BANGLADESH: RURAL ELECTRIFICATION AND RENEWABLE ENERGY PROJECT

ENVIRONMENT AND SOCIAL ASSESSMENT FRAMEWORK

Prepared by

The Rural Electrification Board
And
Infrastructure Development Company Limited
1.0 Purpose

The Rural Electrification and Renewable Energy Project (the Project), to be financed by IDA will comprise of: support for grid and off-grid developments for the provision of electricity services to the rural populations. The supply choice to be applied for each village or service territory will be dictated by least cost and economic considerations. The grid developments will consist of expansion and intensification of the grid (distribution) network in project PBSs. On the off-grid side, the Project will assist the development of and investments in various off-grid options, including renewable energy (mainly Solar Home Systems, SHS) and private sector operated mini-grids. While a cooperative based institutional arrangement (PBSs) owned by member-consumers exist for the grid option the project will develop suitable institutional mechanisms to promote and finance solar home systems. In addition the project also aims to provide a supporting framework for private sector based, stand alone diesel and gas fueled mini grid systems and carry out some pilot studies to ascertain the applicability of renewable energy systems such as wind and micro-hydro. 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 Bangladesh (GOB). Activities to be financed under the Grid Component of the Project that has the potential to trigger environmental safeguard policies are, expansion, intensification and rehabilitation of electricity distribution systems in rural areas and the small power generation sub-component. While direct IDA investments will be made in the distribution system rehabilitation and expansion sub-component, the small power generation component will involve only the provision of technical assistance (TA) and possibly investments in associated basic infrastructure development such as the provision of gas supply facilities to plant locations (in accordance with REB’s program of support for private sector financed small power generation). Regardless of IDA finances not being directly involved in the small power generation plants, REB is required to ensure that World Bank’s environmental safeguards are complied with, by the private sector generators, since the project will be involved in provision of TA and possibly investments for supporting infrastructure. Under the Off-grid Component, the sub-components that may trigger World Bank’s environmental safeguard policies are community or private sector initiatives involving mini-grids (distributed supply options), which would include small diesel or gas based generation systems, micro-hydro and wind energy projects which may be operated either by the private sector or cooperatives. The potential capacity of Remote Area Power Supply Systems (RAPSS) would be in the range of 1 MW to 10 MW systems.

World Bank policies and guidelines, pertaining to environmental safeguards, that may require consideration under this project are as follows:
However, the most likely safeguard policy to be triggered under this project will be OP/BP/GP 4.01 on Environmental Assessment. The purpose of an environmental assessment 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 EIA 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 major environmental issues to be dealt with. Rehabilitation of rural electricity distribution systems would be on existing rights of way, which are largely rural roadways, therefore should not create adverse environmental impacts. Expansion of electricity distribution systems usually follow rural roads and open fields and have negligible impact on the environment. Care will be taken to minimize deforestation in securing rights of way. Environmental impacts resulting from both the grid connected small power generators as well RAPSS have the potential for adverse environmental impacts such as air pollution and noise, that would need mitigatory measures incorporated into project designs. The micro-hydro and wind energy sub-components may result in some minor environmental impacts, particularly with regard to the 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, 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 as power poles in micro hydro projects and potential interference with bird migration patterns in wind energy projects.
Since sub-projects, particularly with regard to grid connected small power plants, off grid RAPSS, micro hydro plant locations and developers as well as wind energy sites have not yet been identified, project specific EAs are not possible at this stage. The electricity distribution sub-component is in the same situation since specific sub-projects and line routes are yet to be 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 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 will form the basis for appraising the environmental aspects of the project. It is also being made available for public review and comment in appropriate locations in Bangladesh 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 REB and the Department of Environment, as applicable, under prevailing environmental legislation in Bangladesh. The first five EAs and any sub-project EA that involves involuntary resettlement and/or land acquisition will be submitted to IDA for review and clearance prior to disbursements for associated investments. In addition, subsequent 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

2.1 Project Objective

Bangladesh’s development objective is to increase rural access to electricity to promote social development and economic growth. The Government intends to achieve this objective through this project by: (i) assisting the Rural Electrification Board to expand and intensify rural grids, improve the operational and financial performance of the rural electricity cooperatives (PBSs), and reduce power outages in the rural grid systems; (ii) facilitating development of decentralized, mini-grids owned and operated by the private sector or NGOs/community-based organizations; and (iii) promoting use of solar home systems in rural areas inappropriate for grid expansion.

2.2 The key issues to be addressed in order to accomplish these objectives are:

- Managing increasing costs of grid expansion through prudent selection of new areas for electrification and rationalization of existing distribution systems.
- Improving revenue generation and operational efficiency of PBSs and enhancing their sustainability through selective financial restructuring measures.
- Promoting off-grid options, both to increase penetration into remote areas and to reduce the need for grid expansion which is often at higher cost.

2.3 Strategy
The key element of the country’s rural electrification strategy is the ‘area coverage’ concept in expanding grid access. This has worked well in the past and has the potential to yield good results, provided three constraints can be addressed – (i) rising costs of grid extension as load densities decline; (ii) shortage of power supply from BPDB to the rural grid; and (iii) ensuring financial sustainability of the PBSs. The Government and REB are addressing these constraints by (i) rationalization of distribution networks by handing over power systems in villages and secondary towns from the main utility – the Bangladesh Power Development Board (BPDB) – to the PBSs to reduce overall costs of electrification; (ii) introducing greater prudence in selection of lines and revisiting revenue and cost assumptions that have governed the area coverage program thus far; and (iii) addressing the shortage of adequate bulk power supply by promoting localized power generation through small privately operated plants, supplying power directly to PBSs.

These Government proposes to complement these strategies by increased attention to poorly performing PBSs. Measures proposed include; financial restructuring to reduce debt service burdens, revenue enhancement through transfer of pocket areas and critical load centers from BPDB and promotion of off-grid options in remote and high-cost areas. The off-grid options would be promoted by PBSs, Non-Governmental Organizations (NGOs) and Micro-finance Institutions (MFIs). Government supports this strategy and as a first step has eliminated import duties on solar home systems. In parallel, Government has introduced a policy to attract private sector investment in establishing mini-grids in unserved or poorly served areas. These grids, referred to as ‘Remote Area Power Supply Systems’ or RAPSS would be established by the private sector under concession arrangements with the concerned utility – BPDB or REB. The Government has reached an agreement with IFC to earmark 3-4 PBS and non-PBS areas for establishment of privately owned and operated integrated mini-grids. These projects would be developed with IFC’s assistance, with IFC playing the role of a project promoter and possibly providing an equity stake as well.

2.4 Rationale for Bank’s Involvement

The rationale for Bank’s involvement is not limited to providing investment resources. The real value-added stems from the Bank’s ability to promote a policy framework that can facilitate both grid and off-grid solutions. With respect to the former, the Bank’s involvement will help Government to establish appropriate standards for sub-project selection and rationalize investment decisions. On the off-grids, the Bank’s involvement will help promote an appropriate initial policy and implementation regime for renewables, by integrating initiatives by PBSs, private sector, NGOs and non-PBS community organizations in rural electrification. Issues related to this component have already been extensively documented in two studies carried out under a wider Bank initiative. These include a market survey for SHSs and the feasibility of a SHS program in the context of alternative options. In addition to the experience gained during these

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Under the area coverage concept comprehensive load surveys are carried out for a large area and recticular pattern designed to accommodate future load expectations. The networks designed consist of backbone lines (main load flow conduit) and laterals (supplies to specific areas). Thus while initial cost can be high, with time the overall development of the networks is least cost. In contrast, many utilities extend networks to one town at a time resulting in high costs over an extended period.
studies, the Bank presence will facilitate wider consultations at the community level to add-value in defining project concepts with a pro-poor, socio-economic focus.

2.5 Project Description

The Grid component of the project will support: (i) line expansion and intensification in areas currently under the PBSs; (ii) Distribution area rationalization and rehabilitation of networks in new areas taken over by the PBSs; (iii) Technical assistance for REB/PBS institutional development, financial restructuring, socioeconomic program and poverty reduction aspects of electricity provision and development of the small power generation program. The Grid component will be implemented by the REB. The off-grid component will support provision of electricity through: (i) financing and subsidy mechanisms for solar home systems through PBSs, NGOs and MFIs; (ii) financing RAPSS; (iii) technical assistance for promotion of solar home systems and development of RAPSS; and (iv) technical assistance for development of pilot wind and micro-hydro projects. Co-financing would be sought for all the four sub-components; in particular for (iv).

### Financing Plan

<table>
<thead>
<tr>
<th>Component</th>
<th>Indicative Costs (US$M)</th>
<th>% of Total</th>
<th>IDA financing (US$M)</th>
<th>GEF financing (US$M)</th>
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<tbody>
<tr>
<td>I: GRID: REB and PBSs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Grid expansion and intensification for PBSs</td>
<td>110.00</td>
<td>59.0</td>
<td>90.00</td>
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<td>Rehabilitation of newly taken over areas</td>
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<td>18.6</td>
<td>25.00</td>
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<tr>
<td>TA (1)</td>
<td>5.00</td>
<td>2.7</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>II: OFF-GRID: PBS/NGOs/MFIs/Private Sector/Communities</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Solar Home Systems</td>
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<td>8.0</td>
<td>12.00</td>
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<tr>
<td>TA (2)</td>
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</tr>
<tr>
<td>TA (3)</td>
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<td>2.7</td>
<td>1.00</td>
<td>(*)4.00</td>
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<td><strong>Total Project Costs/Financing</strong></td>
<td>187.00</td>
<td>100.0</td>
<td>142.00</td>
<td>11.00</td>
</tr>
</tbody>
</table>

(1) Institutional development, financial restructuring of PBSs, socioeconomic program and poverty reduction aspects of electricity provision and development of the small power generation program.

(2) Promotion of solar home systems and development of RAPSS.

(3) Development of mini-hydro and wind power pilots.

(*') GEF or other cofinancing possible.

3.0 Government of Bangladesh Environmental Regulations and Procedures

The Government of Bangladesh enacted the Environment Conservation Act (Act 1 of 1995) in 1995. The legislation was enacted for conservation, improvement of quality
standards, and control through mitigation of pollution of the environment in Bangladesh. In order to enforce the above mentioned Act, the Government established the Department of Environment, which will function as a regulatory agency, and will be headed by a Director General (DG). Based on the provisions of the Act, the DG will engage in taking action which may be reasonable and necessary for the conservation, improvement, control and mitigation of environmental pollution. The Act makes provision for declaration of ecologically critical areas in the event that fragile environments are threatened. The Act provides for regulations in respect of controlling vehicles emitting smoke harmful to the environment and the management of discharge of excessive environmental pollutants. Further, the Act calls for environmental clearance from the Director General prior to the establishment of any industrial unit or project development.

Section 12 of the Environmental Conservation Act of 1995, which refers to environmental clearance, provides the Director General to formulate environmental guidelines which are to be announced through the official gazette for the control and mitigation of environmental pollution, conservation and improvement of the environment. Among the several rules contained in the Act for effective environmental management, the following may have direct bearing on the project:

- To review the environmental impact assessment and procedure of various projects and activities;
- To lay down procedure to protect the environment and ecosystems;
- To determine fees for obtaining Environmental Clearance Certification and other services;
- To determine quality standards for air, water, noise, and other environmental elements, for different areas for different purposes;
- To protect the environment by regulating industrial establishments and other development activities; and
- To determine the standard limit of environmental effluent discharge.

The Ministry of Environment and Forest of GOB, by gazette notification in August 1997 introduced certain rules that may have an impact on the manner in which the Project will be implemented. The most relevant of the rules to the implementation of the Project, are those pertaining to the Procedure for Granting Environmental Clearance. According to this Rule (Section 7 of Annex II, Environmental Conservation Rules), industrial units and projects have been divided into four categories depending on environmental impact and location. These categories are:

- Green
- Orange A
- Orange B, and
- Red

All existing industrial units and projects and proposed industrial units and projects, that are considered to be low polluting are categorized under “Green” and shall be granted Environmental Clearance. There are 22 types of industrial units and projects that are listed under the “Green” category, in the Environmental Conservation Rules. For
proposed industrial units and projects classified as “Orange A” and “Orange B” categories, potential environmental issues and an Initial Environmental Examination (IEE) has to be prepared, respectively. The rules have identified 26 and 69 types of industrial units and projects under categories “Orange A” and “Orange B” respectively. Both these categories have to obtain “location Clearance” issued by the Local Authority. Environmental clearance will be granted after review of the list of potential environmental issues and the IEE, as the case may be. The “Red” category also has 69 industrial units and projects that have been identified to have potentially significant environmental issues. Location Clearance must be obtained initially, thereafter, Environmental Clearance either through an IEE, if considered adequate by the Department of Environment (DOE), or a detailed Environmental Impact Assessment (EIA), is required prior to construction.

In accordance with the Environmental Conservation Rules, potential sub-projects and components to be financed under the Rural Electrification and Renewable Energy Development Project, such as grid connected small power plants, off grid RAPSS, micro hydro plants, wind energy projects and electricity distribution system rehabilitation and extension, fall under Category “Red” of the above classification. Section 7, sub-section 6 (d) of Annex II of the Environmental Conservation Act of 1995 clearly articulates that Environmental Clearance procedure that needs to be followed by Category “Red” projects. This procedure is summarized below:

- A Feasibility Report of the proposed project must be prepared by the developer;
- An IEE should be prepared by the developer, which will be the basis for determining the need for an EIA and if needed, the scope of the EIA;
- All Category Red projects are required to conduct an EIA, based on a Terms of Reference approved by the Department of Environment. This EIA should include a Layout Plan of the entire operation, including the site of the Treatment Plant, process flow diagrams, Environmental Management Plans (EMP) and a Pollution Effect Abatement Plan or monitoring plan, prepared by the developer or consultants hired by the developer.
- A “no objections” certificate should be obtained by the Local Authority;
- EIA clearance will be provided by the Department of Environment, within a 60 working days or the application will be turned down, stating reasons; and
- Environmental Clearance for Category “Red” projects have a validity of 1 year and requires renewal on an annual basis from the Department of Environment.

Considering that the potential environmental issues that may arise in rural electricity distribution system expansion, rehabilitation and intensification, would likely be minimal, DOE is considering the revision of the categorization and power distribution networks most likely will be under “Orange A or B” categories. However, for the purposes of this project, distribution systems will be considered Category “Red” projects, until a formal revision of the legislation is made. This will come into force as soon as the existing law is amended.
The Environmental Conservation Act 1 of 1995 has no formal provision for public consultations during the EIA process. Which means that there is no mandatory requirement for the developer to consult project affected people during the drafting of the TOR for the EIA and after the draft EIA report is completed. However, the Act provides the right of appeal. Any person who is aggrieved by any notice, order or direction made under the Environmental Conservation Act 1 of 1995 or Environmental Conservation Rules of 1997, may within 30 days from the date of notice, may appeal to the Appellate Authority constituted by the Government. The reasons of objection must be clearly stated in the appeal. However, the Appellate Authority’s decision is final and no suit may be instituted in any court against the decision or order.

3.1 Adequacy of GOB Environmental Clearance

The GOB environmental clearance process is mandatory under the Environmental Protection Act 1 of 1995 and Environmental Protection Rules of 1997, therefore, all sub-projects and components financed under the Rural Electrification and Renewable Energy Development Project would fall under Category “Red” which requires environmental clearance. While the EIA process is largely similar to the World Bank’s OD 4.01, there is a significant deviation in that GOB Environmental Guidelines and Legislation do not require mandatory public consultation and disclosure. World Bank guidelines are very clear that all Category A and Category B projects have to undertake public consultations and disclosure. Even without formal public consultation requirements, the DOE strongly encourages the project proponent to consult the public at all stages of the project. In the event of public concerns, the Act provides for the right of appeal. It has however, been agreed with GOB that all sub-projects to be financed under this project will include public consultations as a pre requisite to fund disbursements.

4.0 World Bank Environmental Guidelines

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 depend 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. Therefore, it is very likely that virtually all sub-projects and components, will at most be classified as Category B rather than Category A. Category A projects are likely to have significant adverse environmental impact.

World Bank OP 4.01 is very clear that for all Category A and Category B 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.

As stated above, the Environmental Conservation Act 1 of 1995 does not require mandatory public consultation of project affected parties. In keeping with World Bank’s OD 4.01, REB will ensure that all private sector developers and REB itself, will subject all EIAs to public consultations as stipulated in OD 4.01. This would be a pre-condition for disbursements of funds for the respective sub-project or component. Public consultations would be done through the PBS since the affected communities are generally in the localized PBS area.

4.1 Justification of IDA Review of EA:

Due to the recent origin of the Environmental Protection Act and the Department of Environment in Bangladesh, where institutional capacity is still evolving, and the lack of mandatory public consultation and disclosure requirements in the legislation, IDA will rely on its full internal review for all sub-projects and components that will be classified as Environment Category A (if applicable). However, considering the potential investments in the Project it appears unlikely that there will be any Category A activities under this project. IDA will also rely on its full internal review of the first five Category B EA reports (Categories "Orange A, Orange B and Red") to ensure that they are consistent with OD 4.01. Additionally, all sub-projects that involve any form of involuntary resettlement and/or land acquisition will require IDA clearance as a pre-requisite for disbursements. Furthermore, IDA may review the EAs of other Category B sub-projects and components, as part of project supervision to ensure safeguards are being consistently met. In the event that compliance with World Bank safeguards are not satisfactory, IDA will review and clear all EAs of Category B subprojects and components prior to disbursements of funds for the respective activities.

4.2 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: (i) minor and temporary land disturbances arising out of laying of new distribution lines and only in cases where such lines do not follow existing way-leave along roads, streams, etc.; (ii) construction of sub-stations, undertaken mostly on
unproductive, government or community donated lands; (iii) few pilot mini hydro and wind energy plants; and (iv) small scale gas or diesel based power generation and distribution systems in remote rural areas for which existing environmental standards (both GOB and World Bank) will apply.

Potential environmental impacts from construction and extension of distribution lines could result from clearing of vegetation from sites. Distribution routes will not go through forest or wildlife reserves as well as other ecologically sensitive areas. Substations will be the primary source of construction related impacts under this project but the site specific EAs will address the potential impacts and the required mitigatory measures.

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.

The World Bank has specific guidelines for Thermal Power Plants exceeding 50 MW capacity in the Pollution Prevention Handbook. These guidelines will form the basis for identifying the environmental mitigatory measures for gas or diesel fired power plants (although the plant capacities will be below 10 MW) that may be financed by IDCOL and operate within the framework of this project.

5.0 Social Aspects

The project will support the Government of Bangladesh’s efforts to find meaningful and sustainable solutions to meet the challenge of rural development. The Grid component of the project will include support for: (i) line expansion and intensification in areas currently under the PBSs; (ii) distribution area rationalization and rehabilitation of networks in new areas taken over by PBSs; and (iii) technical assistance for REB/PBS institutional development, financial restructuring, socioeconomic program and poverty reduction aspects of electricity provision and development of the small power generation program. The Grid component will be implemented by the REB, through the PBSs.

Secondly, the project will support the provision of electricity through off-grid development: (i) financing and subsidy mechanisms for solar home systems through PBSs, NGOs and MFIs; (ii) financing RAPSS; (iii) technical assistance for promoting solar home systems and development of RAPSS; and (iv) technical assistance for development of pilot wind and micro hydro projects. The off-grid, non PBS components will be executed through the Infrastructure Development Company Limited (IDCOL), which would administer the TA and manage on-lending to RAPSS projects (to be developed by the private sector) and MFIs/NGOs for solar home systems. Organized in 1997 as a private limited company, wholly-owned by the GOB, IDCOLs broad mandate is to provide debt financing and serve as a catalyst in mobilizing private financing and
management capabilities to develop modern and efficient infrastructure systems in Bangladesh.

The laws, regulations and guidelines applicable to projects involving land acquisition, resettlement and other social issues in Bangladesh are discussed in the following sections. These laws and guidelines and the World Bank’s Operational Directive ("OD") 4.30 (Involuntary Resettlement) and OD 4.20 (Indigenous Peoples) are discussed.

The Social Assessment Framework applicable to this project is based on the social assessment framework agreed in 1997 with the World Bank as part of the IDA financed Private Sector Infrastructure Development Project (PSIDP) in Bangladesh. PSIDP involves the construction of large scale infrastructure projects that has significant potential for adverse environmental and social impacts. In contrast, it is unlikely that there will be irreversible environmental and social impacts under this project. Yet, GOB has agreed that the principles of environmental and social mitigatory measures agreed with the World Bank under PSIDP will be applicable in this case as well.

5.1 Constitutional Provisions:

The fundamental rights guaranteed under the Constitution of Bangladesh indicate the general guidelines for a policy on resettlement/rehabilitation of citizens adversely affects (whatever the mechanism) due to any activity of the State. However, there is a certain ambivalence. Article 40 of the Constitution states categorically that every citizen has the right to practice any lawful occupation which implies that anything that impedes such right (a) should not be done or (b) there should be supplementary measures to make good the losses incurred by the citizens. Resettlement/rehabilitation of adversely affected people due to infrastructure development very clearly falls within this requirement for supplementary measures. Any resettlement or land acquisition that may arise under this project most likely fall under this category.

The Constitution, however, categorically restricts the right of the citizen under Article 42, sub-clause (2) where it states that no law with provision of compensation for acquisition of land can be challenged in a court on the ground that such compensation has been inadequate. Since this clause could lead to problems of inequity, it has been agreed with GOB that any involuntary resettlement or land acquisition compensation package has to be reviewed and cleared by IDA, prior to fund disbursements for that activity, under the Credit.

5.2 Land Acquisition Acts:

The Acquisition and Requisition of Immovable Property Ordinance was enacted in 1982 and supersedes earlier laws including The Land Acquisition Law of 1894 and others that have been in force between 1947 and 1982. The Acquisition and Requisition of Immovable Property Ordinance is the main basis for all of the present actions regarding acquisition, resettlement and rehabilitation within Bangladesh. The relevant points of the 1982 law are as follows:
- "Property" means only immovable property (land and buildings) and includes any right in such property.

- "Owner" includes the occupiers.

- Matters to be considered in determining compensation include:
  - the market value of the property
  - damage to standing crops or trees due to acquisition
  - damage due to severance of acquired property from other property at the time of actual taking of permission by concerned authorities
  - damage to other properties or earnings
  - expenses for relocation of residence
  - damage due to lowering of profit of the property to be acquired between the serving of acquisition notice and actual acquisition.

While the rules under the Act 'appear' fairly generous, implementation of the Act has lead to some problems. Determining the market value and damage to property or income are difficult to establish under normal circumstances, particularly in situations of subsistence level agriculture, relatively stable communities with little movement of people from area to area (little basis for establishing market value due to lack of precedent for value of residences). Thus, the determination of market value and potential income becomes more emotional because acquisition of land in a land-scarce and agricultural-dependent society is not necessarily economically based. Consequently, arbitrary determinations are often made with the affected population becoming dissatisfied with the actions. This problem is further exacerbated by the government assigning itself sweeping powers in the matter of land acquisition. In the Context of Article 42, the actual acquisition of land may not be entirely necessary, compensation may be inadequate, or compensation may be paid much later than the acquisition. Once again, IDA review and clearance of the compensation package is a pre-requisite for fund disbursements. This should provide some oversight to ensure a fair and equitable package for affectees.

While the Constitution and laws provide for payment of compensation for land and other immovable property, there is a lack of clear guidelines for such acquisition. Moreover, Deputy Commissioners who actually serve notice and take possession of the land are given sweeping authority in such matters and citizens have no legal recourse against such actions. These problems have been alleviated to some extent through the imposition of specific guidelines associated with multilateral infusion of financing into infrastructure development. Experiences with multilateral financing of infrastructure project has led to
the enactment of specific ordinances, which require resettlement and rehabilitation plans to comply with most of the principles and policies of the financing organization.

The present laws, acts, regulations and rules are not very explicit regarding resettlement and rehabilitation of project-affected persons ("PAPs"). However, the laws that are in effect place the burden of resettlement and rehabilitation on the project sponsor. Consequently, in recent years, attempts are being made to take affirmative action relative to social issues associated with infrastructure development. This action focuses on development of entitlement matrices based on an entitlement policy. "Entitlement", here, means the rights of the PAPs to receive benefits from the project and full compensation for their losses of land, other immovable properties, income, standing crops, occupations, etc. The compensation is often made in terms of cash grants but also includes training and credit as well as other necessary facilities to enhance the resettlement and rehabilitation process.

5.2 World Bank Policies Regarding Social Aspects:

As the World Bank/IDA is providing financing for the proposed project, compliance with World Bank policies regarding the acquisition of land and involuntary resettlement is required. In connection with determining the categories of compensation planning for the PAPs, World Bank also requires special consideration of the potential adverse effects to indigenous peoples. The policies and guidelines for developing and implementing an acceptable program for involuntary resettlement are set forth in OD 4.12 of the World Bank Operational Manual. Requirements for special consideration of Indigenous Peoples that are included in the PAPs are set forth in OD 4.20. All sub-projects involving land acquisition and resettlement will adhere to World Bank OP/BP 4.12 on Involuntary Resettlement.

OD 4.20 is currently under review and revision to rectify problems that have arisen in implementing these policies in past projects and to incorporate recent issues that have been raised at the international level.

Salient points from the current OD on involuntary resettlement include:

- Assurance that the population displaced by a project is fully compensated for loss of property, income and social structure
- Assurance that the displaced population will share in the benefits from the project
- Assurance that the standards of living of the affected population are improved
- Involvement of the PAPs in the planning and implementation process
- Assurance that development programs are socially and culturally compatible with the practices of the indigenous group
Assurance that the program is implemented with the informed participation of the indigenous group

The indigenous peoples do not suffer adverse effects

5.3 Preliminary Assessment of Social Issues Relevant to this Project:

Individual sub projects to be funded by IDA will not involve any resettlement except perhaps in an isolated instance where a land is being acquired for a substation or a PBS office. The main scope of the project works in the grid component is the construction of medium and low voltage distribution lines. Construction of these lines do not involve the acquisition of property. Poles are usually erected on road sides when serving a village and along roads and across fields (including paddy fields) when transporting power along the medium voltage (11 kV) lines from substations. The right to construct such works on public and private property is provided in the Electricity Act of 1910 and the Rural Electrification Board Ordinance of 1977. Both enactments require compensation to be made 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.

Since the project works are carried out in consultation with the PBSs the concept of community participation is an integral part of the project process. The members of the PBS Board of Directors are elected by the cooperative members and in addition there are elected lady advisors and district representatives. While the specific project selection is carried out by consultants, PBS and REB officials the PBS carries out informative and motivational meetings and discussions with villages. There has always been much enthusiasm and community level participation in these activities.

Before line construction works are approved REB will ensure that schedules are prepared identifying any clearance of trees and vegetation required, and the owners and occupiers of such properties identified and make arrangement for the valuation of the loss incurred. The valuation shall be made in consultation with the member service representatives of the PBSs who are community representatives. In accordance with the REB Ordinance any person dissatisfied with the amount of compensation has recourse to an appeal Deputy Commissioner for the area whose decision will be final and binding on the parties. It is not expected that the right of way will include need for an acquisition of a property or a demolition of a building. If such an eventuality arises REB will agree to bring all such instances to the specific notice of IDA and compensation and resettlement needs will be specifically reviewed. For the first five village electrification schemes, the details process of compensation for wayleaves will be provided to IDA for its specific review and suggestions for any improvement required. Thereafter the REB will maintain documentation for review by IDA visiting missions during project supervision.

5.5 Land Acquisition
While no land is expected to be acquired for the purpose of line construction there may be instances where lands would need to be acquired for substation construction and for PBS depots and offices. The first choice for such lands will be government owned property or vacant lands not in productive use. Whenever land is required REB will follow the procedures under the land acquisition ordinance of 1982. The procedure followed by REB in this respect is as follows:

1. Submission of proposal to the Office of the Deputy Commissioner with the purpose of land use, proof of project approval by the Government, administrative approval of land acquisition by the ministry along with total area of land, land number, ledger number, registration number and name and address of the owner.

2. After proper examination of the proposal by District Land Allocation Committee (DLAC) if everything is found in order then it will provide its approval to start the process of land acquisition.

3. Start of land acquisition process and its various steps:
   a) Field inspection of the land.
   b) Notifying the respective Union Chairman.
   c) Providing notice to the owner/owners and verification of title.
   d) Estimating the land value (usually the average of last 3 years recorded land value in the sub-registry office of the respective area is considered as the land value). The Deputy Commissioner decides upon the final value of the land.

4. Notify the agency interested in acquiring the land to deposit the land value to the Government Treasury within 60 days. Notify the owner/owners the land value at the same time.

5. Resolve any complaint if any of the owner/owners on land value.

6. Provide letter to the owner/owners to receive the land value after the acquiring agency deposits the money to the government.

7. The Office of the Deputy Commissioner will provide the land to the land acquiring agency within the stipulated time irrespective of the owner/owners receiving the land value.

8. On acquiring the land the agency will commence development works.

9. The Office of the Deputy Commissioner will register the land to the land acquiring agency within 18 months of land acquisition.

All land acquisition under the project will be carried out only after the details of the process followed and any representations made by the owner or occupier of the land is provided to IDA. In over 20 years of history of REB’s rural electrification program no major issues have arisen with respect to land acquisition.
5 Scope and Structure of the Environment and Social Assessment

The EA 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 situation in the project area. This would include a qualitative description of the existing environmental conditions in the project area including atmospheric, aquatic and terrestrial systems.

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.

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.

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 groups and special economic resources of the group. Preliminary plans for protecting and enhancing the integrity of the indigenous groups.

Mitigation Measures:

This section would include a detailed explanation of how the potential environmental 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.

5.1 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 DOE 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
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 DOE. Accordingly, consultation with affected people and NGOs will be an integral part of all Category A projects and is recommended for Category B projects.

6 Institutional Arrangements for the EA Process

The Grid Component:

The potential for environmental issues will be under the sub components of distribution line expansion and intensification in areas currently under the PBSs and rehabilitation of networks in new areas taken over by PBSs. Since the project proponent in this instance will be the PBSs, the EA preparation will be the responsibility of the respective PBSs. The actual preparation of the EA will be undertaken initially by a national consultant who will be assisted by PBS staff, until such time that the PBSs will develop adequate capacity to undertake the EA themselves. Training would be provided for PBS staff to strengthen their capacity in this regard. The Environmental and Social Assessment Framework will be used by the PBSs as the basis for preparation of the EAs and will be submitted to REB for review and approval. The REB has recently entrusted the Timber Products Division to simultaneously look after the Environmental Compliance Cell, under the supervision of the The REB has recently established an Environmental Compliance Cell, headed by the Chief Engineer (Planning) and consisting of two officials with post graduate degrees in Natural Resources. Capacity building of the Environmental Compliance Cell will be provided under the proposed project in the form of a national consultant for a limited period and training in environmental impact assessment and monitoring for the permanent staff of the Cell. REB’s Environmental Compliance Cell will review the EAs submitted by the PBSs to ensure that the EAs conform to the agreed Environmental and Social Framework as well as to the technical quality of the assessment. The Chairman of REB has identified a Board Member who will be finally responsible to signing off on the adequacy of the EA, which will then be submitted to DER as required under the Environmental Conservation Act of 1995 and the Environmental Conservation Rules of 1997.

The Off-Grid Component:

The off grid component would provide technical assistance and possibly the provision of associated basic infrastructure development costs for RAPSS. The 1 MW to 10 MW power generation plants that would be established under RAPSS would be undertaken by the private sector with possible funding from IDCOL. The RAPSS could include mini grids which may have distribution supply options as well as small diesel or gas based
power generation plants, micro hydro and wind energy projects (which may be operated by either private sector or cooperatives). The potential for adverse environmental issues is greater in the off-grid component than in the grid component. However, IDCOL has a proven track record of ensuring environmental compliance under its current activities of financing large scale infrastructure projects in Bangladesh. IDCOL has developed a detailed Environmental and Social Appraisal Manual which outlines the environmental and social appraisal procedures and guidelines necessary to ensure that IDCOL loans are made in accordance with the environmental, social and resettlement policies established by GOB and the World Bank. The detailed Environmental and Social Appraisal Manual was reviewed and approved by the World Bank during establishment of IDCOL under the IDA financed, Private Sector Infrastructure Development Project (PSIDP) in 1997. Therefore, all off-grid components under this project will follow the environmental and social appraisal procedure laid out in the Manual. A brief summary of the procedure is presented in this framework.

The responsibility of preparation of the EA is with the project developer and not IDCOL. Once the EA is prepared, IDCOL reviews the document to ensure compliance with GOB’s Environmental Conservation Act of 1995, Environmental Conservation Rules of 1997 and World Bank’s relevant Operational Policies. Thereafter, the EA is forwarded to DOE for review and clearance. IDCOL’s loan approval is contingent upon DOE’s environmental clearance. The technical capacity to undertake the review of the environmental and social assessment of sub-projects at IDCOL is addressed adequately under the PSIDP, therefore, will not be addressed under this project.

Social and Economic Impact Monitoring Cell:

The rural electrification program in Bangladesh has yielded substantial social and economic benefits to rural communities. An assessment of such benefits was carried out by an USAID sponsored study in 1991. To improve REB’s understanding of the relevant issues and to find ways and means of improving these benefits to rural communities it is intended to establish a special socio-economic monitoring cell under the current project. A concept paper for the establishment of such an unit has been prepared and is made available to IDA. The proposed program will establish baseline data in villages to be electrified and carry out field surveys and studies to access the correlation between access to electricity and the reduction of poverty, and the increase of welfare, production, employment and income. Attempts will be made to support any ancillary activities identified by these studies that will contribute to these goals and enhance impacts. It is also expected that the project will include consultancy support to this unit.

7 The Environmental Clearance Process for Sub-projects and Components under the Rural Electrification and Renewable Energy Development Project

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4 If IEE is adequate (no significant environmental issues), DOE provides Environmental Clearance
5 Developer obtains "no objection" letter from Local Authority for site clearance
6 If IEE is not adequate (environmental issues requiring detailed analysis), DOE drafts TOR for EIA study
7 Draft EIA Report completed and submitted to DOE and IDA
8 Public Consultation on the EIA
9 EIA review and by DOE and IDA
10 Finalization of Environmental Management Plan, based on comments/conditions by DOE and IDA
11 Environmental Clearance by DOE

The Off-Grid Component

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