Environmental Assessment and Review Framework

February 2013

IND: Supporting Human Capital Development in Meghalaya

ABBREVIATIONS

ADB	–	Asian Development Bank
DPCU	–	district project coordination unit
DDR	–	due diligence report
DOE	–	Department of Education
DSC	–	design and supervision consultant
EARF	–	environmental assessment and review framework
EMP	–	environment management plan
GOI	–	Government of India
GOM	–	Government of Meghalaya
IEE	–	initial environmental examination
MSSDS	–	Meghalaya State Skills Development Society
PIU	–	project implementation unit
PMC	–	project management consultant
PMU	–	project management unit
PSC	–	project steering committee
PWD	–	Public Works Department
REA	–	rapid environmental assessment
RMSA	–	Rashtriya Madhyamik Shiksha Abhiyan
SMC	–	school management committee
TTC	–	teacher training center

CONTENTS

I. INTRODUCTION

A. Project Overview

1. Meghalaya is a small, land-locked state in northeast India with population of 2.9 million. It is flanked by Bangladesh in the south and Assam on the other three sides. A predominantly tribal state, it has rich mineral reserves such as coal and limestone, forest cover of more than 70%, and abundant rainfall.[1] Meghalaya's economy has lagged behind due to its remote location, hilly terrain, and poor infrastructure. The high transport cost affects the competitiveness of economic activities and discourages private investment. The industrial base is narrow with limited processing and value addition taking place within the state. The low employability of Meghalaya's youth compounds the adverse effects of these structural constraints, thereby trapping the state in a vicious cycle of poverty and underdevelopment.

2. The project "Supporting Human Capital Development in Meghalaya" aims to enhance the employability of Meghalaya's youth by (a) improving the quality and delivery of secondary and higher secondary school education, and (b) facilitating results-oriented technical and vocational skills training.

B. Purpose of the EARF

3. The environmental assessment and review framework (EARF) is a guiding document to support the implementing agency namely, the Department of Education (DOE), in planning and dealing with potential environmental impacts that may arise during upgrading of 117 government-aided private schools and 6 teacher training centers (TTCs) under the project. While the schools and TTCs have been identified, the detailed scope of work will be prepared after the loan gets approved. The EARF therefore, includes procedures to carry out environmental impact screening, assessment and mitigation, and monitoring and reporting related to the implementation of project components.

C. Project Output

4. The project will support the following four outputs:

(i) Output 1: Improved teaching and learning in government-aided secondary and higher secondary schools.
(ii) Output 2: Increased capacity and responsiveness of technical and vocational education and training
(iii) Output 3: Increased awareness and participation
(iv) Output 4: Improved project management and monitoring and evaluation

5. The civil works included under output 1 is relevant from the perspective of the EARF. The project will upgrade the infrastructure of 117 government-aided private secondary and higher secondary schools to standards prescribed under the *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) to improve their overall learning and teaching environment. Additional rooms and other facilities including laboratories, libraries, separate toilets for girls and boys, better furniture, display boards, and computers will be provided. Rooms to accommodate classes 11 and 12 will be built where there is adequate space and demand so that retention and enrolment at the higher secondary level is increased. Water harvesting, water purification, and improved

[1] The tribal groups listed in Constitution Scheduled Tribe (ST) Order, 1950 account for 86% of Meghalaya's population. Khasis, Garos, and Jaintias are the three largest tribal groups of the state.

waste disposal facilities will be provided. Environmentally friendly and locally available material such as bamboo and micro-concrete tiles will be used. The buildings will be strengthened to meet Zone-V seismic standards prescribed by the Government of India (GOI).

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. Assessment of Legal Framework

6. The Ministry of Environment and Forest, GOI has the overall responsibility to set policy and standards for environment protection along with the Central Pollution Control Board. This includes setting of air, noise, and water quality standards, and the requirements for preparing environmental impact assessments for development projects where applicable.

7. The implementation of this project will be governed by the national laws and state specific environmental rules, regulations, and standards. These regulations impose restrictions on activities to minimize/mitigate likely impacts on the environment. It is the responsibility of the executing and implementing agencies to ensure that the project is consistent with the legal framework, whether national, state or municipal/local. Compliance is required in all stages of the project implementation including design, construction, and maintenance. Salient features of relevant environmental laws and regulations, including their applicability to this project, are provided in Annex 1. This EARF has been prepared as per requirements of ADB Safeguards Policy Statement 2009. Provided the project complies with the national and ADB Safeguards Policy Statement 2009 requirements, no significant adverse environmental implications are envisaged from the implementation of the project activities.

B. Review of Institutional Capacity

8. Based on consultations with the RMSA project directorate in Shillong, Meghalaya, it was found that there is no existing institutional setup, position, or assigned personnel in DOE for monitoring environmental safeguards issues. The Public Works Department (PWD), Government of Meghalaya (GOM), is mainly responsible for planning, designing, and implementing civil works projects in the state. The PWD engineers are generally assigned additional environmental tasks in addition to their technical responsibilities. In view of this situation, the following measures will be taken:

(i) The project director to be nominated by GOM will be designated as the focal point for all environment and social safeguard issues.
(ii) The project director will be assisted in his/her work by the two environment specialists who will be engaged under the loan as part of the project management consultants (PMCs) and the design and supervision consultants (DSCs).
(iii) The environmental specialists will undertake initial environmental examination (IEE) of selected schools and TTCs in line with the EARF. They will prepare an environmental management plan (EMP) for each site and ensure that the principles and processes laid down in the EARF are followed.
(iv) The environment specialists will work with DOE and PWD staff that are designated to project implementation unit 1 (PIU1) to ensure that all refurbishment works comply with the environmental legislation and policies of the government and ADB.
(v) They will also facilitate capacity development activities for DOE and PWD staff in Shillong (capital of Meghalaya) as well as in each district headquarter. They will

prepare the required manuals and procedures, and guide DOE and PWD on how best to institutionalize the function of environmental safeguards.

(vi) The environmental specialists will prepare semi-annual monitoring reports and submit these to GOM and ADB. They will guide the project director and PIU1 in terms of handling grievances pertaining to environmental safeguards.

9. The institutional framework for the project and the roles and responsibilities for each of the stakeholders are provided in Table 1. GOM has established the Project Steering Committee (PSC), Project Management Unit (PMU), Project Implementation Units (PIUs), and 11 District Project Coordination Units (DPCUs) through its notifications dated 5 October 2012. The overall Project Director (an officer of the Indian Administrative Service) will be nominated by GOM after the loan is approved. He will be the Focal Point for all issues related to social and environment safeguards and grievance redressal.

Table 1: Detailed Implementation Arrangement Showing Constitution of PSC, PMU, PIUs and DPCUs including Consulting Support for Ensuring Safeguards

Government of Meghalaya Staff	Roles and Responsibilities	Consulting Support for ensuring safeguards (under loan and JFPR TA)
PSC **Headed by:** Chief Secretary • Additional Chief Secretary, Finance • PS, Planning • PS, Education; PS, Labour • PS, C&RD • Chief Executive Officer, MSSDS • Secretary, PWD • Other members as required	(i) Guide overall project implementation and give policy direction, (ii) approve the project's annual budget and spending on major items, (iii) ensure timely decisions on critical and implementation issues, (iv) brief the Chief Minister and other Ministers as required, and (v) hold quarterly meetings	
PMU **Headed by:** Additional Chief Secretary, Finance • PS, Planning; PS, Education; PS, Labour; PS, C&RD • Secretary, PWD • Director, DERT; Director, DSEL; Director, Labour; Director, C&RD • Chief Engineer, PWD • Additional Secretary (Finance) • Other members as required from the DOF **Managed by:** Project Director (to be nominated) **Supported by** : • One representative from DOE • One representative from MSSDS • 2 support staff- 1 accountant; 1 MIS staff	The PMU will (i) coordinate and manage fund transfers, timely audit of accounts; (ii) timely progress reports to ADB and PSC; (iii) receive and review progress reports from DOE and MSSDS; (iv) review funding requests from DOE and MSSDS; (v) recommend fund disbursements to DOF for DOE and MSSDS components; and (vi) overall monitoring of project milestones and progress including environmental and social safeguards. <u>The overall project director (an officer of the Indian Administrative Service to be nominated by GOM after the loan is approved), will be the Focal Point for all issues related to social and environment safeguards.</u>	The environment specialists, the social safeguard specialist, and the social development (gender) specialist will guide and advise the project director and the PMU in all safeguard related matters. They will work with PIU1 and PIU2, and the DPCUs to ensure that the EMP, IPP, and the GAP are implemented effectively. The safeguard specialists will also submit annual reports informing the PMU and project director about the progress made in terms of adhering to the safeguards and the GAP. They will also handle grievance redressal in their respective areas. Complex issues will be brought to the attention of the project director along with practical options for addressing them.
DOE - *PIU1* **Headed by:** Principal Secretary, Education **Departmental Representatives:** • Director, DERT; Director, DSEL	(i) Entering into memorandum of understanding with SMCs of selected schools and ensuring compliance through regular monitoring; (ii) supervising and tracking the school upgrading work;	The environment safeguard specialists, who are part of the PMC and DSC will assist PIU1 in ensuring that ADB's environmental safeguards procedures and processes are met. They will prepare IEEs for the schools and

Government of Meghalaya Staff	Roles and Responsibilities	Consulting Support for ensuring safeguards (under loan and JFPR TA)
• Chief Engineer, PWD • Additional Secretary, Planning • Other members as required **Support staff**: 1 Accounting Specialist, 1 Procurement Officer, and 1 Accounts Officer	(iii) consulting with teachers' unions, tribal groups, and other relevant stakeholders to create a sense of participation and ownership; (iv) implementing training programs for untrained or underqualified secondary school teachers; (v) mobilizing staff and consultants for smooth implementation of project activities, capacity development, and institutional strengthening; (vi) preparing and sharing regular progress monitoring reports and audit statements; and (vii) seeking timely action and decisions from the PSC and PMU as needed.	teacher training centers in line with the EARF. They will ensure that the EMPs are followed. They will also handle queries and address grievances. The social safeguard (indigenous people) specialist and social development (gender) specialist, to be hired under the loan and the piggy-backed capacity development TA financed on a grant basis by JFPR, will assist PIU1 in ensuring effective implementation of the IPP and GAP. They will also handle queries from the public and address grievances as appropriate.
MSSDS – *PIU2* **Headed by:** Chief Executive Officer, MSSDS Director, C&RD Director, Employment & Craftsmen Training **Support staff**: 1 Accounting Specialist, 1 Procurement Officer, and 1 Accounts Officer	(i) Assist MSSDS to fulfill its mandate and targets effectively; (ii) establishing and operationalizing the Skills Challenge Fund including related due diligence, appraisal of proposals and training providers, and award of contracts; (iii) establishing a state-wide skills database cum labor market information system; (iv) undertaking skill-gap analysis and disseminating timely updates on labor market information to employment exchanges in the state; (iv) mobilizing staff and consultants for smooth implementation of project activities, capacity development, and institutional strengthening; (v) maintaining and updating the system for tracking skilled trainees; and (vi) seeking timely action and decisions from the PSC and PMU as needed.	The social safeguard (indigenous people) specialist and social development (gender) specialist, to be hired under the loan and the piggy-backed capacity development TA financed on a grant basis by JFPR, will assist PIU1 in ensuring effective implementation of the IPP and GAP. They will also handle queries from the public and address grievances as appropriate.
DPCUs **Headed by :** Deputy Commissioner District Planning Officer **Represented by (at each district):** • District Education Officer; • District Labour Officer; • All BDOs of district; **Supported by (at each district):** 2 Monitoring Officer 1 Career Counseling Officer 1 Marketing Officer 1 Community Mobilization Specialist	(i) Monitor implementation of both, the secondary education and skill development components at the district and block levels, (ii) provide feedback to the district manager and solicit his/her help as required, (iii) coordinate with and provide regular updates to the PIU1/PIU2 in Shillong, (iv) facilitate career counseling and awareness building at the community and school levels for effective project implementation, (v) monitor the civil works components of the project and ensure quality work, and (vi) assist with the data collection for the monitoring and evaluation work.	The environment safeguard specialists, who are part of the PMC and DSC will assist the DPCUs in ensuring that ADB's environmental safeguards procedures and processes are met. They will undertake capacity development and sensitization workshops for staff of the DPCUs, SMCs, as well as the contractors. The social safeguard (indigenous people) specialist and social development (gender) specialist, to be hired under the piggy-backed capacity development TA financed on a grant basis by JFPR, will assist the DPCUs in ensuring effective implementation of the IPP and GAP. They will undertake capacity development and sensitization workshops for staff of the DPCUs, SMCs, as well as the contractors.

ADB = Asian Development Bank, BDO = Block Development Officer, C&RD = Community and Rural Development, DERT = Directorate of Educational Research and Training, DOE = Department of Education, DOF = Department of Finance, DPCU = district project coordination unit, DSC = design and supervision consultant, DSEL = Directorate of School Education and Literacy, EARF = environmental assessment and review framework, EMP = environmental management plan, GAP = gender action plan, GOM = Government of Meghalaya, IEE = initial environmental examination, IPP = indigenous people's plan, JFPR = Japan Fund for Poverty Reduction, MIS = management information system, MSSDS = Meghalaya State Skill Development Society, PIU = project implementation unit, PMC = project management consultant, PMU = project management unit, PS = Principal Secretary, PSC = project steering committee, PWD = Public Works Department, TA = technical assistance, SMC = school management committee.

C. General Principles and Action Plan for EARF

10. The general principles of environmental management to be followed by PIU1 are as follows:

(i) Under the leadership of the project director, PIU1 shall be responsible for the overall environmental compliance of the project. All project activities shall be subject to environmental screening and assessment in order to prevent adverse environmental impacts.
(ii) All infrastructure development of schools/TTCs shall follow the National/State Specific Environmental Rules and Regulations, RMSA Guidelines, and National Building Code to avoid or minimize environmental impacts.
(iii) Child-friendly (well lighted and well ventilated) and earthquake resistant school design (as per the requirement of seismic zone V) shall be promoted.
(iv) Design of school infrastructure shall be harmonized with the local surroundings, and shall take into account relevant environmental conditions and climate change risk mitigation measures.
(v) Priority shall be given on the use of locally available construction materials.
(vi) Preservation of the surrounding ecosystems around the school building and training centers shall be a priority.
(vii) Schools or centers located at or near sensitive ecological areas and category 'A' project components shall not be included under the project.
(viii) Design and construction of school/technical centers expansion or upgrading activities in areas where there is a risk of soil erosion or floods shall consider design for disaster risk minimization and resilience to extreme climatic variations (e.g., raising plinth level to protect from floods, increasing strength of buildings to resist storms, avoiding stream bank erosion areas, avoiding or stabilizing landslide areas and retrofitting to reduce the risk of earthquakes).
(ix) Alternative solutions and final designs shall be developed through community consultations, particularly with the school management committees (SMCs) and teachers.
(x) Water availability in schools shall be ensured. To the extent possible, rainwater harvesting shall be promoted in schools.
(xi) Annual water quality monitoring shall be carried out to ensure safe drinking water facilities to the students, teachers and non- teaching staff.
(xii) Adequate sanitation facilities shall be ensured for students, teachers and other non-teaching staff with regular cleaning and routine maintenance. Toilets for girls and boys shall be segregated and water facility shall be ensured in toilets/wash areas at all times.
(xiii) Environment-friendly (e.g., reuse and recycling) and energy-efficient options shall be promoted.

III. ANTICIPATED ENVIRONMENTAL AND SOCIAL IMPACT

11. The project involves infrastructure upgrading of existing schools and TTCs. The work would include reconstruction, restoration, and retrofitting of structural and conditional distresses in the existing built forms. The overall environmental management of the building will be improved in terms of drainage, handling and disposal of sanitary and solid waste, introduction of water harvesting, and seismic strengthening of the buildings. The project-related anticipated environmental impacts, though very limited in scale, may include dust and noise pollution, occupational health hazards, risk from existing poor sanitation system, land and water contamination, and soil erosion, etc. These will be addressed by adopting appropriate mitigation measures. Due to Meghalaya's vulnerable geographic location, there may be additional risks including natural disasters (e.g. earthquakes), floods, and landslides. While natural disasters and other extreme climate events are general risks and not related to the project, their impacts will be reduced by adopting appropriate preparedness and precautionary design measures include seismic strengthening of the buildings, organizing training programs for students/teachers on disaster/earthquake preparedness, and designing climate adaptation and disaster risk reduction structures etc.

12. An indicative list of environmental impacts and mitigation measures for the school and TTC-related infrastructure upgrading/refurbishment, construction, and operation activities are listed in Annex 2. This will be considered as a guide during preparation of environmental assessment report including EMP and its implementation (also refer to Annex 3).

IV. ENVIRONMENTAL ASSESSMENT AND EMP

A. Environmental Screening and Categorization of Subprojects

13. An environmental screening using rapid environmental assessment (REA) checklist (Annex 4) shall be done to ascertain the environmental category of the proposed work for each school and TTC. Following initial screening and categorization, a due diligence exercise consisting of examining the surrounding environs and identifying possible impact due to the project on the existing premises will be carried out by the environmental specialists of the PMC and DSCs. Depending on the complexity of the proposed physical upgradation work, due diligence can be a desktop review followed by a brief site visit to confirm categorization (for category C projects), or based on the site assessment (for category B projects) considering detail impacts and mitigation measures. If the screening results in detecting category 'A' projects, then that particular school or TTC will not be included in the overall project.

14. Based on the findings of the environmental screening, it will be decided whether an IEE[2] report is required or a brief due diligence report (DDR)[3] will be adequate for the project component. The finalized IEE report or DDR shall be attached with detailed design of the infrastructure. This EARF provides guidelines to prepare both an IEE report and an environmental DDR. An outline of these reports is provided in Annex 5 and 6.

B. Environmental Assessment Procedure

15. The environmental assessment procedure for each school/TTC infrastructure shall be as follows:

[2] IEE report is prepared when the project component is categorized as 'B' following environmental screening.
[3] DDR is prepared for existing premises where the project component has been categorized as 'C' following environmental screening.

1. Process for Environmental Due Diligence

16. The environmental due diligence report will include a brief environmental statement of the project showing the type of impact anticipated from the proposed works at a particular site. The report shall be prepared by adopting the following procedure:

(i) Information Compendium: Coordination shall be maintained with the focal person of the DOE for documenting site specific environmental status. Local stakeholders including teacher, SMC and students shall be consulted during the documentation process.

(ii) Preparation of environmental due diligence report: The information on physical, natural, socio-economic and cultural environment of the subproject area will be compiled in coordination with the technical and social team. The environmental due diligence report shall be a concise report confirming the 'C' category derived from REA checklist. However, if the site realities are found to be different from the desktop review and REA checklist then a full IEE report shall be prepared. The proposed template for the environmental DDR to be used is presented in Annex 5.

2. Process for the preparation of the IEE

17. The IEE process shall involve the following:

18. Scoping and preparation of terms of reference for IEE Study: An IEE scoping is a planning exercise to determine the scope for the IEE study. The scoping mechanism determines the existing environmental status of the project area, lists the likely environmental impacts, and advises on the methodology of the assessment. The terms of reference also advises on team of experts for the assessment and study schedule.

19. Assessment Methods: An outline of the activities for conducting IEE study is presented below:

(i) Data collection from secondary sources such as the forest atlas, maps and published GOI data, etc.

(ii) Preparation of checklist for collecting project related information

(iii) Field visits to collect environmental baseline data relevant to the study area

(iv) Interviews on a sample basis with the following stakeholders:

- Teachers
- Students
- SMC
- Nongovernment organizations/Voluntary organizations
- Local communities

(v) Consideration of alternatives: The environmental implications of different alternatives will be briefly assessed, particularly focusing on location of infrastructure, design and orientation, method of construction, source of construction materials, and schedule of construction.

(vi) Identification of Environmental Impacts and Mitigation Measures: The impacts will be identified in terms of their significance, extent, reversibility, and duration.

(vii) Design of EMP: The IEE shall prepare an EMP where monitoring requirements for potential environmental impacts are identified, mitigation measures prepared,

method of mitigation measures developed, indicators suggested, frequency of undertaking monitoring activity decided, cost estimated, and responsible agency for undertaking the monitoring identified. The EMP report format and parameters used for environmental monitoring are presented in Annexes 7 and 8. The IEE report shall be prepared following the template presented in Annex 6.

V. INSTITUTIONAL ARRANGEMENT FOR IMPLEMENTING EMP

A. Institutional Arrangement and Mechanism for Implementation of EMP

20. Table 1 provides details about the implementation arrangements focusing on the safeguards. The specific mechanism for designing and implementing the EMP is given in Table 2 below.

Table 2: Mechanism for Implementation of EMP

S.N	Activities	Responsibility	Remarks
1.	**Preparation of EARF, its approval, circulation & incorporation in project**		
1.1	Approval of EARF for Human Capital Development Project Activities	Project Director/ PIU1	
1.2	Printing, Publication of EARF in local languages & its dissemination	PIU1/PMC	
1.3	Dissemination of EARF through the Project Implementation Manual to PIUs and DPCUs	PIU1/PMC	The PMC will ensure that stakeholders (e.g. PIU, DPCUs) understand the EARF's requirements.
1.4	Dissemination of EARF through regular orientation programs	PMC	All concerned officials will be made aware of how to incorporate EARF provisions in preparing the environmental planning documents for each of the schools / TTCs upgraded under the project.
2.	**Environmental Assessment and Management**		
2.1	Prepare the DDR or IEE report as relevant	PMC/DSC	
2.2	Environmental screening of proposed works using the REA checklist	PMC	REA checklist provided in the EARF. Categorize environmental type.
2.3	Follow procedures in EARF to prepare the environmental assessment reports depending on the results of REA	PMC	Follow provisions of the approved EARF
2.4	Prepare EMP as part of the IEE report.	PMC	Follow the steps given in the approved EARF
2.5	Incorporation of EMP provisions in contract documents	PMC/DSC	EMP requirements to be clearly defined in contract agreement
3.	**EMP Monitoring**		
	• during implementation - verification through field visits	PMC	The environmental specialist of the PMC and DSC will conduct routine monitoring, document compliance or non-compliance, fill monitoring checklists, and prepare semi-annual reporting. He/she will check adequacy of environmental safeguards

S.N	Activities	Responsibility	Remarks
			maintained in district works, and verify if EMP's recommendations are being complied with. Consolidate semi-annual progress report.
4.	**Monitoring and Auditing**		
	Compliance Audit • during implementation • annually	PMC/DSC/SMC	Visits to random sites. Verify overall compliance.
5.	**Annual Reporting & Feedback**		
	• Interactions/workshops • reports	PIU1	PMC will conduct an annual interaction with various DPCUs to encourage replication of best practices.

DPCU = district project coordination unit, DSC = design and supervision consultant, EARF = environmental assessment and review framework, EMP = environmental management plan, IEE = initial environmental examination, PIU = project implementation unit, PMC = project management consultant, REA = rapid environmental assessment, SMC = school management committee, TTC = teacher training center.

B. Resources and Capabilities

21. Capacity in environmental management needs to be strengthened within DOE and PWD. ADB will provide technical assistance to build the capacity of relevant officers including preparation of manuals and delivering of training. Development of a strong monitoring/compliance system will be emphasized as part of the capacity development.

VI. ENVIRONMENT MONITORING AND REPORTING PLAN

22. The purpose of the EMP is to ensure that specific mitigation measures identified in the environmental assessment and agreed in the contract are satisfactorily implemented. In addition, monitoring is necessary to ensure that the envisaged purpose of the project is achieved and results in desired benefits to the target population without adversely affecting the environment. The monitoring activities will include verifying compliance with the environmental management plan during project implementation. The environmental specialists will monitor the following indicators: (i) loss of top soil of project land; (ii) loss of agricultural/forest lands; (iii) drainage congestion/water logging; (iv) dust and air pollution; (v) surface water pollution; (vi) noise pollution; (vii) erosion and siltation; (viii) occupational health and safety practices for workers; (ix) health and safety practices for students, teachers and community; and (x) maintenance of water supply and sanitation facilities, etc.

23. In addition, testing for arsenic, iron and salinity in drinking water will be carried out at required intervals in arsenic/iron/salinity potential areas. Five percent (5%) of the total water samples will be tested in government-approved laboratory for quality assurance.

Implementation of mitigation measures will be ensured through both routine and periodic monitoring. Monitoring activities for project at different phases of implementation is provided at Annex 9.

VII. CONSULTATION, INFORMATION DISCLOSURE AND GRIEVANCE REDRESSAL MECHANISM

A. Consultation and Information Disclosure

24. Consultation and information disclosure will be a continuous process during the preparation of the environmental assessments and implementation of the EMP. The

environment assessment will be based on meaningful consultations with the concerned stakeholders including civil society, and facilitate their informed participation. The meaningful consultation shall begin early in the project component preparation stage and carried out in an ongoing basis throughout the project cycle, timely disclosure of IEE reports in understandable format and language by the local stakeholders. Consultation will be organized in a congenial environment without intimidation, and in a gender sensitive manner.

B. Grievance Redressal Mechanism

25. The main objective of the grievance redressal mechanism is to provide a time bound and transparent mechanism to voice and resolve complaints of the people in the project area. The environment consultants engaged through the PMC and DSC will be responsible for handling grievances. They will (i) record the complaints, categorize and prioritize them; (ii) consult with all relevant stakeholders (including contractors), visit the project site, and do the required examination; (iii) settle the grievances in consultation with the complainant and the project staff; (iv) report to the aggrieved parties about the decision/solution; and (v) forward the unresolved cases to higher authorities for resolution. In case of complex complaints, the environmental consultants will inform the project director and guide him about practical options for resolving the grievances.

26. Grievances will be redressed within two to four weeks from the date of lodging the complaints. If resolution attempts at the SMC level fail, the SMC will refer the complaints to DPCU along with the minutes of the hearings. If a decision made at this level is found unacceptable by the aggrieved person(s), DPCU can refer the case to DOE with the minutes of the hearings at both school and district levels. The SMC/DPCU will keep records of all resolved and unresolved complaints and grievances and make them available for review as and when asked for by DOE and ADB Resident Mission in Delhi. Information about GRC will be made public through nongovernment organizations.

LEGAL FRAMEWORK

Sl. No	Statue/Policy	Objectives
1	The Environment (Protection) Act 1986 including Rules 1986	This Act is an umbrella legislation that provides a single focus for the protection of the environment and seeks to plug the loopholes of earlier legislation relating to the environment. Several sets of Rules relating to various aspects of the management of hazardous chemicals, wastes, microorganisms etc have been included in this Act.
2	• Forest (Conservation) Act, 1980 (as amended in 1988) • Forest (Conservation) Rules, 2003	To restrict deforestation by restricting clearing of forested areas
3	Meghalaya Tree (Preservation) Act, 1976	An Act to make provisions for regulating the felling of trees for purpose of protection of catchment areas and soil from erosion and to preserve the special characteristics of the hilly areas as regard landscape, vegetal cover and climate and to provide for matters connected there with and incidental thereto. It shall extend to the Municipality and Cantonment areas of Shillong, provided that the State Government may, by notification, extend the Act to other areas of Meghalaya.
4	The Meghalaya Forest Regulation (Application and Amendment) Act, 1973.	An Act to provide for the extension and application of, and to amend the Assam Forest Regulation, 1891 (Regulation 7 of 1891) and the Meghalaya Forest Regulation and for matters connected therewith or incidental thereto
5	Municipal Solid Wastes (Management and Handling) Rules, 2000	To ensure proper collection, reception, treatment, storage and disposal of municipal solid wastes generated at the site
6	Water (Prevention and Control of Pollution) Act 1974 as amended in 1988	To provide for the prevention and control of water pollution and the maintaining or restoring wholesomeness of water
7	Air (Prevention and Control of Pollution) Act 1981 as amended in 1987	To provide for the prevention, control and abatement of air pollution and for the establishment of Boards to carry out these purposes.
8	The Hazardous Wastes (Management and Handling) Rules, 1989 and Amendment Acts of 2000 and 2003	To ensure for safe collection, storage and disposal of hazardous wastes
9	Wildlife (Protection Act), 1972.	To protect wild animals and birds through the creation of National Parks and Sanctuaries
10	The Noise Pollution (Regulation and Control) Rules, 2000	Under the new regulation, different areas and zones are to be identified as industrial, commercial, and residential or silence areas and anyone exceeding the specified noise level would be liable for action. In industrial areas, the noise level limit during the day time (6 am to 10 pm) is 75 decibels and during night (10 pm to 6 am) 70 decibels. Similarly, for commercial areas day time limit is 65 decibels and night limit is 55 decibels. In the case of residential areas, the limits are respectively 55 and 45 decibels and for

Sl. No	Statue/Policy	Objectives
		the silence zones, 50 and 40 decibels.
11	Ancient Monuments and Archaeological sites and Remains Act, 1958	• To protect and conserve cultural and historical remains • To regulate construction activities near the monuments and sites protected by the Government
12	Bye-laws adopted and framed by the Shillong Municipality under section 302 of the Assam Municipal Act, 1956 (Assam Act XV of 1957)	By Laws Adopted and Framed by the Shillong Municipality act 1956

Other Applicable Labor Laws:

1. Minimum Wages Act, 1948
2. Child Labor (Prohibition and Regulation) Act, 1986
3. Workmen's Compensation Act, 1923
4. Building and Other Construction Workers Act, 1996
5. Contract Labor (Regulation and Abolition) Act, 1970

POTENTIAL PROJECT GENERATED ENVIRONMENTAL AND SOCIAL IMPACTS WITH MITIGATION MEASURES

Pre-construction stage

Project Aspect	Potential Impact	Mitigation Measures
Approvals, licenses and permits	Illegal activity	• All necessary approvals, permits and licences required by the State and local legislation will be obtained prior to construction commencing. • All approvals, permits and licences shall be maintained and complied with during the construction period. Should there be any changes to the project which would require additional permits or licences, these shall be obtained.
Access, utility relocation	Disruption to local amenities	• Access to properties (private properties, schools, TTC, etc.) affected by the proposal shall be maintained throughout the construction period. Should there be a need to close any access temporarily, then owners of the affected property shall be given notification of the extent, timing and duration at least 24 hours prior to its closure. Any legal access way affected by the works shall be reinstated to an equivalent standard. • Access to public roads and properties shall be maintained throughout the full duration of the construction works
Loss of land	No additional land will be required, as all school upgradation activities including construction work related to expansion activities will be done within the premises of the school	Resettlement and/or land acquisition problems are not anticipated in the school upgradation/ construction activity
Clearing of trees/Removal of vegetation	• Loss of trees and vegetation • Soil erosion and surface run-off	• All trees and vegetation to be removed shall be marked prior to clearance, and strict control on clearing activities to ensure minimal clearance. • All reasonable measures shall be undertaken to ensure that no native fauna is harmed or placed at risk during the course of the clearing activities • Felled trees to be replaced by compensatory plantation at minimum 1:1 ratio • Areas to be retained shall be protected by paraweb fencing or other suitable means to eliminate accidental damage or disturbance • Vehicles and machinery shall not be parked and stored in the vicinity of trees or any areas of natural vegetation to be retained, nor in proximity to any ephemeral drainage lines
Drainage management	• Drainage congestion • Water logging	• Design adequate drainage passage following natural path

Project Aspect	Potential Impact	Mitigation Measures
	• Vector proliferation	• Natural drainage lines shall be identified and appropriate sediment controls designed and implemented prior to construction commencing. • Ancillary structures and work compounds shall be located at least 20 meters away from any built or natural drainage lines. • Fill ditches in school premises • Discharge drainage flow with proper downstream protection. • The site sediment controls shall be designed to prevent sediment from the construction zone entering and adversely affecting natural drainages or areas of native vegetation downstream from the construction zone
	Construction Stage	
Slope stability	Landslide or gully erosion on slopes that may threaten school infrastructure.	• Planning and designing the refurbishment/upgrading of schools keeping in mind the fragile natural environment and site specific geological conditions • Avoid or maintain adequate distance from erosion prone areas • Adopt right angle of cut on slopes • Stabilize slopes by engineering and bio-engineering measures • Measures taken to avoid undercutting of hill toes that may cause slides • Do not exert excess load on slopes by disposing spoil
Erosion and sediment	Loss of soil, water pollution	• Temporary erosion and sediment controls shall be installed prior to the commencement of any works with the potential to cause soil erosion, including stockpiling of construction materials • Erosion and sediment controls shall be monitored on a weekly basis and immediately following rainfall and inspection results shall be recorded as part of site quality management system. • Wherever possible during the course of the works, exposed soil areas shall be progressively stabilized or protected by an appropriate method to minimize erosion potential. • Topsoil shall be stripped and stockpiled later for re-spreading on all exposed areas when final shaping has been completed. • Fill material shall not be placed around or pushed up against the bases of trees and shrubs to be retained within the construction site. • All fill shall be sufficiently compacted to minimize erosion potential.

Project Aspect	Potential Impact	Mitigation Measures
		• All exposed soil areas shall be stabilized and revegetated as soon as possible on completion of works to prevent potential erosion.
Spoil disposal	• Drainage blockage causing localized ponding and/or muddy runoff • Spoil tipped over slope may cause slide	• Minimize spoil disposal by balancing cut and fill wherever possible • Manage spoil to reclaim land with proper landscaping and vegetation • Do not dispose spoil on drainage path
Water pollution	Water pollution from construction activities	• Prohibit direct disposal of solid and liquid waste into nearby water bodies • Spoil management plan to be developed and implemented by the contractor • Awareness session on handling and storage of materials and waste management to be conducted for the construction workers
Transportation and storage of construction materials	• Nuisance to the general public • Fugitive emissions	• The vehicles carrying the materials should be covered and secured to prevent loss or re-suspension of material during travel • Construction materials should be stored in covered areas to ensure protection of surrounding areas from dust and emissions • Any transportation of materials on local roads shall be done during day light hours. • All vehicle movements or other construction activities shall be restricted to the delineated construction zone, the existing road network or previously disturbed areas. Construction vehicles, personnel and machinery shall not enter fenced off areas or areas beyond the delineated construction zone
Stone crushing	Dust and noise pollution	• Locate crusher plant, if any, away from settlement, school, and forest area. • Enclose and use water sprinkler to arrest dust. • Buy required material from authorized operating plants
Air and noise pollution	• Dust nuisance to children from construction works • Dust and noise generated by vehicles passing by schools • Loud noise during construction	• Where ever feasible dust generating type of work shall be done during off-school time • Construction work shall be limited to day light hours • Laborers shall use mask and safety gears • Water sprinkled on work areas • Cover material during transportation • Newly exposed surface areas shall be mulched and replanted as soon as possible in order to reduce the potential for erosion and suppress dust
Employment opportunity	Local people employed in project activities	Contractors encouraged to use local labor, wherever possible
Waste management and minimization	Impacts on land, water and visual impacts	• Recycled materials shall be used to the limits of design

Project Aspect	Potential Impact	Mitigation Measures
	showing poor house-keeping practices	• Any waste generated by the construction site shall be contained within the boundary of the site and removed at regular intervals to an appropriate waste disposal or recycling facility licensed to handle each waste type. • The worksite shall be left in a tidy and rubbish free state upon completion of the works
Occupational health and safety	• Lack of minimum required facilities of space, ventilation, sanitation, light and safe drinking water in labor camps. • Lack of safety tools • Lack of safe construction practices • Vector disease	• Provide adequate space with ventilation, clean toilets, solid waste management, light and safe drinking water in camps • Provide mosquito net at labor camps • Keep camp and work area clean and without water logging • Highest priority to safe construction practices • Provide safety gears to workers working in hazardous areas and provide training in the use of these safety gears • Keep first aid box ready at work areas and camps
a. Use of wood as construction materials b. Cooking and heating by firewood by construction labourers	Deforestation	• Minimize use of wood for construction • Use local materials as much as possible • Innovations shall be integrated in design for making schools more student and environment-friendly • Contractor shall supply kerosene or LPG at camps and restrict cooking and heating in firewood
Influx of migrant workers	• Health and safety risks • Chances of spread of sexually transmittable diseases like AIDS • Water pollution	• Local labor to be given preference for job opportunities and each contractor should be bound by this commitment • Ensure labor related regulations are met • In case of outside labor, ensure that their working conditions as well as camps meet local regulations and best practice
Operational Stage		
The project activity would be limited only to repair, restoration and retrofitting of structural and conditional distresses in the existing built forms of the schools/TTC which are existing and functional for the past 10 to 20 years. Hence, the project activity during the operation stage would only be limited to monitoring activities.		
Maintenance of the infrastructure facilities	Damages to school/ TTC property due to inadequate maintenance	• Maintenance activities to be carried out as and when required. Maintenance register to be maintained
Health and hygiene	• Un-hygienic drinking water leading to health issues • Lack of sufficient quantity of water for drinking and sanitation	• Drinking water quality to be tested at least once a year • The students to be made aware on the importance of conservation of water • The sanitary facilities to be cleaned on a regular basis

LPG = liquefied petroleum gas, TTC = teacher training center.

PROPOSED ENVIRONMENT MANAGEMENT PLAN (CONSTRUCTION)

Anticipated Project Related Environmental Impacts

Potential Environmental Impact/Issue	Proposed Mitigation Measures	Time frame	Location	Responsibility	Estimated Cost ($)
Landslide or gully erosion on slopes that may threaten school infrastructure	• Planning and designing the refurbishment/upgrading of schools keeping in mind the fragile natural environment and site specific geological conditions Avoid or maintain adequate distance from landslide or erosion prone areas • Adopt right angle of cut on slopes • Stabilize slopes by engineering and bio-engineering measures • Measures taken to avoid undercutting of hill toes that may cause slide • Do not exert excess load on slopes by disposing spoil				
Inappropriate spoil disposal during construction leading to drainage blockage causing erosion	• Minimize spoil disposal by balancing cut and fill wherever possible • Manage spoil to reclaim land with proper landscaping and vegetation • Do not dispose spoil on drainage path				
• Drainage congestion • Water logging • Vector proliferation	• Design adequate drainage passage following natural path • Natural drainage lines shall be identified and appropriate sediment controls designed and implemented prior to construction commencing. • Ancillary structures and work compounds shall be located at least 20 meters away from any built or natural drainage lines. • Fill ditches in school premises • Discharge drainage flow with proper downstream protection. • The site sediment controls shall be designed to prevent sediment from the construction zone entering and adversely affecting natural drainages or areas of native vegetation downstream from the construction zone.				
• Lack of water	• Ensure availability of adequate				

Potential Environmental Impact/Issue	Proposed Mitigation Measures	Time frame	Location	Responsibility	Estimated Cost ($)
supply • Un-hygienic drinking water provided to students • Students fall sick due to waterborne diseases	drinking water supply to the school • Regular testing of drinking water at least once a year • Adequate water for sanitation is available • Promote efficient and rational use of water				
Water pollution from construction activities	• Prohibit direct disposal of solid and liquid waste into nearby water body; • Spoil management plan to be developed and implemented by the contractor • Awareness session on handling and storage of materials and waste management to be conducted for the construction workers				
Loss of trees and vegetation	• Areas to be retained shall be protected by paraweb fencing or other suitable means to eliminate accidental damage or disturbance. • All trees and vegetation to be removed shall be marked prior to clearance, and strict control on clearing activities to ensure minimal clearance. • Vehicles and machinery shall not be parked or stored in the vicinity of trees or any areas of natural vegetation to be retained, nor in proximity to any ephemeral drainage lines. • Felled trees to be replaced by compensatory plantation at minimum 1:1 ratio • All reasonable measures shall be undertaken to ensure that no native fauna is harmed or placed at risk during the course of the clearing activities				
• Nuisance to the general public • Fugitive emissions	• The vehicles carrying the materials should be covered and secured to prevent loss or re-suspension of material during travel • Construction materials should be stored in covered areas to ensure protection from dust and				

Potential Environmental Impact/Issue	Proposed Mitigation Measures	Time frame	Location	Responsibility	Estimated Cost ($)
	emissions • Any transportation of materials on local roads shall be done during day light hours. • All vehicle movements or other construction activities shall be restricted to the delineated construction zone, the existing road network or previously disturbed areas. Construction vehicles, personnel and machinery shall not enter fenced off areas or areas beyond the delineated construction zone.				
• Dust and noise pollution	• Plan the work schedule of noise creating activities in consultation of local community; • Employ best available work practices on-site to minimize occupational noise levels;				
• Dust nuisance to children from construction works • Dust and noise generated by vehicles passing by schools • Noise during construction of schools	• Dust generating type of work is done during off-school time. • Labour use mask and safety gears. • Water sprinkled on work areas. • Cover material during transportation • Plant trees to act as dust barrier				
Occupational Health and Safety	• Implement suitable safety standards for all workers and site visitors; • Provision of first aid facility • Arrangement of safe drinking water and sanitation facilities for the labors working in the subprojects”				

ENVIRONMENTAL SCREENING FORMAT (REA CHECKLIST)

Name of the school: Village:
District: Year of Establishment:
Type of Project: Major activities under the project:

Screening Questions	Yes	No	Remarks
A. Project Site: Is the project area adjacent to or within any of the following environmentally sensitive areas?			
► Physical cultural heritage site			
► Wetland			
► Located in or near to legally protected area			
► Located in or near to special habitats for biodiversity (modified or natural habitats)			
► Unstable slope, landslide, erosion area			
► Disaster prone area (flood, cyclone, etc.)			
B. Potential Environmental Impacts Will the project cause…			
► Loss of agricultural/forest land			
► Negative effects on rare (vulnerable), threatened or endangered species of flora and/or fauna or their habitat?			
► Negative effects on designated wetlands (if any)			
► Negative effects on locally important or valued ecosystems or vegetations			
► Degradation or disturbance of historical or culturally important sites (graveyards, monuments, etc.)?			
► Destruction of trees and vegetation?			
► Insufficient drainage leading to water logging?			
► Negative effects on surface water quality, quantities or flow?			
► Significant quantity of construction waste?			
► Impact on farmland or forest due to spoil disposal?			
► Increased noise due to day-to-day construction activities			
► Increased wind-blown dust or air pollution from material (e.g. fine aggregate) storage areas?			
► Will there be any disruption of drinking or irrigation water supplies?			
► Is sufficient supply of water available to school for sanitation purposes?			
► Are there any reported events of sickness or contamination by drinking the existing water source?			
► Will there be insufficient drainage leading to water logging?			

Screening Questions	Yes	No	Remarks
► Are there any occupational and community health and safety risks?			
► Are there any climate induced (cyclone, cold wave) and disaster related risks?			
► Solid/Liquid wastes (lubricating oils, paints, plastic wastes, etc.) generated during construction and operations likely to pollute land and water resources?			
► influx of labour during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
► social conflicts between local laborers and those from outside the area?			
► Health risks to labors involved in activities?			
Potential Positive Environmental Impacts			
► Improved sanitation and personal hygiene			
► Enhanced quality of school environment			
► Safe School resilient to climate and disaster risks			
► Protection from landslide or soil erosion			
► Decrease in the number of school dropouts			
Environmental assessment category as per ADB Environment Safeguard Policy			
► What is the environment assessment category as per ADB's SPS?			Indicate if an Environmental due diligence is adequate or an IEE level assessment is required

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

Required level of Environmental Assessment (IEE or DDR)	
Reason:	
Screening done by/date:	
Environment category approved by/date:	

Recommendations (If any):

OUTLINE OF ENVIRONMENTAL DUE DILIGENCE REPORT

1. Introduction: (1 paragraph on the proposed works)
2. Existing Environmental Setting (1 page): (a table of salient feature covering local environmental setting of school/teacher training area which may include physical, vegetative, and social & cultural settings. Disaster risks and indications of potential impacts from climate change will be covered. A sketch showing environmental features of the school and its surroundings to be included)
3. Environmental Impact Assessment: Fill out rapid environmental assessment (REA) checklist (a format given in Annex 2) which would provide the justification for categorizing the project component as 'C'.
4. Conclusion: Summarize the rationale for category 'C' indicating minor or non-significant impacts.

OUTLINE OF INITIAL ENVIRONMENTAL EXAMINATION (IEE) REPORT

1. Executive Summary
2. Project Overview/Description (with salient feature)
3. Description of Existing Environment in the project Area
   - Physical environment
   - Biological environment
   - Socio-economic and cultural environment
4. Potential Environmental Impacts and Mitigation Measures
5. Analysis of Alternatives
6. Institutional Arrangements
7. Environmental Monitoring and Management Plan (EMP)
8. Public Consultation and Disclosure Mechanism
9. Grievance Redressal Mechanism
10. Conclusion and Recommendations

ENVIRONMENTAL MONITORING REPORT FORMAT

Monitoring will include:

1. Implementation status of mitigation measures as listed in the environmental management plan (EMP). Please report if the EMP measures are complied/being complied /not complied. If not complied, give reasons and recommend corrective measures with implementing agency.

2. Impact Monitoring: Report on impacts occurred due to implementation of the project and mitigation measures adopted.

ENVIRONMENTAL MONITORING FORMAT

1. Detail of Infrastructure:
2. Location:
3. Reporting Date:
4. Reported by:

SN	Activity (List of activity from EMP of IEE report)	Potential Impact	Mitigation Work (as in EMP)	Current Status (with supporting data*) and Follow-up Required	Remarks

***Note:** The monitoring format shall be attached to the monthly progress report.

* Nos. of training with nos. of participants (M/F); nos. of trees removed and replanted, etc.

PARAMETERS FOR ENVIRONMENTAL MONITORING

	Parameters	Measurement Unit	Quantity	Remarks
Water	Turbidity	NTU		
	pH	-		
	BOD	mg/l		
	Arsenic	mg/l		
	Iron	mg/l		
	Coliform(fecal)	N/100 ml		
Air	Suspended dust particle	Mg/Nm3		
	Lead	Mg/Nm3		
Noise	Impulsive or low frequency noise; timing of construction work	Decibel		
Visual Checks to monitor site house keeping				

SAMPLE MONITORING MATRIX FOR VARIOUS PHASES

S.N.	Indicators of Monitoring	Types of Monitoring/ Method of Monitoring	Monitoring Frequency	Responsibility
A.	**Pre- Construction Phase Monitoring**			
1.	Printing, publication & distribution of EARF to all stakeholders (PSC,PMU, DOE, DPCU, SMC)	Direct Observation	Once	DOE
2.	Incorporation of EARF in project activities	Review of documents	Once	DOE
3.	Disaster prone area (landslide, flood, etc.) and climate risk (cyclone) screening done	Review of documents	Once	PMC/PWD Engineers
4.	Incorporation of EMP in design and tender document	Direct Observation	Once	DOE/PMC
B.	**Construction Phase Monitoring**			
1.	Drinking Water Quality	Sampling, lab testing & comparison with generic standard	Annual	PMC/SMC
2.	Transportation of construction material in covered condition, and safe loading and unloading of construction materials	Direct observation	Regular during construction	Contractor
3.	Stockpiling of excavated materials	Direct observation	Everyday	SMC/Contractor
4.	Reuse of excavated materials	Direct observation	Everyday	SMC/Contractor
5.	Solid waste segregation & disposal	Direct observation	Everyday	SMC/Contractor
6.	Clearing of vegetation/trees	Direct observation	Regular during construction	Contractor
7.	Occupational health and safety, use of safety gears	Direct observation	Once a month	Contractor
8.	Safety to students	Record of injury	Once a week	SMC
9.	Water logging and vector proliferation	Direct observation	Once a week	Contractor
C.	**Operation Phase Monitoring**			
1.	Preparation of monitoring reports	Preparation of monitoring reports	Monthly	PMC
2.	Drinking water quality	Samples taken from different points, source, delivery points Laboratory testing	Annual	PMC
3.	Solid waste management system	Records of waste collected and managed	Bi-annual	PMC/SMC
4.	Number of orientation and training	Number of orientation and trainings conducted	Regular	SMC/DOE
5.	Impact Audit	Compliance with EMF	Annual	DOE/PMC

DOE = Department of Education, DPCU = district project coordination unit, EARF = environmental assessment and review framework, EMF = environmental management framework, EMP = environmental management plan, PMC = project management consultant, PMU = project management unit, PSC = project steering committee, PWD = Public Works Department, SMC = school management committee.