REACHING OUT OF SCHOOL CHILDREN (ROSC II)

ENVIRONMENTAL MANAGEMENT FRAMEWORK

DIRECTORATE OF PRIMARY EDUCATION
MINISTRY OF PRIMARY AND MASS EDUCATION

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

16 JULY, 2012
Dhaka, Bangladesh

TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS

AS - Ananda School
AUEO - Assistant Upazila Education Officer

ACF	-	Award Confirmation Forms
BDT	-	Bangladesh Taka (Currency)
BP	-	Bank Procedures
CM	-	Community Mobilizer
CMC	-	Community Management Committee
DOE	-	Department of Environment
DPE	-	Directorate of Primary Education
DPHE	-	Department of Public Health Engineering Department
EA	-	Environmental Assessment
ECA	-	Environment Conservation Act
ECC	-	Environmental Clearance Certificate
ECR	-	Environment Conservation Rules
EIA	-	Environment Impact Assessment
EMF	-	Environment Management Framework
EMIS	-	Education Management Information System
EMP	-	Environmental Management Plan
GIS	-	Geographic Information System
GOB	-	Government of Bangladesh
IDA	-	International Development Agency
IEE	-	Initial Environmental Examination
LC	-	Learning Center
LGED	-	Local Government Engineering Department
MOEF	-	Ministry of Environment and Forests
MoU	-	Memorandum of Understanding
M&E	-	Monitoring and Evaluation
NEMAP	-	National Environmental Management Action Plan
NGO	-	Non Government Organization
NSDWSSP	-	National Safe Drinking Water Supply and Sanitation Policy
OP	-	Operational Policies
PEDP II	-	Second Primary Education Development Program
PEDP III	-	Third Primary Education Development Program
PO	-	Partners Organization
ROSC	-	Reaching Out of School Children
ROSCU	-	Reaching Out of School Children Unit
TC	-	Teachers Committee
UEO	-	Upazila Education Officer
USD	-	United State Dollar (Currency)
WB	-	World Bank

EXECUTIVE SUMMARY

The Reaching Out of School Children (ROSC) project was designed in the backdrop that quality and access continue to remain two major concerns of the government as well as the

development partners and other actors in the primary education sector. The proposed ROSC II project would be implemented by Directorate of Primary Education (DPE) over a five year period (2013-2018) in about 100 additional upazilas of the country and the upazilas would be selected on the basis of poverty, education deprivation and other relevant criteria. Some upazilas from current ROSC intervention, where there are students still to complete the primary education cycles will be eligible for support from ROSC-II. The project would support access to learning opportunity for out-of-school children by providing stipend allowances to students and grants to learning centers. With community management as the fulcrum, buttressed by a partnership between the government and non-governmental organizations (NGOs), the approach would focus on the establishment of learning centers set up through a Center Management Committee (CMC) directly accountable to parents and students.

The DPE, in consultation with relevant stakeholders, has prepared an Environmental Management Framework (EMF) for the proposed program. The purpose of this Environmental Management Framework (EMF) is to ensure that neither the learning quality at primary schools nor the environment is compromised through the program intervention. The specific objectives of the EMF are (i) to outline a framework for environmental screening procedures and methodologies for the "Learning Centers" to be financed under the program; and (ii) to specify appropriate roles and responsibilities to carry out environmental screening, environmental management (mitigation, monitoring and compensation) and reporting related to environment at the "Learning Centers" (iii) to sketch out concerned environmental factor as one of the selection tools/criteria for selecting the LCs.

The proposed ROSC II project would support access to learning opportunity for out-of-school children by providing stipend allowances to students and grants to learning centers. With community management as the fulcrum, buttressed by a partnership between the government and non-governmental organizations (NGOs), the approach would focus on the establishment of learning centers by community based Center Management Committees (CMC) following a transparent mapping of underserved areas. ROSC-II will finance activities to (i) continue supporting students in currently operational ROSC LCs (established in 2010 and 2011 from additional financing) to enable them to complete grade 5; (ii) scale-up ROSC operation in 100 new upazilas; and (iii) pilot ROSC intervention in selected urban slums and a pre-vocational skills training scheme for older ROSC students.

No new construction will be supported under this project. LCs will be housed in a rental room under a contractual agreement with house owner for definite period of time. The LCs will be selected such that it will have basic facilities like access to safe drinking water, acceptable sanitation facilities for girls and boys and quality classroom. Arsenic or microbial contaminated drinking water, poorly maintained sanitation, inadequate ventilation and damp environment and pollution from the surroundings are the potential threat of the project.

The project is not expected to create any significant or long-term adverse environmental impact if adequate attention is given during the LC site selection and O&M phase to assess and mitigate risks. However, special attention will be required to ensure safe drinking water supply and hygienic latrine facilities to the schools. Considering the nature and magnitude of potential environmental impacts which can be mitigated through proper LC selection, the proposed project

is to be classified as category 'B'. Only one Bank environmental safeguard policy i.e., OP/BP 4.01 Environmental Assessment has been triggered for this program. This policy has been triggered to ensure that the program design and implementation are focused on reducing adverse impacts and enhancing positive impacts. Since the extent and exact locations of LCs is not to be known at appraisal, the requirement to carry out an environmental analysis as part of program preparation can be waived. However, to avoid any major environmental impact, a limited environmental screening will be conducted through the government systems (under the responsibility of DPE) during project LCs selection.

The Program will support environmental monitoring to ensure that envisaged purpose of the program is achieved and result in desired benefits without adversely affecting environmental resources. The monitoring activities of ROSC II will include the compliance of the environmental management plan implementation. In general, the consultant will monitor the following indicators during field visit as 'spot check' and the related mitigation measures: (i) appropriateness of LC location selection in terms of environment of the LCs, (ii) sanitation facility and (iii) water quality.

The implementing agency will sign a memorandum of understanding with the Department of Public Health Engineering for annual water quality testing of the program-funded drinking water sources for the LCs. Regular Third Party Monitoring on 5% of the schools annually will be conducted for ensuring proper implementation of the EMP.

The ROSC project has a unique Educational Management Information System (EMIS). The environmental mitigation and monitoring information along with the third party monitoring information will be incorporated in existing EMIS.

DPE will appoint an Environmental Focal Person at Assistant Director Level who will be responsible for ensuring the completion of environmental screening during LC selection. S/He will supervise the implementation of the EMP**.** The Environment focal person will ensure that the environmental management costs have been properly reflected in the M&E plan. S/He will supervise the implementation of the EMP and will ensure budgetary provision for conducting capacity building of the CMC/NGO in EMP implementation. The environment focal person will also be responsible for conducting environmental screening/assessments during LC selection and preparation of half yearly environmental monitoring report on the implementation status and quality of the EMP which will be shared with the Bank. CMC and NGOs will be involved in EMP implementation.

On behalf of DPE, a consultant carried out the field visit of the existing ROSC I project sites as part of the EMF preparation. The consultant reviewed the existing documents in field, location of learning centers, water supply and sanitation facilities, discussed with all relevant stakeholders and took their opinion how to improve the environmental practices in ROSC II and to integrate environmental concerns to improve the sustainability of the program interventions. This EMF reflected the recommendations from consultations and field visits observations.

The EMF will be disclosed by MOPME in their website for public comments within 30 days of the notice published in the 2 daily national newspapers (one English and another Bangla). In addition, the World Bank will publish this document in InfoShop.

CHAPTER 1: PROJECT BACKGROUND AND INTRODUCTION

1.1 Background

1. The Reaching Out of School Children (ROSC) project was designed in the backdrop that quality and access continue to remain two major concerns of the government as well as the development partners and other actors in the primary education sector. The ROSC project, as a special innovative intervention nationwide, started in the year 2004 to end in June 2010. As of July 2010, the project has already been extended to 2013. The current ROSC project was started as a pilot initiative to deliver formal primary education to out of school children through non-formal approach. The success of ROSC approach of mobilizing communities and NGOs, and in providing direct grants to communities to operate LCs, and education allowances to attract and retain out of school children has created significant demand for replication in other needy upazilas and other underserved areas including urban slums.

2. The proposed ROSC II project would be implemented by directorate of Primary Education (DPE) over a five year period (2013-2018) in about 100 additional upazilas of the country and the upazilas would be selected on the basis of poverty, education deprivation and other relevant criteria. The direct beneficiaries of ROSC-II would be 720,000 out-of-school children in 22,000 learning centers from about 130 upazilas. Among these, 250,000 students and 8600 learning centers (LC) in the ongoing ROSC project in 30 upazilas would continue to be supported. 450,000 out-of-school children and 13,000 LCs would be supported in100 new upazilas.

3. The key project development objective is to contribute to improving equitable access, retention and completion in quality primary education in under-served areas. While the basic approach in the proposed ROSC-II would follow that of the ongoing ROSC project, it will feature a number of new ideas. These will include (i) revamped focus on quality of learning through incentive-based teachers development and support program, (ii) extension of ROSC-type intervention in selected urban slums, (iii) piloting of information technology such as mobile phones for funds disbursement as well as monitoring of service delivery at the beneficiary level.

4. Like the first ROSC, ROSC II will be operated by establishing special Learning Centres (LCs) called Ananda School (AS). **Learning Center** is local community level institution with concentration of out-of-school (disadvantaged) children. No new construction will be supported under this project. LCs will be housed in a rental room under a contractual agreement with house owner for definite period of time. The LCs will be selected such that it will have basic facilities like access to safe drinking water, acceptable sanitation facilities for girls and boys and quality classroom.

5. The Upazila's will be selected over a five year period (2013 – 2018) from all over Bangladesh. The location specific environmental problem cannot be identified at this stage. Arsenic or microbial contaminated drinking water, poorly maintained sanitation, inadequate ventilation and damp environment and pollution from the surroundings are the potential threat of the project. Since the project will not facilitate any new construction, failure to provide basic

environmental facilities to the students will lead to cancellation of the rental contract with the existing house owner and move to a new LC establishment.

1.2 About EMF

6. Projects and programs financed with IDA resources must comply with the World Bank Operational Policies. Therefore, program components eligible for funding under the ROSC II will be required to satisfy the World Bank safeguard policies, in addition to conformity with relevant legislation of the Government of Bangladesh (GOB). The environmental regulation and water supply and sanitation facility of GOB and World Bank safeguard policy are presented in Annex A.

7. The types of "Learning Centers" to be funded under ROSC II have been identified at the program design phase. However, specific locations of "Learning Centers" will only be identified at the field level during implementation phase. Therefore, it is not possible to identify the "Learning Centers" and/or Learning Centers specific environmental issues upfront during program design and appraisal stage.

8. This EMF provides general policies, guidelines, and procedures to be integrated into the selection of all "Learning Centers" under the ROSC II. In the first ROSC program an "Environmental Guidelines for Learning Center Venues" was prepared. The Guideline stated minimum requirement of an LC to be selected to ensure environment friendly learning state for the disadvantaged students. In preparing this document, relevant environment safeguard practices and compliance (especially the experience of ROSC, PEDPI and PEDP II & PEDP III) were reviewed. This review included field visits, multi-level consultations, qualitative and quantitative assessments of environmental safeguard compliance processes, a rapid capacity assessment of the implementing agency and its field level staff from environmental safeguard perspective etc. The EMF addresses the possible environmental related issues in the ROSC II.

1.3 Objectives of the EMF

9. The purpose of this Environmental Management Framework (EMF) is to ensure that neither the learning quality at primary schools nor the environment is compromised through the program intervention. The EMF will contribute the goal of environmental sustainability by:

- enhancing environmental outcomes of the activities implemented under individual "Learning Centers";
- preventing and/or mitigating any negative environmental impact that may emerge from the project;
- ensuring the long-term sustainability of benefits from "projects" by securing the natural resource base on which they are dependent; and
- facilitating pro-active "Learning Centers" that can be expected to lead to increased efficiency and improved management in the use of natural resources resulting in improvements in local environmental quality and human well-being.

10. More specifically the objectives of the EMF are:

- To outline a framework for environmental screening procedures and methodologies for the “Learning Centers” to be financed under the program; and
- To specify appropriate roles and responsibilities to carryout environmental screening/assessment, environmental management (mitigation, monitoring and compensation) and reporting related to environment at the “Learning Centers”.
- To sketch out concerned environmental factor as one of the selection tools/criteria for selecting the LCs.

11. This will also cover institutional/organizational needs of the implementing agency in executing the recommendations to mitigate any possible environmental negative impacts and other climate induced impacts.

CHAPTER 2: PROGRAM DESCRIPTION

2.1 General Description

12. The proposed ROSC II project would support access to learning opportunity for out-of-school children by providing stipend allowances to students and grants to learning centers. With community management as the fulcrum, buttressed by a partnership between the government and non-governmental organizations (NGOs), the approach would focus on the establishment of learning centers by community based Center Management Committees (CMC) following a transparent mapping of underserved areas. ROSC-II will finance activities to (i) continue supporting students in currently operational ROSC LCs (established in 2010 and 2011 from additional financing) to enable them to complete grade 5; (ii) scale-up ROSC operation in 100 new upazilas; and (iii) pilot ROSC intervention in selected urban slums and a pre-vocational skills training scheme for older ROSC students.

2.2 Project Components

13. The description of project components are as follows:

2.2.1 Component 1: Increasing Equitable Access

14. The objective of this component is to reduce number of out-of-school children in the under-served areas through provision of access to formal primary education with Grants to Learning Centers and Education Allowances to eligible students. This component would finance: (i) LC establishment and management, (ii) education allowances, and (iii) ROSC Pilot in Urban Slums. The activities under *LC establishment* include identification and mobilization of targeted communities, formation of CMCs, selection of eligible students, recruitment of qualified teachers and approval of LC establishment applications. Once established, LCs are operated and managed by CMCs through Grants from the project to finance initial LC set-up, student uniforms and basic stationery, monthly teacher salary, monthly rental and maintenance of LC venues , and to contribute to management costs including the salary of upazila level training coordinators (TC).

15. The *student allowances,* intended to attract out-of-school children to enroll in LCs and retain them through the primary cycle, would be provided to the students enrolled in ROSC LCs who meet the following criteria: (i) coming from disadvantaged households, (ii) aged between 7 and 12 inclusive at the time of initial enrolment; (iii) having a project ID card, (iv) average attendance of 80 percent every quarter, and (v) passing trimester exams in respective grades. *ROSC Pilot in selected urban areas* will finance LC type of intervention in urban slums, and voucher program for domestic child labor. The urban slums pilot would support establishment and operation of 100 LCs in 15 selected slums in Dhaka. The voucher scheme would initially support 1000 children on student education allowance and tuition fees in the schools the students are enrolled. Based on the impact evaluations, these pilot programs would be considered for expansion. All disbursements (Grants, allowances, vouchers) will be processed through Award Confirmation Forms (ACF) prepared based on the data on LCs and individual students, and remitted through the designated banking system.

2.2.2 Component 2: Enhancing Education Quality

16. The objective of this component is to improve retention in and completion of primary education cycle through teacher development, classroom support, and pre-vocational skills training for eligible ROSC students. Activities financed under *teacher development* sub-component would include initial foundation training, annual refresher training, and subject-based training with focus on English and Mathematics. IER of Dhaka University and IED of BRAC University have been identified to serve as partner training agencies to support the project on identification of national-level resource persons (RPs) and upazila-level Training Coordinators (TCs), development of appropriate training course for TCs and LC teachers, provision of classroom support to teachers and selection/development of appropriate teaching learning materials. TCs and RPs would provide training to LC teachers.

17. Under *classroom support* sub-component, Assistant Upazila Education Officers (AUEOs), nearby primary school head-teachers (HTs) and upazila TCs would be mobilized to provide academic guidance to LC teachers on the use of subject plans, teaching-learning materials (including posters, charts and audio-visual clips), and continuous student assessments. Government of Bangladesh would continue to provide free NCTB text books to ROSC students. Supplementary teaching-learning materials developed and used by different agencies (for example NCTB, BRAC Education Program, BRAC-IED, English in Action (EIA) and Save the Children) will be indentified and arrangements would be made to make the materials available at ROSC LCs.

18. *Pre-vocational skills training pilot* sub-component aims to support ROSC students who have completed at least grade 3 but are aged 15 and above. Under the pilot, the project ROSCU would provide vouchers to 5,000 eligible students to participate in market responsive trade courses. The voucher would cover student education allowance as well as tuition fees in the training institutes the students are enrolled. The training courses and institutes would be identified in partnership with the Save the Children Bangladesh. Based on the impact evaluation of the pilot, the program would be considered for expansion.

2.2.3 Component 3: Improving project management and capacity

19. The objectives of this component are to establish an effective project implementation structure and enhance project implementation capacity through mobilization of communities and involvement of capable partner agencies to deliver quality primary education to out-of-school children. This component comprises: (a) *project management, (b) capacity building, and (c) social awareness and advocacy*.

20. The Directorate of Primary Education (DPE) under the Ministry of Primary and Mass Education (MOPME) would continue to implement ROSC-II under the same arrangement. ROSC Committee would oversee overall project implementation, carry out joint annual reviews, and resolve implementation issues. ROSC Unit (ROSCU) will continue to be responsible for day-to-day implementation of the Project. At the Upazila level, the Upazila Education Committee (UEC) would continue to support Upazila Education Officer (UEOs) for all upazila level coordination activities. ROSCU will implement the proposed ROSC II project with support

from partner agencies and through mobilization of communities. Community Mobilizers (CMs) from Partner Organizations (POs) would support in the establishment of LCs and their operations during the first year of LC establishment. ROSC MIS Cell at Local Government Engineering Department, LGED would continue the services of data processing and monitoring agency. There will be a contingent of Monitoring Officers under ROSCU stationed in the upazilas to directly monitor activities at the field level. One major feature of the ROSC II will be significant use of ICT in monitoring results and activities at the field level Sonali Bank would continue the services as funds disbursement agency. Besides, use of post offices and their ICT devices in this regard will be piloted in a number of upazilas. In addition, IER-DU and BRAC-IED would serve as teacher development/training agencies.

21. This component would also strengthen *capacity* of ROSCU, UEO and other partner agencies including CMCs, CMs, MOs and TCs by financing in-country training in the areas of management, M&E, educational development, procurement and financial management; international training to observe and share best practices in relevant education programs; and community-level training to CMCs.

22. Under *social awareness* sub-component, strategies to enhance community awareness about ROSC II will be devised and implemented with support from a professional communication agency. The activities will include, among other things, preparation and dissemination of ROSC Operation manual, brochures, posters and audio-visual materials; central and upazila-level conferences and workshops, and community-level meetings; and mobilization of print and electronic media (newspapers, TV, video).

2.2.4 Component 4: Monitoring and Evaluation

23. The objective of this component is to establish an effective monitoring and evaluation system to monitor inputs, processes and outputs, and assess the impact in relation to the stated project development objectives. This component comprises (a) monitoring of inputs, process and outputs, (b) learning assessment pilots, and (c) impact evaluation of ROSC interventions. Key *monitoring* activities include: preparation of database (student, teachers, CMCs, LCs, RPs, TCs, CMs, MOs); validation of LCs (student, teacher and LC location); trimester monitoring of LCs based on self-reported monitoring forms (for ACF); and sample-based compliance monitoring. Use of ICT such as SMS monitoring and data validation through smart phones would be promoted under this sub-component. *Learning assessment pilots* would support administration of two rounds of student learning assessments for grades 3 and 5. *Evaluation* sub-component aims to evaluate the impact of ROSC interventions on schooling outcomes. The sub-component would finance: (a) baseline survey to update baseline and target indicators; (b) follow-up surveys to assess the impact on KPIs and other outcome indicators; and (c) impact evaluations of pilot interventions (urban slums, voucher schemes for domestic child labor, pre-vocation skills, SMS monitoring).

2.3 Project Activities with Environmental Foot Print

24. The project will support four components to provide basic education to the education deprived children aged 6-12 years. The only component which may have the environmental foot print is Establishment of Learning Centers. The program will support mainly three types of

activities which may trigger environmental issues. These are: i) Establishment of LCs, ii) Maintenance of LCs; and iii) Water supply and sanitation provision. The Learning Centers will be rented. The selection criteria of the learning centers will be well ventilated classroom, safe drinking water and hygienic sanitation facility. The project will not fund any kind of construction/reconstruction/ rehabilitation of classroom, latrine or installation drinking water facility.

CHAPTER 3: POSSIBLE ENVIRONMENTAL ISSUES

3.1 Introduction

25. This section deals with the main potential environmental concerns likely to arise from the various activities and/or components interventions proposed under the ROSC II. The program will support mainly three types of activities which may trigger environmental issues. These are: i) Establishment of LCs, ii) Maintenance of LCs; and iii) Water supply and sanitation provision. The project will not finance any new construction/renovation of LCs. LCs will be housed in a rental room under a contractual agreement with house owner for definite period of time. Since the project will not support construction of latrines or installation of any drinking water source, supply of safe drinking water and the provision of hygienic sanitation are the two vital challenges of the program. Lessons from ROSC I and similar programs show that issues such as selection of appropriate sites for LC establishment, preference of students and teachers are some of the key concerns that influence project success and sustainability. The typical environmental impacts related to the establishment of LC and water supply and sanitation issues are drinking water pollution risk, risk from poor sanitation, drainage congestion/water logging, inadequate ventilation and risk from unhygienic surrounding environment.

3.2 Physiographical and Climatic Characteristics of Bangladesh

26. The physical geography of Bangladesh is varied and has an area characterized by two distinctive features: a broad deltaic plain subject to frequent flooding, and a small hilly region. The climate of Bangladesh is dominated by sub-tropical monsoons characterized by wide seasonal variations in rainfall, moderately warm temperatures, and excessive humidity. Whole Bangladesh is divided into seven climatic zone, (Fig. 3.1). There are four prominent seasons in a year namely pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November), and winter (December-February). Due to prolonged monsoon and high humidity, damp weather is prevalent in Bangladesh.

27. Due to lack of adequate drainage system and frequent flooding drainage congestion/water logging is very much prevalent both in rural and urban areas.

28. Bangladesh is an emerging developing country. Industrial revolution has been observed in last decades. A number of brick industry, textile industry, rice mill, aluminium industry are spreaded in many areas of Bangladesh.

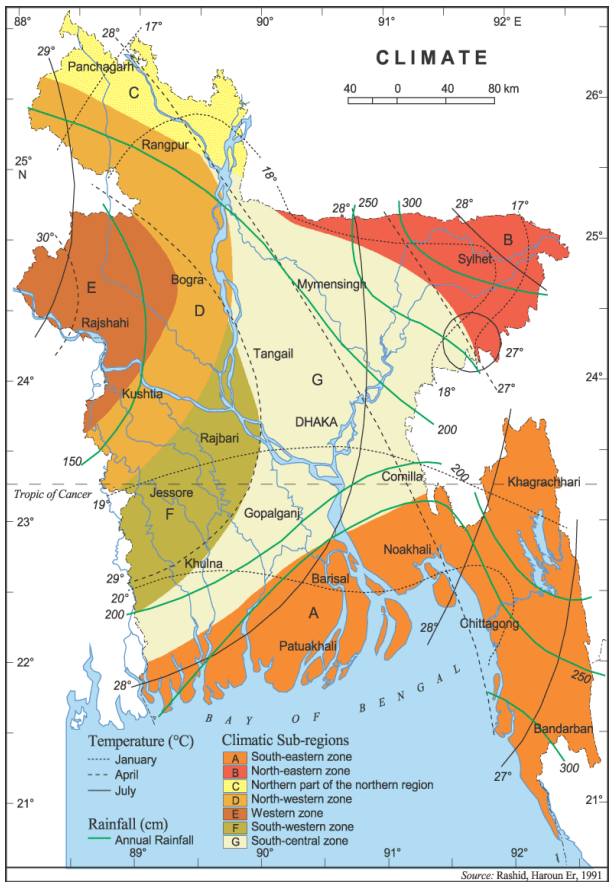

Figure 3.1: Climatic zones of Bangladesh
(Source: Banglapedia, 2006)

3.3 Water Quality & Sanitation Status in Bangladesh

29. Bangladesh has made good progress in improving water and sanitation facility in last decades. According to WHO/UNICEF Joint Monitoring Program (updated 2012). 81% has access to improved drinking water sources.

In urban areas, access is broken down as follows:

- 23% piped inside dwelling
- 8% piped outside dwelling
- 68% tubewells

In rural areas the breakdown is:

- Less than 0,6% piped inside and outside dwelling
- 96% tubewells
- 1% dug wells
- More than 2% ponds, lakes and rivers

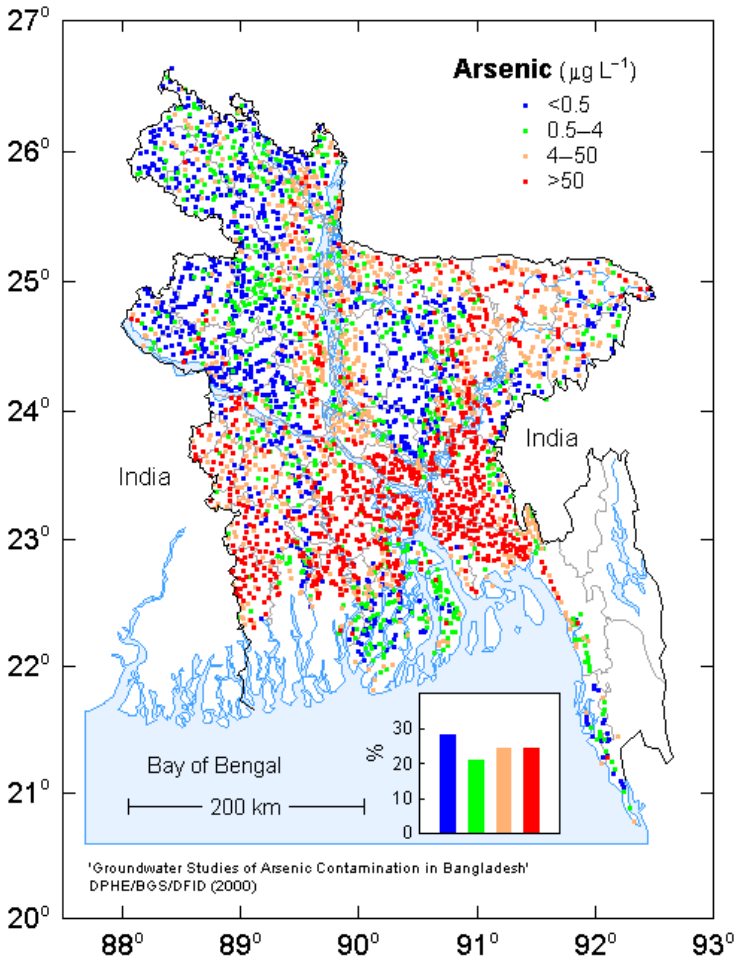

Figure 3-2 Groundwater Studies of Arsenic Contamination in Bangladesh (DPHE/BGS/DFID, 2000)

30. However, this considerable success is challenged by quality of service provision in hard to reach areas such as the hilly regions, River Island (chars), swampy areas (beels and haors), water-scarce areas (coastal belt and Barind area) and particularly rapidly growing urban slum. In 1993 it was discovered that groundwater, the source of drinking water for 97% of the rural population and a significant share of the urban population, is in many cases naturally contaminated with arsenic. It gradually emerged that 70 million people drank water which exceeds the WHO guidelines of 10 microgram of arsenic per liter, and 30 million drank water containing more than the Bangladesh National Standard of 50 microgram per liter, leading to chronic arsenic poisoning. An estimated 12.6 per cent of the population exposed to arsenic contaminated water. Figure 4.1 shows the arsenic

contaminated areas of Bangladesh. DPE will consider alternative sources of drinking water in the places of high arsenic contamination.

31. Sanitation faces its own challenges. Only 56 percent of the population has access to improved sanitation. It is to be noted, being one of the most densely populated countries in the world, as high as 25 percent of the population in Bangladesh use shared latrines which is not considered as improved sanitation coverage. As of 2010, the incidence of open defecation had reduced to 4 per cent primarily as a result of a community-led total sanitation movement. Poor sanitation causes contamination of ground and surface water.

3.4 Typical Environmental Impacts

32. The possible environmental impacts are discussed below:

Drinking Water Pollution Risk

33. The major environmental concern for the water collection from nearby tubewell is Arsenic. Arsenic poses the major environmental and health risk in the project. In the absence of proper testing facilities and alternative option, students may continue to consume arsenic contaminated water in arsenic affected-areas of the project. The long-term exposures to arsenic in drinking water may result in black spots, thickening and roughness of palms and soles, white intermittent dots, nodular growth on palms and soles, swelling of feet and legs, peripheral neuropathy, kidney and liver disorder etc. in initial and secondary stages. Gangrene or cancer may result in the final stage.

34. The students can also be exposed to contaminated water collected from alternative sources like rain water harvesting, nearby river, lakes. Some of the more common chemical pollutants include pesticides, fertilizers coming from the nearby agriculture field and industrial solvents discharged from the industry without adequate treatment. Some problem organisms, including viruses, bacteria, protozoa and algae, cause nuisance problems with taste and odor while others are potential pathogens which may create severe diarrhea to the students.

Risk from Poor School Sanitation

35. Sanitary latrines provide enormous health benefits to communities. However, they should be maintained properly. Close location of latrines to tube-wells can lead to groundwater contamination. Again, lack of proper maintenance can create drainage congestion. Inadequate maintenance of latrines and water logging also may create mosquito-breeding habitat.

Inadequate Lighting and Ventilation System

36. Poor indoor lighting in classroom may have many harmful effects on health and well-being (e.g. eyesight) of teachers and students. Inadequate ventilation in classrooms may lead to respiratory problems, and easier transmission of infectious diseases. Due to poor ventilation and construction defect the floor may get damp especially during rainy season.

Drainage Congestion/Water Logging

37. Stagnant water due to poor drainage, blocked sewers, and overflowing septic tanks or soak pits may create adverse health effects. These issues should be properly addressed and taken into consideration during the selection of LCs both in urban and rural areas.

Risk from Unhygienic Surrounding Environment

38. Nearby waste disposal sites, presence of any industry in the surrounding environment of the LC can pose serious air, water and noise pollution. *Waste from agriculture and industries* can also cause serious health risks. Disposal of industrial hazardous waste with municipal waste can expose people to chemical and radioactive hazards. Uncollected solid waste can also obstruct storm water runoff, resulting in the forming of stagnant water bodies that become the breeding ground of disease and create bad odor. Waste dumped near a water source also causes contamination of the water body or the ground water source

CHAPTER 4: ENVIRONMENTAL MANAGEMENT IN ROSC II

4.1 Introduction

39. The main objective of the environmental management for ROSC to project is to (a) establish clear and appropriate tools for environment friendly LC selection; (b) ensure that O&M of the LC are environment friendly. For programmatic or sectoral projects/programs, in which specific site is not known in advance, it is recommended that a set of environmental principles for the implementation of the project to be agreed upon in the Environmental Management Framework (EMF). The DPE, UEO, CM and CMC will follow a set of principles/general principles in establishment of LCs under ROSC II to ensure environmental sustainability of the project. The general principles of the environmental management in ROSC II are mentioned below:

4.2 General Principles

- The Program Director or his/her assigned official at the DPE will be responsible overall for environmental compliance in ROSC II.
- The project will not finance any new construction/renovation of LCs. LCs will be housed in a rental room under a contractual agreement with house owner for definite period of time.
- All the LCs to be funded under the ROSC II will be subjected to an environmental screening/assessment during selection in order to prevent any significant negative environmental impacts.
- Selection of LCs with safe drinking water and hygienic latrine provision.
- The selected LCs should be well ventilated, damp free irrespective of seasonal variation and well lit with natural light.
- Annual water quality monitoring of the all the drinking water sources will be carried out to ensure safe drinking water facilities to the students and teachers.
- Provision for adequate sanitation facilities for the teachers and students will be ensured during LC selection and a mechanism for regular cleaning and routine maintenance will be developed.
- Environment friendly (e.g. solid waste management) and energy-efficient options (e.g. solar lighting, SHS, rain water harvesting, etc.) should be promoted
- There should be adequate provision for fire fighting and safety measure in the school

4.3 Environmental Screening

40. The project is not expected to have significant impact the possible LC locations will be selected after proper environmental screening. In general, the environmental screening process identifies what level of environmental assessment is required for "subprojects" and/or components. It is one of the crucial stages of project decision making. The screening process also provides information to decision-making authorities about the nature of an activity before its

implementation. Broadly speaking, the purpose of the environmental screening is to get relevant concerns addressed early on before further decision of a project and to ensure that actions to mitigate environmental impacts or enhance environmental opportunities are budgeted for. The environmental screening is about taking stock in time to avoid losing later opportunities. The participation and consultation with beneficiaries/local communities are important in identifying the potential impacts of the interventions. Environmental Screening will be carried out to get more information before renting the LCs to achieve the following objectives:

- To establish the limited environmental baseline around the LC site, and to identify any significant environmental issue;
- To assess these impacts and provide for measures to address the adverse impacts by the provision of the requisite avoidance and mitigation measures;
- To integrate the environmental issues before decision making for LC selection;
- To develop appropriate management plans for implementing, monitoring and reporting of the environmental mitigation and enhancement measures suggested.

41. Considering the nature and magnitude of potential environmental impacts which can be mitigated through proper LC selection, the proposed project is to be classified as category 'B'. Only one Bank environmental safeguard policy i.e., OP/BP 4.01 Environmental Assessment has been triggered for this program. This policy has been triggered to ensure that the program design and implementation are focused on reducing adverse impacts and enhancing positive impacts. Since the extent and exact locations of LCs is not to be known at appraisal, the requirement to carry out an environmental analysis as part of program preparation can be waived. However, to avoid any major environmental impact, a limited environmental analysis/screening will be conducted through the government systems (under the responsibility of DPE).

42. The Screening format will be used as one of the selection criteria for selecting the LCs. A sample-screening format for selection of LC location is attached in Annex-B. The Bangla form will be used for the screening purposes at field level. The screening format will also help to analyze the present condition to understand the real need for water supply and sanitation facilities and existing hygiene practices in the LCs. The screening format has been developed from the prior experience of PEDP II, PEDP III and ROSC in the light of existing environmental and sanitation rules and regulation of Bangladesh Government and World Bank safeguard policy.

43. For the selection of LC, the collection of following information should be ensured during LC selection in addition to the filled up checklist in Annex B :

- Size of the room (30-35 learners to be accommodated in a 35 ft by 20 ft from)
- Well ventilated room
- Sufficient natural light
- Provision of safe drinking water
- Provision of water sealed hygienic latrine

44. For the decision of the drinking water, the following information should be collected and analyzed.

- Arsenic concentration of the tube-wells (with depth and year of installation) within 500 m radius of proposed point
- Level of dissolved iron and salinity
- Distance from closest sanitary latrine
- Drainage facility
- Option for surface water availability

45. The following information should be collected and analyzed for the sanitary latrine provision.

- Distance from water source
- Drainage facility
- Closest water table
- Soil condition

4.4 Environmental Mitigation

46. The primary objective of the environmental management and monitoring is to record environmental impacts resulting from ROSC II activities and to ensure implementation of the 'mitigation measures' in order to reduce adverse impacts and enhance positive impacts from specific activities. Based on the information obtained from the environmental screening/assessment, a site-specific Environmental Management Plan (EMP) will be prepared. The EMP will indicate the impacts predicted, mitigation measures to minimize the impacts, identify the institutional arrangements for undertaking the mitigation measures and monitoring arrangements, implementation schedules of the mitigation arrangements and reporting requirements and cost estimates. A sample environmental management plan format is attached in Annex-C. A standard mitigation measure plan matrix is attached below

Table 4-1 Standard Mitigation Measure Matrix

Issue	Issue Description	Mitigation Measure	Responsibility
Inadequate Day Lighting and ventilation system	• Poor lighting and ventilation may impact on students and teachers health • The floors can be damp on which the students need to sit	• LC should have adequate windows in proper direction in consultation with students and teachers • Plastic sheets should be spread over the floor instead of jute bag for the students	• House Owner and will be ensured by CMC, CM, UEO & DPE • CMC, CM, UEO & DPE
Drainage congestion/water logging	• Improper site selection can create localized drainage problem/water logging	• Consider the drainage system of the whole area before LC selection • Collect information about the water level height during flood • Prevent all solid and liquid wastes entering waterways by collecting solid waste and wastewater	• Information provided by the house owner and checked by CM, UEO & DPE • House owner, CMC and CM

		• Ensure proper solid waste collection facility	• House owner, CMC and CM, UEO & DPE
Surface Water Pollution	Improper disposal of solid and liquid waste generate from the school sites will pollute the water quality	• Prohibit direct disposal of solid and liquid wastage into nearby water body.	Spoil Management Plan should be implemented by the house owner and CMC
Selection of appropriate Water Supply Technology	Without proper analysis, the new source can be arsenic contaminated Without proper analysis, the alternative sources can be microbially contaminated	• Identify unions and upazillas based on DPHE surveys • Annually check Arsenic tests if tubewell is selected as drinking water source in arsenic contaminated areas • Analyze local surrounding arsenic test results and recommend for alternative water resource • Analyze annual water quality testing report	DPE and DPHE
Selection of appropriate location for water source and sanitary latrine	Location may not be convenient to female students and impacts on natural resources and common property resources. Close distance between water point and sanitary latrine can contaminate groundwater.	* Discuss with CMC and students and select a location which is convenient for school and not impacting on trees or any other common property resources. * A minimum distance of 15 m should be maintained between a tube-well and a latrine to prevent contamination of water resources. In case of shallow shrouded hand tube-wells, this distance should be 20 m as horizontal filters are used in this type of tube-wells.	CM, UEO & DPE
Integration of drainage facilities with water supply and sanitary latrine	In absence of proper drainage facilities, water logging can be created around school.	* Should go for alternative option for water and sanitary latrines	CMC and CM, UEO & DPE

4.5 Environmental Supervision and Monitoring

47. The purpose of environmental supervision is to make sure that specific mitigation parameters are identified in the environmental assessment and as bound by the contract are satisfactorily implemented. In ROSC II continuous supervision by Monitoring Officers and Community Mobilizers will be carried out with a purpose to make sure that provisions provided in the contract document signed between CMC and house owner are satisfactorily implemented. In addition, monitoring will aim to ensure that the envisaged purpose of the project are achieved and result in desired benefits to the target population without adversely affecting natural environmental resources. The monitoring activities of ROSC II will include verifying compliance with the environmental management plan implementation. A typical Environmental Management Plan format is attached in Annex C.

48. The Monitoring Officers, Project Officers, UEO, CMC and CM and Consultants will monitor the following indicators during field visit as 'spot checking' and the related mitigation measures:

LC Environment:

- appropriateness of LC location selection;
- flood water level and height of the LC location site/village;
- Floor condition
- Ventilation
- drainage congestion/water logging;
- dust and noise pollution;

Water Quality

- Surface water pollution;
- Distance between tube-wells and sanitary latrines;
- Maintenance of water supply and sanitation facilities.

Sanitation Facility

- Cleanliness of latrine and area around
- Latrine and area around free from fly nuisance
- A cover or other means to keep the flies out
- Latrine and the area around it free from odors
- The area around the latrine free from stagnant water
- Latrine slab smooth and easy to clean
- Latrine slab strong and without any cracks
- Tube-well platform clean
- Proper drainage facilities?
- Hand-washing facilities available in or near the latrine

49. A check list for understanding the existing sanitation and water supply facilities in the school is attached in Annex-C which will be the responsibility of the Environment focal person to fill up half yearly and submit with the half yearly progress/monitoring report.

50. The arsenic level and other water quality testing in the drinking water source selected under ROSC II will be carried out on an annual basis using the field test kit method. The list of water quality testing parameters is presented below.

Table 4-2 Parameters For Water Quality Monitoring

Parameters for monitoring	**Units**	**Measured values**	**Drinking Water Quantity standard (ECR '97)**	**Remarks**
Turbidity	JTU			
DO	mg/l		6	
pH	-		6.5 -8.5	
BOD_5 20°C	mg/l		0.2	
COD	mg/l		4	

Parameters for monitoring	Units	Measured values	Drinking Water Quantity standard (ECR '97)	Remarks
Arsenic	mg/l		0.05	
Iron	mg/l		0.3 -1.0	
Coliform(fecal)	N/100ml		0	
Salinity (Chloride)	mg/l		150 - 600	
Manganese	mg/l		0.1	
Others				As relevant

51. 5% of the total water samples will be tested at the laboratory for quality assurance. The water quality monitoring report will include the upazilla-wise comparison of the data with the previous year monitoring and also between the test results of the field-test kit method and laboratory test method. The report will also cover the present water supply option of the arsenic affected tube-well. The findings of the report will help in planning the next water supply options for LCs. The Environment focal person will ensure to submit it with the half yearly progress/monitoring report.

52. The ROSC project has a unique Educational Management Information System (EMIS). The environmental mitigation and monitoring information along with the third party monitoring information will be incorporated in existing EMIS.

4.6 Report Requirement

53. ROSCU will prepare the following report during the course of project implementation for environmental safeguard:

Table 4-3 Report Requirement

Activity	Report Requirement	Sharing Period with Bank
Selection of LC	Summary Table of Environmental Status of the nominated LC	Before finalizing the LC selection
Water Quality	Annual Water Quality checking 5% Lab testing report	Annually
Sanitation Status	Check regularly and share with Bank	Half yearly
Environmental Management	Progress Report which will report status of LC, water quality and sanitation status	Half yearly

54. The Houseowner will submit the filled up screening form with the proposal. The Terms and Conditions for environmental compliance will be attached with the contract document. Failure to fulfilling the environmental requirement in LC environment and water and sanitation will result in discontinuation of the contract.

4.7 Review by World Bank

55. ROSCU will prepare the half yearly progress report on environmental management and will submit to the World Bank for review. The World Bank will review the screening report, environmental management plan, monitoring reports on random basis and will carry out field visit to cross-check.

4.8 Third Party Monitoring

56. The effectiveness of screening, monitoring and implementation of EMP will be carried out by the third party monitoring firm along with the project component activity monitoring annually. 5% of the LC will be subject to annual third party monitoring for environmental compliance check.

CHAPTER 5: INSTITUTIONAL ARRANGEMENT AND CAPACITY BUILDING

5.1 Institutional Arrangement

57. DPE (ROSCU) will implement the ROSC II project with support of partner agencies and through mobilization of communities. Community Mobilizers (CMs) from Partner Organizations (POs) would support establishment of LCs and their operations during the first year of LC establishment. DPE will appoint a dedicated Environmental Focal Person at Assitant Director Level who will be responsible for ensuring the completion of environmental screening/assessments during LC selection. S/He will supervise the implementation of the EMP and will ensure budgetary provision for conducting capacity building of the CMC/NGO in EMP implementation.

58. The environment focal person will also be responsible for conducting environmental screening/assessments during LC selection and preparation of half yearly environmental monitoring report on the implementation status and quality of the EMP which will be shared with Bank. The World Bank will review the screening report, environmental management plan, monitoring reports on random basis and will carry out field visit to cross-check. DPE may need to hire the service of an individual consultant to assist the environmental focal person. The ToR of the Environment Specialist (individual consultant) is attached in Annex-D.

59. The Upazila Education Offices (UEOs) will provide coordination support at the field level. Assistant Upazila Education Officers (AUEOs) and Head-Teachers from nearby primary schools would be mobilized in classroom support activities at the field level. At the Learning Centre level, the project would enter into an annually renewable co-operation agreement with CMCs. This cooperation agreement would be comprehensive and include roles and responsibilities of CMCs for all project activities, including water and sanitation, education allowances and Grants related activities. CMC and NGOs will be involved in EMP implementation.

60. The implementing agency will sign a memorandum of understanding with the Department of Public Health Engineering for annual water quality testing of the program-funded drinking water sources for the LCs. ROSC MIS Cell at LGED will continue the services of data processing and monitoring agency. Regular Third Party Monitoring will be conducted for ensuring proper implementation of the EMP.

61. Table-9.1 summarizes the responsibilities of different stakeholder in environmental management of the ROSC II.

Table -5.1: Responsibilities of Different Stakeholders

Responsible Entity/Person	***Responsibility***	***Working Phase***
Community Management Committee	Participation and contribution to • Environmental screening • Preparation and implementation support to EMP	• Establishment of LC • Implementation • Operational and Monitoring
Community	• Environmental Screening	• Establishment of LC

Responsible Entity/Person	*Responsibility*	*Working Phase*
Mobilizers (CMs) from Partner Organizations (POs)	• Mitigation Measures • Preparation and implementation support to EMP	• Implementation • Operational and Monitoring
Upazila Education Offices (UEOs)	• Environmental screening • Provide coordination support for environmental Monitoring	• Establishment of LC • Implementation • Operational and Monitoring
Environmental Focal Person	• Environmental Screening • Supervising implementation of the EMP • Ensure budgetary provision for conducting capacity building of the CMC/NGO in EMP implementation • Preparing half yearly report • Ensuring update of the Environmental Information in the EMIS	• Establishment of LC • Implementation • Operational and Monitoring
Project Coordinator/Director	• Review, finalization and approval of LCs • Overall monitoring • Send half yearly report on environmental compliance	• Establishment of LC • Implementation • Operational and Monitoring
External agency	Independent Assessment and/or third party monitoring	

The summary of key steps wise responsibility is presented in Figure 9.1 flow chart.

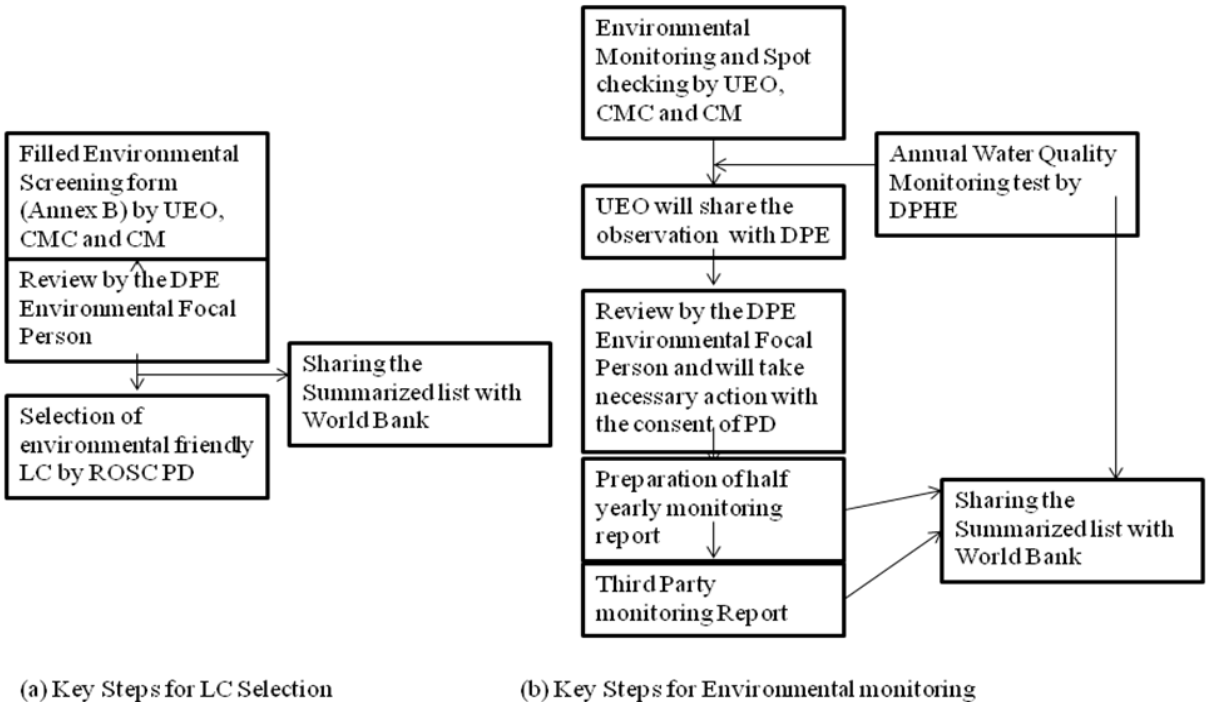

Figure 5.1 Summary of Key Steps for ES, EMP Execution

5.2 Capacity Building

62. **Directorate of Primary Education** is one of the leading government agencies that have incorporated environmental assessment to their project planning. DPE has practiced environmental assessment for PEDP II and III and ROSC I project by far. However, capacity building at different levels is necessary in order to implement the EMF successfully. The suggested capacity building measures, for example include: i) providing environmental competency/human-resources, ii) training, orientation and awareness, activities on environmental planning and management of learning centers, and iii) mechanisms for coordination and for accessing specific environmental services e.g. water-quality testing, climate resilient school building design and construction, etc.

63. ROSCU will have an Environmental Focal Person at Assistant Director Level who will be responsible for ensuring the completion of environmental screening/assessments during LC selection, preparation of half yearly environmental monitoring report on the implementation status and quality of the EMP which will be shared with the Bank. The focal person will also be responsible for implementation of the EMF and its provisions, including compliance checking, facilitation, coordination and ensuring dissemination, orientations and capacity buildings activities. S/He will ensure budgetary provision for conducting capacity building of the CMC/NGO in EMP implementation.

64. The program will also consider the capacity building of the CMC for the maintenance of the water supply and sanitation facilities. The option of linking with the existing government program of health and hygiene education will also be explored. Special attention will be provided to the boys and girls for encouraging them to spread the messages they have learned from teachers, health workers or other sources. Children have special advantages and special roles in spreading health messages to others. This will also help to properly maintain the hygienic condition of the urinals, toilets and water supply conditions in the schools.

5.3 Grievance Redress Mechanism

65. Environmental issues will be integrated with the project **Grievance Redress System.** The Office of the Program Director will be responsible for developing appropriate formats for complaints and redress as well as disseminating information about the Grievance redress system. A grievance redress procedure will be established to deal with various issues that may arise during renting of LCs and environmental activities. The grievance mechanism should be scaled to the risks and adverse impacts of the project. It should address affected people's concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all segments of the affected people at no costs, without retribution and taking recourse to legal procedure. The affected people will be appropriately informed about the mechanism. Complainants can however send letters of complaint to any level and the level where they are received will act these upon. The Grievance Redress Committees (GRCs) formed with UEO, representative from CMC will try to resolve conflicts amicably by bringing together the directly concerned parties. The GRCs will however not provide legal advice to the contestants. Decisions made by using this mechanism will be binding on the project authority. The procedure will not pre-empt aggrieved person’s right to seek redress in the courts of law.

CHAPTER 6: CONSULTATION AND INFORMATION DISCLOSURE

6.1 Consultation

66. On behalf of DPE/ROSCU, a consultant carried out the field visit of the existing ROSC I project sites as part of the EMF preparation. The consultant reviewed the existing documents in field, location of learning centers, water supply and sanitation facilities, discussed with all relevant stakeholders and took their opinion how to improve the environmental practices in ROSC II and to integrate environmental concerns to improve the sustainability of the program interventions. This EMF reflected the recommendations from consultations and field visits observations. Extensive consultation will be carried out during the project initiation and implementation.

6.2 Disclosure

67. The EMF will be disclosed by DPE in their website for public comments within 30 days. The disclosure notice will be published in the 2 daily national newspapers (one English and another Bangla). In addition, the World Bank will publish this document in InfoShop.

Annex A: Relevant Policies And Regulatory Framework

General Description

A wide range of laws and regulations related to environmental issues are in place in Bangladesh. Many of these are cross-sectoral and several of them are directly related to environmental issues. The most important of these are the Environment Conservation Act, 1995 (ECA, 1995), and the Environment Conservation Rules (ECR, 1997). The ECA 1995 is primarily an instrument for establishing the Department of Environment (DOE), and for controlling industrial and project related pollution. The Act also defines in general terms that if any particular activity is causing damage to the ecosystem, the responsible party will have to apply corrective measures. Until the appearance of ECR, 1997, enforcement of the Act was not possible, as many of the clauses refer to specifications detailed in the Rules.

In addition to the Environmental Conservation Act and Rules, there are a number of other policies, plans and strategies which deal with the water sector, agricultural development, coastal area, protected area disaster management and climate change. These are the National Water Policy, 1999; the Forest Act 1927 (last modified 30th April 2000); National Forest Policy, 1994; the National Conservation Strategy1992;; National Environmental Management Action Plan (NEMAP), 1995; Coastal Zone Policy, 2005; National Policy for Safe Water Supply and Sanitation 1998, National Policy for Arsenic Mitigation 2004, National Sanitation Strategy 2005, Coastal Development Strategy, 2006; National Agricultural Policy, 1999; National Fisheries Policy, 1996; National Livestock Development Policy, 2007; Standing Orders on Disaster, 1999 (revised in 2010); Bangladesh Climate Change Strategy and Action Plan, 2009; Solid Waste Management Rules 2010, National 3R Strategy for Waste Management(2010), Noise Pollution (Control) Rules 2006, National Plan for Disaster Management, 2010-2015. Some of these policies and legislations are described in this chapter for reference. The Bangladesh National Building Code, 2006 and Bangladesh Labor Act, 2006 will also be important regarding the occupational health and safety of workers and laborers to be involved in the Project's infrastructure development.

Relevant Policies and Legislation

Environment Conservation Act 1995

The national environmental legislation known as Environmental Conservation Act, 1995 (ECA'95) is currently the main legislative document relating to environmental protection in Bangladesh, which replaced the earlier environment pollution control ordinance of 1992 and has been promulgated in Environmental Conservation Rules, 1997 (ECR'97). This Act is amended in 2000 and 2002. The main objectives of ECA'95 are: i) conservation of the natural environment and improvement of environmental standards; and ii) control and mitigation of environmental pollution.

The main strategies of the act can be summarized as:

- Declaration of ecologically critical areas, and restriction on the operation and process, which can be continued or cannot be initiated in the ecologically critical areas
- Regulation with respect to vehicles emitting smoke harmful to the environment
- Environmental clearances
- Remedial measures for injuries to ecosystems
- Regulation of projects and other development activities
- Promulgation of standards for quality of air, water, noise and soil for different areas for various purposes

- Promulgation of standard limit for discharging and emitting waste
- Formulation and declaration of environmental guidelines

Department of Environment (DOE) implements the Act. DOE is under the Ministry of Environment and Forest and is headed by a Director General (DG). The DG has complete control over the DOE. The power of DG, as given in the Act, may be outlined as follows:

- The DG has the power to shut down any activities considered harmful to human life or the environment. The operator has the right to appeal and procedures exist for this purpose. However, if the incident is considered an emergency, there is no opportunity for appeal.

- The DG has the power to declare an area affected by pollution as an ecologically critical area. DOE governs the type of work or activities that can take place in such an area.

- Before beginning new development project, the project proponent must obtain Environmental Clearance from DOE. The procedures to obtain such clearance are in place.

Failure to comply with any part of ECA'95 may result in punishment by a maximum of 10 years imprisonment or a maximum fine of BDT. 1000,000 or both.

Environmental Conservation Rules 1997

The Environment Conservation Rules provide a first set of rules under the Environment Conservation Act, 1995. This rules is further amended in 2002 and 2003. These provide, amongst others items, standards and guidelines for:

- Categorization of industries and development projects, including roads and bridges on the basis of actual and anticipated pollution load
- Requirement for undertaking Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA), as well as formulating an Environmental Management Plan (EMP) according to categories of industries/development projects/activities
- Procedure for obtaining environmental clearance
- Environmental quality standards for air, surface water, groundwater, drinking water, industrial effluents, emissions, noise and vehicular exhaust

The Rules incorporate "inclusion lists" of projects requiring varying degrees of environmental investigation. The Government is also empowered to specify which activities are permissible and which restricted in the ecologically critical area. Under this mandate, MOEF has declared Sunderban, Cox's Bazar-Tekhnaf Sea Shore, Saint Martin Island, Sonadia Island, Hakaluki Haor, Yanguar Haor, Marzat Baor and Gulshan-Baridhara Lake as ecologically critical areas and accordingly has prohibited certain activities in those areas.

Under the Environmental Conservation Rules (1997) a classification system was established for development projects and industries on basis of the location, the size and the severity of potential pollution. It classifies industrial units and projects into four categories for the purpose of issuance of Environmental Clearance Certificate (ECC). These categories are:

Green
Orange A
Orange B, and
Red

Green Category projects are considered relatively pollution-free and hence do not require initial environmental examination (IEE) and EIA. An environment clearance certificate (ECC) from the Department of Environment (DoE) is adequate for a project that fall into the Green category.. Orange Category projects fall into two categories. Orange A projects are required to submit general information, a feasibility report, a process flow diagram and schematic diagrams of waste treatment facilities along with their application for obtaining DOE environmental clearance. Orange B projects are required to submit an Initial Environmental Examination (IEE) report, along with their application and the information and papers specified for Orange B projects. Red Category projects are those which may cause 'significant adverse' environmental impacts and are, therefore, required to submit an EIA report. It should be noted that they may obtain an initial site clearance on the basis of an IEE report, and subsequently submit an EIA report for obtaining environmental clearance along with other necessary papers, such as feasibility study reports and no objections from local authorities. The DoE has recently developed IEE and EMP checklists in order to simplify the preparation of conventional and voluminous IEE and EMP reports that may contain irrelevant and unnecessary information.

As per ECR '97 all existing and new industries and projects in Orange B and Red category require an Environmental Management Plan (EMP) to be prepared (after conducting an IEE or EIA) and submitted along with other necessary papers while applying for environmental clearance.

National Water Policy 1998

The National Water Policy was promulgated in 1999 with the intention of guiding both public and private actions to ensure optimal development and management of water in order to benefit both individuals and the society at large. The policy aims to ensure progress towards fulfilling national goals of economic development, poverty alleviation, food security, public health and safety, a decent standard of living for the people and protection of the natural environment. According to the policy, all agencies and departments entrusted with water resource management responsibilities (regulation, planning, construction, operation and maintenance) will have to enhance environmental amenities and ensure that environmental resources are protected and restored while executing their activities. Environmental needs and objectives will be treated equally with the resources management needs. The policy has several clauses related to the protection and conservation of the natural environment to ensure sustainable development.

National Safe Drinking Water Supply and Sanitation Policy 1998

The National Safe Drinking Water Supply and Sanitation Policy (NSDWSSP, 1998) was adopted in 1998, and sets out the basic framework for the improvement of public health quality and to ensure an improved environment, together with a set of broad sectoral action guidelines. The policy offered the following various objectives to achieve the goal:

- To manage water supply and sanitation related basic needs for all
- To bring about a positive change of peoples' attitude towards water and sanitation
- To reduce the outbreak of water-borne diseases
- To increase the efficiency of the Local Government and associated communities for handling the problems related to water supply and sanitation more effectively
- To improve and make the water supply and sanitation system more sustainable
- To promote proper conservation, management and use of surface water and to control water pollution in light of the scarcity of groundwater
- To take necessary steps to capture and use rain water

Ensuring the installation of one sanitary latrine in each household in the rural areas and improving public health standard through inculcating the habit of proper use of sanitary latrines is mentioned as one of the objectives. About urban sanitation, the policy objective is to ensure sanitary latrine within easy access of every urban household through technology options ranging from pit latrines to water borne sewerage. Installing public latrines in schools, bus stations and important public places and community latrines in densely populated poor communities without sufficient space for individual household latrines is also emphasized.

National Policy for Arsenic Mitigation 2004

The policy provides a guideline for mitigating the affect of arsenic on people and environment in a holistic and sustainable way. This policy also supplements the National Water Policy 1998, National Policy for Safe Water Supply and Sanitation 1998 in fulfilling the national goals of poverty alleviation, public health and food security. Policy statement includes: access to safe water for drinking and cooking shall be ensured through implementation of alternative water supply options in all arsenic affected areas. All arsenicosis cases shall be diagnosed and brought under an effective management system. Impact of arsenic on agricultural environment shall be assessed and addressed. This policy gives preference to surface water over groundwater. The policy has set the target of providing arsenic free water by 2010 in the worst affected communities.

National Sanitation Strategy 2004

The goal of National Sanitation Strategy 2004 was to achieve 100% sanitation coverage by 2010. The strategy aims to delineate the ways and means of achieving the national target through providing a uniform guideline for all concerned. It defines 100% sanitation – at the very least, the term "100% sanitation" will mean to include all of the followings: (i) no open defecation; (ii) hygienic latrines available to all; (iii) use of hygienic latrines by all; (iv) proper maintenance of latrines for continual use, and (v) improved hygiene practice. The strategy also defines the Hygiene Latrine - A hygiene latrine would mean to include all of the following: (i) confinement of feces away from the environment; (ii) sealing of that passage between the squat hole and the pit to effectively block the pathways for flies and other insect vectors thereby breaking the cycle of disease transmission, and (iii) venting out foul gases generated in the pit through a properly positioned vent pipe to keep the latrine odor free and encourage continual use of the hygiene latrine. The key suggested strategies for sanitation improvement include: (i) creating effective demand through health education and hygiene promotion; (ii) ensuring individual and community actions; (iii) activating local government institutions to play the key role for improving sanitation coverage; (iv) facilitating adequate supply chain of 'hygiene latrines'; (v) reaching the hardcore poor; (vi) improvement in urban sanitation; (vii) media campaign; (viii) strategies for sustainability; (ix) financing for sanitation programs; (x) monitoring and evaluation; and (xi) emergency response.

National Environment Management Action Plan (NEMAP) 1995

NEMAP is an environmental planning exercise initiated by the government through the MoEF following the commitments made under Agenda 21 at UNCED in Rio de Janeiro in June 1992. The key element that distinguishes the NEMAP from the NCS is the commitment to full participation of the population at large interest groups, resource users and environmental stockholders, NEMAP identified the key environmental concerns to Bangladesh and provided an action plan to halt or reduce the rate of environmental degradation, improve the natural and manmade environment, conserve habitats and

biodiversity, promoting sustainable development and improving quality indicators of human life. NEMAP has prioritized 57 actions on the environmental front and the government is in the process of creating a second-order priority list for immediate implementation. NEMAP outlines an Action Plan not only for the government, but for the community, the society and suggest what each and every citizen can do to protect the environment. The management actions considered in NEMAP are all essential to the sustainable development and environmental protection of the natural and human resources of Bangladesh. For the purpose of management, implementation, acquiring dedicated funds and enabling all different agencies to initiate or implement their own programs singly or in combination of agencies, all the action have been grouped under four heads: institutional, sectoral, location specific and long-term issues. Sectoral issues are: Health and Sanitation, Forest, Biodiversity, Natural Hazards, Education and Awareness, Industry, Water, Agriculture, Energy, Fisheries, Land, Housing and Transport, etc.

Others: Standing Orders on Disaster

The 'Standing Orders on Disaster, 2010' is a substantial improvement over the previous editions (English 1999 and Bangla 1887). New features introduced in this edition include, among others, the following: i) an outline of disaster management regulative framework, ii) an introduction of core groups for emergency response at various levels, iii) multi-agency disaster incident management system, iv) risk reduction roles and responsibilities for all committees and agencies, v) new outlines for local level plans, vi) revised storm warning signals, vii) a report on cyclone shelter design. Conceptually, this edition follows a comprehensive approach emphasizing risk reduction as well as emergency responses relating to all hazards and all sectors. Consequently, it has to be followed not only during disasters, but also at normal times. The Standing Order is designed to enhance capacity at all tiers of government administrative and social structures for coping with and recovering from disasters. The document contains guidelines for construction, management, maintenance and use of cyclone shelters. According to the guideline, geographical information system (GIS) technology will be applied at the planning stage to select the location of cyclone shelter considering habitation, communication facilities, distance from the nearest cyclone-center etc. The advice of the concerned District Committee is to be obtained before final decision. The cyclone shelters should have effective communication facilities so that in times of distress there are no unnecessary delays. For this reason, the road communication from the cyclone shelters should link to cities, main roads and neighboring village areas. Provision of emergency water, food, sanitation and shelter space for livestock during such periods should also be considered for future construction of shelters.

World Bank Environmental Guidelines

The Bank requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable. The World Bank's environmental assessment policy and recommended processing are described in Operational Policy (OP)/Bank Procedure (BP) 4.01: Environmental Assessment. This policy is considered to be the umbrella policy for the Bank's environmental "safeguard policies" which among others include: Natural Habitats (OP 4.04), Forests (OP 4.36), Pest Management (OP 4.09), Physical Cultural Resources (OP 4.11)), and Safety of Dams (OP 4.37). The Operational Policies (OPs) are the statement of policy objectives and operational principles including the roles and obligations of the Borrower and the Bank, whereas Bank Procedures (BP) are the mandatory procedures to be followed by the Borrower and the Bank.

The most relevant policy of WB in ROSC II activities is OP/BP 4.01 Environmental Assessment. The ROSC II has been classified as ‘Category B’, because the project may have minor site-specific environment impacts, which cannot be determined upfront since the “Learning Centers” are not defined at this stage. Most of the impacts are not expected to be very significant or irreversible. The project requires partial environmental assessment of “subprojects” before implementation. The partial environmental

assessment examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. In World Bank operations, the purpose of Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been properly consulted.

World Bank Environmental Screening under OP/BP 4.01

All World Bank projects are classified into three environmental assessment categories as shown in the following Table.

Table: World Bank Environmental Screening

Category	Category 'A'	Category 'B'	Category 'C'
Description	The project is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works	The project has potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category 'A' projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category 'A' projects.	The project is likely to have minimal or no adverse environmental impacts
EA Requirements	For a Category 'A' project, the project sponsor is responsible for preparing a report, normally an EIA	EA is narrower than that of Category 'A' EA. Like Category 'A' EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.	Beyond screening, no further EA action is required for a Category 'C' project

Implication of Policies and Legislations with ROSC II

Many Learning Centers in disaster prone areas can also be used as cyclone/flood shelters for the community. If the LCs will be considered as shelter, the concerned District Committee should be consulted about its location and other information.

As per the policies/guidelines on water supply and sanitation, provision for arsenic safe drinking water and adequate sanitation will have to be ensured for schools. The water quality needs to be monitored to ensure that the supplied water is safe for drinking. The latrine to be constructed in the ROSC II must be hygienic- confinement of feces away from the environment, blocking the pathways for flies and other insects, proper ventilation of foul gases, proper maintenance for continual use with improved hygiene practice.

Annex B: Environmental Screening Format for Establishment of Learning Center

(Will be filled up during LC location Selection)

District: ……. Upazilla: …….

Union: ……... Village: ……..

Number of Target Students: …….

Size of the room: ……

Screening Questions	***Yes***	***No***	***Remarks***
A. LC Location			
▪ Is there any Protected Area near the LC?	□	□	
▪ Is there any Wetland near the LC?	□	□	
▪ Is the LC location easily accessible?	□	□	
▪ Was the LC affected during flood? (Please specify the flood water level height in the remark column.)	□	□	
▪ Is there any waste disposal site within 10 m of the LC surrounding?	□	□	
▪ Does any bad odor come from the surrounding of the LC?	□	□	
▪ Is there any industry in the nearby area? (if yes please specify the type of industry)	□	□	
▪ Was the LC affected by cyclone?	□	□	
B. LC Description for ensuring healthy environment			
▪ Are there at least four or more windows?	□	□	
▪ Is the floor of the room earthen (Kacha)?	□	□	
▪ Is the floor of the room concrete (Paka)?	□	□	
▪ Does the floor get damped during rainy season?	□	□	
▪ Does the room have brick wall?	□	□	
▪ Does the room have galvanized corrugated sheet?	□	□	
▪ Does the room have any ceiling? If yes, What is the material of the ceiling? Please specify in the Remark Colum	□	□	
▪ Is the condition of ceiling good?	□	□	
▪ Does any water logging/drainage congestion happen around the LC during any time of the year?	□	□	
▪ Is there any existing latrines? If yes please answer the following questions	□	□	
a) Separate Latrine for boys and girls	□	□	
b) The number of latrines available sufficient for the number of students / teachers(Please specify the number of latrines/urinals in the remark column)	□	□	
c) Urinals available for the boys	□	□	
d) Hand washing facility (soap, ash etc.) available	□	□	
e) Constructions/maintenance of the latrines OK	□	□	
f) latrines have privacy in terms of proper doors and	□	□	

Screening Questions	***Yes***	***No***	***Remarks***
location			
g) Latrine attached to septic tank	□	□	
h) Type of Latrine	*1. Single pit,2. Double pits3. Twin pit*		
▪ Is there any existing water supply? If yes please answer the following questions	□	□	
a) Water supply facilities available in the premises	□	□	
b) Water supply facilities available in the premises	□	□	
c) The physical condition of the water supply facilities is good	□	□	
d) The distance between water supply facility and latrines is sufficient. (Please mention the distance)	□	□	
e) Sources of water used for sanitation and drinking purposes is same	□	□	
f) The environment of water supply facility is clean	□	□	
g) A soak away exists	□	□	
h) Any reported events of sickness or contamination by drinking the existing water source (if yes please clarify in the remark column)	□	□	
i) The source water is	*1. Tube well* *2. Surface Water (mention type)* *3. Rain Water Harvesting* *4. Piped Water supply* *5. Others (Specify)*		

Note: Please add any other screening questions relevant to the demonstration. Also provide additional comments and/or positive impacts in 'remarks' column.

Recommendations:

Filled and signed by: Name: _____

Designation: _____

Date: _____

Filled and signed by Environment Specialist (Consultant):

Name: _____

Date: _____

Reviewed and signed by DPE Deputy Director: Name: _____

Date: _____

Annex C: Typical Environmental Management Plan Format

Activity/Issue	Potential Environmental Impacts	Proposed Mitigation Measures	Responsible Partiers	Estimated Cost

Factors to understand Existing Sanitation and Water Supply Condition

(Will be filled up during LC location Selection & Water and Sanitation Status Monitoring)

Sanitation Facilities:

- What is the type of existing latrines? (Are these single pit/ double pits/ twin pit latrine of attached with a septic tank?)
- What is the number of the available latrines and urinals?
- Is constructions/maintenance of the latrines OK? (are the doors, plaster, roof etc. in good condition?)
- Are the latrines working well? (are pits/ twin pits/ septic tanks/soak away working properly?)
- Are the latrines clean or are the dirty and smelly?
- Can the latrines be locked from inside?
- Do these latrines have privacy in terms of proper doors and location?
- Are the latrines kept under lock and key during school time?
- Is there a hand washing facility (soap, ash etc.) available?
- Are urinals available for the boys?

- Are the urinals smelly?
- Do the girls students stay at home because of having no proper latrines or because they have to share with boys?
- Do the latrines need any special maintenance?
- Is the number of latrines available sufficient for the number of students / teachers in each shift we have in the school? etc.
- Other observations

Water Supply Facilities:

- Are water supply facilities available in the premises?
- Is there enough water available for washing hands, cleansing, flushing and cleaning of the latrines?
- How is the physical condition of the water supply facilities?
- What is the distance between water supply facility and latrines?
- Are different sources of water used for sanitation and drinking purposes?
- Is the environment of water supply facility clean and does a soak away exist?
- Are there any reported events of sickness or contamination by drinking the existing water source?
- Other observations

Annex D: Sample Terms of Reference of Environment Specialist

The Environmental Specialist, preferably with the post-graduation specialization in environmental engineering/science, shall have attest 10 years of working experience related to preparation or EA, integration of environmental and social issues in the design, implementation and operation of rural water and sanitation projects. Experience in environmental management of school water and sanitation is preferred.

The specific roles and responsibilities of the Environmental Specialist shall include, but not limited to the following:

- Contribute in the overall EMF implementation and capacity building
- Monitor and review the certain percentage of screening process for "LC" selection
- Supervise the implementation of the EMP by the CMC
- Carry out environmental monitoring to ensure compliance with the EMP & GOB requirements.
- Prepare and submit half yearly environmental monitoring and implementation progress reports
- Interact with the implementing agency regarding the implementation of the environmental compliance
- Work closely Training team and ensure proper capacity building of staff and contractors

Qualification of Environmental Specialist

- At least Masters Degree in environmental studies/ management/science /engineering
- About 10 years of experience in environmental assessment
- Experience in education project is preferable
- Ability to lead, organize and co-ordinate
- Good verbal and written communication skills in both English and Bangla
- Demonstrated interpersonal skills, and proven ability to work in a different multicultural context

** The ToR will be used if it is necessary to hire an individual consultant for environment monitoring