

# **Environmental Monitoring Report**

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Project No. 44213-016, 44213-017  
Reporting Period (January-June 2021)  
July 2021

**Bangladesh: Secondary Education Sector Investment Program -  
Tranches 1 and 2**

Prepared by Directorate of Secondary and Higher Education, Ministry of Education for the  
Government of Bangladesh and the Asian Development Bank

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# SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT



## **Semi-Annual EMB No. 10** **Secondary Education Sector Investment Program**

25 JULY, 2021



Prepared by Directorate of Secondary and Higher Education, Ministry of  
Education, Government of Bangladesh



## ABBREVIATIONS

ACI	American Concrete Institute
ADB	Asian Development Bank
ASTM	American Society for Testing and Materials
BEDU	Bangladesh Education Development Unit
BNBC	Bangladesh National Building Code
CHT	Chittagong Hill Tracts
DDR	Due Diligence Report
DEO	District Education Office
DFID	Department of International Development of the United Kingdom
DLI	Disbursement-Linked Indicators
DOE	Department of Environment
DPP	Development Project Performa
DSHE	Directorate of Secondary and Higher Education
EAR	Environmental Assessment Report
EARF	Environmental Review and Assessment Framework
ECC	Environment Clearance Certificate
ECR	Environmental Conservation Rules
EDDE	Engineering Drawing and Design Expert
EED	Education Engineering Department
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EICPG	Education Institution Construction Policy Guideline
EMIS	Education Management Information System
EMP	Environmental Management Plan
EMR	Environmental Monitoring Report
ESE	Environmental Safeguard Expert
FAM	Finance and Administrative Manual
GOB	Government of Bangladesh
ICT	Information And Communication Technology
IEE	Initial Environmental Examination
IFDP	Infrastructure and Facilities Development Plan
MoE	Ministry of Education
MPO	Monthly Payment Order
NAEM	National Institute of Education Management
NGO	Non-Government Organization
O&M	Operation and Maintenance

OHSP	Occupation Health and Safety Plan
PIU	Project Implementation Unit
PMU	Project Management Unit
POE	Post Occupancy Evaluation
PPE	Post Project Evaluation
PPME	Project Performance Monitoring and Evaluation
PPP	Public Private Partnership
REA	Rapid Environmental Assessment
RoW	Right of Way
SESIP	Secondary Education Sector Investment Program
SIEE	Summary Initial Environmental Examination
SMC	School Management Committee
SPS	Safeguard Policy Statement
SPSU	Sector Program Support Unit
SSQS	Secondary School Quality Standards
SWAp	Sector-Wide Approach
TOR	Terms of Reference
TSEO	Thana Secondary Education Office

## Executive Summary

1. Under tranche 2, SESIP will begin a phased approach to building pre-vocational and vocational capacity in general education schools by selecting 10 schools from each district (640 schools), and provide the necessary infrastructure, equipment, training, and teaching staff to run the program. 640 schools selected based on the criteria given in the PVIP
2. SESIP has key result areas in: (i) enhanced quality and relevance of secondary education, (ii) more equitable access and better retention, (iii) building pre-vocational and vocational capacity in general education schools and (iv) strengthened secondary education management and governance. In the second part (access and better retention) the strengthening activities supporting a continuation of civil works and the structural reforms of an integrated and unified secondary education system will be taken up (FAM 2013)
3. School buildings planned for air quality, lighting, temperature and acoustics through green improvements, can help students achieve their full potential. When the school environment is unhealthy, children can be exposed to allergens, pollutants, chemicals, and classroom conditions (e.g., poor ventilation, lighting, acoustics, and temperature control) that might cause their health, attendance, and academic performance to suffer.
4. While the focus of SESIP is mostly on institutional aspects in the secondary education sector, civil works (building of structures and associated components) are nearing completion by December 2021. The program has supported upgrading of the physical facilities and equipment to the government secondary, upazila (thana) education offices, district education offices. Support is included in renovation of classrooms, libraries, laboratories for science and vocational courses (including supplying of instruments and equipment) for the selected schools/ madrasahs, storage, and provision of furniture and teaching aids, where necessary.
5. The Environmental Assessment and Review Framework (EARF) 2013 used as a practical tool during planning, design and construction. The main provisions for environmental protection and pollution control in Bangladesh are contained in the Environmental Conservation Act, 1995 and Environmental Conservation Rules (ECR)
6. Construction of multi-storied buildings is considered as 'Orange B' category in ECR, 1997 (ECC may not be necessary for the building upto 6 story). Environmental screening using Rapid Environmental Assessment (REA) checklist prepared to ascertain environmental category of each school and office infrastructure and other civil works. The major tasks for the Construction Management and Environmental Monitoring in construction stage include:
  - Field monitoring on contractor's Construction Management and environmental mitigation measure performance
  - Guidance to Contractor's personnel on Construction Management and Environmental Monitoring aspect, in the field practice;
  - Recommend to Education Engineering Department (EED) improve Construction Management and to implement all EMP as stated in EARF/ IEE report and other environmental safeguards in construction contract documents; and
  - Instruct Education Engineering Department (EED) to take an action to mitigate environmental setbacks and rectify in construction management.
  - The related Initial Environmental Examination (IEE) report have been prepared in accordance with ADB

- SPS 2009 requirements of ADB for environment category B projects and provides mitigation and monitoring measures to ensure no significant impacts as a result of the subproject
7. During public consultation, recommendations were drawn including: a) involvement of local communities in all stages of project planning and development, b) established permanent communication between DSHE and local authorities, c) operation of the established grievance redress mechanisms, which have been effectively publicized through the respective School Management committee and monitoring register and d) during construction, priority has been accorded for the employment of local people, including women for skilled and unskilled labour, as appropriate.
  8. Monitoring Requirements Specific IEE (SIEE) requires the Project semi-annual EMR are prepared in order to evaluate and assess overall project activities to ensure the implementation of the EMP be through effective Construction and Environmental Management. Implementation of the EMP is normally: (i) a condition of project approval (design construction and operation) issued by the approving authority; (ii) a condition incorporated into the bidding documents, project construction contracts, and operation and maintenance contracts; and (iii) a covenant in the ADB loan agreement.
  9. Major recommendation and compliances during the report period are:

Issues/Work Activity		Recommendations	Compliances
1	Environmental and Social Unit under Chief Engineer, Education Engineering Department	Environmental Unit should be established in EED under the supervision of Superintending Engineer. This was recommended in the EARF 2013.	Proposal for setting up of Environmental Unit in, EED to be approved by the Ministry of Education.
2	The building blocks and extension of classrooms are not well planned. Most schools does not have site plans and mapping as required in screening of REA.	Location and orientation of the building blocks and extension are to be planned. Most school are lacking required space for extension. Preservation of School environment should get priority in construction it involves better ventilation, seating comfort, hygienic sanitation and ensure separate toilets for boys and girls. Sufficient space for extracurricular activity.	EMIS should be enriched with physical and infrastructural information that help in planning and orientation of building in the school. Digital survey and mapping should be available in EMIS. The funding for the school should be available when proper master planning of the school is available.
3	Environmental information in REA as per the EARF and PIA (Project Area of Influence) needed for all the funded schools.	School needs digital survey and mapping to determine project influence area of surrounding within 0.5 km. It will help in design and proper oriented of the school building.	School has been encouraged to prepare one master plan so that it became easy to fit in proper infrastructural development. DSHE Funding should be available for digital survey.
4	Innovative design of the building for rainwater harvesting	The rainwater harvesting recommended in some critical area lacking in drinking water.	The schools are discouraged to have rainwater harvesting even in coastal and hilly area as it is not cost effective as responded by EED.
5.	Schools in remote area needs renewable energy where grid supply not	Solar (energy) panel on the roof top to maximize use of sunlight for renewable energy.	More school need to be installed with solar panel for renewable energy. This should be included

Issues/Work Activity		Recommendations	Compliances
	available and also to supplement electric cost for the school building	This will implement the government 'vision of electricity for all by 2021'	in the civil work packages as environment mitigation cost.
6	Semi-Annual EMRs were delayed prior to December 2016	Semi-annual Environmental Monitoring Report (EMR) to be submitted on regular basis.	Submission of Semi-Annual Environmental Monitoring Report are being submitted on regular basis since December 2016. Next one is due in December 2021
7	Harmonized architectural design and exterior beautification, orientation needed for the class room for better ventilation and lighting.	Strengthening Process in Planning, Design & Drawing of Infrastructure has been prepared.	EED should follow guidelines: Strengthening Process in Planning, Design & Drawing of Infrastructure: Secondary and Higher Secondary School
8	Need training to the focal persons and supervising staff (sub-assistant engineer) EED and Contractors.	SESIP organized and conducted the training. However recently EED has recruited several hundred supervising engineer who need Environment Monitoring Reporting training	Total number trained under the project is more than 800 since the start of the project. The new recruit should be trained in Environment and construction management by EED.
9	Due to COVID-19 Tech platform for remote inspection and training can be used	Tech platform for virtual meeting, training and remote inspection are available and ADB should be consulted to use such plat fom.	Full collaboration is needed between Bangladesh Govt. and ADB collaboration. Funding should be available technology to organize training and remote inspection and nobody leftout.
10	EMIS and SSQS Upgrading	The EMIS and SSQS database to be upgraded to collect information on school development and operation in a sound environment,	Land ownership data base with digital mapping needed under separate module. Interaction with EMIS for water quality Testing, cleaning of wash blocks, etc. should be funded by DSHE.
11	Regular testing of tubewell water annually	MOU between DSHE and DPHE for regular testing of tubewell water annually for approximately 20, 000 schools	DSHE will allocate sufficient fund for testing through DPHE labs.
12	Regular cleaning of school classroom, premises, washroom. Ensure hygienic menstruation facility and its cleaning regularly	The schools need to have fund and allocation of the above cleaning process	DSHE will allocate sufficient fund to the respective school to undertake cleaning activity.

10. This report is being drawn on the status of implementation of EMP of the sub-projects and recorded based on the reporting of focal person/ supervising engineers Formats for supervising engineer, SMC and contractor were supplied for monitoring of EMP implementation.
11. No field visit could be made due to pandemic of COVID-19. The most information has obtained through the focal persons (sub-assistant engineer) as documented in the progress in civil works. This report is the Tenth in series Semi-annual Environmental Safeguard Monitoring Report, which covers the period from January 1, 2021 to June



- 30, 2021, in compliance with the environmental scope of the construction supervision by the supervising engineers. They are trained in reporting on environment during last project period.
12. The main purpose of this construction and environmental monitoring is to ensure the implementation of environmental mitigation measures during the construction phase. During the period District Education Office, Bandarban was visited on March 2, 2021 to ascertain the implementation of corrective action plan (CAP) by protective works for the building. ESE could not visit work site due to the COVID-19 pandemic restriction in movement. However supervising engineers as focal person are taking care of implementation of EMP. Construction work was being restarted fully at the beginning of the 2021 as was suspended by the contractors previously. Special health and safety plan following ADB guidelines has prepared for the ongoing and future civil construction contractor.
  13. The recent outbreak of corona virus disease (COVID-19) has been declared a Public Health Emergency of International Concern (PHEIC) and the virus has now spread all over the world. Identifying and Managing Construction Risks during the *Corona virus* Pandemic: COVID-19 pandemic has created a whole new set of risks that would have been unimaginable before. Government (EED) and contractors alike identified and manage these risks while navigating the patchwork of constantly changing and often inconsistent government orders, which limit or even halt construction projects in planning and constructing a project.

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## 1. Introduction

### A. Project Background

The Secondary Education Sector Investment Program (SESIP) was approved by Asian Development Bank's Board on 27 September 2013, and the Periodic Financing Request 1 (Tranche 1 and Tranche 2) for \$90 million (2013–2017) was approved by the ADB President on 21 October 2013. SESIP supports secondary education in Bangladesh over 10 years, using a multi tranche financing facility (2013–2022). SESIP will support the implementation of key reforms envisaged in the National Education Policy, 2010 in a phased manner. The program supports for upgrading the physical facilities and equipment of government secondary, upazila education offices, including school infrastructure development – construction and renovation of school buildings, including science labs, and Madrasah Teaching Training Institute and upgrading Directorate of Secondary and Higher Education (DSHE) building. Support will include renovation of classrooms, libraries, laboratories, storage, and provision of furniture and teaching aids, where necessary.

### B. Project Objectives:

#### a. Project Key Result Areas

SESIP has three key result areas: (i) enhanced quality and relevance of secondary education, (ii) more equitable access and better retention, (iii) introduction of vocational courses in regular schools and (iv) strengthened secondary education management and governance. In the second part (access and better retention) the strengthening activities supporting a continuation of civil works and the structural reforms of an integrated and unified secondary education system will be taken up (FAM 2013).

## 2. Project Activities

Engineering Procurement and Construction for school improvement are:

- Construction of additional classrooms
- Refurbishment of classrooms Horizontal and Vertical,
- Construction and refurbishment of laboratories for science and vocational courses
- Supplying of scientific instruments for laboratory
- Supplying of equipment for Vocational Trades
- Supplying of classroom and laboratory furniture for Trade Courses
- Construction / extension of District and Thana Education Offices

### A. Physical Infrastructure Development

Based on needs assessment and agreed criteria, the program supporting construction and refurbishment of school buildings; repair and maintenance of existing schools. Facilities will support enhanced use of information and communication technology for pedagogy and include construction/renovation for ICT Learning Centers ILC (formerly School Information Hubs), construction and extension of District and upazila and District Education Offices, and provision of safe drinking water, sanitation, and drainage facilities. Construction and extension of school buildings are the major civil works of the program planned to be built on already existing and acquired areas and there is no question of land acquisition. The selected school are not in ecologically sensitive areas or any of natural protected/reserve area. More than 95% civil construction is complete.

**a. District Education Office at Bandarban**

Corrective Action Plan (CAP) is under implementation /progress for the protection of District Education Office at Bandarban. The major works of the building is 95% complete. Proper design for the slope protection has been done by qualified engineer to make sure that the building is not affected due to any slope failure either from earthquake or rain cut. The IEE for Bandarban (2015) has been revised and updated.

**b. Rapid Environmental Assessment**

An environmental assessment using ADB's Rapid Environmental Assessment (REA) checklist for school development was conducted and the results of the assessment demonstrated that the subprojects are unlikely to cause significant adverse impacts on the environment. The proposed infrastructure development program sub-projects are classified as Environmental Category B as per the ADB SPS 2009 as no significant impacts are envisioned. However, for building of 6 story and less does not require any ECC from DOE

**c. Environmental Implications**

The environmental implications of the proposed civil works are expected to be minimal, and manageable, with the following characteristics:

- Extended buildings (vertical, for the most part); therefore within existing building footprints; mostly innocuous in terms of environment; perhaps just increases in service demand (water, electricity, waste production); options for solar power (positive); rain water harvesting.
- Construction processes will need mitigation measures and "best practices" (reduce noise, emissions, waste, excessive water consumption, local disruptions, etc.).
- Main environmental sensitivities relate to locations in coastal areas (cyclone and flood risk), forested areas, and sloped areas (CHT). Potential issues related to drinking water quality in some locations (salinity, arsenic, etc.).
- Providing adequate levels of water supply, sanitation and hygiene in schools is of direct relevance to the United Nations (UN) Millennium Development Goals of achieving universal secondary education, promoting gender equality. Most of the potential environmental issues associated with SESIP civil works will pertain to construction practices. As noted in the EMP contract guidance document, the mitigation measures for construction practices will have to be monitored and reported on semi-annual basis..

**d. Requirements for Master Planning: Digital Survey**

Digital survey was being carried out at DEO site, Bandarban which give detail view of the site condition. However digital survey is not planned in any other subproject. It is recommended the necessity of digital survey and creating data base at least where horizontal extension is necessary. It is strongly recommended so that DSHE can take up the work and enrich EMIS.

The following figures are the example of digital survey was done at DEO Bandarban.

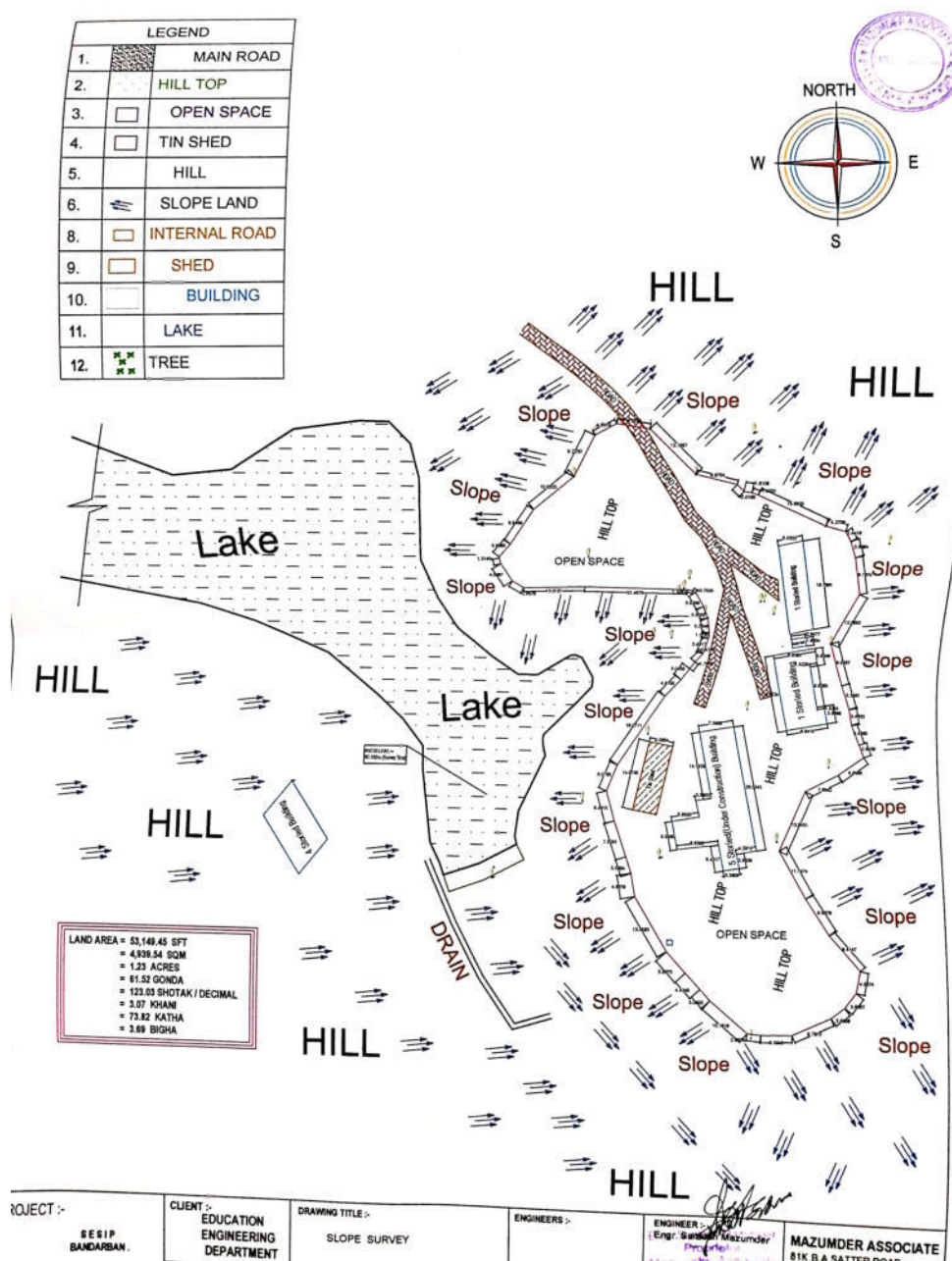


Figure 1: Site Plan of DEO Bandorbon



These maps are and can be expanded for looking into detail of the site plan and undertake proper planning and design. Moreover, the map data can easily be stored in the EMIS with proper module developed for the purpose.



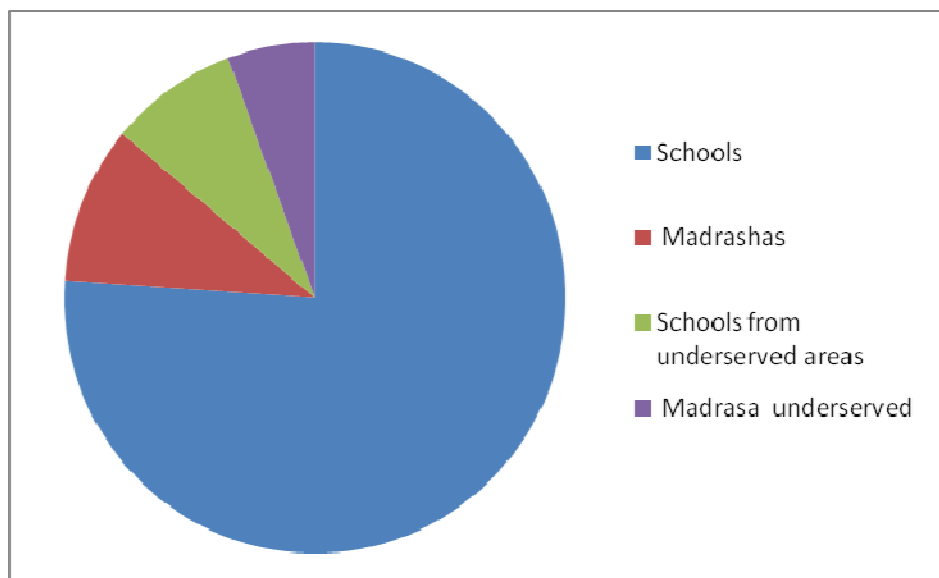


Figure 3: Selection of PVIP from among different educational institutes.

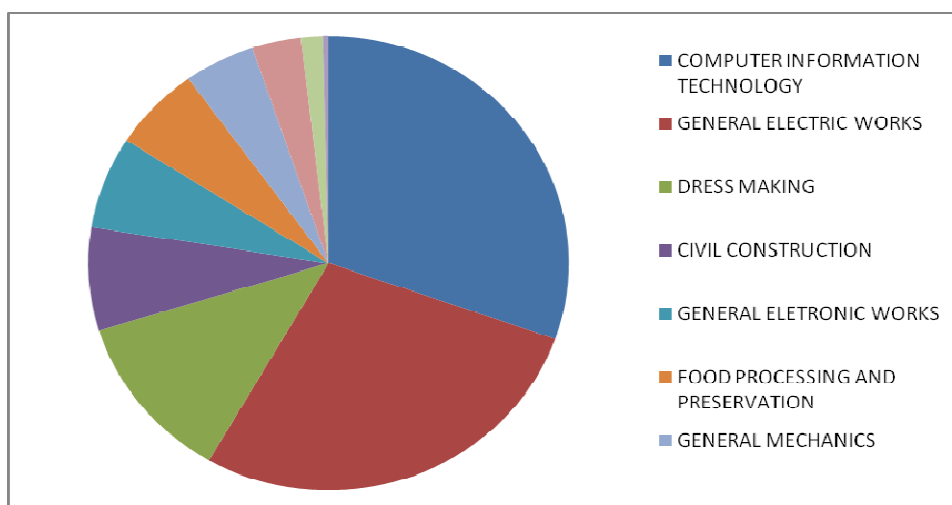


Figure 4: Distribution of Trades Choice by No of Schools

**a. District and Thana Education Offices**

Construction of the new Bandarban District Education Office and Vertical/ Horizontal extensions and outfitting for training venues in existing 46 District Education Offices (DEOs); and, 5 Thana Education Offices in Metropolitan cities.

**b. Choice of Trades**

The data shows that choice of trades is greatly inclined towards ICT (395) and General Electric works (363) which constitute more than 50% of the schools. The lowest choice has been shown in Welding and fabrication. This choice variation may have reasons that sufficient counseling among the teachers and students have not been undertaken before

offering the trades. It looks that teachers, students and guardians are more acquainted with these two trades comparison to others.

**Table 1 Physical progress according to the trades at PVIP**

S.L.	Trade names should be full	Progress Physical					
	Trade	0%	1%-25%	26%-50%	51%-75%	76%-99%	100%
1	CIT	0	7	1	6	83	298
2	GEW	4	1	0	10	80	268
3	Dress Making	2	1	1	4	51	76
4	Civil Construction	0	0	0	2	20	73
5	GEN	2	0	0	1	23	59
6	FPP	1	0	0	1	17	59
7	PPF	1	0	0	1	4	13
8	GM	3	0	0	0	15	44
9	RA	1	0	0	1	14	27
10	WF	1	0	0	0	1	3
		22	2	2	26	308	920

**Table 2: Selected Trades under PVIP**

Sl.	Sector	Priority Trade
01.	Agriculture and Food Production	Food Processing and Preservation
02.	Civil Construction	Civil Construction
03.		Plumbing and Pipe Fitting
04.	Electrical	General Electrical Works
05.	Electronics	General Electronic Works
06.	Garment	Dress Making
07.	ICT	Computer and Information Technology
08.	Mechanical	General Mechanics
09.		Welding and Fabrication
10.	Mechanical Power	Refrigeration and Air Conditioning

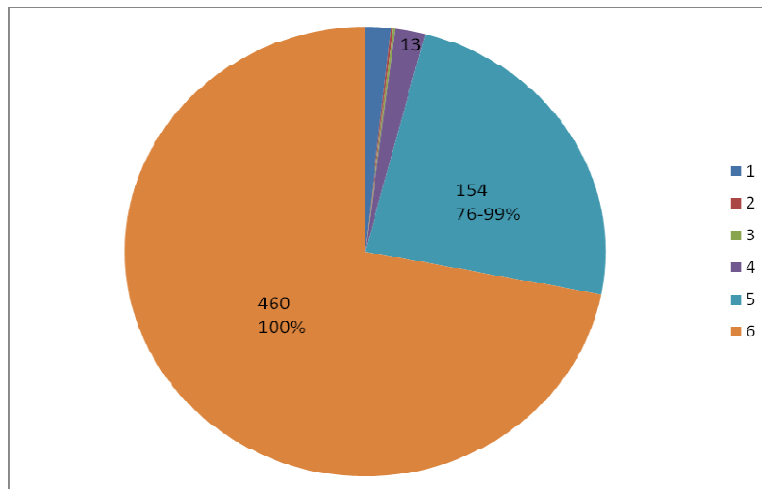


Figure 5: Progress of civil works PVIP

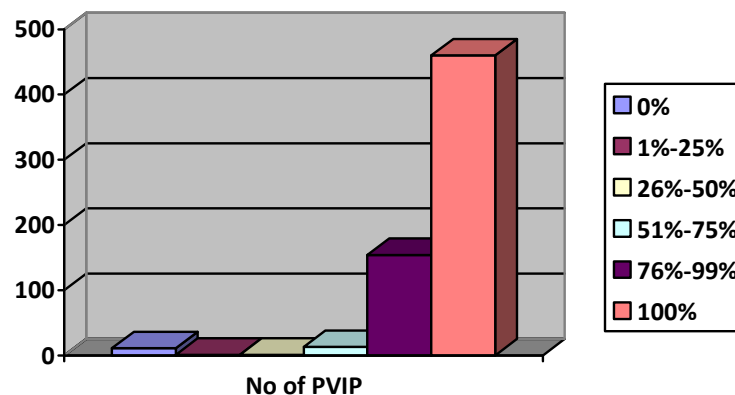
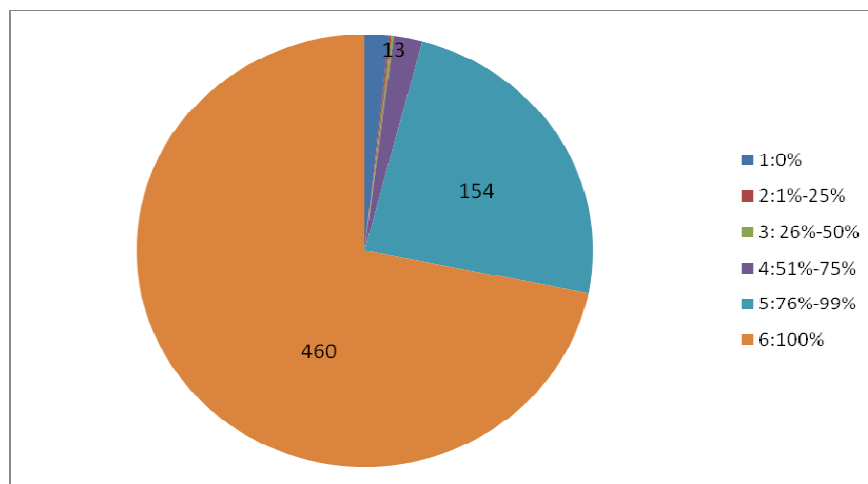


Figure 6: Bar chart for civil construction of PVIP

The chart shows the civil construction for PVIP progress for 640 schools, of which 100% works completed in 460, 76%-99% works completed in 154, 51%-75% works completed in

13, 26%-50% works completed in 1, 1%-25% works completed in 1 and there is no progress in 11 PVIP.

The progress of each of the selected schools for PVIP has been shown in the Annexure-1

### Status of Civil Works under SESIP as of May, 2021

**Table 3: Table Status of Civil Works under SESIP as on in May 2021**

SI	Activities	Progress Status	Comments
Tranche-2			
1	Horizontal Extn. of 60 DEOs	46 DEOs -100% 2 DEOs - 85%	The works for 14 DEOs can't be initiated under this program as works for few DEOS completed by the own revenue fund of EED and few were not feasible for vertical extension.
2	Construction of DEO Bandarban	So far 85% works completed	Inclusive of CAP and rest will be completed by July 21
3.	Refurbishment of NAEM Classroom	Works completed 100 %	Completed and handed over to NAEM authority
4	Vertical extension of NAEM Hostel	Works completed by 100 %	Completed and handed over to NAEM authority
5	Construction of Classroom for PVIP in 640 Schools	Tender completed for 640 out of 640 schools. Progress of Works for PVIP schools as follows: ➤ 100% in 460 schools; ➤ 76-99% in 154 schools; ➤ 51-75% in 13 schools; ➤ 26-50% in 01 schools; ➤ 1-25% in 01 schools; ➤ 0% in 11 schools;	
6	Construction of 25 TSEOs	Out of 5 TSEOs work completed for 3, work in progress for 1 and there is site problem for 1 (Muslim High School, Dhaka).	The construction work of rest of the 20 TSEOs may have to be dropped.
7	Installation of 2 Lifts at NAEM Hostel	Work order issued.	Installation of 2 Lifts at NAEM, progressing

### 3. Scope of Monitoring Report

Environmental Management Plan, for the monitored Contract Packages to date, the associated key observations for the development components are given as follows:

- Correct maintained records regarding EMR;
- Effective implementation and monitoring of the respective contracted EMP's with the completion of the remaining semi-annual EMR's for the subsequent stages of the subproject implementation program;
- All construction vehicles carrying sand & cement are to be appropriately covered;
- During the dry period of construction, water sprinkling by use of water tanker is to be complied;

- Monthly maintenance of noise producing equipment to be conducted and duly reported; Public safety, barricade, caution board, safety tape etc. to be provided at all active working sites, which requires constant attention;
- Water Sample Testing to be conducted in accordance with the contractual EMP provisions;
- Appointment of qualified supervisor to ensure EMP implementation;
- Environmental related training for EED Engineers, DEO, contractors and SMC as planned
- Monitoring of special health and safety plan (for COVID-19 pandemic) proposed by the contractor as per guidelines of ADB.

#### **A. Infrastructure Development Plan**

640 schools/ madrasahs selected for extra classrooms for pre-vocational and vocational courses; Vertical extensions and outfitting for training venues in 60 District Education Offices (DEOs); Refurbishment of 100 priority schools/madrasahs; Construction of the Bandarban DEO. Metropolitan Thana Education Offices inclusive of CAP , Additional schools under ICT

#### **B. Monitoring Requirements**

Project Semi-Annual EMR prepared by the borrower in order to evaluate and assess overall project activities to ensure the effective implementation of the EMP. Implementation of the EMP is normally: (i) a condition of project approval issued by the approving authority; (ii) a condition incorporated into the bidding documents, project construction contracts, and operation and maintenance contracts; and (iii) a covenant in the ADB loan agreement.

##### **a. Environmental Safeguards Monitoring**

- determining adequacy of cost for EMP implementation;
- addressing any concern related to IEEs and EMPs;
- Implementation of EMP including environmental monitoring of contractors; corrective actions when necessary to ensure no environmental impacts;
- Establishing the grievance mechanism for safeguards and addressing any grievances brought about through the GRM in a timely manner as per IEEs;
- Submit semi-annually environmental safeguards monitoring report to SPSU;
- training the SPSU safeguards officer and the EED on environmental awareness and management in accordance with both ADB and government requirements and implement the capacity building program for SPSU/ EED and all staff involved in project
- Provide induction course to the training of contractors environmental officer for EMP implementation

##### **b. Environmental Compliances in Civil Contract**

The following documents, relating to the identified environmental safeguards, form part of the Contract Package and are part of the monitoring requirements in ascertaining the degree of compliance:

- Initial Environmental Examination (IEE) attached;
- Environmental Management Plan (EMP) attached;
- Site specific EMP costing for each of the sub-projects and
- Quality Control / Quality Assurance (QA/QC) Plan (Checklist)

In addition to the foregoing, the Contractor is to provide the Supervising Engineer with a written notice of any unanticipated environmental risks or impacts that arise during

construction, implementation or operation of the Plant or Works, which were not considered in the IEE's and the EMP's.

**c. Implementation of EMP for Civil Construction:**

Additional class rooms for the selected schools has been divided into single school package identifying each as sub-project. The screening has been initiated by Supervising Engineer of EED for each of the 'sub-project'. This will not only identify environment category but was basis for the design of the infrastructure. The screening will have REA as per the EARF and PIA (Project Area of Influence) mapping is done. .

Regarding small-scale infrastructure development the basic principles of EARF was followed such as: i) harmonizing design of infrastructure with local surroundings, ii) preserving the natural ecosystems around school building (no hill-cutting, no invasive species plantation) and using locally available construction materials during construction of school in CHTs, iii) climate-proofing design in vulnerable coastal areas, iv) preference of students and teachers in designing infrastructure, v) strict adherence to environmental codes of practice during construction activities. However the Education Engineering Department (EED) are inclined to the use of some typical drawing to work out on the subproject.

Regarding water supply and sanitation provisions are made for i) separate toilets for boys and girls (ii) menstruation hygiene friendly toilets (iii) regular testing of water sources for contaminants, iv) adequate sanitation facilities and establishment of a mechanism for maintenance and v) alternate sources for safe drinking water where tube wells are not feasible (due to water quality or quantity issues). An operational manual is developed to explain the general process of infrastructure planning, implementation, quality control and monitoring.

**d. Tasks of Field Monitoring under Sub-Project**

The major tasks for the environmental monitoring in construction stage include: EED is requested to prepare screening for each 'sub-project' for categorization (in REA). This was basis for the design of the infrastructure. Implementation of EMP will undertake the following activities:

- Field monitoring on contractor's environmental mitigation measure performance
- Guidance to Contractor's personnel on environmental monitoring aspect, in the field practice;
- Recommend to Education Engineering Department (EED) to implement all EMP as stated in EARF/ IEE report and other environmental safeguards in construction contract documents; and
- Instruct Education Engineering Department (EED) to take an action to mitigate or rectify on other issues that find out.
- Implementation of special health and safety plan against COVID-19 as proposed by the contractor and include in the BOQ as per guidelines of ADB

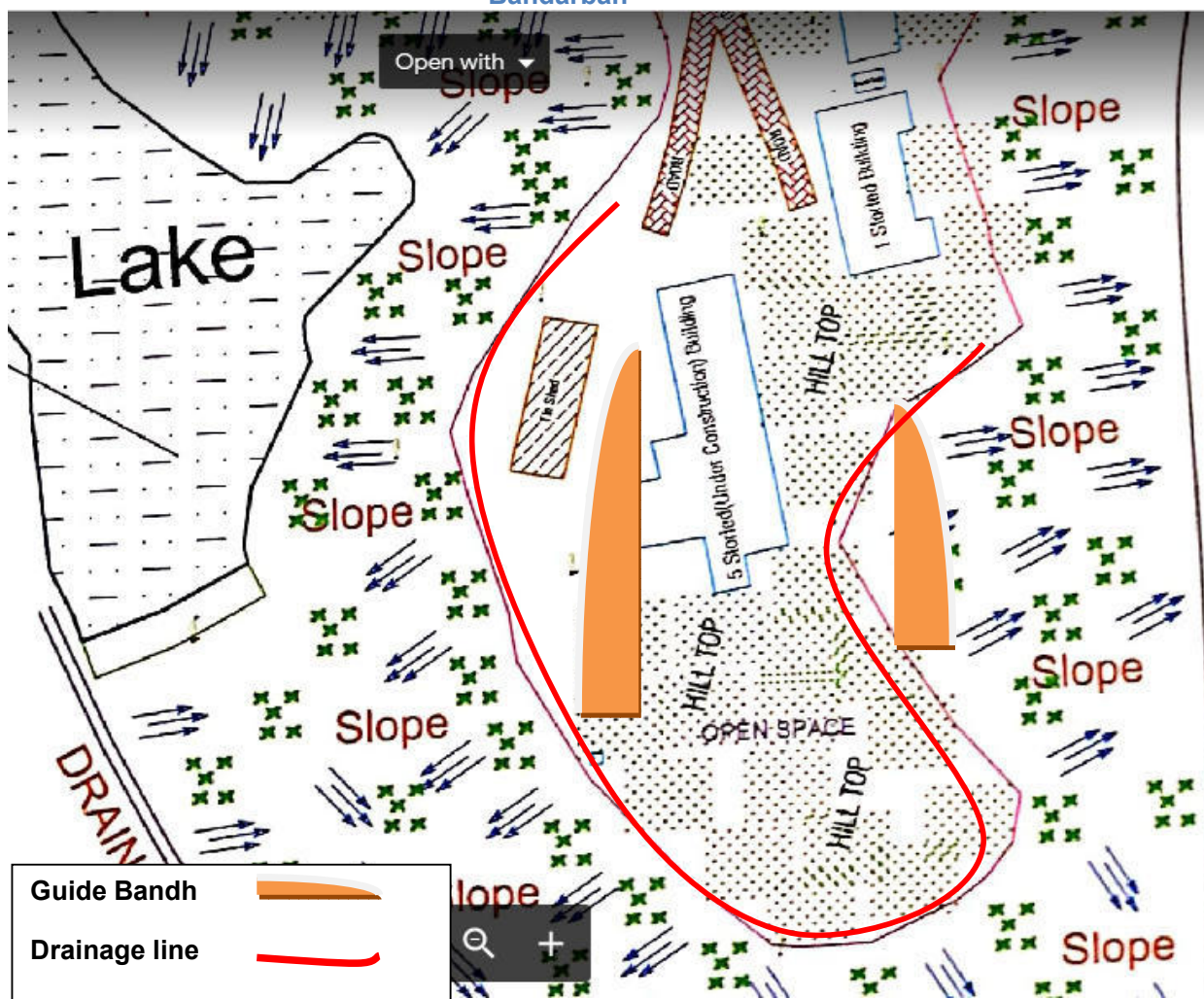
**4. Corrective Action Plan Status of District Education Office at Bandarban**

The most critical and challenging was construction of building in hilly region. The hill district Bandarban have one new construction of 5-story District Education Office building. The hill area has special problem / constraint of slope failure and land sliding during heavy rainfall and earthquake. However, the area were surveyed and design has been modified to save



the building from any threat from the landslide and protect the building from any slope failure. Engineering drawing and design expert while visiting the site has discussed with the supervising engineers and reported to SESIP. Now the proper design for the slope protection has been made. Slope protection work has started and expected to complete by July 2021.

**Figure 7: Corrective Action Plan slope protection and peripheral drainage for DEO at Bandarban**



#### **a. Environmental Safeguard Measures**

This report has been prepared based on observations made on available data, field inspections by the supervising engineers of EED, random performance checks, reviewing records and document, and consultation with relevant stakeholders such as affected persons, beneficiaries, School Management Committee (SMC), local Education administration etc. As a part of the project management support, EED under Ministry of Education (MOE) provides inputs on intermittent basis to monitor compliances with environmental safeguards to ensure that the project is implemented with due concern for environmental safeguards according to the ADB's Safeguard Policy Statement 2009, specifically to ensure that these issues are adequately addressed to the requirements of

ADB. However present COVID-19 pandemic situation in inspection at the construction site are partially hampered even by the supervising engineers in charge of construction on the other hand the contractors were stopping the civil construction work as workers are not available due to same reasons and restriction of movement. Contractors has to reschedule the works and make necessary arrangement for special health and safety plan as per the guidelines of ADB.

#### ***b. MOU with DPHE for Sampling and Testing of drinking Water***

Water Sample from school sub-project tube well for testing for contaminants is important monitoring requirement. The cost of testing of tube well water during construction can be the responsibility of contractor. These are for the new tube wells to be installed under the guidance of Environmental focal person. This cost has been included in the work package. Contractor will ensure the water is safe through testing in standard procedure. However, large number of school outside SESIP funding are being left out for water quality testing. As such, it is recommended that SMC should continue the testing of drinking water at least once in a year in coordination with agency like Directorate of Public Health (DPHE). DSHE should initiate one MOU with DPHE for such testing annually on regular basis for all the tube well water used for drinking by the children irrespective of SESIP funded schools.

### **5. Challenges in COVID-19 for the schools and children**

The protection of children and educational facilities is particularly important. Maintaining safe school operations or reopening schools after a closure requires many considerations but, if done well, can promote public health as such checklist has been prepared and annexed following guidelines of ADB. This has given into two parts one for the school hygiene and another is for construction supervision.

#### ***How can the spread of COVID-19 be slowed down or prevented?***

As with other respiratory infections like the flu or the common cold, public health measures are critical to slow the spread of illnesses. Public health measures are everyday preventive actions that include:

- ✓ staying home when sick;
- ✓ covering mouth and nose with flexed elbow or tissue when coughing or sneezing. Dispose of used tissue immediately;
- ✓ washing hands often with soap and water; and
- ✓ cleaning frequently touched surfaces and objects.

As we learn more about COVID-19 public health officials may recommend additional actions.

#### **Specific Health and Safety Plans relating to COVID -19 Pandemic at School:**

- Increased monitoring of the students, teachers and other employees (i. e. temperature checks, logs of tasks performed and/or deliveries, etc.);
- Requiring a dedicated safety employee whose task is to document health and safety issues and monitor revised government guidelines;
- Posting of notices relating to safety in school, as well as updated safety procedures relating to limiting the spread of the virus;
- Integration of various safety plans of the school for conformance;



- Actions to be taken in response to a potential outbreak (i. e. who should be notified, review of task logs for employee interaction with the sick individual, suspension of school in impacted area(s) and subsequent disinfection procedures to be taken).

**Table 4: Monitoring Plan for school for special H&S as per guide of ADB on COVID-19**

Item of works/ Responsibility	Yes	No	Remarks
Student/ teachers/ Employee temperature tests			
Deep cleans,			
The disinfection of labs, library, cafeteria,			
Disinfection of lab equipment, and machinery.			
Protocols to for health and social distancing messages			
Purchase of mask and gloves,			
Highly-stocked hand washing stations.			
Response Plan to a potential outbreak			

## 6. ADDITIONAL MEASURES FOR COVID-19, Version: 3.0, Date: 29.8.2020: Waste Management

### Waste Management

Waste management should be conducted in coordination with the infection control team. There should be a person or persons responsible for the organization and management of waste collection, handling, storage and disposal. Waste management practices recommended as a general guide are:

- Keep waste in biohazard bag/waste bag in wastes bins
- Close/secure waste bag when two third to be filled up
- Record of generated wastes in designated temporary storage areas before disposal
- Treat the wastes by chemical decontamination (0.5% sodium hypochlorite) or autoclave;
- Wash used linen (apron, hospital gown, sheets and cotton blankets) in hot water (70°C to 80°C) with detergent and after that can soak in 0.1%NaOCL for 30 min then wash with water
- Manage wastes by incineration (ideal), if not available, do burning
  - Burning waste in burial pits (>8 feet deep) in premises, behind the hospital building

Ref: NATIONAL GUIDELINE ON INFECTION PREVENTION AND CONTROL IN HEALTHCARE SETTINGS WITH ADDITIONAL MEASURES FOR COVID-19, Version: 3.0,Date: 29.8.2020

**A. CHECKLIST FOR SCHOOL ADMINISTRATORS, TEACHERS AND STAFF**

1. Promote and demonstrate regular hand washing and positive hygiene behaviors and monitor their uptake. Ensure adequate, clean and separate toilets for girls and boys
  - Ensure soap and safe water is available at age-appropriate hand washing stations
  - Encourage frequent and thorough washing (at least 20 seconds)
  - Place hand sanitizers in toilets, classrooms, halls, and near exits where possible
  - Ensure adequate, clean and separate toilets or latrines for girls and boys
2. Clean and disinfect school buildings, classrooms and especially water and sanitation facilities at least once a day, particularly surfaces that are touched by many people (railings, lunch tables, sports equipment, door and window handles, toys, teaching and learning aids etc.)  
 Use sodium hypochlorite at 0.5% (equivalent 5000ppm) for disinfecting surfaces and 70% ethyl alcohol for disinfection of small items, and ensure appropriate equipment for cleaning staff
3. Increase airflow and ventilation where climate allows (open windows, use air conditioning where available, etc.)
4. Post signs encouraging good hand and respiratory hygiene practices
5. Ensure trash is removed daily and disposed of safely

**B. CHECKLIST FOR STUDENTS AND CHILDREN**

1. In a situation like this it is normal to feel sad, worried, confused, scared or angry. Know that you are not alone and talk to someone you trust, like your parent or teacher so that you can help keep yourself and your school safe and healthy.
  - Ask questions, educate yourself and get information from government sources
2. Protect yourself and others
  - Wash your hands frequently, always with soap and water for at least 20 seconds
  - Remember to not touch your face
  - Do not share cups, eating utensils, food or drinks with others
3. Be a leader in keeping yourself, your school, family and community healthy.
  - Share what you learn about preventing disease with your family and friends, especially with younger children
  - Model good practices such as sneezing or coughing into your elbow and washing your hands, especially for younger family members
4. Don't stigmatize your peers or tease anyone about being sick; remember that the virus doesn't follow geographical boundaries, ethnicities, age or ability or gender.
  1. Tell your parents, another family member, or a caregiver if you feel sick, and ask to stay home. The government of Bangladesh has published the following guideline to be followed:

**Bangladesh Preparedness and Response Plan for COVID-19 July 2020, Health Services Division**

Pictures shows how the school taking extra care of the student due to COVID-19



Figure 8: Temperature check and face mask



Figure 9: Online education and use of face mask



Figure 10: self-swabbing sample by the school student for corona virus test in a school.

Table below details the responsibilities and roles associated with site remobilization or resumption of works.

**Table 5: COVID-19 Site Re-Mobilization Responsibilities**

Contractor Actions	vision Consultant Actions	Employer Actions	ADB Actions
Submit HS COVID- 19 Plan to the site supervision team for review and comment.	Review contractor's HS COVID-19 Plan and either (1) return comments to contractor for amendment and resubmittal, or (2) send the HS COVID-19 plan to the Employer with a recommendation to approve.	Review Supervision Consultant's recommendation and either (1) send formal notice of approval to SC, or (2) return comments to SC for amendment and resubmittal.	Confirm receipt of notice from the Employer that HS COVID-19 Plan has been approved.
Remobilize after receiving formal approval from SC.	After the Employer approval, formally inform the contractor that it can re- mobilize.  When on site, comply with the approved HS COVID-19 Plan and instruction from the responsible Contractor's H&S officer on site.	After approval of the COVID- 19 HS Plan send a formal notification to ADB, indicating the formal approval date.  When on site, comply with the approved HS COVID-19 Plan and instruction from the responsible Contractor's H&S officer on site.	When on site, comply with the approved HS COVID-19 Plan and instruction from the responsible Contractor's H&S officer on site.

Source: ADB

### C. CHANGES TO WORKFORCE AND IMPACTS ON SCHEDULING

Undoubtedly, workforce availability will be impacted by the corona virus for the near future. These reductions, whether mandated by governmental orders, or caused by the virus itself, will cause disruptions to project schedules. One method of handling potential scheduling impacts involves minimizing workforce interaction as much as possible. Parties should consider:

- Ensuring the workforce is practicing safe social distancing;
- Staggering trades onsite and using video conferencing when possible;
- Increased sanitation to prevent the possibility of trades becoming sick;
- Allowing overtime to counteract delays caused by social distancing requirements; and
- Relaxing rules on “work hours” for construction so trades can work more freely while maintaining distance.

Likewise, precise and detailed recordkeeping is crucial to managing risk, given these likely delays. The parties should document delays and their impacts, as well as any attempts to mitigate these delays.

The civil works for the project that is main concern for the EMP implementation has been complete and it is not required to retrace the bid documents for more than 700 sub-projects in Tranche 2 of SESIP.

ADB's 'COVID-19 response can be explained in the following way:

Implementation of EMP as confirmed that this means covered the cost of consultant purchasing PPE for their own protection, but also PPE in event they are running consultation

meeting and need to provide it for participants including contractors etc. as in the PPFD Comment Matrix-1 (ADB):

- i. Consultants have taken care for H&S of those it may interact with during the course of work, especially communities related to consultation etc
- ii. Given that the Borrower should make available to the EA the necessary budgetary and human resources to fully implement the H&S plans, in line with the H&S assessment and mitigation measures undertaken, the estimated cost for EMP implementation should also be correspondingly updated to ensure adequate funding source shared by the EA, IAs and the contractors.
- iii. Revision of budget may not be necessary in Bidding Documents as civil works almost complete.
- iv. EMP including COVID19 H&S plan should be attached to the bidding documents, done but not in the present format
- v. "The Contractor will submit a HS COVID-19 plan to their site supervision team (the Employer's representative or the supervision consultant appointed by the Employer) for review and comments." Formal report has been in compliance like use of PPE, Gloves, Boots, Eye Shield is part of EMP implementation.

#### **D. ENVIRONMENTAL MONITORING DATABASE**

School environment data can also be incorporated in EMIS. This will help in the preparation of Semi-Annual Environmental Safeguard Report as required under ADB loan covenant and for GOB. Environmental Safeguard Expert is now working with EMIS so that one 'module' can be developed for environmental management database.

Improvement of EMIS for selection, planning of school infrastructure are very important. The selection of the schools is dependent on the EMIS database and its information. The selection of the schools for further infrastructure development can be decided based on digital mapping (module of EMIS) of the school premises and its surroundings. EMIS is owned by DSHE and any activity on infrastructure should be consulted based on the database. The digital mapping for the schools can be done with little cost. Based on digital mapping that will help in master planning for the school. This needs to start immediately in coordination with EED, DOE, SMC and community.

##### ***a. Updating EMIS for Environmental Monitoring:***

Secondary School Quality Standard (SSQS) as approved by MOE, if upgrades regularly, can be used for monitoring and standardization of the schools both in physical facilities and environmental safeguard. The availability and functionality of WASH facilities and hygienic practices among schoolchildren should be part of an education management information system (EMIS), rather than a component of the monitoring and evaluation system. Improvement is highly appreciated in such pandemic situation at present and preparing for future. One consulting firm engaged has evaluated the EMIS effectiveness/ performance related to the selection of schools for refurbishment. But results of evaluation is not clear.

##### ***b. EMIS data base for efficient use of school land.***

One of the main constraints in school infrastructure improvement is the land. Most school lack in the availability of enough land for better planning for the school, which supports the extracurricular practices of the students in addition to the academic activities. This led to the failed schools that does not create any educational environment. The EMIS can give



numbers like built up area in square meter, but mapping is not available to make decision about the locating of the construction of new building within premises owned by the school. Master Planning for school can be drawn through the digital survey and mapping.

c. **EMIS database for construction management.**

The selection of schools should have been consulted with the Education Engineering Department (EED) before funding for the construction of the additional rooms so that engineering planning and design could be proper and may not hamper natural light and ventilation of the classroom. Construction of 4 to 6 story building on the newly filled land or ditch will create engineering design problem. These are greatly impairing the foundation of the building. Some cases the typical foundation are being used. Some school building had to be abandoned due to scarcity of land or land on the bank of river which face erosion from most unpredictable rivers of Bangladesh.

EMIS can help in monitoring of operation and maintenance of the school infrastructure (including cleaning) and the performance of the SMC. The constructed building are in most cases are devoid of any maintenance and cleaning of wash block after completion due to budgetary provision. EMIS can help in monitoring for COVID-19 pandemic measures both for construction workers and of the health of students, teachers and other stakeholder like community members.

Following parameter has been suggested to be incorporated in a separate module in the present EMIS.

**Table 6: EMIS component database**

Activity	Parameter
1. Monitoring of H&S plan to minimize COVID-19 infection	Temp. check, hand washing, social distancing etc
2. Cleaning plan	Employed/ Volunteer/none
3. Allocation of budget for cleaning	Yes/ No
4. Budget for Repair and maintenance	Yes/ No
5. Inspection schedule	Daily/ Weekly
6. Rainwater harvesting	Yes/ No
7. Renewable energy/ solar panel	Yes/No

d. **Observation/Remarks on Environmental Monitoring**

1. Reporting on COVID-19 pandemic safeguard monitoring has been included/ instructed and introduced both in construction practices and the health and safety issues for the student, teachers and other staff related to the schools.
2. Reporting on Rapid Environmental Assessment (REA) for Sub-Projects is lacking engineering information like mapping of the existing infrastructure at the school premises and its surrounding in CAD. Digital survey will help in REA and master planning.
3. The initial consultation meeting as per REA could not be organized at the subproject because of lack in initiative by the SMC, LSE, DOE and EED. Consultation is not prioritized in the preparation of REA.
4. DEO, Bandarban IEE and. EMP has been revised in the light of slope protection requirements. Digital survey was carried out and improved design has been

incorporated to the needs against slope failure. The slope protection work is now under implementation.

5. The subproject are very small building structure there is hardly any requirements of mitigation measure required, except during construction, however testing of drinking water, plantation and personal protective equipment during construction are supplied to workers etc.
6. The storage of construction materials inside the school premises are rampant creating dislocation of academic and extra-curricular activities of the students. It can be mentioned that provision are not made in the cost estimate for renting storage space, workers shed, toilets, cooking area. The construction workers are locally available and they may only need shed but safe drinking water and toilet facilities are provided
7. Supervising Engineer as focal person at the construction site are Sub-Assistant Engineer can't cope with work as subprojects are scattered throughout the upzila and difficult to monitor the civil works in timely fashion.
8. The focal persons generating appreciable amount of environmental data as per the monitoring format supplied to them. The environmental data need to be compiled for reporting in the EMR. To supervise and collection of environmental monitoring data as recommended in the EARF 2013 need to establish one Environmental Unit (EU) under the Chief Engineer EED .
9. Lack of initiative in maintaining the class room building and cleanliness for WASH block are visible. While discussing with the SMC it is revealed that budget to engage person for cleaning and maintenance are not available. DSHE should have policy towards this.
10. The innovative design to combat water supply and energy (power ) by rainwater harvest and solar panel respectively has been ignored in the designing of building. Issues and Recommendations for SPSU, EED and their Rationale, highlighted in the Table 18
11. The frequency of submission of the Environmental Safeguard Monitoring Report is defined in the loan agreement that the borrower will prepare semi-annual Environmental (Safeguard) Monitoring Reports, for implementation of the EMP and compliance issues and observations, and recommend corrective actions, if any.

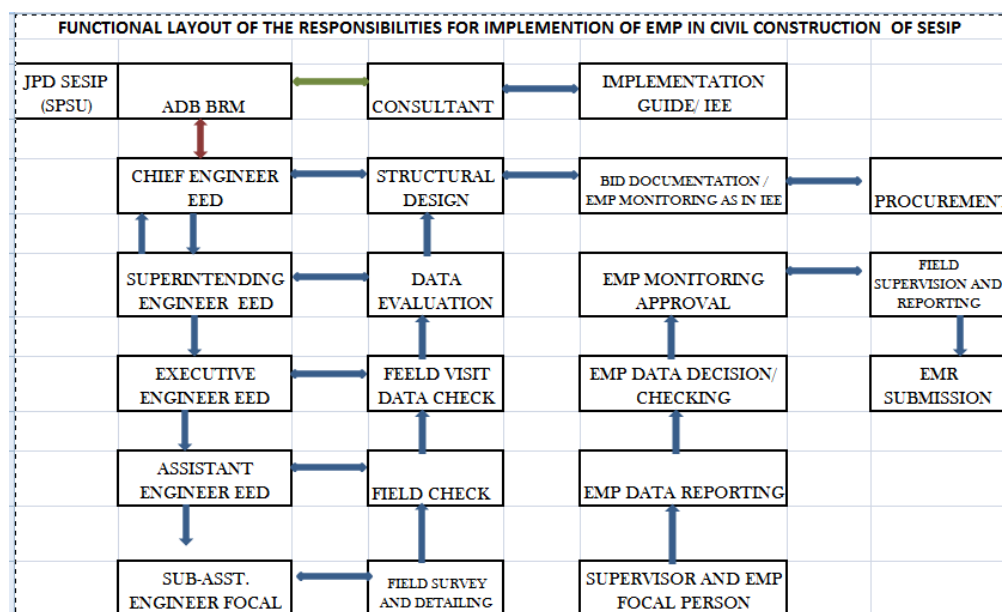
## **8. Implementation of Environmental Management Plan**

### **A. Institutional Arrangement**

The EMP defined as desired outcomes and actions to address the identified impacts and risks and meet applicable requirements as measurable events to the extent possible. The EMP also discussed the measures for information disclosure, the grievance redress mechanism, and the process for continued consultation with and participation of affected people during project implementation.

The Planning and Design Division of EED will be responsible for the design, construction, and maintenance of the infrastructure of the project. One Environmental Cell proposed in EARF has been recommended to be created under EED but without any progress. The project proponent has deployed one Environmental Safeguard Expert (focal person) for environment who will lead the environmental activities and implementation of the EMP. The Assistant Engineer at Regional Office will carry out environmental screening of all

“subprojects” and prepare an EMP for each project activities or “subproject”. The zonal Executive Engineer will review the screening report and EMP through field visits. If an IEE is required, it will be the responsibility of the Executive Engineer of EED. The Monitoring Officer presently Supervising Engineers (EED) deployed by this project will be responsible for supervision and monitoring of environmental mitigation activities. The Chief Engineer at Headquarters will ensure quality control and reporting at the regional level. EED through Environmental Unit heads by Superintending Engineer and with the support from Bangladesh Resident Mission’s Environment Officer will prepare training materials; conduct training for supervising engineering staff/school teachers/students/SMC/ DSHE; prepare screening, IEE report, and site-specific EMP on sample basis; review a certain percentage of the EMPs; and prepare the Semi-Annual Environmental Monitoring Reports of the project and submit annually. [EARF 2013]. ESE in coordination with EED.



**Table 7: Potential Environmental Impact and Mitigation Measures and its compliance**

Category	Potential Environmental Impact/Issue	Possible Mitigation Measures	Compliance Status
Occupational health, safety, and hygiene	Occupational Health and Safety	<ul style="list-style-type: none"> <li>Implement suitable safety standards for all workers and site visitors</li> <li>Provide personal protection equipment for workers, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection</li> <li>Provide adequate healthcare (first aid) and safety facilities within construction sites</li> <li>Arrange safe drinking water and sanitation facilities for the labors</li> <li>Arrange water spray throughout the construction time</li> <li>Follow standard norms for toilet</li> </ul>	Complied
COVID-19 Pandemic	Contagious and easily spread through sneezing, coughing droplet of the infected person.	<ul style="list-style-type: none"> <li>temperature checks, logs of tasks performed and/or deliveries, etc.;</li> <li>document health and safety issues and monitor revised government guidelines;</li> <li>updated safety procedures relating to limiting the spread of the virus;</li> <li>Integration of various safety plans of all project team members for conformance;</li> <li>Actions to be taken in response to a potential outbreak</li> </ul>	Complied



Category	Potential Environmental Impact/Issue	Possible Mitigation Measures	Compliance Status
		(i.e. who should be notified, review of task logs for employee interaction with the sick individual, suspension of work in impacted area(s) and subsequent disinfection procedures to be taken).	
Solid and hazardous waste management	Spreading of waste, pungent smell, deterioration of aesthetics, used batteries, laboratory chemicals disposed haphazardly	<ul style="list-style-type: none"> <li>• Introduce proper solid waste management system in schools with segregation of waste and its proper disposal</li> <li>• Raise awareness on solid waste management with waste minimization, recovery, and recycling</li> <li>• Ensure safe disposal of hazardous waste</li> <li>• Ensure that adequate toilet and ablution facilities are provided for the duration of the contract</li> </ul>	Complied
Drainage management	Drainage congestion/water logging, spread of vector born diseases	<ul style="list-style-type: none"> <li>• Consider the drainage system of the whole area in subproject design</li> <li>• Maintain cross-drainage at all times during construction</li> <li>• Prevent all solid and liquid wastes entering waterways by collecting solid waste and wastewater from brick, concrete</li> <li>• Integrate drainage facilities with water supply options and sanitary latrine facilities in planning and design</li> </ul>	Complied
Stone crushing	Dust and noise pollution	<ul style="list-style-type: none"> <li>• Spray water during dry season and in windy conditions</li> <li>• Immediate compaction after construction of base course</li> <li>• Cover the stockpiles of fine materials in construction yard</li> <li>• Plan the work schedule of noise creating activities in consultation of local community</li> <li>• Employ best available work practices on-site to minimize occupational noise levels</li> </ul>	Complied
Soil Erosion	Soil erosion during construction	<ul style="list-style-type: none"> <li>• Careful arrangement to stop soil erosion by adopting proper protection measure before starting earthworks</li> </ul>	Complied
Road blockage	Blocking of roads/access/approach	<ul style="list-style-type: none"> <li>• Construction materials and machinery should not be placed in a manner that blocks any roads, paths or local accesses</li> <li>• Unloading of construction materials should be carried in a manner and time so as to avoid blockage of roads/paths/access</li> <li>• Waste should not be placed on the roads</li> </ul>	Complied
Water Pollution	Water pollution from construction activities	<ul style="list-style-type: none"> <li>• Prohibit direct disposal of solid and liquid wastage into nearby bodies of water</li> <li>• Spoil Management Plan should be implemented by the contractor</li> </ul>	Complied
Use of wood as construction /cooking materials	Deforestation	<ul style="list-style-type: none"> <li>• Minimize use of wood for construction</li> <li>• Use local materials as much as possible</li> <li>• Innovations shall be integrated in design for making schools more child and environment- friendly</li> <li>• Contractor shall supply kerosene or liquefied petroleum gas at camps and restrict cooking and heating in firewood</li> </ul>	It is not necessary
Proper ventilation	Day lighting and ventilation system	<ul style="list-style-type: none"> <li>• Adequate windows in proper direction in consultation with students and teachers</li> <li>• Provision for adequate ventilation in the classrooms and office</li> </ul>	Complied
Ensure safe drinking water	Arsenic, iron, and salinity contamination in drinking water	<ul style="list-style-type: none"> <li>• Identify unions and upazilas based on DSHE survey where shallow or deep tube-wells are feasible</li> <li>• Analyze local surrounding arsenic test results and recommend for tube-wells or not</li> <li>• Adopt rainwater harvesting, pond sand filter, and piped water supply in salinity intrusion areas</li> <li>• After installation of tube-wells, presence of arsenic in the</li> </ul>	Complied

Category	Potential Environmental Impact/Issue	Possible Mitigation Measures	Compliance Status
		drinking water will be tested and be used only if it satisfies the Bangladesh standard	
Water and sanitation	Selection of appropriate location for water source and sanitary latrine	<ul style="list-style-type: none"> <li>Discuss with medical authority to ensure selected schools have drinking water and proper sanitation</li> <li>A minimum distance of 15m 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 20m as horizontal filters are used in this type of tube-wells</li> </ul>	Complied
Separate toilets for male and females	Adolescent girls may face serious problem due to lack of separate toilet facility	<ul style="list-style-type: none"> <li>Provide separate toilets at adequate distance between male and females</li> <li>Water supply should be available in the toilets</li> <li>One latrine should be designed for about 30 persons</li> </ul>	Complied
Extreme climate events and disasters*	Extreme climate (e.g. cyclone, storm surge), natural disasters (e.g. earthquake, etc.), and fire	<ul style="list-style-type: none"> <li>Adoption of appropriate adaptation and disaster risk reduction strategy, emergency preparedness and recovery, training/orientation program for health service workers on climate change, disaster and earthquake, etc.</li> <li>Schools located in the cyclone and earthquake prone areas should be designed and constructed in such a way that it is disaster and earthquake resilient or 'climate-proof'</li> <li>Create awareness about natural calamities and extreme climate to students, teachers and parents</li> <li>Provide fire safety management training and mock drill</li> <li>Ensure emergency equipments and facilities like fire extinguisher/water hose, first aid</li> </ul>	Complied

Source EARF

\* This impact is not project-related, rather it is location specific. However, appropriate adaptation (e.g. rising of plinth of school building in high flood areas, appropriate building materials for cyclone prone areas, etc.) and preparedness measures (e.g. training, mock drill etc.) will be adopted.

## B. Environmental Monitoring Requirements

An environmental assessment, using ADB's Rapid Environmental Assessment (REA) checklist for urban development, was conducted and the results of the assessment demonstrated that the subprojects will not cause significant adverse impacts. The proposed infrastructure development program is classified as Environmental Category B as per the ADB's SPS 2009, as no significant impacts are envisioned. The related initial environmental examination (IEE) reports have been prepared in accordance with ADB SPS 2009 requirements for environment category B projects and provide mitigation and monitoring measures, for no envisaged significant impacts, as a result of implementing the subprojects. In order to monitor the respective EMP's, the contractor has engaged environment officer, in accordance with the provisions of the Contract Document and in complying with the required environmental testing of parameters where needed. The monitoring plan and its compliances during different stage of project like design, construction and operation is shown in Table 13.

### a. Environmental Cost and Financing Agreement

Financial cost provision for the Contractor to complete all the required Environmental mitigation and monitoring requirements is given in the Bill of Quantities, along with the stipulated frequency and extent of sample monitoring, in accordance with the respective Environmental Management and Monitoring Plan, of the particular contract package. Contractors EMP implementation measures are to be taken for the following: (i) site

stabilization, erosion, and runoff; (ii) dust and noise suppression; (iii) management of traffic and utilities; and (iv) safety of the workers COVID-19 prevention. Good health, hygiene practices at work, and preventive measures for work accidents and protection and prevention from COVID-19 pandemic; were to be achieved through an OHSP, which should include emergency plans, personnel basic training, and first aid provisions.

**Table 8: Monitoring Indicator and Compliances Status during Pre-Construction, Construction and Operation**

S.N.	Indicators of Monitoring	Method of Monitoring	Monitoring frequency	Responsibility	Remedial measures	Compliance Status
<b>A. Pre-construction Phase Monitoring</b>						
1	Printing, publication, and distribution of EARF to all stakeholders including translation of the summary of EARF in Bengali	Direct observation	Once	SPSU/DS HE	Needs further printing during orientation and training	Complied
2	Recruitment of part-time environmental consultant for the project	Review of appointment letter	Once	SPSU/DS HE/EED	Engagement to be continued on intermittent basis till the civil works completion	Complied
3	Incorporation of EARF in subprojects	Review of documents	Once	SPSU/DS HE	Enforcement of EMP implementation	Partially Complied
4	Disaster prone area (landslide, flood, drought area) and climate risk (cyclone and storm surge) screening done	Review of documents	Once	EED	Need resilient building. Slope protection in hilly areas, Exit plan during emergency and disaster	Partially Complied DEO Bandarban has been considered by EED.
5	Incorporation of EMP in design and tender document	Direct observation	Once	SPSU/DSHE /EED	EMP implementation during Civil works are included in bid document. contractor were issued with EMP compliance format and trained	Complied
<b>B. Construction Phase Monitoring</b>						
	Health check for COVID-19 pandemic	Temperature check, hand washing, wearing face mask and gloves	Daily	Contractor and supervising engineer	Sufficient provision for the instruments, PPE and to make budget provision.	Complied
1.	Drinking water quality	<ul style="list-style-type: none"> <li>• Sampling, lab testing and comparison with generic standards</li> <li>• For arsenic/iron/salinity, testing follow country specific and/or</li> </ul>	Annual	Note: SPSU/EE D/SMC shall coordinate with DPHE, NGO, INGOs working in	Sampling and testing of water quality will be done with arrangement with DPHE. EED will arrange sampling and testing at school subproject by the contractors. It has	Partially Complied

S.N.	Indicators of Monitoring	Method of Monitoring	Monitoring frequency	Responsibility	Remedial measures	Compliance Status
		WHO recommended protocols		water & sanitation sectors	been included in the bid documents. Long term water quality testing arrangement will need MOU with DPHE.	
2.	Transportation of construction materials in covered condition and safe loading and unloading of construction materials	Contractor/Direct Observation	Regular during construction	EED/ Contractor	Access to work site for carrying materials to be planned	Complied
3.	Water sprinkling in dusty construction area and access roads	Contractor/Direct Observation	Every Day	EED/ Contractor	Sprinkling of water is undertaken by the contractor	Complied
4.	Stockpiling of excavated materials	Contractor/Direct Observation	Every day	EED/ Contract	Need to cover stockpiled materials	Partially Complied
5.	Reuse of excavated materials	Contractor/Direct Observation	Every day	EED/ Contract	Can be used as floor fill of the building	Partially Complied
6.	Solid waste segregation disposal	Contractor /Direct Observation	Everyday	EED/ Contractor	Separate bins are used	Partially Complied
7.	Clearing of vegetation/ trees	Contractor /Direct Observation	During construction once in 3 months	EED/ Contractor	Following the forest rule in cutting tree	Complied
8.	Noise and dust pollution	Contractor / Direct Observation	Regular during construction	EED/ Contractor	Adjust working hours Avoid night time and class hours. Sprinkling water	Complied
9.	Occupational health and safety, use of safety gears	Direct Observation	Once a month	EED/ Contractor	Supply of PPE to workers is in bid document. COVID-19 monitoring now included.	Partially Complied
10.	Safety of workers, students, and teachers	Record of injury	Once a week	EED/ Contractor	Make arrangement for safety by marking work site ensured.	Partially Complied
11.	Water logging and spread of vector born diseases	Direct Observation	Once a week	EED/ Contractor	Proper drainage for the work site and washing made	Complied
<b>C. Operation stage Monitoring</b>						
	Health check for COVID-19 pandemic for the students, teachers and other staff	Temperature check, hand washing, wearing face mask and gloves	Daily	HT and SMC	Sufficient provision for the instruments, ppe and to make extra provision for the schools.	complied
1.	Preparation of monitoring reports	Records/Documents	Monthly	EED	Submission of semi-annual EMR on regular basis.	Complied
2.	Drinking water quality, arsenic testing, and mitigation; adequate natural light, air, and ventilation	Samples taken from different points, source delivery points; laboratory testing;	Annual	EED/SMC	Sampled at the start of the project. Annual water quality testing planned so that HT/ SMC ensure that this annual test continued in the life	Partially Complied

S.N.	Indicators of Monitoring	Method of Monitoring	Monitoring frequency	Responsibility	Remedial measures	Compliance Status
		interview with students			period of the tube well.	
3.	Solid waste and lab waste management system	Records of waste collected and managed	Bi-annual	EED/SMC	Organized disposal by segregating of waste and finally to municipality	Partially Complied
4.	Rainwater harvesting	Observation	Annual	EED	EED encouraged to plan and make necessary design for rainwater harvesting in the building. It is of high necessity for the coastal and hilly area.	
5.	Solar power for schools	Observation	Annual	EED	EED encouraged to plan and make necessary design in remote and rural areas where electricity is not available from grid. Cost should be included in the civil work package	
7.	Number of orientation and training	Number of orientations and trainings conducted	Regular	EED/SMC	3 training programs organized one in January 2015 June 2017 and April 2019 for total participants were more than 800. Trainee are drawn from supervising engineers of EED, SMC, DOE and contractor.	
8.	Impact audit	Compliance with EARF	Annual	EED	EMR reflects the audit as per EARF	Complied

Source: ADB.

DPHE = Department of Public Health Engineering, DSHE = Directorate of Secondary and Higher Education, EARF = Environmental Assessment and Review Framework, EED = Education Engineering Department, EMP = environmental management plan, INGO = international nongovernmental organization, NGO = nongovernment organization, SPSU = Sector Program Support Unit, WHO = World Health Organization.

Partially complied: The complete monitoring data are not available from supervising engineer, contractor, head teacher etc.

**b. Environmental Concern: Bangladesh National Building Code 2006 (BNBC)**

Safety; built on time; within budget; quality of construction; sequencing of construction operations; inclement weather (stoppage of work); COVID-19 Pandemic as special H&S plan, quality assurance of materials, etc. as such BNBC 2006 are to be followed in the whole process of pre-construction, construction and operation phase of the school.

**C. Site Inspections and Audits**

The visit was limited due to COVID-19 pandemic and government instruction. However, information were collected over tech platform like video conferencing.

**D. Disclosure of Environmental Monitoring Information**

The EMR prepared since December 2016 and so far, 8 nos. of them are submitted to government and ADB. June 2021 EMR is going to be the 10th EMR. The EMR are in the process of disclosure. EED is undertaking measures to comply with the ADB reporting requirements and produce the necessary records for reporting purposes. To-date IEE reports were prepared for the following sub-projects for disclosure and approval: EARF 2017 for Tranche 3 was prepared by updating EARF 2013 as used for Tranche 1 and 2 civil works. Due to the closure of SESIP by 31<sup>st</sup> December 2021 updating EARF has not been

considered. Present status of subproject-based environment documents are shown in Table 10

**Table 9: Status of IEE/ EMP and Guidelines of Sub-projects Implementation.**

Documents	Sub-Projects	Location
Initial Environmental Examination	Upzila Education office	Patharghata, Borguna, Bangladesh
Initial Environmental Examination	Model High School	Elongi, Chatak, Bangladesh
Revised Initial Environmental Examination (2020)	District Education office	Bandorban, Bangladesh
Guidance for Incorporation of EMP Requirements into Contracts for SESIP Civil Works	a. 100 School Refurbishment b. 640 schools for Pre-Voc and Vocational c. 53 DEO office vertical extension	1. 100 School locations 2. 640 selected schools for Pre-Voc and Vocational locations 3. 53 DEO office locations
Guidance for Monitoring and Reporting of Environmental Safeguards for Civil Works - SESIP and ADB	a. 100 School Refurbishment b. 640 schools for Pre-Voc and Vocational c. 53 DEO office vertical extension	1. 100 locations 2. 640 selected schools for Pre-Voc and Vocational locations 3. 53 DEO office locations
Updating of EARF 2013	Updated in May 2017	
IEE for Haor School	Prepared in May 2017	
Jobsite Inspection Checklist	All school and office sub-projects under the program	All district and upzila selected for the subprojects.
Material Inspection and Testing		
Compliances and Non-Compliances Issues Monitoring Format		
Contractor EMP Checklist		
Drinking water quality testing list		

## 9. Compliance of Safeguard Covenants of ADB Loan

**Compliances on loan covenant of ADB loan for the SESIP are listed for tranche 2.**

### A. Tranche 2 Loan Covenants:

**Table 10: Compliance with Loan Covenants (Tranche 2)**

Item	Description	Due Date	Status / Remarks
<b>Schedule 5, Para. No. 1</b>	Implementation Arrangements  The Borrower, MOE and DSHE shall ensure that the Project is implemented in accordance with the detailed arrangements set forth in the FAM. Any subsequent change to the FAM shall become effective only after approval of such change by the Borrower and ADB. In the event of any discrepancy between the FAM and this Loan Agreement, the provisions of this Loan Agreement shall prevail.		Complied.
<b>Schedule 5, Para. No. 2</b>	The Borrower, MOE and DSHE shall implement, manage, coordinate and monitor the Project in accordance with its objectives, responsibilities, funding mechanism, fiduciary requirements including those outlined in the PFM Action Plan and other program management arrangements as set out in the EARF, RF, TMECPPF and GAP.		Complied.
<b>Schedule 5, Para. No. 3</b>	Borrower's contribution to the Investment Program The Borrower shall provide its contribution to the Investment Program in a timely manner.		

Item	Description	Due Date	Status / Remarks
			Complied.
<b>Schedule 5, Para. No. 4</b>	<p>Staffing</p> <p>The Borrower, MOE and DSHE shall ensure that the reorganized staff and provision of additional staff for the Investment Program as agreed between ADB and the Borrower, including full staffing for the sector program support unit in [MOE/DSHE], will be maintained for the duration of the Investment Program.</p>		Complied.
<b>Schedule 5, Para. No. 5</b>	<p>PPMIS and Investment Program Website</p> <p>MOE shall maintain and regularly update the project and procurement management information system ("PPMIS") established for the Investment Program and a comprehensive Investment Program website. The Investment Program website shall disclose information about all material matters relating to the Investment Program and its implementation, including details about each package (for which Sector Program Support Unit at DSHE shall maintain separate records), and achievement of DLIs. In relation to procurement, the website shall include information on</p> <ul style="list-style-type: none"> <li>(a) package number and name,</li> <li>(b) location of the school,</li> <li>(c) estimated cost,</li> <li>(d) financing agency,</li> <li>(e) date of issue of invitation for bids,</li> <li>(f) date and time of submission and opening of bids,</li> <li>(g) bid opening location,</li> <li>(h) bid opening committee,</li> <li>(i) bid opening statement,</li> <li>(j) names of bidders that submitted bids,</li> <li>(k) name of the approving authority,</li> <li>(l) name, designation and telephone number of officers in charge for implementation,</li> <li>(m) name of the successful bidder,</li> <li>(n) contract amount,</li> <li>(o) date of start, and</li> <li>(p) Scheduled date of completion.</li> </ul>		<p>PPMIS developed that provides the agreed information.</p> <p><a href="http://sesip.gov.bd/">http://sesip.gov.bd/</a></p>
<b>Schedule 5, Para. No. 6</b>	<p>Environment</p> <p>The Borrower shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; (c) the EARF; and (d) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in the Safeguards Monitoring Reports to be provided to ADB.</p>		Complied.
<b>Schedule 5, Para. No. 7</b>	<p>Tribes, Minor Races, Ethnic Sects and Community Peoples</p> <p>The Borrower shall ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to tribes, minor races, ethnic sects and community peoples; (b) the Tribes, Minor Races, Ethnic Sects and Community Peoples Safeguards impact; and (c) all measures and requirements set</p>		Complied.



Item	Description	Due Date	Status / Remarks
	forth in the TMECPP, and any corrective or preventative actions (i) set forth in the Safeguards Monitoring Report to be provided to ADB, or (ii) subsequently agreed between ADB and the Borrower.		
<b>Schedule 5, Para. No. 8</b>	Involuntary Resettlement  The Borrower shall ensure that the Project does not have any land acquisition or involuntary resettlement impact under SPS. In the event that the Project does have any such impact, the Borrower shall take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower, the RF, any RP and with SPS.		Complied.
<b>Schedule 5, Para. No. 9</b>	Human and Financial Resources to Implement Safeguards Requirements  The Borrower shall make available necessary budgetary and human resources to fully implement the EMP, any RP and the TMECPP.		Complied.
<b>Schedule 5, Para. No. 10</b>	Safeguards – Related Provisions in Bidding Documents and Works Contracts  The Borrower shall ensure that all bidding documents and contracts for Works contain provisions that require contractors to:  (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, any RP and TMECPP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in the safeguards monitoring report;  (b) make available a budget for all such environmental and social measures;  (c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or tribes, minor races, ethnic sects and community peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, any RP and TMECPP;  (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and  (e) Reinstatement pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.		Complied.
<b>Schedule 5, Para. No. 11</b>	Safeguards Monitoring and Reporting  The Borrower shall do the following or cause MOE to do the following: (a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;		Complied.



Item	Description	Due Date	Status / Remarks
	<p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, any RP and TMECPP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan;</p> <p>(c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP, any RP or TMECPP promptly after becoming aware of the breach; and</p> <p>(d) in respect of implementation of any compliance with Involuntary Resettlement Safeguards and Tribes, Minor Races, Ethnic Sects and Community Peoples Safeguards.</p>		
<b>Schedule 5, Para. No. 12</b>	<p>Prohibited List of Investments</p> <p>The Borrower shall ensure that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS.</p>		Complied.
<b>Schedule 5, Para. No. 13</b>	<p>Labor Standards</p> <p>The Borrower shall ensure that (a) civil works contractors comply with all applicable labor laws and regulations, do not allow employment of child labor for construction and maintenance activities, encourage the employment of the poor, particularly women, and provide appropriate facilities for women and children in construction campsites; (b) people directly affected by the Project are given priority to be employed by the Project; (c) contractors do not differentiate wages between men and women for work of equal value; and (d) specific clauses ensuring these will be included in bidding documents.</p>		Complied.
<b>Schedule 5, Para. No. 14</b>	<p>Health</p> <p>The Borrower shall ensure that contractors provide adequately for the health and safety of construction workers and further ensure that bidding documents include measures on how contractors will address this, including information and awareness raising activities for construction workers on sexually transmitted diseases, HIV/AIDS, and human trafficking.</p>		Complied.
<b>Schedule 5, Para. No. 15</b>	<p>Governance and Anticorruption</p> <p>The Borrower, MOE and DSHE shall (a) comply with ADB's Anticorruption Policy (1998, as amended to date) and acknowledge that ADB reserves the right to investigate directly, or through its agents, any alleged corrupt, fraudulent, collusive or coercive practice relating to the Project; and (b) cooperate with any such investigation and extend all necessary assistance for satisfactory completion of such investigation.</p>		Complied.
<b>Schedule 5, Para. No. 16</b>	<p>The Borrower and MOE shall ensure that the anticorruption provisions acceptable to ADB are included in all bidding documents and contracts, including provisions specifying the right of ADB to audit and examine the records and accounts of</p>		Complied.

Item	Description	Due Date	Status / Remarks
	the executing and implementing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project.		
<b>Schedule 5, Para. No. 17</b>	The Borrower and MOE shall ensure that detailed information on Project implementation, including those maintained in PPMIS, is made readily available to the public through the MOE website and Government's bulletin boards. This shall include all relevant information and documents relating to procurement as outlined in paragraph 5 above.		A website developed for the program  <a href="http://sesip.gov.bd/">http://sesip.gov.bd/</a>  That included PPMIS. Necessary information are being uploaded in the website.
<b>Schedule 5, Para. No. 18</b>	Gender Action Plan The Borrower shall ensure that the Gender Action Plan is effectively implemented including all the specific targets outlined in the GAP.		Complied.

Source SESIP

## 10. Capacity Development

### A. Training and Induction

Personnel including staff, employees and contractors will undertake appropriate training to ensure they are aware of their on-site responsibilities in respect to all construction management and environmental issues. This will be achieved through the implementation of on-site induction and specific training programs designed to ensure that all on-site personnel are competent and aware of any construction and environmental management procedures relevant to their activities.

All staff and contractors working on site will be inducted into a construction and environmental management program as a condition of site entry. The induction process covers all details of the Screening (planning), Design of Infrastructure, EARF, IEE, EIA, EMP and EMR.

সেসিপ কর্তৃক Construction and Environmental (Safeguard) Management বিষয়ক Workshop (সকলতা বৃদ্ধি) ১দিনব্যাপি

কর্মসূচিতে অংশগ্রহণকারীগণের সংখ্যা (টার্গেট : ৬৪০)। ২৫.৩.২০১৯-১৪.৬.২০১৯ তারিখ

ক্রম	জেলার নাম (ভেনু)	প্রকৌশলী		জেলা শিক্ষা অফিসার		প্রধান শিক্ষক		মন্ত্রিসার সুপার		এস এম সি- সদস্য		ঠিকাদার		মোট		মোট	মৃত্যু জনগোষ্ঠী	
		পু	ম	পু	ম	পু	ম	পু	ম	পু	ম	পু	ম	পু	ম		পু	ম
১	ময়মনসিংহ	২৪	১	২	১	৪	২	০	০	০	১	৫	০	৩৫	৫	৪০		
২	কিশোরগঞ্জ	২৩	১	৩	২	৪	১	০	০	১	০	৫	০	৩৬	৪	৪০	১	০
৩	কুমিল্লা	২৫	০	৪	০	৪	০	০	০	১	০	৫	০	৩৯	০	৩৯		
৪	সিলেট	২৫	০	৩	১	১	২	০	০	০	২	৬	০	৩৫	৫	৪০		
৫	রাজশাহী	২৫	০	৪	০	৪	০	০	০	২	০	৫	০	৪০	০	৪০		
৬	বগুড়া	২৮	০	২	০	৪	০	১	০	২	০	৩	০	৪০	০	৪০		
৭	রংপুর	২৬	০	৪	১	৩	০	০	০	১	১	৩	০	৩৭	২	৩৯		
৮	নীলফামারী	২৪	০	৩	০	৬	০	০	০	২	০	৫	০	৪০	০	৪০		
৯	বরিশাল	২৪	১	৫	০	৪	০	০	০	১	০	৫	০	৩৯	১	৪০		
১০	ফরিদপুর	২৬	০	৩	১	৩	০	০	০	১	১	৫	০	৩৮	২	৪০		
১১	চট্টগ্রাম	২৭	১	৩	০	৩	১	০	০	১	০	১	০	৩৫	২	৩৭		
১২	পুলনা	২১	১	৫	০	২	১	০	০	২	০	৬	০	৩৬	২	৩৮		
১৩	যশোর	২৫	০	৪	০	৬	০	০	০	০	০	৫	০	৪০	০	৪০		
১৪	কক্সবাজার	১৭	২	২	০	৬	০	০	০	১	০	৯	০	৩৫	২	৩৭	৫	১
১৫	ঢাকা	৫০	১	৫	১	৯	১	০	০	৩	১	৯	০	৭৬	৪	৮০		
মোট		৩৯০	৮	৫২	৭	৬৩	৮	১	০	১৮	৬	৭৭	০	৬০১	২৯	৬৩০	৬	১

**a. The recommendation from Training / Workshop**

- More than 500 supervising engineer developed capability in collection of data and prepare the Semi-Annual Environmental Safeguard Monitoring Reporting (EMR). The whole activities for hundreds of sub-projects need leadership to organize properly. It was proposed in the EARF (2013) to create one Environmental Unit (EU) under Superintending Engineer at the Chief Engineer's office to monitor for EMR submission on regular basis as a requirements for GOB, ADB and WB.
- The workshop and interaction shows that there is dearth of Engineering Manpower to handle overwhelming number of subprojects spread all over Bangladesh and this need to be addressed by the EED. Supervising and other engineers need to be adopted to the practice of using CAD. This is basic drafting procedure There is need for further training/workshop on CAD in near future.
- Digital survey and mapping for the school is now required for proper planning and correct orientation of the building. Lack of information on the ownership of land, location of the existing structures in the school boundary, make it difficult for the engineers to make good architectural planning and design of the class rooms and wash blocks for the school.
- Harmonizing the class room extension and wash block design is necessary Otherwise it will create a chaotic situation regarding the planning, location and orientation, and design of building on the same premises of the school.
- GIS may include the digital mapping for the school is now the necessity for administrative purpose and infrastructure planning. So it is recommended the data base for schools to be developed for construction and environmental

- safeguard management, along with the EMIS and GIS and the Master Planning (digital map)
- f. Effective coordination between District Education Officer, School Management Committee and Education Engineering Department are needed in construction and environmental management during design, construction and operation of the school.
  - g. Education Engineering Department is now involved huge amount of civil works SESIP contributes a fraction of it. However the SESIP training in Construction and Environmental Management will help EED Supervising Engineers in developing Environmental Management Plan to be part of civil works package and its implementation for preparation of Environmental Safeguard Monitoring Report EMR for all the other subprojects such as e-tendering etc. It is expected that government under its environmental law (ECR 1997) and BNBC code will enforce the monitoring for all kinds of civil works undertaken by EED. Creation of Environmental Unit as suggested in the loan covenant of ADB should be addressed properly.

#### ***b. Tech Based On line Training and Inspection due to Corona virus (COVID-19)***

As described earlier the world's working environment is taking new shape. Though nothing has been decided nationally or globally but it is now eminent that social distancing is a must for the work place to save the people from the pandemic. Already in the country and around the world 'working from home' (WFH) become a legal entity both for the government and private employees to save people from crowd both in transportation and crammed inside the office or factory. We also need change our practice in social distancing, WFH, construction site inspection remotely. The technology are developing and some are in use. The training materials including its presentation can be available or can be prepared to cater the training needs of different kind of professionals and need to decide how it will be communicated to the trainee. The following shows the technology are being widely used in Bangladesh

#### ***c. Remote Team Communication Tools***

Luckily, there are some easy to use and free communication options for remote teams. If you're determined to improve the communication of your remote teams this year without adding cost, take a look at the following:

##### **Microsoft Team**

Microsoft Team a free communication platform, which provides instant messages, voice and video calls, SMS and VOIP features. Remote teams simply need to download the Microsoft Team app for free onto any device and can then connect with team members from anywhere. As well as getting free voice and video calls, businesses can use Microsoft Team for Instant Messaging. Use it to conduct virtual meetings, too.

##### **Zoom**

[Zoom](#) is a software-based collaboration and communication tool for holding conferences and meetings online. Zoom can be synced onto multiple devices, meaning users can communicate and collaborate from different operating systems, including Windows, Mac, iOS and Android. Teams can sign up for Zoom's free basic plan. The basic plan includes unlimited one-to-one meetings, hosting for up to 100 participants, an unlimited number of meetings, and a 40-minute limit on group meetings. There are also video conferencing features and web conference features, along with screen sharing.

Make communicating and collaborating with your remote team members more efficient and productive in 2018 with the help of these simple-to-use and free communication tools.

## 11. Recommendation

### A. Key Issues and compliances under EMR

#### a. Status on Issues and Recommendations and its compliances

**Table 11 : Issues and Recommendations for PMU, EED and their Rationale**

Issues/Work Activity		observations	Recommendations
1	Environmental Unit under Superintending Engineer, EED	Environmental Unit should be established in EED under the supervision of Superintending Engineer. This was recommended in the EARF 2013.	Proposal for setting up of Environmental Unit under Superintending Engineer, EED to be approved by the Ministry of Education.
3	Environmental information in REA as per the EARF and PIA (Project Area of Influence) needed.	Schools need digital survey and mapping and project influence from surrounding area. This information can be used for initial screening to design a properly oriented building in school. Additional funding will be necessary	Schools need to be encouraged to prepare master plan so that it became easy to fund for additional classrooms planning if sufficient space is available for, but digital survey has not been ordered.
4	Innovative design of the building for rainwater harvesting	The rainwater harvesting recommended that need the innovative design.	From now the schools in coastal and hilly areas should have these facilities to capture the rainwater.
5.	schools in remote area needs renewable energy to electrify the school building	Innovative design of schools should have solar panel on the roof for renewable energy and implement the government 'vision of electricity for all by 2021'	Very few schools have installed the solar panel for renewable energy. The building needs to accommodate the solar panel at the convenient part of the building and should be included in the civil work packages.
6	Appointing Environmental Specialist under SESIP	Once the Environmental and Social Unit start functioning under EED the department can handle the environmental concerns and its reporting.	Environmental Safeguard Expert will help EED till the completion of civil works under T-1 and T-2. and opening of Environmental Unit under EED. Presently ESE ensure regular submission semi-annual EMR on regular basis.
7	Develop and provide training to the staff of the executing agency, Contractors	SESIP organize and conduct the training as recommended in EARF. However recently EED has recruited several supervising engineer and they should be included in training at some stage	Total number trained under the project are more than 800 since the start of the project. The new recruit should be trained in the same way. This could be arranged if time permits.
8	EMIS and SSQS Upgrading	The EMIS and SSQS database may be upgraded to accommodate the information collected during monitoring of school environment,	Land ownership data base with digital mapping should be created under separate module. Interaction with EMIS for water quality Testing, cleaning of wash blocks, etc.
9	COVID-19	Follow as per gov. instruction time to time	DSHE/ SESIP will send instruction accordingly in line with ADB COVID-19 response


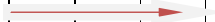








### B. Action Plan for Safeguard Monitoring

The action plan for safeguard monitoring depends on the creation of Environmental Unit under EED so that submission of the semi-annual EMR can submit on regular basis. The Implementation plan in the EARF explains very clearly are clear that Supervising Engineer are to be focal person at field level. The formatted data/information will be collected by the

EED officers engaged in the construction supervision, contractor undertaking civil works and Head teacher responsible for day-to-day operation of the school and safety of the children. The compilation of the environmental data would be enormous work and creation of environmental unit under EED compile them to produce semi-annual EMR. The action plan for safeguard monitoring is in Table 25. Submission of semi-annual EMR for June 2021 and one comprehensive EMR of SESIP in December 2021 will need Engagement of ESE on intermittent basis. The other compliance like financing of digital survey, collection of environment quality (air, water, noise), regular cleaning of washroom and COFVID-19 prevention measures has long been ignored. Testing of tube well water quality data through a MOU with DPHE has never been realized.

The use of tech platform for regular meeting, collection of necessary information from the focal person are not regularly been done or there is no policy and initiative from the department. Even remote inspection of civil works and instruction to the contractor are also possible. The tech platform can be used for the intermittent training of the workers at a minimal cost.

Table 12: Action Plan for Safeguard Monitoring (January-December 2021)

SN	Months (Jan2021-December 2021,)	J	F	M	A	M	J	J	A	S	O	N	D
	Identified Works	1	2	3	4	5	6	7	8	9		11	12
1	Creation of Environmental Unit in EED by Ministry of Education and manpower requirements												
2	Review of Rapid Environmental Assessment (REA) and digital survey and mapping												
3	Quality control of civil works for EMP monitoring												
4	IEE/EMP for identified sub-project												
5	Continued Orientation/ training for newly recruit supervising engineer in construction and environment management.												
6	School Hygiene and Environmental Parameters (initiate dialogue for MOU with DPHE)												
	<i>a. Annual Water Quality Testing (TW)</i>												
	<i>b. Review of Sanitation Facilities (toilet, hand washing, urinals) policy on cleaning</i>												
7	Semi-Annual Environmental Safeguard Monitoring Report (EMR): JUNE 30 <sup>TH</sup> 2021 and , DECEMBER 31 <sup>ST</sup> 2021												
8	Comprehensive Environmental Safeguard Monitoring Report												
9	Participate Project Completion Report PCR												



### Appendix 1: Specific Health and Safety Plans relating to COVID -19 Pandemic

#### Specific Health and Safety Plans relating to COVID -19 Pandemic at civil works construction site:

- Increased monitoring of the site and employees (i.e. temperature checks, logs of tasks performed and/or deliveries, etc.);
- Requiring a dedicated safety employee whose task is to document health and safety issues and monitor revised government guidelines;
- Posting of notices relating to safety onsite, as well as updated safety procedures relating to limiting the spread of the virus;
- Integration of various safety plans of all project team members for conformance;
- Actions to be taken in response to a potential outbreak (i. e. who should be notified, review of task logs for employee interaction with the sick individual, suspension of work in impacted area(s) and subsequent disinfection procedures to be taken).

Monitoring Plan for Contractors' additional H&S as per guide of ADB on COVID-19

Subproject Name. ....

Package no .....

Item of works/ Responsibility	Yes	No	Remarks
Employee temperature tests			
Deep cleans,			
The disinfection of job sites,			
Disinfection of equipment, and machinery.			
Protocols to for health and social distancing messages			
Purchase of mask and gloves,			
Highly-stocked hand washing stations.			
Response Plan to a potential outbreak			

Submitted by the contractor:

Name of the Construction Company:

Signature of the contractor:

Supervising Engineer/

EED: Zone:.....

## Appendix 2: Daily monitoring on Special H&S Plan of the contractor


মাধ্যমিক ও উচ্চ শিক্ষা অধিদপ্তর  
সেকেন্ডারি এডুকেশন সেক্টর ইনভেস্টমেন্ট প্রোগ্রাম (সেসিপ)  
www.sesip.gov.bd

স্মারকনং-মাউশি/সেসিপ/SPSU/২-২৯৯/ইএস/২০১৭/৬০৮৯

তারিখ: ২০.১০.২০২০ খ্রি.

বিষয় : সেকেন্ডারি এডুকেশন সেক্টর ইনভেস্টমেন্ট প্রোগ্রাম (সেসিপ) এর আওতায় কোভিড-১৯ মহামারী সময়ে শিক্ষা প্রকৌশল অধিদপ্তর কর্তৃক নির্মাণাধীন ছাপনায় নির্মাণকর্মীগণের নিরাপত্তা ও স্বাস্থ্য সুরক্ষা সংক্রান্ত তথ্য প্রেরণ প্রসঙ্গে।

উপর্যুক্ত বিষয়ে জানানো যাচ্ছে যে, সেকেন্ডারি এডুকেশন সেক্টর ইনভেস্টমেন্ট প্রোগ্রাম (সেসিপ) এর আওতায় শিক্ষা প্রকৌশল অধিদপ্তর কর্তৃক বাস্তবায়নধীন নির্মাণ ও পূর্তকাজের সাইটে কর্মরত নির্মাণকর্মীগণের কোভিড-১৯ মহামারী সময়ে নিরাপত্তা ও স্বাস্থ্য সুরক্ষা নিশ্চিতকল্পে প্রয়োজনীয় পদক্ষেপ গ্রহণ এবং সংযুক্ত ছক মোতাবেক দৈনিক ভিত্তিতে তথ্য সংরক্ষণের নিমিত্ত সংশ্লিষ্ট ঠিকাদারগণকে নির্দেশনা প্রদানের অনুরোধ করা হলো। একইসাথে মাসিক ভিত্তিতে এতদসংক্রান্ত সংগৃহীত তথ্যের সরসংক্ষেপ এ কার্যালয়ে প্রেরণের অনুরোধ করা হলো। উল্লেখ্য, এশীয় উন্নয়ন ব্যাংকের বিগত লোন রিভিউ মিশনের সাথে মাধ্যমিক ও উচ্চশিক্ষা বিভাগের সম্মত কর্মপরিকল্পনায় এ কার্যক্রম বাস্তবায়নের বিষয়টি অন্তর্ভুক্ত রয়েছে।

  
20.10.2020  
(প্রফেসর ড.সামসুন নাহার)  
উপপরিচালক (প্রশাসন) ও  
যুগ্ম প্রোগ্রাম পরিচালক (অ.দা)  
ফোন: ৯৫৫৩৭১২

প্রধান প্রকৌশলী,  
শিক্ষা প্রকৌশল অধিদপ্তর, ঢাকা।

স্মারকনং-মাউশি/সেসিপ/SPSU/২-২৯৯/ইএস/২০১৭/৬০৮৯

তারিখ: ২০.১০.২০২০ খ্রি.

- ১। প্রোগ্রাম পরিচালক, সেসিপ ও মহাপরিচালক, মাধ্যমিক ও উচ্চ শিক্ষা অধিদপ্তর, ঢাকা।
- ২। তত্ত্বাবধায়ক প্রকৌশলী, শিক্ষা প্রকৌশল অধিদপ্তর, ঢাকা (সংশ্লিষ্ট প্রকৌশলীগণকে বিবরণি অবহিত করলে প্রয়োজনীয় ব্যবস্থা গ্রহণের অনুরোধসহ)।
- ৩। Dr. Mustofa M. Kamal, Environment Safeguard Expert, SESIP।
- ৪। সংরক্ষণ নথি।

(Public report on the Health and Safety (HHS) of workers in the construction of educational institutions during the COVID-19 Pandemic)

[illegible]

.....

[illegible]

மேம்பாடு 2-2/3% / ஆண்டு / 2015-2016 ஆண்டு

Appendix 3: PHOTOGRAPHS SCHOOLS UNDER PVIP



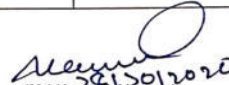




## Appendix 4: EMP cost, guide band design and alignment for CAP

Environment Management Plan (EMP) implementation cost for DEO, Bandorban

SN	Items of works	Mitigation Measures/ Design	Cost in BDT
1	Slope protection civil works:	Proper site drainage, preventing soil erosion, establishment of a porous paving stone access area and parking space (allowing percolation of rainwater to the underlying soil and aquifer),	2500000.00
2	Peripheral drainage work:	perimeter drainage ditch that can direct site drainage to the lake slope (which is vegetated) without causing any erosion gullies	200000.00
3	Resilient building	Against earthquake: tectonic activity, with the latest recorded in 2002, at 5.5 on the Richter scale reported at Bandorban,	Nil
4	Silt trap and guided drains	Construction and Cleaning of silt trap	Nil
5	Water treatment plant	Construction of Water treatment plant	Nil
6	Protection of gullies and its vegetation	Not allowing lake to be polluted presumably from muddy water during the monsoon (with subsequent sediment entry to the artificial lake to the southwest of the site).	Nil
7	Tree plantation	Minimum number of trees (decided on of trees cut and area available for plantation) to be planted as per forest guidelines	20000.00
8	Rainwater harvesting with storage tank and pipe line	Construction of storage tank and necessary pipelines for storage and pumping for distribution	Nil
9	Fire fighting equipment , PPE and energy efficient equipment	The equipment should of good quality and standard	Nil(Ten Nos Fire Extinguisher on schedule)
10	PV solar panel for electricity	The equipment should of good quality and standard	Nil( On – Grid 0.5 kw are solar system on schedule)
11	Measurement of water quality (quarterly) for tube well and treatment plant	Measurement for As, Mg, Na (salinity) and Fe ( iron content)	300000.00
12	Engaging Environmental <sup>1</sup> Officer by the contractor	5 Working Days intermittent (whole period of construction) @ Tk. 10,000.00 inclusive of all for one full day visit/ WD	50,000.00
		Total	2800000.00

  
 (Md. Kamrul Hasan)  
 Executive Engineer  
 Education Engineering Department  
 Bandarban.

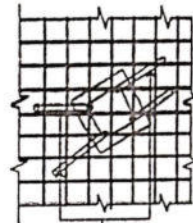
# DESIGN DATA : —————

1. Ultimate compressive strength of concrete is  $f_c = 19 \text{ MPa}$ , 28 days  $f_c$  value.
2. Min yield strength of M. S. bar  $f_y = 235 \text{ MPa}$
3. CLEAR COVER FOR ———
  - a) Column below G.L. = As Shown
  - b) G.B. below G.L. = 50 mm, Top = 38 mm

## INSTRUCTIONS : —————

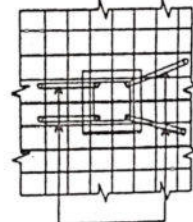
1. Design must be strictly followed.
2. Design loads will be found out, if there be any change to the E.C.
3. During construction to avoid variation & error from this design related B.O.Q shall be estimated before tender procedure.
4. After completion of works one copy of as built drawing shall be submitted to concern design section for keeping records.

BLOW UP-1



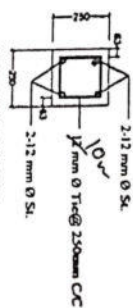
Column rod shall be tie up with the base rod by 12 No G.I. wire min 3 points

BLOW UP-2

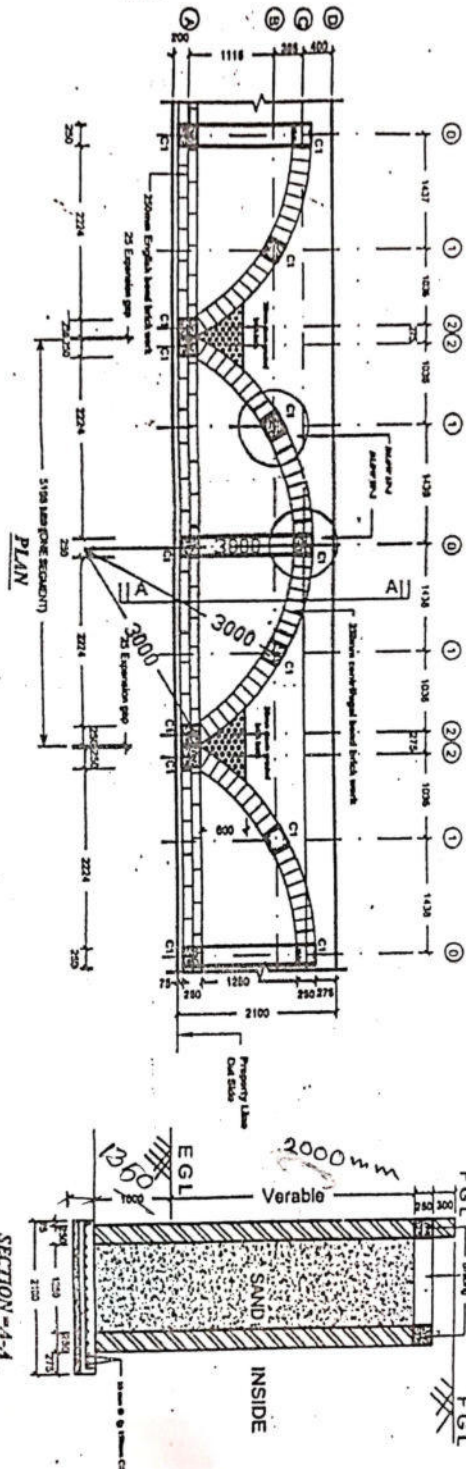
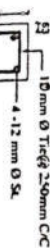


Column rod shall be tie up with the base rod by 12 No G.I. wire min 3 points

SECTION BRACING



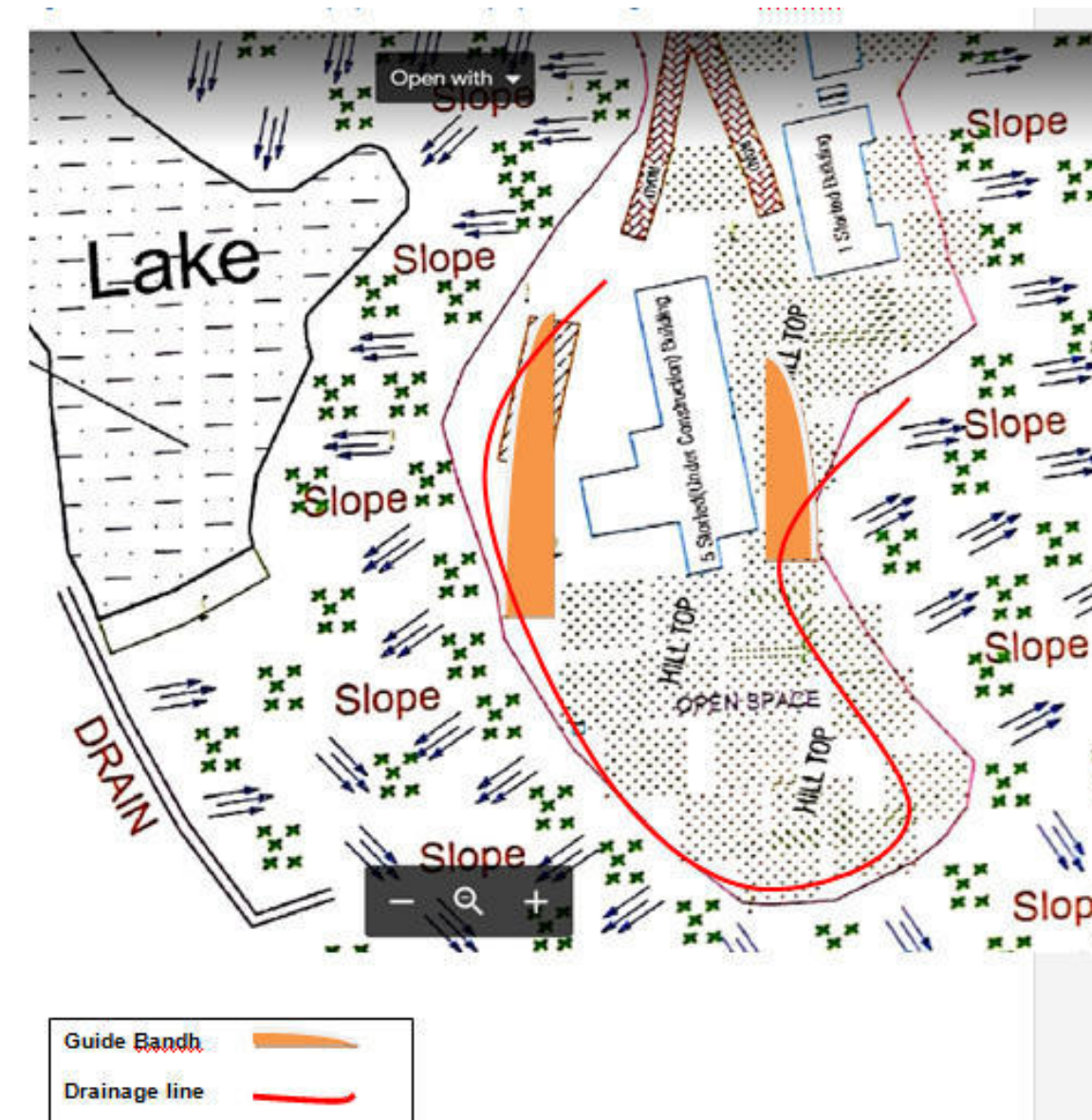
COL. SEC = C1



\* Length of Slope protection wall  $\approx 35.00 \text{ m}$  (approximate)

Neeraj  
26/10/2020  
Md. Kamal Akbar  
Executive Engineer (B.C.)  
Education Department  
Bandarban.





Some photographs at the DOE, Bandorban worksite



Figure 11: Technical /engineering drawing of the CAP



Figure 12: Technical /engineering discussion with field officers EED



Figure 13: Approach road to the DEO Bandarban



Figure 14: West of the building where guide wall under construction



Figure 15: Back and end of the building viewing from East.



Figure 16: Quality check and measurement of civil works