project to project, but it is narrower in scope when compared with Category A projects. Considering the scale of sub-projects and components to be financed under the Rural Electrification and Renewable Energy Development Project, serious adverse, long term environmental impacts are unlikely. Based on the experience of the IDA financed Sri Lanka - Energy

Services Delivery Project, which is very similar in scope to RERED, it is very likely that virtually all sub-projects and components, will at most be classified as Category B rather than Category A. However, since sub-projects, yet to be identified, will be financed out of the RERED Credit Line, the Project has been classified as a FI.

World Bank OP 4.01 is very clear that for all Category A, Category B and Category FI projects proposed for financing under an IDA Credit, the developer must consult project affected groups and local non-governmental organizations (NGOs) about the projects environmental aspects and take their views into account. Such consultations should be initiated as early as possible, in the Project cycle. For Category A projects, such consultations should occur at least twice: (a) Shortly after environmental screening and before the TOR for the EIA are finalized; and (b) Once the draft EIA report is prepared. In addition, the developer is expected to consult with such groups throughout project implementation as necessary to address EIA related issues that affect them.

World Bank OP 4.04 on Natural Habitats states that the Bank does not support projects that, in the Bank's opinion, involve significant conversion or degradation of critical natural habitats. GOSL has agreed with IDA that no subprojects that fall within the purview of OP 4.04 will be eligible for financing under the RERED credit line.

World Bank OP 4.37 on Safety of Dams may be triggered by the larger capacity mini hydro projects under RERED. Even if this safeguard policy is applicable, it will pertain to small dams (normally those less than 15 meters in height) since all mini hydro subprojects are run of the river type and not storage projects, where even the larger capacity projects are not expected to have weir heights exceeding 15 meters. Small dams or weirs are expected to be constructed with generic dam safety measures designed by qualified engineers. No construction project of this nature in Sri Lanka can get construction clearance without the plans first being certified by a Chartered Engineer. Based on Sri Lanka's experience with large scale hydro power projects (70% of the generation capacity is hydro power), finding suitable engineering capacity is not envisaged as a constraint.

World Bank OP 4.12 on Involuntary Resettlement is to ensure that the population displaced by a project receives benefits from it. Under such circumstances, involuntary resettlement is an integral part of project design and should be dealt with at the earliest stages of project preparation. While there is potential for OP 4.12 to be triggered by sub-projects financed under the RERED credit line, particularly with regard to grid connected mini hydro and wind energy projects, the actual likelihood is very low. Under the IDA financed Sri Lanka – Energy Services Delivery Project, where 30 MW of mini hydro power projects were financed, there was absolutely no resettlement involved. Experience in the 3 MW pilot wind farm has demonstrated that wind energy projects can be constructed in a manner compatible with nature and the surrounding population. Therefore, it is anticipated there will be no resettlement under the RERED project as well. However, as a precaution, this Environmental and Social Framework has a procedure to be followed in the event there is involuntary resettlement.

Biomass energy projects are eligible for financing under the RERED Credit Line. While the fuel for community based projects will largely be agricultural waste, the larger biomass plants may use dedicated fuelwood plantations. In order to ensure pesticide use in the fuelwood plantations are managed in a manner to minimize adverse impacts on the environment, it is likely that the Pest Management (OP 4.09) safeguard policy may be triggered. While the Government has determined that all biomass for dendro thermal projects will be harvested from designated fuelwood plantations located in agriculturally marginal lands, the Forestry Safeguard policy may be applicable to ensure forest reserves will not be used as a source of fuelwood.

### ***7.0 Preliminary Assessment of Environmental Issues Relevant to this Project***

It is anticipated that the negative environmental impacts arising out of this project are not significant. Mini hydro, wind and solar PV are among the least environmentally damaging power generation options. The possible issues that may arise will be addressed in site specific EAs and appropriate remedial measures taken for any adverse environmental impacts. The General Environmental Guidelines chapter of the World Bank's Pollution Prevention Handbook will form the basis for identifying the mitigatory measures for these projects, since no specific guidelines are available for small renewable energy projects. Solar home systems (SHS) and village hydro projects will result in the replacement of kerosene and other fuels that are currently used for lighting resulting in corresponding reductions in indoor air pollution. The expansion of grid connected mini hydro schemes and the introduction of wind power and biomass energy systems would likewise reduce the need for fossil fuel based power generation. The replacement of fossil fuel based power generation plants will reduce emissions of SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and particulates. This would result in improved air quality, particularly in already polluted urban environments, where the likelihood of new fossil fuel based power generation plants being located is greater due to infrastructure constraints in Sri Lanka. Biomass energy systems have the added advantage of contributing to the reduction of the agricultural waste disposal problem.

Mini and micro hydroelectric projects includes weirs, small scale storage areas, canals, penstocks and powerhouses. Excessive weir heights are not anticipated in any of the sub-projects. Temporary diversion of river water could result in environmental impacts with regard to partial dewatering of a section of the riverbed from the intake until the water is returned to the river downstream of the powerhouse and consequent impacts on aquatic life in the dewatered section; however, significant effects normally associated with hydrology and limnology of the river systems where large storage dams are constructed is not anticipated in run of the river sub projects anticipated to be financed under RERED. Yet minor changes in aquatic biota and sedimentation dynamics is to be expected in the river. Potential soil erosion caused by flushing flows discharged from sedimentation basins and by overflows at forebays could result in environmental impacts. There is a tendency for suspended particles carried by the river to settle in the area behind the weir or in the diversion canal. However, sediment traps in the canals collect and subsequently discharge collected sediment into the river, thereby minimizing its long term impacts. Minor and temporary land disturbances arising out of construction of the power house

and associated infrastructure as well as potential ground instability caused by canal/pipe construction could result in air and water pollution as a result of construction and waste disposal. Soil erosion, destruction of vegetation, and possible loss of agricultural land in the trace of the canal and power house as well as scouring of the riverbed at the point water is returned to the stream, potential disruption of riverine fisheries between the weir and the point of water return, impediments to fish migration, cutting of trees for use as power poles in micro hydro projects and impacts due to access road construction are potential sources of adverse environmental impacts.

The greatest adverse environmental impacts from wind energy projects result from potential interference with bird migration patterns. Studies conducted on wind farms worldwide have clearly demonstrated that the impact on bird migration is not significant. Most other adverse environmental and social impacts are largely common for both wind and biomass energy projects. Both types of projects require large tracts of land as project sites, however, with minimal impact on the existing population and vegetation. Biomass energy projects to be permitted in Sri Lanka will not involve logging of trees. Fast growing wood species will be planted in degraded, abandoned agricultural lands where only branches of the tree species will be harvested and used as fuelwood for the biomass energy plants. Since the Energy Policy of Sri Lanka which is still in a “draft” stage recommends fuel wood plantations in degraded and abandoned land as well as in small home gardens while no deforestation of any protected areas will be permitted, it is anticipated that there will be no destruction of natural habitat or involuntary resettlement as result of fuel wood plantations. With regard to land requirements for wind farms, the only wind farm constructed in Sri Lanka (an IDA financed 3 MW pilot wind farm) has clearly demonstrated that the actual land requirement can be restricted to area required for the wind towers and associated facilities. Therefore, resettlement can be restricted to a minimum, if needed.

Since fuel wood plantations will be on marginal lands, such tree plantations represent beneficial and productive land use which does not compete with uses of higher productivity. In fact, it provides a range of environmental benefits and services. Reestablishing or increasing tree cover can increase soil fertility by improving moisture retention, soil structure, and nutrient content (by decreasing leaching, providing green manure, and adding nitrogen if nitrogen fixing plants are used). Tree planting can also stabilize soils by reducing water and wind erosion on slopes and in adjacent agricultural fields. However, large commercial plantations have the potential for causing negative environmental impacts of considerable scope and magnitude. The worst impacts could occur where natural forests are cleared for plantation establishment. However, it has been agreed with GOSL that no natural forests will be permitted to be converted to commercial plantations, only marginal agricultural lands will be permitted to be used for this purpose. Adverse environmental impacts due to the possible use of pesticides in dedicated fuelwood plantations are of concern, as well. In addition, precautions will be taken not to convert land that are used as migratory routes by wildlife. Regardless, there are adverse environmental impacts due to site preparation for fuel wood plantations. These impacts include not only the loss of existing vegetation but also the environmental problems associated with land clearance, increased erosion, disruption of the hydrologic

cycle and compaction of the soil. Adverse environmental impacts due to the possible use of pesticides in fuelwood plantations are of concern. In view of this, separate EAs will be conducted on fuelwood plantations to ensure the issues identified above will be adequately addressed.

The use of photovoltaics (solar home systems) for electricity generation is fairly benign from an environmental point of view. The only potential environmental issue with regard to SHS is the disposal of lead acid or nickel-cadmium batteries used in SHS. Such batteries are being recycled in Sri Lanka, therefore, the impact can be minimized.

## **8.0 Social Issues**

### *8.1 Preliminary Assessment of Social Issues Relevant to this Project:*

Based on the experience of the IDA financed ESD project, it is very likely that individual sub projects to be funded by IDA will not involve any resettlement or large scale land acquisition. The main scope of the Grid component is the construction of mini hydro projects with some potential for wind and biomass energy projects and associated power evacuation facilities. The power stations may require some small scale acquisition of land but evacuation of power through lines will not involve the acquisition of property. Any land acquired will require compensation to be made to landowners as well as to affectees for damages incurred during the execution of the works. The works will involve some clearance of vegetation along the wayleave. In some instances trees will have to be cut and in others branches will need removal. Conversion of marginal agricultural lands into fuelwood plantations may result in social impacts due to the loss of grazing land for local cattle herdsman and possible resettlement.

Since all off grid sub-project works are carried out in consultation with the local community, participation is an integral part of the project process. Since public consultation is mandated by the National Environmental Act (NEA), public participation will be an integral part of the grid connected sub-projects as well. Before line construction works are approved the project proponent will ensure that schedules are prepared identifying any clearance of trees and vegetation that may be required, and the owners and occupiers of such properties identified and arrangements made for the valuation of the loss incurred. For all sub-projects that involve any form of involuntary resettlement and/or land acquisition, the details of the process of compensation will be provided to IDA for its specific review and suggestions for any improvements required. Thereafter the AU maintain documentation for review by IDA visiting missions during project supervision.

### *8.2 National Policy on Involuntary Resettlement*

The Cabinet of Ministers of the Government of Sri Lanka approved a National Policy on Involuntary Resettlement in May 2001. Therefore, any resettlement under the RERED project will be subject to the objectives and the scope of the national policy. The objectives of the policy are as follows:

- To avoid, minimize and mitigate negative impacts of involuntary resettlement by facilitating the reestablishment of the affected people on a productive and self sustaining basis.
- To ensure that people adversely affected by development projects are fully and promptly compensated and successfully resettled. The livelihoods of the displaced persons should be reestablished and the standard of living improved.
- To ensure that no impoverishment of people shall result as a consequence of compulsory land acquisition for development purposes by the state.
- To assist adversely affected people in dealing with the psychological, cultural, social and other stresses caused by compulsory land acquisition.
- To make all affected people aware of processes available for the redress of grievances that are easily accessible and immediately responsive.
- To have in place a consultative, transparent and accountable involuntary resettlement process with a time frame agreed by the Project Executing Agency and the affected people.

The scope of the policy is given below:

- This policy will apply to all development-induced land acquisition or recovery of possession by the State.
- A comprehensive Resettlement Action Plan will be required where 20 or more families are affected.
- If less than 20 families are affected, the policy still applies but a plan can be prepared to a lesser level of detail.
- The policy will apply to all projects regardless of funding.
- The policy will apply to all projects in the planning phase on the date the policy comes into effect (May 2001) and all future projects.

### 8.3 *The Resettlement Action Plan*

Investments to be undertaken as sub-projects under the Project have been designed to improve existing rural energy infrastructure. Small scale land acquisition may be involved in some of the sub-projects. No relocation of settlements is envisaged, although in a few cases, some structures may need to be moved. Wherever possible, house relocation shall be to another portion of the Project Affected Family's (PAF) landholding. Every effort will be made utilize, state owned land without encumbrances. Nevertheless, since some sub-projects may involve small scale land acquisition, and possibly, compensation for Right-of-Way (ROW) easement, an Environmental and Social Assessment Framework has been prepared. The Framework provides the basis to adequately address any land acquisition and resettlement of PAFs for such cases.

The underlying principle of the Framework is to ensure that all PAFs share in Project benefits, and are compensated and rehabilitated to assist them to improve, or at least maintain, their living conditions and income earning capacity at pre-Project levels. In addition to direct compensation for loss of property and livelihoods, special measures

shall be undertaken to rehabilitate Seriously Project Affected Families (SPAF) and ensure that their living standards are improved or at least maintained at the pre-Project levels.

The Environmental and Social Assessment Framework has been approved by the Government of Sri Lanka. It lays down the principles and objectives, legal and institutional framework, eligibility criteria, entitlements and grievance procedures that will guide the resettlement and rehabilitation of the PAPs, in line with the Cabinet Approved National Policy on Involuntary Resettlement. The principles, legal and institutional framework, and implementation procedures will be applied to all sub-projects included in the Project. Since works for each sub-project will be spread over several years, resettlement activities necessitated by the project will be completed prior to commencement of sub-project construction.

Basic instruments for resettlement consist of the census, socio-economic survey, and Resettlement Action Plan. A census and inventory of assets, livelihoods and losses of all Project Affected Families (PAFs) will be prepared by prior to environmental clearance being granted for all sub-projects. The date of completion of the census survey will be considered the cut-off date for PAF identification purposes. Where the number of PAFs exceeds 20, a sample socio-economic survey would be carried out prior to implementation of resettlement activities to provide more comprehensive baseline data for monitoring of resettlement impact. In sub-projects where the number of PAFs is less than 20, collection of socio-economic data could be combined with the census survey.

For sub-projects where the number of PAFs exceed 20, the proponent will prepare an operational Resettlement Action Plan (RAP) documenting the implementation arrangements for resettlement, including asset acquisition, compensation, relocation and rehabilitation in detail. Where preparation of a RAP is required, the RAP will be submitted to the World Bank for approval along with the socio-economic survey for that sub-project prior to implementation. Compensation and resettlement and rehabilitation activities will only commence after the World Bank has found the respective RAP to be acceptable, and the Government of the Sri Lanka has approved it. For sub-projects where the number of PAFs are below 20, according to the National Policy, a RAP still applies but a plan can be prepared to a lesser level of detail, but it needs World Bank concurrence.

#### *8.4 Extent and Scope of Resettlement within the Project*

REREDP has been classified by the World Bank as “Category FI” for safeguard purposes and will be managed as a Financial Intermediary Loan. Sub-projects will be identified by potential private sector developers, who will be responsible for undertaking environmental and social assessments in accordance with the National Environmental Act, following this Framework and approach Participating Credit Institutions (PCIs) for financing from the RERED credit line. PCIs will not finance the sub-projects unless all permits and approvals of GOSL has been obtained. This includes the Environmental Clearance, where the Central Environmental Authority (CEA) ensures that environmental

and social issues are adequately addressed and mitigatory measures are taken in the project design. The Administrative Unit of the DFCC Bank, responsible for coordination of the Credit line, will ensure IDA clearance is obtained as required, prior to release of funds for the respective sub-projects.

On the whole, the extent of resettlement would be virtually non-existent or if necessary, it would be small, and its adverse impact outweighed by the benefits accruing to the Project Affected Persons (PAPs). Based on the experience of the IDA-financed Sri Lanka - Energy Services Delivery Project, where there has been no resettlement needed in any of the sub-projects financed by the credit line during the entire project period and the existing (tentative) pipeline of sub-projects to seek finances from the RERED credit line, it appears that the only potential sub-projects that may involve resettlement may be wind energy projects. However, the only wind energy project in Sri Lanka, which is a 3 MW pilot wind farm, has demonstrated how resettlement can be kept to a minimum, even in an area that is reasonably well populated. Land acquisition, if needed, would be only in the immediate location of the wind towers. Even there, the impact of land acquisition and Right-of-Way Easement is expected to be distributed widely reducing the adverse effect on individual dwellers. All PAFs would stand to benefit significantly from improvements in the energy system. Therefore, no large-scale relocation is envisaged, although if a few houses along the right of way or where wind towers may be located need to be acquired, their loss will be mitigated through assistance for house construction on adjacent land. Monitoring of resettlement activities will include establishment of a socio-economic baseline and periodic monitoring of economic indicators to ensure that loss of land in all the sub-projects is offset by post-project income gains through increase in productivity. In accordance with the National Policy on Involuntary Resettlement, the Ministry of Lands has established a unit that will assist each implementing agency or project proponent in implementing the conditions of the National Policy while the Central Environmental Authority has established a unit responsible for monitoring and regulatory aspects of the Policy. Institutional capacity of both units are being strengthened jointly by the Asian Development Bank and the World Bank with national and international consultants and training.

Participation and institutionalized consultations are two built-in positive rehabilitation measures within the Project. Sri Lanka has a rich experience of managing local level infrastructure systems. Community participation in the on-going Energy Services Delivery Project and the IDA-financed Community Water Supply and Sanitation Project are excellent examples of community-based management of infrastructure services.

### *8.5 Resettlement Principles and Objectives*

The principles outlined in the World Bank's Operational Policy 4.12, being generally consistent with the basic objectives of the National Policy on Involuntary Resettlement, have been adopted in preparing this Framework. These principles, and the resettlement measures stemming, therefore, will apply to all sub-projects of the RERED project, whether or not the scale and complexity of resettlement issues require preparation of a RAP.

- (a) Resettlement and land acquisition will be minimized as much as possible. Where land acquisition is unavoidable, the project will be designed to minimize adverse impact on the poorest (those holding less than 1 ha).
- (b) PAPs will be compensated, relocated and rehabilitated, if required, so as to improve their standard of living, income earning capacity and production capacity, or at least to restore them to pre-Project levels.
- (c) All PAPs residing in, or cultivating land, or having rights over resources within the Project area as of the date of the census survey are entitled to compensation for their losses and/or income rehabilitation. Lack of legal rights or title to the asset(s) taken for the Project will not bar the PAP from receiving compensation, rehabilitation and relocation measures to achieve the objectives set forth under paragraph (b) of this Section. All previous claims and unresolved issues related to resettlement or compensation in the area of each sub-Project, including outstanding claims will be resolved in accordance with applicable Sri Lanka laws and regulations, prior to initiating any new land acquisition measures on the respective sub-project.
- (d) The means of resettlement are: compensation at full replacement cost for houses and other structures, agricultural land of equal productive capacity, replacement of residential land at least of equal size and not less than 200 sq. m., dislocation allowance and transition subsidies, full compensation for crops, trees and other similar agricultural products at market value, and other assets, and appropriate rehabilitation measures to compensate for loss of livelihood.
- (e) PAPs forced to relocate due to their house being acquired will be provided full assistance for transportation and re-establishment of their home and will be provided a Dislocation Allowance, in addition to provision of residential land and the replacement cost of their home.
- (f) Replacement residential and agricultural land will be as close as possible to the land that was lost, and acceptable to the PAP.
- (g) Where the total amount of agricultural land acquired is less than 20% of the PAP's farm land for those with holdings more than 1 ha, and 10% of land for those with holdings less than 1 ha, cash compensation may be paid in lieu of land-for-land compensation provided that:
  - (i) the PAP receives full replacement value for the land and all assets on it, without any deductions for depreciation;
  - (ii) the PAP stands to benefit directly from the Project through an increase in income which will off-set the loss of land, such that net production after Project completion is equal to, or greater than, the pre-Project production; and
  - (iii) prior agreement has been reached on acquisition of land through a negotiated settlement at a rate acceptable to the PAP, at replacement value.
- (h) Above the thresholds provided in section 14 (g) above, land-for-land is the preferred option. Land-for-land may be substituted by cash above the threshold provided that:

- (i) land is not available in the proximity of the Project area;
  - (ii) PAPs willingly accept cash compensation for land, and are paid as in Section (g) (iii) above and
  - (iii) cash compensation is accompanied by appropriate rehabilitation measures which together with project benefits results in restoration of SPAF incomes to at least pre-Project levels.
- (i) The resettlement transition period will be minimized, land-for-land and/or cash compensation provided to the PAPs, and rehabilitation measures completed prior to the expected start-up date of works in the respective sub-project.
  - (j) Resettlement plans will be implemented following consultations with the PAPs, and will have the endorsement of the PAPs.
  - (k) The previous level of community services and access to resources will be maintained or improved after resettlement.
  - (l) Any acquisition of, or restriction on access to resources owned or managed by PAPs as common property will be mitigated by arrangements ensuring access of those PAPs to equivalent resources on a continuing basis.
  - (m) Financial and physical resources for resettlement and rehabilitation will be made available as and when required.
  - (n) Resettlement programs will include adequate institutional arrangements to ensure effective and timely design, planning and implementation of resettlement and rehabilitation measures.
  - (o) Adequate arrangements for effective and timely internal and external monitoring will be made on implementation of all resettlement measures.

## 8.6 *Legal Framework*

The acquisition of private properties for public purposes in Sri Lanka is governed by (a) *The Land Acquisition Act (LAA – 1956)* (b) *State Land (Recovery of Possession) Act 1979* and (c) *Urban Development Projects (Special Provisions) Act(1980)*. Other legislation related to land tenure and agricultural lands, such as the Land Reforms Law (1970), Agricultural Services Act (1979) and the Paddy Lands Act (1958) also have either direct or indirect implications for involuntary resettlement. In addition, the National Environmental Act of 1988, incorporates issues related to involuntary resettlement through its broad based definition of environment and covers impacts of development intervention on populations living in the area.

## 8.7 *Entitlement Policy*

### Eligibility Criteria

PAPs will be entitled to compensation based on the status of their occupation of the affected areas. Based on previous experience, the most likely groups of PAPs fall within the likely sub-projects: absentee landowners, owner-operators, lessees and tenants. In addition, PAPs can include squatters and seasonal workers. It is not anticipated that sub-

projects involving resettlement, anticipates relocation of PAPs outside their current area of residence. All former owners of land or other property whose holdings had been previously affected shall have their outstanding claims settled outside of the provisions of this Framework.

### Entitlement Framework

The entitlements for resettlement are laid out in the policies described above which reflects existing laws and practice within the Sri Lanka while adhering to the Bank's resettlement principles and objectives. The Ministry of Lands having being assigned the task of implementing the National Policy on Involuntary Resettlement will take the lead in determining the entitlement package, with the participation of the sub-project proponent and the PAPs, for each sub-project where property is to be acquired. This Group will interact with the Valuation Department who is primarily responsible for determining replacement value, based on market rates, for the property and assets to be acquired.

As a general rule, PAFs losing agricultural land will be compensated through "land for land" arrangements of equal productive capacity, satisfactory to them. If such land is not available in the vicinity, compensation in cash, at full replacement value, will be provided to farmers losing less than 20% of their land when their total landholding exceeds 1 ha, and less than 10% of their land when their total landholding is under 1 ha, and if mutually agreed between the PAFs and the Valuation Department. This threshold was established due to the shortage of agricultural land, the need to avoid reduction of farm size below economically viable units, and the expectation that the project would yield benefits sufficient at least to restore the PAPs' pre-project standard of living and income earning capacity. If the land acquired exceeds the threshold, affectees will be considered SPAFs and will be eligible for rehabilitation based on the principles of the National Policy, in addition to replacement value for the property acquired. In addition, PAFs who are forced to relocate or lose agricultural land will be compensated for the loss of standing crops, fruit trees or other trees at full market value.

PAFs whose houses are affected by the Project will be provided with (a) replacement of residential land of equivalent size (minimum 200 sq. m. in rural areas) as close to the original location as possible, (b) cash compensation reflecting the full replacement value of the structure without depreciation, and (c) Dislocation Allowance equivalent to two months average agricultural income in the sub-project area. If the residential land and/or structure is only partially affected by the Project, the sub-project proponent may, if it is acceptable to the PAP, acquire the entire structure with full compensation, as stated above, or provide cash compensation for the portion affected as mutually agreed between the PAP and sub-project proponent.

Lessees/tenants and squatters who have built their own house but do not own the residential land will be assisted in finding an alternate living site, compensated in full for their house structure, provided assistance to rebuild their home, and paid the Dislocation Allowance. Those who do not own the residential premise will be provided with cash

compensation at replacement value for any structure they have erected, and a cash grant of six months' rental fee, and will be assisted in finding alternative accommodation. PAFs will also be provided compensation at full replacement cost, without any deduction for depreciation, for any other fixed assets affected in part or in full by the Project.

Tenants and lessees will be paid disturbance compensation for the loss of livelihood due to land acquisition, at full market rates.

In cases where community infrastructure such as schools, factories, water sources, roads, sewage systems, electrical supply, or other community resources such as a woodlot or pasture is lost, this will be replaced at no cost to the community.

### People's Participation

The PAPs will participate throughout the various stages of the resettlement activities and in the land acquisition process. They will be consulted by the competent authorities and will be invited to participate in public meetings held by the respective sub-project proponent. These meetings will be an occasion to discuss resettlement issues and will provide a forum for the PAPs to express opinions and offer their suggestions.

The PAPs will be publicly informed by the sub-project proponents of the details of resettlement activities for the respective sub-projects. The information will be made public and provided to each household and will include cut-off dates for each sub-project, entitlements, eligibility criteria, modes of compensation, complaints and grievance redress procedures.

## *8.8 Baseline Information*

### Census and Inventory of Project Affected Families

Each sub-project will provide a census of families and persons adversely affected by it. The census will include a complete inventory of all losses to be incurred by each PAF. This information will include at a minimum: (a) number of persons, main occupation and level of income; (b) number, type, and dimension of the houses; (c) number, quality, and area of all the residential plots; (d) number, category, type, and area of agricultural land held and to be lost by each PAF; (e) tenure status of agricultural land and, amount of rent paid by tenant/lessee, where applicable; (f) quantity, category, and dimension of all other fixed assets adversely affected; (g) productive assets lost as a percentage of total productive assets; (h) temporary damage to productive assets; (i) quantity, category, and quality of non-agricultural livelihood adversely affected; (j) quantity, type, and quality of community resources to be acquired.

### Identification of Replacement Land

If the sub-projects involve physical relocation of PAPs, or provision of replacement land, each sub-project will provide data on the location, area, type, and category of the

replacement land available for residential and/or agricultural purposes. Care will be taken to ensure that the relocation site or replacement land is in the vicinity of the PAP's previous location to avoid social dislocation and unrealistic division of the PAP's economic livelihood. For all sub-projects where the number of SPAFs exceeds 25, sub-project borrowers will prepare a Resettlement Action Plan (RAP) which will include maps and all other resettlement as provided in the RAP Outline in Annex 2.

### Socio-Economic Survey

In addition to the 100% census and inventory of all affected properties, all sub-projects requiring the preparation of a RAP will also include as part of the RAP, a socio-economic survey of the affected population. This survey will be based on interviews of a 20% sample of PAFs not requiring relocation, and include 100% of PAFs whose houses are being acquired.

The socio-economic survey will provide data on the existing social structure, tenurial arrangements and resource use, access to common property resources, social services and infrastructure facilities by different social groups in the project area, and for the host population at the proposed resettlement site (if relevant), clearly identifying all special interest groups, particularly those who are poor and vulnerable (e.g. farmers with landholdings under 1 ha, tenants, landless laborers, and women-headed households), and describing their special characteristics in relation to the project.

## *8.9 Implementation Arrangements*

### Schedule

In each sub-project, resettlement schedules will be coordinated with construction schedules. All resettlement activities arising out of the works to be implemented in a given year will be completed prior to the scheduled start-up date of those works on the respective sub-project, and prior to disbursements out of the proceeds of the Loan for activities related to the respective sub-project.

### Complaints and Grievances

The Ministry of Lands will create a Grievance Redress Committee to address complaints and grievances pertaining to resettlement and to minimize disagreements being referred to the court. The Committee will involve administrative officers and representatives of the local communities affected by the sub-project. Grievances related to any aspect of a sub-project will be handled through negotiations aimed at achieving consensus.

Amicable settlement between the PAP and sub-project proponent will be first attempted at the sub-project level. If this first conciliation attempt fails, the case may be brought by either party to the Ministry of Lands. If no resolution is arrived at, the PAPs or the sub-project proponent may involve elected representatives at the local and/or Provincial level

to attempt conciliation. Any fees required for this purpose will be paid by the sub-project proponent.

If the case is not resolved at this level, the case may be submitted by either party to the Court. PAPs who bring their case to the Court will have the right to free legal representation but will otherwise have to follow prevailing laws.

### Supervision and Monitoring

Resettlement activities in all sub-projects will be regularly supervised and monitored by the Central Environmental Authority (CEA) and all sub-projects that involve land acquisition, resettlement and/or complex environmental issues will be submitted to the World Bank for review and comment (The CEA has been assigned the task of monitoring and regulation of the National Policy on Involuntary Resettlement).

Internal monitoring and supervision will:

- (a) verify that there are no outstanding or unresolved land acquisition issues on the sub-projects included within the Project, that the census of all PAPs has been carried out, that the RAP and socio-economic survey has been prepared for sub-projects where it is required, and that property valuation and resettlement has been carried out in accordance with the provisions of the Policy Framework;
- (b) oversee that all resettlement measures are implemented as approved; and
- (c) verify that funds for implementing resettlement activities are provided in a timely manner, are sufficient for their purposes, and are spent in accordance with the provisions of the Framework.

### ***9.0 Institutional Arrangements for Implementation and Monitoring the Environmental and Social Assessment Framework***

Once sub-projects are identified, the sub-project proponent is required to obtain environmental clearance from the Central Environmental Authority (CEA) prior to the relevant Local Authority providing approval for project construction. Based on a questionnaire prepared by the sub-project proponent, the CEA determines (i) whether the project is a prescribed project requiring an Environmental Impact Assessment; (ii) if not, are the environmental and social issues adequately minor so that a detailed Initial Environmental Examination (IEE) is appropriate; and (iii) designate an appropriate PAA to evaluate the IEE/EIA, as the case may be, and grant the approval/disapproval.

Based on CEA's determination, the sub-project proponent is responsible for conducting the EIA/IEE following the guidelines set out in the National Environmental Act and associated Regulations.

In order to ensure the TOR for the EIA/IEE adequately addresses World Bank Safeguard Policies, in addition to GOSL requirements, it has been agreed with CEA that World Bank Safeguard requirements will be included in the TOR for the EA. Upon completion

of the EIA, the sub-project proponent will forward the EA report to the CEA/PAA who will initially check the report for technical adequacy of satisfactorily responding to the TOR. Thereafter, the EIA report is placed for a mandatory period of 30 days for public comment. The CEA/PAA appointed Technical Working Group (TWG) will then evaluate the EIA and the subproject proponent has to respond to any comments by the TWG and the public. It is upon satisfactory response to the above that the CEA/PAA will provide conditional approval/disapproval for the project. The sub-project proponent is expected to prepare a EMP as part of the EIA process, which satisfactorily includes mitigatory measures in accordance with the conditional clearance. The EIA evaluation process ensures that social issues are addressed adequately as well. The CEA has the mandate of monitoring compliance with EIA clearance conditions.

### ***10.0 Scope and Structure of the Environment and Social Assessment***

The EIA would cover the following issues:

#### **Policy, Legal and Administrative Framework:**

A brief description of the policy, legal and administrative setting under which the proposed project is to be implemented.

#### **Project Description:**

A brief description of the nature and objectives of the proposed project and how it functions or operates, including the proposed location and why it was chosen.

#### **Baseline Data:**

This section would include a brief description and evaluation of the current environmental and social situation in the project area. This would include a qualitative description of the existing environmental and social conditions in the project area including atmospheric, aquatic and terrestrial systems as well as a socio economic baseline survey.

#### **Environmental Impacts:**

This section would identify potential environmental impacts that would arise as a result of the proposed project. All cumulative effects will be should be considered – positive and negative, direct and indirect, long term and short term.

#### **Social Impacts:**

A brief description of the social conditions in the project area including an estimate or the number of people to be relocated, distribution of population in the project area, a brief discussion of the local economy and primary sources of income, the presence of significant cultural and infrastructure facilities that will be affected and a list of issues to be discussed in the EA relative to the social conditions.

Preliminary plans for relocating affected people and a preliminary assessment of land acquisition requirements and a determination of whether the land required for the project falls into conservation areas or tribal lands or other special areas.

Description of indigenous groups affected by the project including significant unique characteristics of the cultural tradition of the of the groups and special economic resources of the group. Preliminary plans for protecting and enhancing the integrity of the indigenous groups.

#### Analysis of Alternatives:

This section would address alternatives for the proposed action, which would include the “no project” alternative as well as other alternatives considered before selecting the proposed action.

#### Mitigation Measures:

This section would include a detailed explanation of how the potential environmental and social impacts identified above could be mitigated.

#### Monitoring Plan:

This section should include a long term plan for monitoring to ensure that there no adverse impacts due to the project.

#### Environmental Management Plans:

Considering the nature and complexity of the sub-projects and technical assistance to be financed under the Credit, it is unlikely that any major or irreversible environmental impacts will be encountered. Therefore, the most important section of the EA would be the section on Environmental Management Plans (EMPs). EMPs should be prepared after taking into account comments from both PAA and IDA as well as any clearance conditions. In view of this, a more detailed explanation of EMPs are given below.

Prediction of potential adverse environmental and social impacts arising from project activities will be at the core of the environmental impact assessment process. By following the procedure described above, the environmental assessments to be conducted under the Project will be able to identify environmental and social impacts as a result of implementing the sub-projects. While impact identification is important, an equally essential element of this process is to develop measures to eliminate, offset or reduce impacts to acceptable levels during implementation and operation of the sub-projects. The integration of such measures into project implementation and operation is supported by clearly defining the environmental requirements within a EMP. EMPs provide an essential link between the impacts predicted and mitigation measures specified within the

EIA and implementation and operation activities. The plan outlines the anticipated environmental impacts, the mitigatory measures to minimize these impacts, responsibilities for mitigation, timescales, costs of mitigation and sources of funding.

World Bank guidelines state that detailed EMP's are essential elements for Category A projects, but for many Category B projects, a simple EMP alone will suffice. While there are no standard formats for EMPs, it is recognized that the format needs to fit the circumstances in which the EMP is being developed and the requirements which it is designed to meet. The EMP will address the following aspects:

- Summary of Impacts
- Description of Mitigation Measures
- Description of Monitoring Programs
- Institutional Arrangements
- Implementation Schedule and Reporting Procedures
- Cost estimates and sources of funds

The EMP will clearly describe and justify the proposed mitigation measures and facilitate public consultation, as required by OD 4.01, and encouraged by the PAA. Accordingly, consultation with affected people and NGOs will be an integral part of all Category A projects and is recommended for Category B projects.

## **Annex 1: Land Acquisition Assessment Due Diligence Guide**

1. land required (location, ownership & use)
2. need for acquisition
3. legal process of acquisition (voluntary purchase or eminent domain)
4. timing of acquisition (land already acquired)
5. present use of public lands
6. seasonal or periodic uses
7. estimated number of households affected (by category of structure)
8. tenurial status of present users.
9. squatters or encroachers
10. public or community infrastructure
11. sacred, cultural, historical or conservation sites or programs

## **Annex 2: Resettlement Action Plan Table of Contents**

1. Introduction - Describe sub-project, why resettlement required, and efforts to minimize resettlement
2. Definition of PAPs - Who is affected and eligibility criteria
3. Census and surveys - Number affected & how are they affected
4. Legal framework and entitlement policy - Support principles for different categories of impact and what will people get
5. Income restoration and relocation strategies - feasibility and effectiveness of income restoration strategies and suitability and availability of relocation sites
6. Institutional arrangements - Who does what task to deliver entitlements? Institutional capacity
7. Task budget and schedule - When will it happen, costs and fund source?
8. Internal and external monitoring - How will it be managed? Indicators of successful completion of the RAP
9. Consultations - Results of consultations and plans for continued participation of PAPs in monitoring & grievance redress mechanisms