

**Environmental Management Framework
For
Bangladesh Local Governance Support Project
(LGSP)**

FOR PUBLIC RELEASE

**The Local Government Division (LGD), MOLGRDC
Government of Peoples Republic of Bangladesh**



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ACRONYMS

BAEC	Bangladesh Atomic Energy Commission
BG	Block Grant
BP	Best Practice
BRTA	Bangladesh Road Transport Authority
BWDB	Bangladesh Water Development Board
CDD	Community Driven Development
CG	Community Group
CHT	Chittagong Hill Tracts
CIWs	Community Infrastructure Works
CSO	Community Support Organizations
DoE	Department of Environment
DPHE	Department of Public Health Engineering
DSR	Dam Safety Report
EA	Environmental Assessment
ECA	Environmental Conservation Act
ECR	Environmental Conservation Rules
EIA	Environmental Impact Assessment
EIE	Environmental Impact Evaluation
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ER	Environmental Review
ES	Environmental Screening
ESA	Environmentally Sensitive Area
ESMF	Environmental and Social Management Framework
GoB	Government of Bangladesh
GP	Good Practice
HPI	Human Poverty Index
IEE	Initial Environmental Examination
IP	Indigenous People
IPP	Indigenous Peoples Plan
LEA	Limited Environmental Assessment
LGD	Local Government Division
LGED	Local Government Engineering Department
LGSP	Local Government Support Project
MoEF	Ministry of Environment and Forest
MoLF	Ministry of Livestock and Fisheries
MoLGRDC	Ministry Of Local Government, Rural Development and Co-Operatives
NGO	Non-Governmental Organization
NILG	National Institute of Local Government
ODs	Operational Directives (of the World Bank)
OM	Operational Manual
OP	Operational Policies (of the World Bank)
PAST	Project Appraisal and Supervision Team
PISC	Project Implementation Committee
PMC	Project Management Subcommittee
PMP	Pest Management Plan
PO	Participating (Partner) Organization
PSC	Project Supervision Committee

RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SDF	Social Development Foundation
SIPP	Social Investment Program Project
TNA	Training Needs Assessment
TOT	Training of Trainers
UNDP	United Nations Development Program
UNO	Upazilla Nirbahi Officer (Executive Officer at the Upazilla)
UP	Union Parishad
URT	Upazilla Resource Team
UZ	Upazilla
VDC	Village Development Committee
WB	World Bank

Environmental Management Framework for Small Development Subprojects under Bangladesh Local Governance Support Project*

EXECUTIVE SUMMARY

I. Introduction

The Environmental Management Framework (EMF) provides general policies, guidelines, codes of practice and procedures for the management of environmental issues to be integrated into the implementation of the LGSP. More specifically, the objectives of the EMF are:

- To establish clear procedures and methodologies for the environmental review, approval and implementation of subprojects to be financed under the Project;
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental concerns related to subprojects;
- To determine the training and capacity building needed to successfully implement the provisions of the EMF;
- To establish the project funding areas required to implement the EMF requirements; and
- To provide practical resource materials for implementing the EMF.

The implementation of EMF will help to ensure that activities under the proposed project will (i) protect human health; (ii) enhance positive environmental outcomes; and (iii) prevent negative environmental impacts as a result of either individual CIWs or their cumulative effects.

II. Project Description

Consistent with the GOB's commitment, the project aims to strengthen institutions of local governance as an important step towards reducing poverty and enhancing and sustaining basic local service delivery systems. It is expected that an effective governance system at the local level will help scale up the existing community-based systems and open up space for more meaningful political competition which, in effect, would promote a stronger collective demand for greater accountability of the state to citizens.

* A shorter document entitled ESMF (Environmental and Social Management Framework) which integrates this document with the Social Management Framework for the project is also available.

LGSP has five components: (a) fiscal transfer in the form of ‘block grants’ to Union Parishads (UPs) based on selected criteria and performance (a negative list will be given); (b) accountability to citizen; (c) Local Government capacity building; (d) policy evaluation; and (e) Social Protection Pilot in 15 UPs. Of these, the block grants (BGs) component will require the proposed EMF, as Local Governments (LGs) are expected to use these grants for the provision of small-scale rural community infrastructure works (CIWs), such as rural roads, culverts, footbridge, drainage, small-scale irrigation facilities, water and sanitation facilities, and the like.

The subproject types with probable environmental impacts for which local capacity may not be adequate to manage the impacts are to be excluded and a list of such projects is provided in this EMF. However, it should be noted that the list is not immutable and can be modified in the light experience when demonstrable capacity develops to manage the environmental impacts of the subprojects.

III. Environmental Management Requirements

The selection, planning, design and implementation of the subprojects under LGSP have to be consistent with the relevant national environmental management requirements and as well as the Bank safeguards policies applicable to the Project and its subprojects. In each case, national and local institutions to be involved in reviewing and approving subprojects will be identified; and these will carry out their respective roles and responsibilities. The responsibilities may include issuing approvals for undertaking a subproject and ensuring compliance to obligatory requirements under laws and regulations.

The requirements for compliance with environmental regulations are laid down by the policy, legal and regulatory framework in Bangladesh. The most important of these are the Environment Conservation Act, 1995 (ECA 1995) and the Environment Conservation Rules (under the ECA 1995), 1997(ECR 1997). However, there are many of the other laws that are cross-sectoral and are only partially related to environmental issues. The environmental provisions under these laws are equally mandatory.

According to the overall environmental category assigned to the LGSP, the provisions in the EMF have to comply with the World Bank’s operational policies on Environmental Assessment (OP 4.01). Other operational policies can be optionally used for the screening of subprojects if considered useful.

As the project is expected to cover all of the country in phases, it is necessary to keep in mind the general variation in the environmental conditions expected in different parts of the country in subproject selection, planning and design. Based on the magnitude and implications of environmental issues and for management purpose, the subprojects in LGSP are divided in to following four categories in keeping with the earlier practice in the country.

- ‘C+’ : Subprojects that have only positive or no environmental impacts.
- ‘C’: Subprojects that have impacts which are small in scale.

- ‘B’ : Subproject that have impacts which are larger and more complex.
- ‘A’: Subprojects whose potential impacts involve significant environmental risks, and which will not receive funding under the LGSP.

IV. Subproject Preparation, Approval and Monitoring

The process for addressing environmental concerns through the institutional arrangements and procedures used by the Project for managing the identification, preparation, approval and implementation of subprojects are defined in generic steps in this framework. It is crucial that the procedures are clearly linked to the project-defined subproject cycle so they can be readily included in, or referenced from, the Project Implementation Guidelines.

Taking into consideration, the learning from different pilots on CDD type projects in the Bangladesh, LGSP has been designed to be closely aligned with the country’s elected local government activities at Union Parishad level. It depends on the utilization of existing technical capacities available at the Upazilla level in the various line departments of the central government. Thus, the overall approach is that the Union Parishads with Upazilla resources team (URT) support will take steps to address environmental concerns during subproject preparation and implementation.

In general, it is expected that the URT extension teams will work with UPs (subproject committees) in preparing the subproject documents to avoid or minimize adverse environmental impacts (i.e., as per environmental guidelines in Annex-I). They will use a checklist, together with information on typical project impacts and mitigation measures (Annex-II) to carry out this work. The aim of the checklist is to assist communities and extension teams in identifying potential impacts based on field investigations. The information in annex-II provides advice on how to avoid or minimize them. The standard approach for community participation methods in the project will be used to address the environmental concerns also. The ER checklist identifies the potential impacts of the subprojects; the measures built into a subproject to address these impacts are to recorded in this form. The completed ER checklist must be preserved along with other project documentation or any additional reports that may be required (e.g. LEA for category-B subprojects). The ER form also contains a certification by the subproject team that all measures required to avoid or minimize adverse environmental impacts are included in the subproject design. In some situations, for the most effective use of resources it may be appropriate to prepare any needed additional reports (e.g. LEA) *after* a subproject proposal has been approved in principle. In these situations, *a subproject cannot be finally approved and funded until such reports are received and approved.*

The procedures for review and approval of subproject applications need to be consistent with applicable national approval procedures. They also need to be integrated into the planned project process of approving subprojects. The roles and responsibilities of various authorities at different levels, as appropriate (UP, UZ and subproject committee) are thus defined in a consistent manner with the subproject cycle to take environmental concerns into due consideration.

The environmental issues in a subproject are to be disclosed with the subproject information in order to comply with the Bank's Policy on Disclosure of Information. This policy requires that, *before a subproject is approved*, its environmental implications (ER/LEA) be made available for public review at a place accessible to local people (e.g. at the UP office), and in a form, manner, and language they can understand.

Annual reports on project activities during the preceding year should capture the experience with implementation of the EMF procedures. Regular annual reviews of the implementation of the EMF for the subprojects are to be carried out by authorized persons or a group of persons not involved in the subproject implementation. The purpose of the reviews are to assess compliance with EMF procedures, learn lessons, and improve future EMF performance and to assess the occurrence of, and potential for, cumulative impacts due to project-funded and other development activities. These annual reviews will be the principal source of information to Project Management for improving performance, and to Bank supervision missions. Thus, they should be undertaken after the annual report has been prepared and should be available for Bank supervision of the Project.

V. Environmental Management

The issues addressed in this section concern how subprojects will respond to the needs for environmental management, including pest management, conservation of protected areas, natural habitats and forest. Compliance with Banks safeguards policy OP4.01 is considered mandatory in LGSP but other policies may be optionally used if considered useful.

The subproject planning should strive for plans and designs that avoid creating adverse environmental impacts that have to be explicitly managed. "Environment" is broadly defined to include the natural environment (air, water and land), and human health and safety. The communities and URT extension teams can use the EMF checklist (ER Form) and resource in a participatory process to support good environmental planning.

For C⁺ and C category subprojects only ER is required. As C⁺ category subprojects are environmentally beneficial, these require no action. For C category subprojects, subproject design ensures that environmental concerns are taken care of and this is verified in the approval process and no action in addition to project implementation should be necessary. Only in the category B subprojects where explicit limited impact assessment (LEA) is required and this includes an environmental management plan (EMP). The outlines of the contents of a LEA are included in the annex.

It should be emphasized that a LEA should fit the needs of a subproject and be easy to use.

The basic elements of an LEA are:

- A description of the possible adverse effects that the LEA is intended to deal with;
- A description of planned mitigation measures, and how and when they will be implemented;

- A program for monitoring the environmental effects of the subproject -- both positive and negative;
- A description of who will be responsible for implementing the LEA measures; and
- A cost estimate and source of funds.

Community participation is essential in preparing a LEA since local knowledge is important in identifying, designing and planning the implementation of practical mitigation measures. It is especially important where the success of the LEA measures depends on community support and action, both in implementing mitigation measures and in monitoring their effectiveness.

VI. Capacity Building and Training

The environmental sustainability of the LGSP which involve funding multiple, small-scale subprojects, is highly and unavoidably dependent on the capacity of communities, local and national authorities to carry out the associated design, planning, approval and implementation of CIWs. Thus, to ensure that capacity, it is vital that that LGSP allocates sufficient resources to training and capacity building especially in the early years. These efforts will not only benefit the LGSP, but will also build local capacity to undertake other development initiatives funded locally or by other donors.

An assessment of the existing institutional capacity to implement the ESMF was carried out to plan a capacity building and training plan. The UPs have a very limited institutional capacity to implement the EMF. Except for a Secretary, who usually keeps track of all activities in a union, the 13 others, including the Chairman, are elected community representatives. It is thus unlikely that capacity could be built within the UPs. However, as a part of the institutional capacity building for the project as a whole, Upazila Resource Teams (URTs) -- comprising of professionals of relevant GOB agencies – will be formed and trained in different aspects of the project, including interpretation and implementation of environmental impact management guidelines. As and when required, the UPs can avail the services of the URTs. The trained Upazilla level official can be utilized to conduct awareness-building type training for UP members and those who would be involved in CIWs selection and implementation process (i.e., subproject committee members and concerned citizens).

Different groups involved in LGSP implementation have different training needs in terms of raised awareness, sensitization to the issues, and detailed technical training. While some would require training on general awareness building and more specific training would be needed for others. The three major areas for anticipated trainings are:

- **Awareness-raising** for participants who need to appreciate the significance or relevance of environmental issues;

- **Sensitization to the issues** for participants who need to be familiar enough with the issues that they can make informed and specific requests for technical support; and
- **Detailed technical training** for participants who will need to analyze potentially adverse environmental impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans. This training will address such matters as community participation methods; environmental analysis; using the ER checklist, reporting; and subproject supervision and monitoring.

Based on the assessment, a training plan has been proposed for the life time of the project. The needs for various participants (e.g. government officials, community leaders, extension teams) have to be different of necessity. There would be the initial training needs as well as the needs for further or “refresher” training. The plan should include mechanisms for periodically bringing trainees together to examine the need for and design of additional training. As the capacity building and training constitute a separate component of the LGSP, adequate resources from this component should be allocated to ensure appropriate capacity for effective implementation of the EMF.

1. INTRODUCTION

1.1 Background

The Government of Bangladesh (GoB) and development partners have agreed at the recent Poverty Reduction Strategy Implementation Forum to support a strategy of strengthening local governance, particularly through enhancing basic local service delivery. To this end the GoB has requested World Bank financing of the Local Government Support Project (LGSP). The project is designed to fund a large number of small-scale rural community infrastructure works (CIWs) as subprojects all over the country that will be identified and planned by the communities, with the support of project-financed extension teams, and then approved for funding by local government authorities.

Most of these CIWs are not expected to lead to environmental impacts of any significance. World Bank environmental category is FI for such projects and World Bank Operational Policy on Environmental Assessment (OP 4.01) will be triggered for this project. In order to avoid potentially adverse environmental impacts, this policy (i.e., OP 4.01) will be used for assessing potential environmental problems and taking mitigation measures. As the details of all the subprojects are not known at time of project preparation, an Environmental Management Framework (EMF) is required for this category (FI). All proposed requests for funding community infrastructure will be subject to environmental screening exercise in order to prevent execution of projects with significant negative environmental impacts; decrease potential negative impacts through adaptations in design, location or execution; prevent or mitigate negative cumulative impacts; enhance the positive impacts of subprojects; and prevent additional stress on environmentally sensitive areas.

The objectives of this EMF are:

- To establish clear procedures and methodologies for the environmental review, approval and implementation of subprojects to be financed under the Project;
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental concerns related to subprojects;
- To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the EMF;
- To establish the project funding required to implement the EMF requirements; and
- To provide practical resources for implementing the EMF.

The implementation of EMF will help to ensure that activities under the proposed project will:

- Protect human health;
- Enhance positive environmental outcomes; and
- Prevent negative environmental impacts as a result of either individual CIWs or their cumulative effects.

1.2 Terms of Reference

The objective of this consultancy is to develop a user friendly Environmental Management Framework (EMF) and Operational Manual (OM) for CIWs, consistent with World Bank Operational Policy on Environmental Assessment (OP 4.01), Bangladesh laws and international good practice.

During the preparation of EMF for LGSP, the following objectives were pursued.

(a) An assessment of the effectiveness of existing safeguards management frameworks in a sample of local governments (Union Parishads) in several Upazillas especially including some in districts (Rangamati and Bandarban) having tribal population was done.

(b) In the light of the accumulated local experience this EMF has been drafted. This document includes a negative list of subprojects and assessment of the existing legal framework, addressing any gaps between government and Bank policy, and include practical environmental codes of practice, mitigation principles and procedures for environmental enhancement of subprojects, with:

1. clear steps and feasible allocation of decision-making and responsibilities for screening impacts, assessing the adequacy of mitigation plans, managing grievances and correcting any errors;
2. a needs assessment and plan for the capacity building required to implement the framework; and
3. document the public consultation process for developing the framework.

1.3 Methodology

The approach in the WB Toolkit¹ for ESMF for WB projects with multiple small scale subprojects has been followed in developing the present document. The experiences on CIWs from local initiatives in some areas of the country including the hill tracts districts mainly populated by indigenous peoples have been integrated in the framework development process. This was done through field visits and actual interactions with the stakeholders at the project areas. The field work essentially involved visits to existing project areas where similar CIWs are being implemented and discussions with various stakeholders including UP representatives, local NGOs, CBOs, local interest groups and concerned individuals. The investigation areas were selected in consultation with UNDP, WB and GOB project preparation team. Some limited discussions were also conducted with the personnel involved in project support, supervision and fund management. The field work program was actively coordinated with the work for the social part of the ESMF preparation activity.

¹ ESMF for WB Projects with Multiple small-scale subprojects-A Toolkit (2005)

The Environment Management Framework (EMF) and Operational Manual (OM) prepared by the Local Government Engineering Department (LGED)¹ and SIPP² were carefully studied in conjunction with the World Bank Operational Policy on Environmental Assessment (OP 4.01), Bangladesh ECA (Environmental Conservation Act, 1995) and ECR (Environmental Conservation Rules, 1997).

The experience from other countries like India³, Afghanistan⁴, Pakistan⁵ and countries in Africa for similar initiatives were also studied to prepare this Environmental Management Framework. An easy to implement user friendly 'Operational Manual (OM)' for Environmental screening for CIWs has also been prepared and included in annex- I.

Although consultations with a broad cross-section of communities including elected representatives, NGOs, Government officials, academics and independent researchers were desirable during the preparation of the present document, this was considered impractical due to fast tract nature of the project. However, during project implementation EMF will be assessed for its effectiveness, grievance redress mechanism and decision-making processes by the local government representatives, communities, NGOs and experts and revision will be introduced in the EMF/OM as needed.

The report has been prepared in English and an executive summary in Bangla is provided. For better dissemination in the community both the report and the operational manual should be translated into Bangla. However, this has to be done separately.

¹ EMF for RTIP, LGED (2002)

² SIPP Environmental Assessment Manual (SDF, 2002)

³ B. Rahill and S. Vaideeswaran, Environmental Management Mechanisms in FI, Quasi- FI and CDD Operations (2003)

⁴ ESMF for World Bank supported emergency reconstruction operations in Afghanistan

⁵ ESMF for PMSIP (Punjab Municipal Social Investment Project) supported subprojects (2005)

2. PROJECT DESCRIPTION

2.1 Purpose of the Project¹

The LGSP is aimed at a strategy of strengthening local governance, particularly through increasing the size of the block grant to Union Parishad (UP). This project is designed to build on a policy commitment to strengthening institutions of local governance as an important step towards reducing poverty and enhancing basic local service delivery. It reflects a growing consensus that centralized service delivery arrangements have remained unaccountable to citizens and have failed to improve services in a sustainable manner. It also recognizes that scaling up of existing community based systems will require support from an effective system of government at the local level. The emergence of local governments can also open the space for more political competition, bringing with it a chance for greater accountability of the state to citizens.

GoB has recently taken a number of important steps to strengthen local governance, building on the long history of elected Union Parishads (UPs) and Pourashavas, and more recently some innovative pilot projects. Initial assessments of the pilot projects suggest that local government-led projects save both time and money in providing basic services to the poor. The challenge is now to incrementally expand the system of local governance.

The GoB's new initiative of providing BDT. 200,000 block grant (BG) directly to the UPs in 2004 has strengthened local governance. GoB is committed to increase this BG by 20% annually. Other important measures taken by GoB include the revision of local revenue generation procedures, the development of a UP Plan Book, and the development of training programs and performance assessment procedures for local governments.

These measures have built on considerable analysis and piloting. The Sirajganj Local Government Support Project, Social Investment Project (SIPP) in Gaibandha and Jamalpur, has developed a useful body of experience on the benefits of effective and empowered local governance through participatory and transparent mechanisms for budgeting, expenditure and performance review, so as to establish citizen participation and accountability.

2.2 Components of the Project

The LGSP has five components: (a) fiscal transfer in the form of 'block grants' to Union Parishads (UPs) based on selected criteria and performance (a negative list will be given); (b) accountability to citizen; (c) Local Government capacity building; (d) policy evaluation; and (e) Social Protection Pilot in 15 UPs. Local governments are likely to use the block grants for the provision of small-scale rural community infrastructure works (CIWs), e.g. rural roads, culverts, footbridge, drainage, water and sanitation facilities. Many of these CIWs are not expected to lead to environmental impacts of any significance. However, to avoid potentially adverse environmental impacts, World Bank

¹ From Project PCN

Operational Policy on Environmental Assessment (OP 4.01) will be used for assessing potential environmental problems and taking mitigation measures. All proposed requests for funding community infrastructure will be subject to environmental screening exercise in order to: prevent execution of projects with significant negative environmental impacts; decrease potential negative impacts through adaptations in design, location or execution; prevent or mitigate negative cumulative impacts; enhance the positive impacts of subprojects; and prevent additional stress on environmentally sensitive areas.

2.3 Anticipated Subproject Types

A list of subprojects that may be financed by the project is given in Table 2.1. This list is by no means exhaustive. It has been compiled from national, regional and international experience. This list may provide general guidance to the communities/ local government agencies on the general type of projects that may be implemented under the project. It should be realized that people may come up with creative ideas on many different types of projects beneficial to the community. Such subprojects should be judged on merit and should be financed if they have manageable environmental dimensions within the framework. Some subprojects such as purchase of equipment (e.g., drum seeders) and supplies (e.g., consumables for schools) are not included in the list deliberately as these do not fall under CIWs category although such activities are quite common under the current GoB BG program.

Table 2.1: CIW type of Subprojects that may be financed by the project

Transportation
1. Improvement of Tertiary and secondary level roads
2. Tertiary and secondary level culverts and bridges
3. Footpaths
Water Supply
1. Tubewells,
2. Water point rehabilitation
3. Dug wells and Ring Wells with Hand pumps
4. Spring protection in hill areas
5. Community reservoirs
6. Water harvesting facilities
7. Water treatment plants
8. Piped water supplies
Health
1. Health centers(Dispensaries, Maternity clinics, Laboratories etc)
Sanitation and Waste Management
1. Public toilets/pit latrines
2. Soak pits and septic tanks
3. Sewerage facilities
4. Composting sites
5. Waste disposal facilities
6. Sewage treatment lagoons
Agriculture and Markets
1. Animal Health Facilities (Vaccination yards, Tick dips etc)

2. Post harvest handling facilities
3. Slaughterhouses and yards
4. Agro-processing facilities
5. Construction of market places including Livestock markets
6. Fish landing sites
7. Seasonal Earth dams
8. Terracing in hilly areas
Education
1. Construction of classrooms and Teacher housing
2. Provision of classroom furnishings
3. Laboratories
4. Sports fields/recreation facilities and fencing
Energy
1. Rural electrical distribution
2. Improved Cookstoves
3. Biogas
4. Photovoltaic cells based power supplies for emergency and public facilities
Natural Resource Management
1. Forestation (Community Based projects on public land)
2. Community tree nurseries
3. Anti-erosion interventions (e.g., Slope, Stream and river bank protection with Vetiver)
4. Demonstration nutrition gardens
5. Wetland development
5. Rangeland improvements
6. Eco-tourism and hunting areas

2.4 Subproject Exclusions

A list of subprojects that will not be financed by the LGSP are given in table 2.2. The criteria for the subproject types on this list are based on the probable environmental impacts of the subprojects. With the available implementation experience, it is apprehended that local capacity may not be adequate to manage the environmental impacts of the subproject types in the list. However, it should be noted that the list is not immutable and can be modified in the light experience when demonstrable capacity develops to manage the environmental impacts of the subprojects.

Table 2.2: Subprojects with any of the attributes listed below will be ineligible for support under the LGSP (referred to as negative list).

ENVIRONMENTAL ATTRIBUTES
CIWs with any of the attributes listed below will be ineligible for support under the proposed operation.
Transportation <ul style="list-style-type: none"> ▪ Closing of gaps, culverts etc in existing roads which may affect water flow significantly.
Water Supply

<ul style="list-style-type: none"> ▪ Tube-wells with Arsenic contamination higher than national standard (i.e., currently 50ppb) or base below the 10-year flood level. ▪ Water supply schemes with high probability of bacterial contamination or characteristics which may make water unsuitable for drinking.
<p>Health</p> <ul style="list-style-type: none"> ▪ Health facilities without adequate hazardous waste management capacity
<p>Sanitation and Waste Management</p> <ul style="list-style-type: none"> ▪ 1. New or significant expansion of disposal facilities with negative health impacts to nearby water sources or population. ▪ 2. New or significant expansion of disposal sites requiring involuntary public participation.
<p>Agriculture and Markets</p> <ul style="list-style-type: none"> ▪ Construction or rehabilitation of mechanized tube-wells for irrigation in deep aquifers which may lead to aquifer depletion. ▪ Construction or rehabilitation of seasonal dams with adverse downstream affects. ▪ Drainage of traditional wetlands for agricultural use. ▪ Subprojects requiring pesticides that fall in WHO classes IA category
<p>Natural Resource Management</p> <ul style="list-style-type: none"> ▪ Activities supporting commercial logging in forested areas. ▪ Activities involving the use of unsustainably harvested timber or fuel-wood. ▪ Activities involving significant conversion or degradation of critical natural habitats.

2.5 Project Target Areas

As the project is expected to cover all of the country in phases, it is necessary to keep in mind the general variation in the environmental conditions expected in different parts of the country. A brief description of the important environmental resources and environmental issues are given in this section¹.

2.5.1 Physiography and Land-use Pattern

Bangladesh is located between 20°34' and 26°38' N, and 88°01' and 92°41' E. The area of the country is 147,570 square km with a coast line of about 700 km in length. The land is flat to the extent of about 80% intersected by numerous rivers and their distributaries. The land area has a general slope of 1°-2° (5-10cm/km) from north to south. The soils in the flat areas mostly consist of recent alluvium. The rest 20% of the area consists of uplands (~8%) and hill areas (~12%). The uplands consist of Barind Tract in the north western part, Madhupur Tract in the central part and the Lalmai Hills in the east. The upland soils are derived from old Pleistocene sediments and are typically reddish or brownish in color. The hill areas consist of Chittagong Hill Tracts, hill ranges of northeastern Sylhet and hills along the narrow strip of Sylhet and Mymensingh Districts. The hill soils are derived from tertiary rocks, unconsolidated tertiary and Pleistocene

¹ Bangladesh: State of the Environment, 2001

sediments. Most of the land is used for agriculture. Land use is generally classified into five categories as agricultural, forest, cultivable waste, current fallow and as 'not available for cultivation'. The category of 'not available for cultivation' consists of mainly of urban, rural settlements and industrial land.

Implications for LGSP: Different regions in the country are different in respect of Physiography and Land-use pattern. Such differences should be recognized in subproject planning.

2.5.2 Hydrology

Bangladesh is the largest delta in the world formed by the Ganges, the Brahmaputra, and the Meghna river systems. This delta is characterized by flat terrain interlaced with the intricate system of rivers and tidal channels, which carry an enormous quantity of sediment-laden water downstream. The three major rivers have a huge catchment area of 1,554,000 sq km, spreading, over five countries, namely, Bhutan, Nepal, China, India, and Bangladesh. There are about 700 rivers, canals, and streams in Bangladesh, with a total length of approximately 22,155 km, which occupy a riverine area of about 9,384 sq km.

The main river system occupying the delta is formed by the Ganges and the Brahmaputra, which once they enter Bangladesh are known as the Padma and the Jamuna, respectively. The Jamuna joins the Padma near Aricha, and flows up to Chandpur where it joins the Meghna and the combined flow is called the Meghna. It comprises a large estuary, known as the Meghna estuary, at the northeastern apex of the Bay of Bengal. The Ganges, primarily a meandering stream, is about 2,600 km long, and flows parallel to the Himalayan range. It is fed mainly by rivers rising in the southern slopes of the Himalayas and enters Bangladesh at the western extremity of Rajshahi region. The Brahmaputra arises in Tibet, and flows in an easterly direction north of the Himalayan range before turning south through the mountains, it then flows west down the Assam valley for a distance of about 700 km, and enters Bangladesh as a wide-braided river, in the Rangpur area. The meandering Meghna river drains the Sylhet Basin and parts of the adjacent Shillong Plateau, and Tripura Hills.

The rivers flowing from the hills situated in the southeast of Bangladesh, namely Feni, Karnaphuli, Sangu, Matamuhuri and Knaaf flow into the Bay of Bengal. The most important river in this region is the Karnaphuli, which is also the longest at 274 km.

A vast amount of water flows through Bangladesh mostly during June-October. The rivers of Bangladesh also carry huge amounts of sediment, an estimated 24 billion tons/year. These sediments are subjected to coastal dynamic processes generated mainly by river flow, tide, and wind actions. The ultimate result are additional new land in some places due to accretion, forming islands called chars, and loss of land in some other places due to erosion. Bangladesh is also richly endowed with numerous perennial and seasonal water-bodies known locally as haors, beels, baors, khals, pukurs and dighies. Rivers, canals, beels, lakes, and haors are open wetlands while baors, dighis, ponds, and

ditches constitute closed ones. The haors are depressions located between two or more rivers, and function as small internal drainage basins. The lowest points of the haors and beels are lake-like deep depressions retaining water permanently or for a greater part of the year. The beels are usually connected to the adjacent rivers by one or more drainage channels, locally termed as khals. Baors are oxbow lakes from the old meandering bends of rivers that have been cut off from the main stream. Pukurs and dighies refer to ponds of various sizes. To these may be added the vast estuarine systems and mangrove swamps of the south and southeast regions, as well as innumerable man-made water bodies of various sizes.

Implications for LGSP: Hydrology of a given area is extremely important for any subproject which may have impact up on water bodies. Impact on water flow by any subproject should be carefully considered in subproject planning.

2.5.3 Ground Water

Below the zone of aeration extending from surface to only a few meters below the ground, the soil in Bangladesh is saturated with water. Saturation means that all pore spaces in the soil are filled with water and this zone is defined by a groundwater table. Bangladesh soils consist of unconsolidated sediments and the pore spaces are simply the openings between the grains. Lithologic drill logs show layers of gravel, sands of different grades, silt and clay down to great depths in succession.

Hydrogeologists classify soil layers as to their ability to yield water to wells or springs. A layer which is permeable enough to supply water to wells or springs is referred to as an "Aquifer", while an "Aquiclude" is impermeable and an "Aquitard" tends to be very poorly permeable. The aquifers are sand or gravel layers that may be a few centimeters to many meters' thick. Like other similar areas in the world, the sand intervals which constitute the aquifers are probably lens-shaped with varying degree of lateral and vertical interconnectedness. This interconnectedness usually decreases with depth. The extent of the of aquifers may vary from a few km² to many thousands of km². So, a large aquifer may easily contain a trillion liters or even more water. Even a small aquifer would probably contain a couple of billion liters.

An aquifer is referred to as confined when it is bounded by aquicludes or aquitards that impede flow into it. The primary source of recharge to the aquifers is assumed to be historic runoff from the rainfalls. Groundwater is in principle renewable but in certain cases the period needed for replenishment (100s to 1000s of years) is very long in relation to the normal time-frame of human activity. For this reason, it is valid in such cases to talk of the utilization of non-renewable groundwater or the 'mining of aquifer reserves'. Water in the confined aquifers can be literally thousands of years old. This is the reason for concern about the aquifer systems and their specific susceptibilities to negative impacts under abstraction stress. For water balance studies three and four aquifer models have been shown to be adequate. However, in reality in many regions of Bangladesh more aquifers can be found stacked on top of one another where from water

can be extracted. The hydrogeology of Bangladesh area has been studied for more than fifty years and the details are available elsewhere¹.

Implications for LGSP: Groundwater is a vital natural resource for the reliable and economic provision of potable water supply in both the urban and rural environment. It thus plays a fundamental role in human well-being. Until the emergence of the Arsenic problem, groundwater was hailed for providing the access to clean drinking water in Bangladesh. It is necessary to exercise caution in the large scale exploitation of confined deep aquifers, as these may be depleted giving rise serious problems in the future.

2.5.4 Ecology

The terrestrial and aquatic ecosystems in the country support a large number of diverse biological populations, both plant and animal. The most important terrestrial ecosystem in Bangladesh is that of the forests. Large varieties of species exist in the forest areas and depend on various biotic and abiotic components of the forest for their survival. The total land under forest in Bangladesh is about 2.56 million ha, which includes officially classified and unclassified state lands, and forestlands accounted for by village forests and tea or rubber gardens. Although a significant part of the existing forest area is designated as State Forest, most of this land is actually barren of tree vegetation. In terms of per capita forestland, Bangladesh ranks amongst the lowest in the world. The forests of Bangladesh have been disappearing at an accelerating rate.

The Sundarban forest areas support a very rich and diverse fish fauna of 400 species, 270 species of birds, and over 300 species of plants. It is an important staging and wintering area for migratory shore birds, gulls, and terns. The Sundarbans are the habitat of the Bengal Tiger probably the most notable of Bangladesh's fauna species. However, many small members of the cat family are found throughout the forest areas. Birds and reptiles, wild pigs, deer and otters are the most numerous forest species.

Wetlands are invaluable components of the environment and bio-diversity in Bangladesh. Bangladesh possesses considerable wetland areas, among which the principal ones are rivers and streams, freshwater lakes and marshes, including haors, baors, and beels, water storage reservoirs, fish ponds, flooded cultivated fields, and estuarine systems with extensive mangrove swamps. The coastal and inland wetlands encompass the vast floodplains and delta system of the Ganges, Meghna and Brahmaputra rivers. The total area of the wetlands in the country has been variously estimated at seven to eight million hectares, or about 50 per cent of the total land surface. The wetlands in Bangladesh are increasingly being recognized as habitat and refuge for a large variety of wildlife, and a

¹ D. G. Kinniburgh and P. N. Smedley, Arsenic contamination of groundwater in Bangladesh, BGS Technical Report WC/00/19, Vol. 1-4 (2001); UNDP., Groundwater Survey: The Hydrogeological Conditions of Bangladesh, UNDP Technical Report DP/UN/BGD-74-009/1(1982)

safe nesting site for avifauna. The marsh vegetation associated with wetlands also forms important breeding areas for a wide variety of waterfowl, and roosting places for a large number of resident and migratory birds.

The nutrient products of wetlands in Bangladesh are carried by rivers and floodwater, and benefit the systems downstream. The grazing systems in these regions support cattle that recycle nutrients, enrich soil, and are used as draft animals. The plant diversity provides refuge for predators of pests, e.g., snakes, frogs, and certain fish species, and this helps agriculture in general. Bangladesh does not possess adequate infrastructure for sewage treatment and the wetlands function as natural system for the treatment of pollutants. The wetlands of Bangladesh are being drastically affected by the impacts of the increasing human population. The wetlands are being lost to flood control, drainage and irrigation development. Severe erosion in the catchment areas is causing increased siltation, and having major impacts on the key wetland areas. The exploitation of the haor wetland ecosystem began due to ever-expanding agrarian settlements, and they are being reclaimed as agricultural land for production of rice. The beels are being drained, and embankments built to save crops from flash floods. These changes in land use patterns have occurred in tandem with a decline in fish and migratory birds. Swamp forests that were once extensively distributed are now on the verge of extermination.

Implications for LGSP: As the projects area covers all of the country, some projects will be located in the forest and wetland areas. As subprojects are small, likely impacts of CIWs on the ecology are expected to be minimal. However, impact minimization on ecology should be a cornerstone in subproject design.

2.5.5 Environmentally and Ecologically Sensitive Areas

Environmentally sensitive areas are defined as being areas that are of significant value in their natural state, or areas that are of socio-cultural significance or sensitivity. Cultural or historical sites and densely populated urban centers are examples of the latter category. Ecologically Sensitive Areas can be defined as areas that may contain unique features, maintain key natural processes, support endangered, endemic or threatened plants or animals and their habitats, or provide important breeding areas for wildlife. Some Ecologically Sensitive Areas are natural, while others may have been significantly altered by certain human activities. In terms of management, some Ecologically Sensitive Areas will prosper when left undisturbed while others will require intensive management to restore or maintain their natural values.

The ECA 1995 refer to Environmentally Sensitive Areas (called Ecologically Critical Areas in the legislation). According to this legislation, environmental protection is deemed particularly relevant in Ecologically Critical Areas, which are defined as areas where degradation of the environment has reached or threatens to reach a critical state.

Implications for LGSP: In sensitive areas, environmental and ecological impacts tend to be more severe than elsewhere, and therefore, extra precautions must be taken to avoid significant environmental impacts. In many cases, this will mean extra investments in mitigation measures, while in some cases these areas will simply have to be avoided, resulting, for example, in the abandonment of a subproject or the re-alignment of a section of road.

2.6 Main Environmental Concerns

The key environmental concerns for rural and small urban and peri-urban areas in Bangladesh include:

- Flooding
- Drainage
- River bank erosion
- Surface water quality
- Seasonal fluctuations in ground water table
- Groundwater quality
- Arsenic Contamination of Aquifers
- Saline intrusion (coastal areas)
- Wetland deterioration
- Land degradation
- Ambient Air Pollution
- Indoor Air Pollution
- Forestry management
- Biodiversity conservation
- Fish and fisheries resource management

3. ENVIRONMENTAL MANAGEMENT REQUIREMENTS

This section describes relevant national environmental management requirements and as well as the World Bank safeguards policies applicable to the Project and its subprojects. In each case, national and local institutions that will be involved in reviewing and approving subprojects identified, along with their respective roles and responsibilities. Responsibilities may include issuing approvals for undertaking a subproject and ensuring compliance to obligatory requirements under laws and regulations.

The World Bank EA category assigned to the Project, and the key issues identified under the safeguard policies, as determined in the Project's Integrated Safeguard Datasheet (ISDS), are also discussed in this section. A brief description of the relevant World Bank safeguard policy is provided to explain how their requirements will be complied with or used.

3.1 Bangladesh Legal Framework

The requirements for compliance with environmental regulations are laid down by the policy, legal and regulatory framework in the country. A large number of laws related to environmental issues, some dating back to 19th century exist in Bangladesh. The most important of these are the Environment Conservation Act, 1995 (ECA 1995) and the Environment Conservation Rules (under the ECA, 1995), 1997(ECR 1997). Many of the other laws are cross-sectoral and are only partially related to environmental issues. The relevant laws and regulations related to important environmental issues in Bangladesh are shown in table 3.1.

Table 3.1: Environmental Issues and Relevant Laws and Regulations in Bangladesh

Issues	Laws/Regulations	Enforcing Agency	Regulated/Enforced Items
Water pollution	<ul style="list-style-type: none"> • ECA, 1995 • ECR 1997 • Environmental Court Act, 2000 • Water Supply and Sanitation Act, 1996 • The Local Government Ordinance, 1983 	MOEF/DOE MOLGRDC/ DPHE UPs	Promulgation of standards for water quality Promulgation of discharge limits Prosecution of offenders Management of water supply and sanitation in rural areas Control of Environmental sanitation in rural areas
Air pollution	<ul style="list-style-type: none"> • ECA, 1995 • ECR 1997 (amended 2005) • Environmental Court Act, 2000 • Brick Burning Control Act, 1989 (Amended 1992) • Motor Vehicle Act, 1983 	MOEF/DOE BRTA/Police	Promulgation of standards for air quality Promulgation of emission standards for Motor vehicles and industries Prosecution of offenders Prosecution of offending vehicles
Noise pollution	<ul style="list-style-type: none"> • ECA, 1995 • ECR 1997 	MOEF/DOE ..	Promulgation of standards for noise levels
Toxic or hazardous waste	<ul style="list-style-type: none"> • ECA, 1995 	MOEF/DOE ..	Promulgation of standards and management rules.

pollution Solid waste pollution	<ul style="list-style-type: none"> • ECR 1997 • Nuclear Safety and Radiation Protection Ordinance, 2000 	BAEC	Promulgation of standards and rules for management of radioactive materials.
Marine pollution	<ul style="list-style-type: none"> • ECA, 1995 • ECR 1997 • Environmental Court Act, 2000 	MOEF/DOE ”	Promulgation of standards for water quality Promulgation of discharge limits Prosecution of offenders
Pollution of fisheries	<ul style="list-style-type: none"> • The Protection and Conservation of Fish Act, 1950 	MOLF	Promulgation of regulatory measures
Pesticides and fertilizers	<ul style="list-style-type: none"> • The Agricultural Pesticides Ordinance, 1971 	DA	Approval of permissible pesticides
Forest conservation	<ul style="list-style-type: none"> • ECA, 1995 • ECR 1997 • The Forest Act 1927 	MOEF/DOE ” MOEF/DOF	Declaration of Ecologically Critical Areas Reserve Forest, protected Forest, Village Forest
Wildlife conservation and national parks	<ul style="list-style-type: none"> • ECA, 1995 • ECR 1997 • The Wild Life (Preservation) (Amendment) Act, 1974 	MOEF/DOE ”	Declaration of Ecologically Critical Areas

3.2 Environmental Guidelines for Projects in Bangladesh

As pointed out earlier the most important of the laws/rules in table 3.1 are the ECA 1995 and the ECR 1997. The ECA1995 is primarily an instrument for the Department of Environment (DoE) and for controlling industrial pollution. The Act also includes ‘Polluter Pay Principle’ in general terms in that as it states "if any particular activity is causing damage to the eco-system, the responsible party will have to apply corrective measures". The ECR, 1997 was promulgated under ECA 95 to operationalize the enforcement of the Act. The modifications to ECR can be brought about by executive orders requiring no new legislation. Thus, the rules can be modified from time to time when sound technical reasons exist without going through the long drawn legislative process.

Depending on the extent of impact on the environment, industries and projects are classified in four different categories under the ECR 1997. The four categories are: Green, Orange A, Orange B and Red. The procedures for obtaining ‘Environmental Clearance (EC)’ for different categories of projects are also provided in the ECR. Green category industries are to be granted EC within 15 days. The Green Category Schedule does not list specific projects. For other categories, schedules containing lists of industries and projects are provided in the ECR. For Orange A & B and Red category of industries and projects, an application for EC must include a ‘Feasibility Report (FR)’ and an ‘Initial Environmental Examination (IEE)’ report. A Process Flow Diagram and a

Layout Plan are also needed for industries. IEE report must include a ‘Terms of Reference’ for the Environmental Impact Assessment (EIA) for Red Category industries and projects. An EIA report is mandatory for final approval and issuing of an ‘Environmental Clearance’ for Red Category industries and projects. The ECR, 1997 lists the contents required for both IEE and EIA reports. Table 3.2. lists project types included in the ECR and categories.

Table 3.2 - ECR Environmental Categories for projects and industries

Category	Projects/ Industries	Clearance Requirements	LGSP Category	Comments
Green	<ul style="list-style-type: none"> No Projects Listed in the ECR (Only Industries) 	None	C, C+	<ul style="list-style-type: none"> Automatic Approval for industries LGSP subprojects should not require any clearance
Orange A	<ul style="list-style-type: none"> Small-scale Cattle or Poultry Farms 	IEE, Feasibility Report	B	LGSP subprojects are rarely expected in this category
Orange B	<ul style="list-style-type: none"> Medium to Large Scale Cattle or Poultry Farms Feeder Road or Local Street Construction Bridge Construction (>100m length) Public Toilets 	IEE, Feasibility Report	A	LGSP subprojects are not expected in this category
Red	<ul style="list-style-type: none"> Power Plants Earth Filling, Industrial, Domestic, Commercial Waste Sewerage Treatment Plant Hospitals⁴ Water Treatment Plant Water/Electricity System Extension Flood Control Dam, Dike Construction or Extension 	IEE, Feasibility Report, EIA	A	This is a category for large scale operations and LGSP subprojects are not expected in this category

3.3 Environmental Categories for LGSP

The subprojects in LGSP are overwhelmingly likely to be rather small operations each costing less than \$10,000. Thus a finer categorization for environmental screening than the ones provided by under ECR 1997 is needed. In keeping the historical precedence in the country the LGSP subprojects are to be classified into 4 categories as in SIPP¹. These four categories are described in the following and the equivalences in ECR 1997 are shown in table 3.3.

¹ SIPP Environmental Assessment Manual-Vol.3(2002)

- ‘C+’ those that have only positive or no environmental impacts, providing that they follow standard design prescriptions, requiring no special study other than a simple Environmental Review by the proponent.
- ‘C’ those whose expected impacts are small in scale, do not require special study other than ER, and can be addressed through standardized environmental techniques or technical methods. ER in these cases should be performed with the support from a qualified extension team.
- ‘B’ those whose impacts are larger and more complex, requiring preparation of a Limited Environmental Assessment (LEA) and incorporation of recommended mitigation measures into subproject design.
- ‘A’ those whose potential impacts involve significant environmental risk, and which will not receive funding under the LGSP.

3.4 International Obligations

Bangladesh is party to a number of international environmental conventions, treaties and protocols. These have to be taken into account in the implementation of LGSP subprojects where applicable. These agreements are summarized for in the following:

- International Plant Protection Convention, Rome, 1951 (Ratified 1978)
- International Convention for the Prevention of Pollution of the Sea by Oil, London, 1954 (Ratified 1981)
- Convention on Wetlands of International Importance, especially as Waterfowl Habitat, Ramsar, 1971 (Ramsar Convention) (Ratified 1992)
- Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972 (World Heritage Convention) (Ratified 1983)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973 (CITES Convention) (Ratified 1982)
- Agreement on the network of Aquaculture Centers in Asia and Pacific (NACA), 1988
- Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987 (Ratified 1990), (London Amendment, 1990) (Ratified 1994)
- Convention on Biological Diversity, Rio de Janeiro, 1992 (Ratified 1994).
- International Convention to Combat Desertification, 1994.
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 1989 (Ratified 1993)
- United Nations Framework Convention on Climate Change, New York, 1992 (Ratified, 1994)

Ramsar Convention has probably the most relevance to LGSP, as apart from protection of internationally important wetlands (Ramsar Sites¹), signatories of the convention are

¹ Bangladesh has two designated Ramsar Sites, namely part of the Sunderbans mangrove forest and Tangoar Haor.

bound to adhere to the "wise use of wetlands". Draining and converting wetlands, using these as land-fills for solid waste, polluting them with agrochemicals or sewage, blocking of streams and rivers, are all examples of unwise use of wetlands that could occur if stringent environmental screening are not done.

3.5 World Bank Guidelines

The World Bank has mandatory EA guidelines in the form of OP/BP/GPs. The World Bank has several policies governing environmental assessment (EA) of projects. OP/BP/GP 4.01, issued in January 1999, is the central document that defines the Bank's environmental assessment requirements. This directive outlines Bank policy and procedures for the environmental assessment of Bank lending operations. Environmental consequences should be recognized early in the project cycle and taken into account in project selection, siting, planning, and design by preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts. EA includes the process of mitigating and managing environmental impacts throughout project implementation. The Environmental Assessment Sourcebook (1993) and its updates (1996, 1997) provide technical guidance on these issues.

In addition to OD/BP/GP 4.01, there are other directives that cover a number of specific environmental issues which may be optionally used in this project. These are **OP 4.04** (*Conservation of Natural Habitats*), **OP 4.09** (*Pest Management*) and **OP 4.36** (*Forestry Management*). As the project area covers the whole of country, these guidelines may be gainfully used where relevant although such use may not be mandatory.

Under the provision of OP 4.04 projects involving the significant conversion or down grading of natural habitat can not be supported unless the projects include adequate mitigation measures. The policy OP 4.09 supports safe, effective, and environmentally sound pest management. Under OP 4.36, guidance for forestry projects are provided, detailing policy on commercial logging operations or acquisition of equipment for use in primary moist tropical forests and in forests of high ecological value. Bank finances can only be utilized for preservation and light, non-extractive uses of forest resources. Objectives are to provide for a sustainable stream of direct or indirect benefits to alleviate poverty and to enhance community income and environmental protection.

A screening process for all World Bank projects classifies them into one of three environmental assessment categories. Projects in Category "A" potentially cause significant and irremediable environmental impacts. Category "B" projects cause lesser impacts, which are often essentially remediable or can be mitigated. Category "C" projects can be expected to have little or no environmental impact. Category A projects require a full, detailed Environmental Impact Assessment, which needs to be approved before the Bank can give its support. Category B projects require the implementation of an Environmental Impact Evaluation (EIE), which requires far less details than an EIA. Category C projects do not require an EIE or EIA.

The LGSP has been classified as Category "B" because as a whole, as it may result in only small-scale, and remediable impacts. In practice, most subprojects are likely to

belong to Category C. In rare cases subproject may fall under Category B, and subprojects that fall under Category A will not be eligible for funding under LGSP. The equivalence of Bank guideline categories and those of LGSP are shown in table 3.3.

The present EMF deals with project specific application of Bank policies outlined above. The EMF will be disclosed in the public domain in the country and also in Bank's Info Shop as per World Bank's Disclosure Policy -- in-country and at the Info Shop – prior to appraisal.

Table 3.3 – Subproject Environmental Categories in LGSP and WB guidelines

Category Attributes	LGSP category	World Bank category	EA Process
Subprojects with positive environmental impacts or without negative impacts on the environment	C⁺	C	Environmental Review (ER) by proponent with support for UZ team if required
Subprojects likely to have some minor impacts on the environment but for which sufficient standard mitigation measures have been identified	C	C	Environmental Review (ER) by proponent with UZ extension team support
Subprojects that have some moderately significant environmental impacts, for which mitigation measures can be readily identified	B	B	Limited Environmental Assessment (LEA) by UZ extension team
Subprojects that potentially have significant impacts on the environment; (mitigation measures may be identified, but there remains a risk of significant impacts)	A	A	These projects will NOT be eligible for LGSP funding

3.6 Review of current practice in CIWs implementation

As part of the preparation of this EMF, field visits were undertaken to study the small CIWs type projects under current programs. The programs included GOB BG, SLGDFP and SIPP. The table 3.4 below shows the project areas where field visits were undertaken. A summary of the findings of the study are given in the following. The experience of these programs have been integrated in the preparation of the present EMF.

3.6.1 CIWs under GOB BG

Each subproject under GOB BG is prepared with the technical support of the resource team at the Upazilla level. The resource team at the Upazilla level consists of technical personnel available under line departments of the GOB. A Upazilla officer is specifically assigned to a UP to help in the project activities and is referred to as the “Tag Officer”. By far the largest office at the Upazilla level is the LGED with 19 staff (Upazilla Engineer-1, Sub-Asstt. Engg.-3, Support staff- 15). Other offices which have been found to provide support to BG program are DPHE, Facilities Dept. (Education), Departments of Agricultural Extension, Livestock, Fisheries and Health. Most technical persons in the Upazilla level officials were found to be generally aware of the environmental issues.

However, no evidence could be found for explicit environmental review or considerations during subproject preparation, review or implementation.

The subproject documentation is very rudimentary consisting of a summary sheet and an estimate. The summary sheet contains a box on environment and in some minority cases this box was ticked probably meaning that there was no adverse environmental effect. Most of the project files at the UP offices did not even have this subproject summary sheet. On work completion, a measurement book (sheet) and a master roll for labour payment is added to the documentation. It was found that in some cases these subproject related documents were not also found. It appears that these were submitted to the treasury office without any file copy. This is not very surprising as it is only the 2nd year of the BG program and the UP secretaries who maintain the subproject documentation on the BG program implementation were given little or no training on the subject. The subprojects files for CIWs under ADP at the LGED were found to much better as all contained the project summary sheet and other essential documents. There were no formal environmental review documents here also. During discussions, it was found that in subproject preparatory and review activities environment issues figured occasionally.

However, there were some bright examples of environmental impact mitigation such as the case of a 'Market Shed'. This shed turned out to be slaughter house and it was implemented to reduce the stench and pollution caused by uncontrolled animal slaughtering by the butchers in the market. The slaughter house wastes are collected and sold to fish farms thus greatly improving the environment of the market.

There is clearly a need for more explicit environmental review and record keeping at subproject level and capacity building is essential for this purpose. There was almost universal complaint that in the absence of any overhead fund for the project implementation, the expenses have to be managed out of project cost as most people involved are unable to afford the expenses. This is an unsatisfactory situation and this issue needs to be addressed. As the similar activities under ADP are executed through contractors by the LGED, a margin of 10% is added to the estimates which is not done in BG case. Provision of an overhead for BG subproject implementation (probably lower than the contractor's margin) will make the process more transparent.

3.6.2 CIWs under SLGDFP

Under SLGDFP the subprojects get support from the project team in addition to the technical support from Upazilla level technical personnel. The participatory process at the Ward level is facilitated by trained people and thus the discussions are much better organized compared to GOB BG program. At the UP level project selection, environmental issues are given explicit consideration. The environment is one of the columns in the subproject prioritization sheet at UP level (PSC) where a rating is entered in the 1-5 scale. This is done on an adhoc basis without any systematic environmental review. As the subprojects here are also prepared with the support from resource persons

at Upazilla level, standard environment mitigations are included in the project design. No formal record of any consideration of environmental issues, were found in the subproject files examined and even subproject summary sheet could not be found.

Table 3.4: Project areas studied during field visits

Sl.	Project	District	Upazilla	Union Parishad	Comments
1.	GOB BG	Comilla	Daudkandi	Baropara	Flood plain
				Eliot Ganj	„
			Chandina	Chandina	„
				Madhiya	„
		Bandarban	Sadar	Soalak	Hill area inhabited by indigenous people
				Bandar Sadar	„
			Rohang Chari	Tarasa	„
		Rangamati	Sadar	Ktuk Chari	„
				Banduk Bhanga	„
				Shap Chari	„
Barkal	Shuvalong		„		
2.	SLGDFP	Sirajganj	Ulla Para	Sadar	Flood plain
				Ramkrishnapur	„
				Salanga	„
3.	SIPP	Jamalpur	Sadar	Lakkhir Char	„
				Titpalla	„

An overhead budget of 5% is allocated to defray the project implementation related cost. This makes the whole issue of project cost more transparent compared to GOB BG. Here also there are examples of local initiative on environmental issues. In one of road subproject Vetiver plantation was found to be used for slope protection. Apparently, this was done on individual initiative. Such good practices should be replicated. Use of Vetiver for road and riverbank slope protection is not well-known in Bangladesh. Its use can bring great benefits in slope protection as erosion of road and river embankments is a big problem. Training was imparted at different levels on project implementation and related issues which included UP Chairman and Secretaries. This has made the project implementation better in general compared to GOB BG.

3.6.3 CIWs under SIPP

Under SIPP, the subprojects are implemented by VDCs (Village Development Committee). The VDCs are voluntary association of village people created as a result of the awareness campaigns by the CSOs (Community Support Organizations) which are contracted agencies of SDF for the project period. The VDCs have little interaction with the UPs except some coordination to avoid duplication of subprojects. This lack of interaction with the local government has lead to the perception of a parallel power structure among the UP functionaries and even among officials at UZ and higher levels.

This perception has given rise to adversarial response from the existing local government structure at times. The VDCs are also supported by POs (Participating Organizations) and PAST (Project Appraisal and Supervision Team). Monitoring of the subprojects are done by PMAs (Process Monitoring Agency). The POs are also contracted agencies of SDF appointed for a term that help with the social, legal and awareness issues. The PASTs are also contracted agencies of the SDF for the project period dealing with the appraisal and supervision of subprojects. The cost of overhead to support subprojects comes to 20-30% of the subproject cost according to available information.

As the subproject documents are prepared with professional support, these are generally of high quality. A stand alone environmental review form is included in the subproject document. The field appraisal teams from the PAST verify the estimates submitted in the subproject proposal and these measurement data are sent to Dhaka office of the PAST. Final appraisal document by PASTs Dhaka office are quite detailed and are generally of high quality. Environmental sections are also expanded and presented in a standardized format. The field level subproject implementation was found to be satisfactory. Trainings are also provided to VDC to build their capacity.

Any organizational setup outside the established structure of the local government is likely to be unsustainable once the project funding disappears. The high level of hand holding through various supporting agencies may not be cost effective and sustainable in the long run also. In order to sustain the enthusiasm and know-how generated for subproject management in the VDCs, it would be necessary to integrate these with the local government system through some mechanism.

4. SUBPROJECT PREPARATION, APPROVAL AND MONITORING

In this section the process for addressing the environmental concerns through the institutional arrangements and procedures used by the Project for managing the identification, preparation, approval and implementation of subprojects are discussed. The generic steps discussed below (Sections 4.1 through 4.5) are similar for subprojects. It is crucial that the procedures are clearly linked to the project-defined subproject cycle so they can be readily included in, or referenced from, the Project Implementation Guidelines.

4.1 Subproject Document Preparation

Taking into consideration the learning from different pilots on CDD type projects in the Bangladesh, LGSP has been designed to be closely aligned with the country's elected local government at Union Parishad level. It depends on the utilization of existing technical capacities available at the Upazilla level in the various line departments of the central government. The nine wards based and three women elected members of Union Parishad are the bridge to the communities. Thus, the overall approach is that the Union Parishads with UZ team support, will take steps to address environmental concerns during subproject preparation and these are described here in some detail.

In general, it is expected that the UZ team will work with UPs (subproject committees) in preparing their subproject documents to avoid or minimize adverse environmental impacts (see Operational Manual in Annex-I). They will use a checklist (Attachment-I, Annex-I), together with information on typical project impacts and mitigation measures (Attachment-III, Annex-I) to carry out this work. The aim of the checklist is to assist communities and extension teams in identifying potential impacts based on field investigations. The information in attachment-III provides advice on how to avoid or minimize these. The standard approach for community participation methods in the project will be used to address the environmental concerns also. The ER checklist identifies the potential impacts of the subprojects; describes the measures that can be built into a subproject to address these impacts. The completed ER checklist must be preserved along with other project documentation or any additional reports that may be required (e.g. LEA for category-B subprojects). The checklist contains a certification by the subproject team that all measures required to avoid or minimize adverse environmental impacts are included in the subproject design. In some situations for the most effective use of resources, it may be appropriate to prepare any needed additional reports (e.g. LEA) *after* a subproject proposal has been approved in principle. In these situations, *a subproject cannot be finally approved and funded until such reports are received and approved.*

It is advisable to avoid the need for special reports (e.g. LEA) since these require extra resources to prepare and indicate less than ideal subproject design. However, these studies and reports may be worth the extra effort for an otherwise excellent subproject. In these cases, the subproject committee should discuss the issues involved with the UP authority to confirm the need, and to secure resources to carry out the work.

To satisfy the requirements of the Bank’s safeguards policies, it should be emphasized that in some subproject situations mitigation measures will need to be specified more precisely than others, either in the application or as an annex to it. It is expected that, with project training, the UZ extension teams will be able to assist subproject committees in adequately addressing these situations when preparing their applications. Such situations may include:

- 1) **A subproject involves changing access to resources in a park or protected area:** The application must describe how affected people had an influential role in planning the subproject and benefiting from it.
- 2) **A subproject may affect a protected area or a natural habitat:** The application must describe how this subproject will avoid causing adverse effects on the area/habitat.
- 3) **A subproject will involve the use of pesticides:** It must be specified that the pesticides used are included in the permitted category.

4.2 Appraisal and Approval

This section focuses on the procedures that will be used when reviewing and then approving subproject applications, for example by the UP and then by the UNO. These procedures need to be consistent with applicable national approval procedures. They also need to be integrated into the planned project process of approving subprojects. The roles and responsibilities of various authorities at different levels, as appropriate: UP, UZ and subproject committee are illustrated in table 4.1.

The procedures first specify how the **review authority** determines whether a subproject proposal, along with the completed ER checklist and any appropriate required reports already prepared, can be cleared for approval. The first step is an **appraisal** to determine if all the relevant information has been provided, and if these are adequate.

Table 4.1: ENVIRONMENTAL ASSESSMENT AND MANAGEMENT FRAMEWORK

Milestones	Objectives	Process	Responsibility	Decision/Product
1. Subproject Screening				
Environmental Scoping	Scope subprojects from environmental perspective	<ul style="list-style-type: none"> • Review of the subproject proposal using UZ level trained resource persons to assign an Environmental Category to it. 	<ul style="list-style-type: none"> • Proponent (Subproject Committee) 	<ul style="list-style-type: none"> • Assign Environmental Category to subproject
Environmental Screening	Screen subprojects from environmental perspective	<ul style="list-style-type: none"> • Review of the subproject proposal using trained resource persons to fill the ER Form for Category ‘C+’. • Review of the subproject proposal using trained resource persons with support from UZ resource team to fill the ER Form for Category ‘C’. • Review of the subproject proposal 	<ul style="list-style-type: none"> • Proponent • Proponent 	<ul style="list-style-type: none"> • Completed ER form for subproject proposal • Completed ER form for subproject proposal

		using trained resource persons with support from UZ resource team to fill the ER Form and produce a LEA report for Category 'B'.	<ul style="list-style-type: none"> • Proponent 	<ul style="list-style-type: none"> • LEA Report for subproject proposal
2. Subproject Appraisal				
Detailed Environmental Appraisal	Appraise environmental components of subproject	<ul style="list-style-type: none"> • Review ER with the help UZ resource team in case of category C and C⁺ subprojects • Review LEA with the help of trained UZ level trained support personnel in case of category B subprojects <p><i>Conduct site visits to Crosscheck:</i></p> <ul style="list-style-type: none"> - type of Environmental issues; - magnitude of Environmental issue; - adequacy of Environmental management measures provided; - cost of implementing Environmental management measures; <p>Suggest:</p> <ul style="list-style-type: none"> - modifications to be incorporated in environmental components of the subproject; - appropriate changes in other components of subproject; <p>Finalize environmental components as part of project appraisal report.</p>	<ul style="list-style-type: none"> • UP • UP/UZ 	<ul style="list-style-type: none"> • Confirmation of Environmental category. • Sub-project Appraisal Report with decision to: <ul style="list-style-type: none"> - accept project as submitted - accept project with modifications - reject project

From an environmental point of view, the review authority needs to determine if it is satisfied that the subproject committee and UZ resource team have thoroughly considered all potential adverse effects of the subproject, and included measures in the subproject plan to adequately address them.

If the appraisal indicates that the proposed subproject may have environmental concerns that are not adequately addressed in the proposal, or if the application does not meet certain criteria, the review authority (UP) may require a **field appraisal** before the application can be considered further. It should be emphasized that the criteria in annex-II should be updated based on field experience in implementing subprojects. The criteria for a field appraisal report is given in table 4.2.

Table 4.2: Criteria for Requiring a Field Appraisal

Criteria	Field Appraisal
1. A subproject may affect a protected area or a natural habitat	A field appraisal determines if the subproject will adequately avoid adverse effects on the protected area or natural habitat.
2. A subproject may have an impact on ecologically sensitive ecosystems (e.g. wetland or marshes)	A field appraisal determines the scale and level of impact. The application may need to be revised to describe how the subproject will avoid or minimize adverse impacts to ecologically sensitive areas. This may require a distinct LEA.
3. A subproject will involve or introduce the use of pesticides	A field appraisal determines the scale and level of the concerns and ensures that these are adequately taken care of according to standard local agricultural practice.
4. A subproject may involve, or result in: <ul style="list-style-type: none"> • Diversion or use of surface waters; • Construction and/or rehabilitation of latrines, septic or sewage systems; • Production of waste (e.g. slaughterhouse waste, medical waste, etc); • New or rebuilt irrigation or drainage systems; or • Small dams, weirs, reservoirs, wells, or water points. 	A field appraisal determines the scale and level of potential impact. The application may need to be revised to avoid or minimize potential adverse effects, and may include a LEA.

Based on the appraisal and, if needed, the field appraisal, the review authority may approve a subproject with recommended conditions and implementation supervision (e.g. erosion control, waste management, safety).

4.3 Disclosure of Subproject Information

The environmental issues in a subproject will be disclosed with the subproject information in order to comply with the Bank’s Policy on Disclosure of Information. This policy requires that, *before a subproject is approved*, its environmental implications (ER/LEA) be made available for public review at a place accessible to local people (e.g. at the UP office), and in a form, manner, and language they can understand.

4.4 Annual Reports

Local authorities are normally required to report annually on their subproject activities during the preceding year. These annual reports should capture the experience with implementation of the EMF procedures. The purpose of these reports is to provide:

- A record of the subproject transactions;
- A record of experience and issues running from year-to-year throughout the subproject that can be used for identifying difficulties and improving performance; and
- Practical information for undertaking an annual review.

4.5 Annual Reviews

The scope of work and procedures for carrying out periodic (annual/every two years) reviews of the implementation of the EMF in the subprojects are specified here. It is expected that these reviews will be carried out by an authorized person or a group of persons not involved in the subproject implementation. The purpose of the reviews is two-fold:

- to assess compliance with EMF procedures, learn lessons, and improve future EMF performance; and
- to assess the occurrence of, and potential for, cumulative impacts due to project-funded and other development activities.

The third-party annual reviews will be a principal source of information to project management for improving performance, and to the World Bank supervision missions. Thus, they should be undertaken after the annual report has been prepared and should be available for Bank supervision of the Project.

5. ENVIRONMENTAL MANAGEMENT

This section of the EMF describes how subprojects will respond to the needs for environmental management, including pest management and the conservation of protected areas, natural habitats and forests. The issues addressed in this section, and thus what subsections outlined below are included in the EMF, depends on issues involved. As indicated earlier only environmental safeguards policy OP4.01 is considered to be applicable to the overall Project but other policies can be optionally used if considered useful.

5.1 Environmental Management in Subprojects¹

The subproject planning should strive for plans and designs that avoid creating adverse environmental impacts that have to be explicitly managed. “Environment” is broadly defined to include the natural environment (air, water and land), and human health and safety. It describes how communities and extension teams can use the EMF checklist (ER Form) and resource and participatory process to support good environmental planning.

For C⁺ and C category subprojects only ER is required. As C⁺ category subprojects are environmentally beneficial, these require no action. For C category subprojects, project design ensures that environmental concerns are taken care of and this is verified in the approval process and no action in addition to project implementation should be necessary. Only in the category B subprojects where explicit limited impact assessment (LEA) is required, include an environmental management plan (EMP). The outline of the contents of a LEA is included in annex-I (Attachment-II).

It should be emphasized that a LEA should fit the needs of a subproject and be easy to use. There is no standard format or length. For many small-scale subprojects, it may be no more than a few paragraphs or perhaps just a table. On subprojects with more significant environmental concerns (e.g. waste management), a more substantive LEA may be warranted to highlight its importance.

The basic elements of an LEA are:

- A description of the possible adverse effects that the LEA is intended to deal with;
- A description of planned mitigation measures, and how and when they will be implemented;
- A program for monitoring the environmental effects of the subproject -- both positive and negative;
- A description of who will be responsible for implementing the LEA measures; and
- A cost estimate and source of funds.

Community participation is essential in preparing a LEA since local knowledge is important in identifying, designing and planning the implementation of practical

¹ Addresses the requirements of OP 4.01 Environmental Assessment.

mitigation measures. It is especially important where the success of the LEA measures depends on community support and action, both in implementing mitigation measures and in monitoring their effectiveness.

5.2 Pest Management¹

The subprojects are expected to have only minor use for nationally approved pesticides and there may not be significant issues of pest management and pesticide use to be addressed in subprojects. Standard local practice on pesticide use can be followed and personnel in the Agricultural Extension office at UZ level can be consulted on this if required. However, in order to evaluate if the pest management issue is significant OP 4.09 may be optionally used with the help of UZ support team.

The pest management issues can be involved in a variety of subprojects such as:

- New land-use development or changed cultivation practices in an area;
- Expansion of agricultural activities into new areas;
- Diversification into new agricultural crops;
- Intensification of existing low-technology agriculture systems;
- Development of veterinary facilities, cattle dips, etc.; and
- Control of vector-borne diseases (e.g. malaria).

It should be emphasized that *pests* are defined in the broad sense. In addition to agricultural insect pests and plant diseases, pests also include weeds, birds, rodents, and human or livestock disease vectors. Similarly, the FAO defines *pesticides* as any substance or mixture of substances:

- intended for preventing, destroying or controlling any pest, including a) vectors of human and animal disease, b) unwanted species of plants or animals causing harm during, or otherwise interfering with, production, processing, storage, transport or marketing of food, agricultural commodities, wood and wood products or animal feedstuffs;
- that may be administered to animals for the control of insects, arachnids or other pests in or on their body;
- intended for use as a plant-growth regulator, defoliant, desiccant, or agent for thinning fruit or preventing the premature fall of fruit; and
- substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport.

5.3 Protected Areas, Natural Habitats and Forests²

Natural habitats need to be conserved when planning and implementing subprojects. These are land and water areas whose ecological functions have not been essentially modified by human activities. As subprojects are likely to be typically small, these are

¹ OP 4.09 Pest Management; provides much more detailed guidance, and access to pest management and IPM resources worldwide is available through the World Bank's *Pest Management Guidebook*.

² OP 4.04 Natural Habitats and OP 4.36 Forests.

unlikely to lead to significant conversion or degradation of natural habitats. However, Bank's policy on natural habitat OP 4.04 may be optionally used to see if a subproject would significantly convert or degrade a natural habitat. It is recommended that such a subproject should incorporate acceptable mitigation measures such as minimizing habitat loss and establishing and maintaining an ecologically similar area even for minor impacts.

Significant conversion means eliminating or severely reducing the integrity of a natural habitat through long-term change in land or water use. It may include, for example, land clearing; replacement of natural vegetation; permanent flooding; and drainage, dredging, filling, or channelization of wetlands. It can occur as the result of severe pollution or it can result directly from subproject activities or indirectly (e.g. through induced settlement along a road). *Degradation* means substantially reducing the ability of a natural habitat to maintain viable populations of its native species.

Subprojects involving the significant conversion or degradation of *critical* natural habitats (including forests) cannot be funded. These are natural habitats that:

- are protected by government (e.g. parks, World Heritage Sites) or by tradition ;
or
- have known high suitability for biodiversity conservation; *or*
- are critical for rare, vulnerable, migratory, or endangered species.

Subprojects designed to support community-based forest management and involving forest restoration or plantation development need to address the following issues:

- the potential of forest restoration to improve biodiversity and ecosystem functions;
- the potential to establish plantations on non-forest lands that do not contain critical natural habitats; and
- the need to avoid conversion or degradation of natural habitats.

5.4 SAFETY OF DAMS¹

Subprojects may involve building of minor seasonal dams and rubber dams only in the hilly areas and these are unlikely to have significant safety issues involved. The construction of substantive seasonal dams will not be financed and small dams (usually less than 4 meters in height) will be built according to traditional local practice. This is to ensure that the dams do not fail and cause damage to, or failure of, the subproject investment. Small dams include fish pond embankments and local silt retention dams in addition to seasonal dams for irrigation. Bank's policy on safety of dams (OP 4.37) may be optionally used to assess the safety issues.

¹ OP 4.37 Safety of Dams.

5.5 Project Coordination and Implementation

The roles and responsibilities for all participants (e.g. communities, local authorities (UP), extension teams) in preparing, reviewing, approving and implementing subprojects are given in some detail in this section. This includes institutional arrangements for managing the subproject cycle.

5.5.1 Organizational Structure

In order to ensure that the policy obligations and associated procedures in the Environmental Framework (EMF) are operationalized, the LGSP organizational support structure for subproject planning, review and implementation is to be appropriately organized. LGSP management will arrange for extension teams (UZ resource team) to support prepare and oversee the Environmental component of the subprojects. The extension teams in the Upazillas will consist of personnel from the line departments such as LGED, Agricultural Extension, Fisheries, Livestock, Facilities Department etc and the UNO. The team members should be adequately briefed and trained with resource support from the LGSP.

5.5.2 Responsibility Allocation Framework

In the first one year a majority of the projects to be financed are expected to be environmentally benign projects (C⁺ categories) or those where best practices available can be easily applied (C categories). No projects with severe environmental and social complexities (B categories) will be financed during this year other than for piloting in six selected districts.

LGSP management will ensure sensitivity to environmental aspects of various subprojects among the UZ resource teams, so that they can provide competent support at the UP level. This will be done by providing training (through NILG or other appropriate agencies) to UZ level officials of the line ministries and departments. Attempts should be made to involve local inhabitants wherever possible to ensure local agreement with appropriateness to ensure effective subproject preparation, implementation, operation and maintenance. Additionally, LGSP may maintain a list of consultants from among individuals or organizations who have the full range of expertise to address environmental concerns related to anticipated subprojects. They can be used to address project specific environmental issues as and when necessary for the following:

- Advising LGSP on environmental issues
- Selective review of ER, LEA and other documents from the proponents for quality assessment;
- Selective monitoring and evaluation of subprojects;

The service of the consultants may also be utilized to undertake the annual sample environmental audit of all LGSP financed subprojects.

5.6 Grievance Redress

Outside of their official conflict resolution mandate, the UPs will set up a procedure to address complaints and grievances. The procedure will not pre-empt and aggrieved person's right to seek redress in the courts of law. All complaints will first be negotiated at the local levels with the ward-based Community Watch Groups. If this fails, the Watch Group can refer the complaints to Union Parishad (UP) with the minutes of the hearing taken place at the ward level. If this also fails, the UP can refer the case to the Upazila Advisory Committee for a decision. A decision agreed with the aggrieved person at any level of hearing will be binding on the UP. The UPs will keep the records of all complaints and grievances which may remain unresolved.

6. CAPACITY BUILDING AND TRAINING

The environmental sustainability of the LGSP that involve funding of multiple, small-scale subprojects is highly and unavoidably dependent on the capacity of communities and local and national authorities to carry out the associated design, planning, approval and implementation work. Thus, to ensure that capacity, it is vital that that LGSP allocates sufficient resources to training and capacity building especially in the early years. These efforts will not only benefit the LGSP, but will also build local capacity to undertake other development initiatives funded locally or by other donors.

6.1 Institutional Capacity Assessment

An assessment of the existing institutional capacity to implement the ESMF is presented in this section. It focuses on the adequacy of the institutions identified in Section- 4 to carry out their EMF responsibilities. It assesses, at a minimum, the adequacy of:

- the institutional **structure**, and its authorities at all relevant levels, to address environmental management issues;
- the number and qualifications of staff to carry out their EMF responsibilities;
- **resources** to support staff in their work; and
- **knowledge and experience** relevant to carrying out environmental analyses and designing mitigation measures for small-scale infrastructure.

The UPs have a very limited the institutional capacity to implement the EMF. Except for a Secretary, who usually keeps track of all activities in a union, the 13 others, including the Chairman, are elected community representatives. It is thus unlikely that much capacity could be built within the UPs. However, as a part of the institutional capacity building for the project as a whole, Upazila Resource Teams (URTs) -- comprising of professionals of relevant GOB agencies – will be formed and trained in different aspects of the project, including interpretation and implementation of environmental social impact management guidelines. As and when required, the UPs can avail the services of the URTs. The trained Upazilla level official can be utilized to conduct awareness-building type training for UP members and those who would be involved in CIWs selection and implementation process (i.e., subproject committee members and concerned citizens).

By far the LGED has the strongest presence at the UZ level with 19 staff members (in old UZs). The LGED staff includes 3 sub-assistant engineers and a UZ engineer. LGED staff also have long experiences in planning, designing and implementation of rural infrastructure projects similar to CIWs. Other relevant government departments represented at the UZ level are the DAE, Fisheries, Livestock, DPHE, Health etc. Staff levels are much smaller in these offices. Thus LGED is expected to be the main support plank for the LGSP CIWs activities. Although general awareness on environmental issues exist among UZ level staff, focused training and capacity building would enhance the EMF implementation capacity substantially on their part.

6.2 Capacity Building

LGSP envisages capacity building at all levels i.e., wards, UPs, UZs and LGSP management to ensure that the EMF is effectively operationalized. The LGSP personnel will be exposed to formal training in the management of environmental issues. The training program for various role players will include an orientation program on the EMF, Environmental Assessment Processes, Participatory Methodologies and Project Management.

LGSP will help improve the effectiveness of local proponents in the management of environmental and social impacts during planning, implementation and operation of proposed investments. Proposed criteria for capacity building for C and B category subprojects are shown in table 6.1, which will be used as modules in capacity building at all levels.

Table 6.1 Capacity Building Criteria for managing C and B Category Subprojects

Issue	Concern	Eligibility Criteria
1. Environmentally sound sub projects, complying with agreed EMF policy	<ul style="list-style-type: none"> Realistic environmental standards for planning and implementation. 	<ul style="list-style-type: none"> Proponents effectively decide questions of what mitigation is needed to manage risks, who is eligible for what and determining how much is enough to achieve the standards, for environmental protection.
	<ul style="list-style-type: none"> Effective monitoring of actual mitigation results. 	<ul style="list-style-type: none"> Accuracy and credibility of baseline data and reasonable certainty of detecting and correcting any errors or problems during planning and implementation. To be able to meet standards, the proponents must have sensitive monitoring systems & specific indicators for the adequacy of the mitigation delivered and actual results.
	<ul style="list-style-type: none"> Clear incentives and accountability for all partners. 	<ul style="list-style-type: none"> Proponents have clear statements of task assignments, reasonable corrective consequences for mistakes or failures and unambiguous responsibility and sources of financing to correct problems, and functioning grievance redress systems.
	<ul style="list-style-type: none"> Common awareness and understanding of the above. 	<ul style="list-style-type: none"> Communication to ensure common awareness of standards, monitoring and accountability by those affected, contractors, NGOs, independent consultants, proponents, government agencies and donors.
2. Participatory planning and implementation and inclusion of the poor in project benefits.	<ul style="list-style-type: none"> Sub project prioritization is based on adequate consultation.. 	<ul style="list-style-type: none"> Resolution of the proponents in support of the sub – project after public meeting.
	<ul style="list-style-type: none"> Effective accountability to citizens. 	<ul style="list-style-type: none"> Formal endorsement by the community through public hearings and documented periodic reporting of proponents performance to citizens;

Capacity building will enhance the subprojects' EMF management capacity by allowing real application of the critical practices such as the following:

- **Basic practices:** screening impacts, scoping assessments, planning mitigation options, public consultation to assess feasibility and acceptability options;
- **Environment:** site selection and route alignment to minimize environmental impacts and social disruption; restoration of drainage patterns, land use etc; including mitigation measures in contracts; management of impacts during construction; monitoring of effectiveness of measures;
- **Monitoring and grievance redress:** transparency and public administration in planning, reporting and supervision responsibilities and formats during implementation, documenting land transactions, complaint response record keeping and procedures;

6.3 Training needs and plans

The training programs will be coordinated and anchored within the LGSP management at national level (NILG). Local and National Institutions and individuals experienced in environmental aspects of CIWs will be called upon through a competitive process to develop and conduct courses on various modules.

The section describes the training needs and plan for the various participants involved in implementing the EMF based, in part, on the institutional assessment described above. The training on EMF may be integrated with social framework and other related training program for cost effectiveness. The objectives of the training under the EMF are to:

- support representatives and leaders of **community groups and associations** to prioritize their needs, and to identify, prepare, implement and manage the environmental aspects of their subprojects;
- ensure that **local government officials** have the capacity to assist in preparing subproject proposals, and to appraise, approve and supervise the implementation of subprojects; and
- strengthen local **NGOs and other stakeholders** which may be involved in the public participation in preparing and implementation of subprojects.

Different groups involved in LGSP implementation have different training needs in terms of raised awareness, sensitization to the issues, and detailed technical training:

- **Awareness-raising** for participants who need to appreciate the significance or relevance of environmental issues;

- **Sensitization to the issues** for participants who need to be familiar enough with the issues that they can make informed and specific requests for technical support; and
- **Detailed technical training** for participants who will need to analyze potentially adverse environmental impacts, to prescribe mitigation approaches and measures, and to prepare and supervise the implementation of management plans. This training will address such matters as community participation methods; environmental analysis; using the ER checklist, reporting; and subproject supervision and monitoring.

The different training needs that are generally associated with the projects are given in table 6.2. Based on these needs, a training plan has to be worked out for the life time of the project. The needs for various participants (e.g. government officials, community leaders, extension teams) have to be different of necessity. While some would require training on general awareness building and more specific training would be needed for others. The table shows the initial training needs as well as the needs for further or “refresher” training. It should include mechanisms for periodically bringing trainees together to examine the need for and design of additional training.

Table 6.2: Outline of different Training Needs

Group	Participants	Venue	Resource persons	Duration	Frequency
<i>Local government approval authorities</i>	UNOs	Central (NILG)	<i>Experts/ Consultants</i>	<i>1- day workshop</i>	<i>Year 1 of the Project</i>
				<i>½-day refresher workshop</i>	<i>After Year 1 as needed</i>
UZ Resource Team	UZ Officials from Govt. Departments/ Line Ministries	Central (NILG or at District level)	<i>Experts/ Consultants</i>	<i>3-day workshop</i>	<i>Year1 of the Project</i>
				<i>1-day EMF review workshop</i>	<i>Annually after Year 1 and Annual Reviews</i>
<i>Community Leaders/Workers</i>	<i>UP Chairmen, Members, Secretary</i>	<i>Local (UZ level)</i>	<i>UZ resource Team Members</i>	<i>1-day workshop</i>	<i>As needed throughout the project</i>
Stakeholders	<i>NGO workers, Concerned individuals</i>	<i>Local (UP level)</i>	<i>UZ resource Team Members</i>	<i>1-day workshop per community</i>	<i>As needed throughout the project</i>

The detailed agenda and specification of resource needs (venue, trainers, materials, etc.) for each type of training activity should be worked out in detail before the training activities are undertaken. Wherever there is a wide-spread need for a particular form of training, especially at the community level, the training-of-trainers (TOT) approach may be undertaken. In the TOT approach, identified groups who have a special role or access

to communities are given a combination of technical and pedagogical training, and are provided with manuals and other training aids, so that they can organize their own courses at local levels. In the present case UZ level technical personnel could be such trainers for UP level subproject personnel and concerned people including those from NGOs.

6.4 RESOURCES FOR CAPACITY BUILDING

The capacity building and training constitute a separate component of LGSP and adequate resources from this component should be allocated to ensure effective implementation of the EMF. The resources are needed to implement the following items.

- Institutional development activities
- The training program for communities, extension teams and local authorities to implement their EMF responsibilities
- Allowances for the preparation of subproject LEAs etc. (The costs of implementing these plans are included in the subproject budgets.)
- Annual reviews and audits

Annex-I

Operational Manual for EMF in LGSP

1. Introduction

This project is designed to fund a large number of small-scale rural community infrastructure works (CIWs) as subprojects all over the country that will be identified and planned by the communities, with the support of UZ based extension teams, and then approved for funding by local government authorities.

Most of these CIWs are not expected to lead to environmental impacts of any significance. In order to avoid any potentially adverse environmental impacts, a stepwise procedure is to be followed which is explained here. All proposed requests for funding community infrastructure will be subject to environmental screening exercise in order to prevent execution of projects with significant negative environmental impacts; decrease potential negative impacts through adaptations in design, location or execution; prevent or mitigate negative cumulative impacts; enhance the positive impacts of subprojects; and prevent additional stress on environmentally sensitive areas.

The objectives of this manual are:

- To specify steps and methodologies for the environmental review, approval and implementation of subprojects to be financed under the Project; and
- To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental concerns related to subprojects.

2. Integration of EMF Concerns in Subprojects

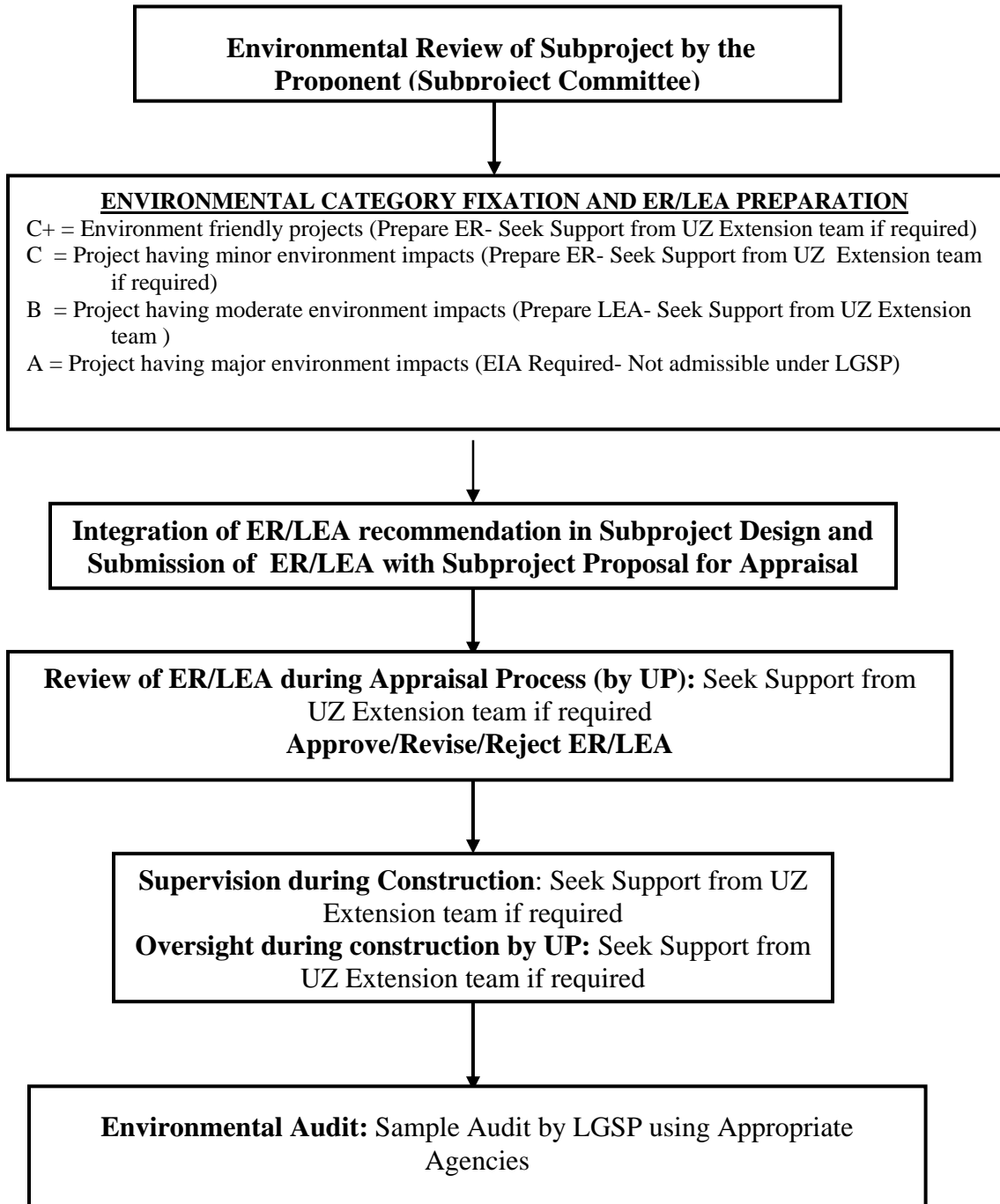
Life of a subproject starts from the wards in the UPs on the basis of needs from the local communities. The subprojects for a one year cycle are selected in a UP meeting from the proposals received from the ward level and the written resolution of the UP meeting provides the record for such subproject approval. A committee is assigned for each subproject to implement it. The subproject parameters are recorded on a project summary sheet as specified in the LGD guidelines for BG. The data on this form are inserted on the basis of subproject plan done with the input from UZ based support teams. This form includes a box for environmental category along with cost and other parameters. The cost figures are derived from estimates for designs produced with the UZ support teams. In the current practice, the environment box is ticked probably meaning that the environmental concerns have been taken care of. Here a stepwise procedure is prescribed to arrive at the environmental category assignment for a subproject which is given in table 1.

The environmental categories of the subprojects in LGSP are the following.

- ‘C+’ : Subprojects that have only positive or no environmental impacts.
- ‘C’ : Subprojects that have impacts which are small in scale.

- ‘B’ : Subproject that have impacts which are larger and more complex.
- ‘A’: Subprojects whose potential impacts involve significant environmental risks, and which will not receive funding under the LGSP.

Table 1: GUIDE TO ENVIRONMENTAL MANAGEMENT IN LGSP



3. Environmental Review and Implementation

The environmental review is to be carried out through the filling of an environmental review (ER) form provided in this manual (Attachment-I). On the basis of entries in the ER form, it should be possible to decide if the subproject is environmentally beneficial or benign. In the case it is so, the subproject should be assigned 'C+' category. No action would be required in respect of environmental management in the subproject.

If some impacts are identified in the ER which are small in scale, do not require special study other than ER, and can be addressed through standardized techniques or technical methods provided at the end of this manual (Attachment-III), the category of the subproject should be 'C'. The standard remedial measures (please see EMF manual) to offset the environmental impacts are to be provided in the ER form. These measures should be included in the project design and the cost for implementation of the measures is to be included in the project cost. The subproject design by including ER recommended measures and cost estimate for subproject should be done with the support from a qualified extension team from UZ level. Integration of environmental remediation measures in the subproject design will ensure that the subproject impacts are taken care of. Supervision during implantation is needed so that all the environmental remedial measures are implemented as planned.

If any subproject has environmental impacts more substantial than those in the 'C' category, the subproject should be assigned category 'B'. As the impacts are larger and more complex, such subprojects will require preparation of a Limited Environmental Assessment (LEA) and incorporation of the recommended mitigation measures into the subproject design. A general format for a LEA is provided here (Attachment-II) and this should be prepared by an experienced specialist in the support team.

A project completion record showing compliance to environmental management guideline should be kept in the project file. A form to this end is provided in attachment-iv.

Any subproject with potentially greater impacts than category 'B' subprojects and impacts that involve significant environmental risk are classified as category 'A'. Such subprojects will not be funded under the LGSP.

To summarize the following are the key steps in the Environmental Management of CIWs for subprojects in 'C+' and 'C' category in which most of the subprojects are likely to fall. A more detailed procedure has to be followed for category 'B' subprojects as explained earlier.

1. Completion of an ER form and assignment of a category for each subproject.
2. Inclusion of recommendations of ER in subproject plan (if any).
3. Approval of ER in the subproject review process.
4. Ensuring implementation through supervision during construction.

Attachment-I
Bangladesh Local Governance Support Project (LGSP)
Environmental Review (ER) Form

(This form filled with appropriate information is to be attached to each subproject document)

Union Parishad: _____ Ward: _____ Upazilla: _____

Subproject In-charge: _____

SUBPROJECT NAME/ OBJECTIVES: _____

SPECIFICATION STATUS

- | | | | |
|--|---------|--------|-------------|
| 1. Encroach onto an important natural habitat | Yes [] | No [] | |
| 2. Affect sensitive ecosystems | Yes [] | No [] | |
| 3. Use firewood for fuel | Yes [] | No [] | |
| 4. Use petroleum-based fuel | Yes [] | No [] | |
| 5. Involves use of pesticides | Yes [] | No [] | |
| 6. Diversion or use of surface waters | Yes [] | No [] | |
| 7. New or rebuilt irrigation or drainage systems | Yes [] | No [] | |
| 8. Require the construction of a seasonal dam | Yes [] | No [] | |
| 9. Involves latrines, septic or sewage systems | Yes [] | No [] | |
| 10. Waste generation
(e.g. slaughterhouse, medical waste, etc.) | Yes [] | No [] | |
| 11. Residues that may be used as fertilizers: | Yes [] | No [] | In part [] |

EVALUATION

- | | | | |
|--|---------|-----------|-------------|
| 1. Produce significant amount of pollutants: | Yes [] | No [] | |
| 2. Type of pollutants (if yes in 1): | Air [] | Water [] | Soil [] |
| 3. Quantity of pollutants (per month): | _____ | | |
| 4. Probable cumulative impacts | Yes [] | No [] | |
| 5. Means of disposal available: | Yes [] | No [] | In part [] |
| 6. Fate of pollutants: | _____ | | |

7. Remedial measures and any other issues/ Comments: _____

Environmental Category¹ C⁺ [] C [] B [] A []

Needs further Evaluation Yes [] No []

Needs LEA Yes [] No []

Prepared by (Name): _____

SIGNATURE: _____

DATE: _____

¹ The category assigned here is to be inserted in the subproject summary sheet

Attachment-II
Bangladesh Local Governance Support Project (LGSP)
Limited Environmental Assessment (LEA) Format for Category 'B' Subprojects
(This report has be prepared by a qualified specialist in the support team)

1. General Description of the Sub-project

The subproject should be described in reasonable detail including its justification even with substantial environmental impacts.

2. Baseline Description of the Affected Environment

The environmental baseline for subproject including all the potentially impacted parameters should be discussed. These may include the Physical-chemical, Biological and Socio-economic Environment.

3. Specification of Expected Negative Environmental Impacts

All possible environmental and socio-economic impacts of the subproject should be identified.

4. Mitigation Measures

Cost effective mitigation measures should be identified and measures for their integration into the project design including implementation and monitoring should be recommended.

Attachment-III

Typical Subproject Environmental Impacts and their Mitigation

Transportation	
<ol style="list-style-type: none"> 1. Improvement of Tertiary and secondary level roads 2. Tertiary and secondary level culverts and bridges 3. Footpaths 	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Disruption of drainage: Hampers free drainage, causes stagnant pools of water, road breaks during monsoon	<ul style="list-style-type: none"> • Design to provide adequate drainage and to minimize changes in flows. • Provision of sufficient number of cross drains.
Erosion: Erosion of road slopes.	<ul style="list-style-type: none"> • Construction in the dry season. • Roadside plantation of suitable plants especially with Vetivers which are known to be highly effective.
Water Supply	
<ol style="list-style-type: none"> 1. Tubewells, 2. Water point rehabilitation 3. Dug wells and Ring Wells with Hand pumps 4. Spring protection in hill areas 5. Community reservoirs 6. Water harvesting facilities 7. Water treatment plants 8. Piped water supplies 	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Inundation: Tubewell contamination due to inundation during flood	<ul style="list-style-type: none"> • Base above the 10-year flood level
Diseases caused by poor water quality: Contamination by seepage from stagnant pools, latrines, municipal waste, agricultural areas or from leakage.	<ul style="list-style-type: none"> • Appropriate location, apron and drainage around tubewells and dug wells to prevent formation of stagnant pools. • Provision of cover and hand-pump to prevent contamination of dug wells. • Where pit latrines are used, tubewells should be located more than 10m from any water source. • Leak detection and repair of pipe networks. • Bacteriological testing of water quality from time to time.
Arsenic Prone Areas: Contamination of tubewell water with higher than standard	<ul style="list-style-type: none"> • Installation in Arsenic free aquifers • Testing of water for Arsenic
Depletion of water source: Over-exploitation of aquifers.	<ul style="list-style-type: none"> • Abstraction limits for mechanical pumps and limits to numbers.

Health	
1. Health centers(Dispensaries, Maternity clinics, Laboratories etc)	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Disease caused by inadequate collection and disposal of: Medical and other wastes	<ul style="list-style-type: none"> Promote separate collection and disposal system for medical or hazardous wastes. Arrange for final disposal site.
Sanitation and Waste Management	
<ol style="list-style-type: none"> Public toilets/pit latrines Soak pits and septic tanks Sewerage facilities Composting sites Waste disposal facilities Sewage treatment lagoons 	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Contamination of water supplies: Contamination of surface waters due to flooding or over-flowing and contamination of groundwater because of seepage.	<ul style="list-style-type: none"> Where pit latrines are to be located more than 10m from any water source. The base should be sealed and separated vertically 2m or more of sand or loamy soil from the ground water table. Where nightsoil latrines or septic tanks are built they should be sealed. Outflows should drain either to a soak pit located at least 10m from any water source or be connected to a working drain. Maintenance training to be delivered along with new facilities.
Vector borne diseases: Breeding of insects	<ul style="list-style-type: none"> Prevent creation of stagnant pools of water.
Agriculture and Markets	
<ol style="list-style-type: none"> Animal Health Facilities (Vaccination yards, Tick dips etc) Post harvest handling facilities Slaughterhouses and yards Agro-processing facilities Construction of market places including Livestock markets Fish landing sites Seasonal Earth dams Terracing in hilly areas 	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Health and safety in work place:	<ul style="list-style-type: none"> Ensure adoption of practices at the work place.
Siltation and erosion:	<ul style="list-style-type: none"> Ensure adoption of local best practices.
Reduction of water available to downstream water users:	<ul style="list-style-type: none"> Ensure mitigation measures to avoid this
Vector borne diseases:	<ul style="list-style-type: none"> Prevent creation of stagnant pools of water.
Education	

1. Construction of classrooms and Teacher housing 2. Provision of classroom furnishings 3. Laboratories 4. Sports fields/recreation facilities and fencing	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Impacts during construction:	<ul style="list-style-type: none"> • Management of construction period health and safety especially for school children. • Removal and proper disposal of construction wastes.
Energy	
1. Rural electrical distribution 2. Improved Cookstoves 3. Biogas 4. Photovoltaic cells based power supplies for emergency and public facilities	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Unsustainable grazing:	<ul style="list-style-type: none"> • Livestock grazing requirements for new herds for biogas projects should be ensured.
Natural Resource Management	
1. Afforestation (Community Based projects on public land) 2. Community tree nurseries 3. Anti-erosion interventions (e.g., Slope, Stream and river bank protection with Vetiver) 4. Demonstration nutrition gardens 5. Wetland development 5. Rangeland improvements 6. Eco-tourism and hunting areas	
POTENTIAL ENVIRONMENTAL EFFECTS	MITIGATION MEASURES
Wastes in unspoiled areas:	<ul style="list-style-type: none"> • Arrange collection and disposal of wastes.
Increased use of pesticides:	<ul style="list-style-type: none"> • Use local best practice and IPM.

Attachment- IV

CIW IMPLEMENTATION COMPLETION RECORD (To be completed by PSC for each CIW undertaken in the Union)

Fiscal Year Block Grant Used:

Name of District: Name of Upazila:

Name of Union:; Ward No.:

Name of PIC Chair:

Name/type, use and location of CIW:

Part A: General Information on All CIWs

1. *Scope of Work:*

New construction	Improvements	Repair/Renovation

2. *CIW implemented during (months):*

3. *Amount of fund requested for the CIW (Taka)*

4. *Amount of fund actually received for the CIW (Taka)*

6. *Brief description of the works as originally proposed by PIC when requesting the UP for funds:*

.....
.....

7. *Brief description of the actual works done with the fund received:*

.....
...

8. *If there are differences between the proposed and executed works, they are (briefly):*

.....
.....

9. *In PSC judgment, the differences have been caused by:*

.....
.....

10. *In PSC judgment, quality of the CIW works done (choose one):*

Fully satisfactory

Satisfactory

Marginally satisfactory

Unsatisfactory

11. Was PSC (or any member of PSC) involved in Environmental & Social Screening of the CIW?: Yes No

Part B: Grievance Redress

24. No. of complaints/grievances the PIC received on this CIW:

25. No. of complaints/grievances on this CIW the PIC referred to the PSC:

26. No of complaints/grievances PSC resolved:

27. Three of the most important complaints are:

a.

b.

c.

Part C: PSC's remarks and suggestions on CIW selection and implementation, as well as on adverse environmental impact mitigation guidelines and measures:

Part D: Signatures of the PSC Chair & Members:

1.
2.
3.
4.
5.
6.
7.