

Semi-annual Environmental Monitoring Report

Project No.44213-016
June 2020

**Secondary Education Sector Investment Program -
Tranche 1**

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SEMI-ANNUAL ENVIRONMENTAL (SAFEGUARD) MONITORING REPORT



Semi-Annual EMB No. 8
Secondary Education Sector Investment Program
30 JUNE, 2020



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Development Bank



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 Performance
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 Report. List of equipment, room lay out plan and list of furniture for selected 10 trades (as proposed in the Report and agreed by DTE) have been prepared. EED has commenced civil works in the selected 640 institutes. ICB tenders (Package 50/a and 50/b) have been floated for supply of necessary equipment to the selected schools. MOE has decided to commence the academic activities in the selected 640 schools from January 2020 after completion of all necessary preparations (i.e. completion of civil works, supply of equipment, recruitment of teachers, affiliation from the respective education board etc.). However, timely completion of 10 ICB procurement packages are challenging and DSHE/SPSU/F&PW/EED are advised to complete all procurement activities (equipment, furniture and civil works) by November 2019, and ensure pilot commencing of PVIP in 640 selected institutes from January 2020.
2. SESIP has three key result areas: (i) enhanced quality and relevance of secondary education, (ii) more equitable access and better retention, and (iii) 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. The poor environmental conditions at school include crowded classrooms, poor ventilation, shortage of clean drinking water, unhygienic or untidy clothing worn by pupils, poor nutrition, lack of greenery in the school area, location of schools close to main roads, air pollution. Furniture is a vital ingredient in making a classroom feel warm and homelike – perfect for creating a comfortable, flexible and encouraging learning environment. Achieving optimal levels in school buildings 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, some civil works (building of structures and associated components) is planned, according to the 5-year infrastructure development plan. The program will support for upgrading the physical facilities and equipment of government secondary, upazila (thana) education offices, including school infrastructure development – construction and renovation of school buildings. Support will include renovation of classrooms, libraries, laboratories for science and vocational courses (including supplying of instruments and equipment) for the selected schools/ madrasas, storage, and provision of furniture and teaching aids, where necessary.

EMP implementation status

Concern Issue	Recommended Measures	Implementation/Compliances:		Remedial Measures
		Yes	No	
Seating arrangement	Seating arrangement should be comfortable	20	14	Increase classroom and size
First Aid facilities	First Aid facilities should be available in the schools	30	4	Advised to keep first aid box in school
Firefighting	Firefighting equipment should be available in the schools	18	16	Contractor's supply
Pure Drinking Water/annual testing	Pure drinking water (Arsenic free) should be provided	34	0	As reported by head teacher no test result available

Concern Issue	Recommended Measures	Implementation/Compliances:		Remedial Measures
		Yes	No	
Electricity	Electricity, fan, and light should be available in the schools; energy efficient light and fan should be used	34	0	Interrupted electric supply causing suffering to the student
Disposal of Waste	Waste disposal bins should be in place in the classrooms and also at the school central	18	16	Bins are being used
Smoking	Schools and classrooms should be marked up as a "no smoking zone"	34	0	None allowed to smoke in the school premises
Sanitation facilities Separate for boys and girls.	Sanitation facilities (washroom, urinal etc.) should be ensured in the schools; provision of water closet and flushing system in toilet and bathroom; fixing of hand basins; and cleanliness.	30	4	Wash room, sanitary latrine construction part of civil works
Ventilation	Provision of adequate ventilation in the classroom of the schools	34	0	New building has wide open window for ventilation and light
Management of lab chemical waste	Chemical wastes from the laboratory should strictly be discharged to the designated concrete covered pit by the school authority so that surrounding environment is not polluted; a waste management plan should be prepared by the school authority and be strictly followed	10	24	School is taking care to dispose appropriately. All school does not have science lab facility
Domestic Sewage	Domestic sewage from the classroom shall be subject to suitable treatment prior to discharge to the environment; under no circumstances, untreated wastes will be discharged into the environment	18	16	Deposited in a identified location for disposal
Praying Rooms	Separate praying rooms for men and women should be ensured in the schools	34	0	All schools maintain the room
Gender equity	Gender equity should be followed during admission	34	0	Many schools girls exceed boys

The concerned parties like school management committee, supervising engineer, contractor will have responsibility to take immediate remedial measures.

- The implementation of the program-related infrastructural works and the other subproject will be governed by ADB's Safeguard Policy Statement (SPS, 2009) and the environmental laws, policies, and regulations of the Government of Bangladesh (GOB). The Environmental Assessment and Review Framework (EARF) 2013 is intended to be 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)
- Construction of multi-storied buildings is considered as 'Orange B' category in ECR, 1997. 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 for environment category B projects and provides mitigation and monitoring measures to ensure no significant impacts as a result of the subproject
7. Procurement Progress Review. The Mission reviewed the procurement progress with the SPSU, EED and F&PW and updated the status of all Goods, Works and Service packages under Tranche 1 and 2. The compliances is shown in Table : Status of Revised Time Bound Actions Agreed During Mission (9-18 July 2019)
8. 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.
9. Monitoring Requirements Specific IEE (SIEE) requires the Project semi-annual EMR to be prepared by the borrower 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 and construction) 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.
10. Major findings during the report period are:

Issues/Work Activity		Recommendations	Compliances EMR June .2019
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 for setting up of Environmental Unit under Superintending Engineer, EED to be approved by the Ministry of Education.

Issues/Work Activity		Recommendations	Compliances EMR June .2019
2	The building blocks and extension of classrooms are not well planned. Most schools does not have site plans and mapping as required REA.	positioning the building blocks and extension are to be planned. More space needed for other activity of school. School environment should get priority in construction for ventilation, seating comfort ability, sanitation like separate toilets for boys and girls and other extracurricular activity area.	EMIS should be enriched with information that help in planning of building in the school. Digital survey and mapping should be available in EMIS. Therandom funding for the school should not be available without the master plan of the school..
3	Environmental information in REA as per the EARF and PIA (Project Area of Influence) needed.	School need digital survey and mapping and project influence from surrounding area. This information can be used for initial screening to design a properly oriented of the building in school.	School need to encouraged to prepare master plan so that it became easy to plan in proper orientation of the building..
4	Innovative design of the building for rain water harvesting	The rain water harvesting recommended that need the innovative design.	From now the schools in coastal and hilly area should have this facilities to capture the rain water as there is scarcity of sweet water.
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 has installed the solar panel for renewable energy. The building need to accommodate the solar panel at the convenient part of the building and should be included in the civil work packages.
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 due in December 2019
7	Environmental Clearance Certificate	Application required from SESIP for ECC. The DOE, will require IEE/ SIEE and present EMR to accompany the application	The project will be completed by December 2020.
8	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.ESE ensure regular submission and one comprehensive EMR at the conclusion of the project in 2020.
9	Harmonized design and architectural exterior beautification, orientation of the building of the class room for better ventilation and light	Suggestion has been made to undertake better design option and one report being prepared for better orientation and planning.	The area for developing school are limited and no harmonized design has been intervened.EED should follow guidelines: Strengthening Process in Planning, Design & Drawing of Infrastructure: Secondary and Higher Secondary School
10	Develop and provide training to the staff of the executing agency, Contractors and the Consultant	SESIP organize and conduct the training as recommended in EARF. However recently EED has recruited several hundred 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.
11	Due to COVID-19 Use of tech platform for remote inspection and training	Tech platform for virtual meeting, training and remote inspection are available and ADB should consented it.	The practice has been initiated but it needs Bangladesh Govt. and ADB collaboration. Whereas ADB has already formulated a project
12	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..

11. This report is being drawn on the status of implementation of EMP of the sub-projects and recorded during field visit and monitoring by the focal persons (supervising engineers) of the

activities related to the civil construction as directed in the EARF. Formats for supervising engineer, SMC and contractor were supplied for monitoring of EMP implementation. 32 school under PVIP and 9 DEO extension was visited by the ESE to take snap shot of the civil construction and environmental management practice for the sub-projects.

12. Capacity building of Supervising Engineers, SMC, HT and Contractors associated with the civil works undertaken recently concluded training /workshop to ensure they are aware of their on-site responsibilities in respect to all environmental issues. During Tranche 2 (two) about 630 from among EED supervising Engineers, Members of SMC, DSHE officials and Contractors participated. Training completed during the period March-June 2019 and trainee activities and listing is appended, and one Training Report has been submitted to understand effectiveness of the training. In about 219 participated the earlier Tranche 1 program. Total number of persons trained in construction and environmental safeguard now stands 849.
13. This report is the Eighth in series Semi-annual Environmental Safeguard Monitoring Report, which covers the period from Jan 1, 2020 to June 30, 2020, in compliance with the environmental scope of the construction supervision by the supervising engineers as trained earlier. The main purpose of this construction and environmental monitoring is to ensure the implementation of environmental mitigation measures during the construction phase. Environmental issues also are anticipated to be identified in advance for avoidance and to ensure timely completion of the project. No physical visit was performed due to the COVID-19 pandemic situation as most of the work was being suspended by the contractors.
14. 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 to many countries and territories. While a lot is still unknown about the virus that causes COVID-19, we do know that it is transmitted through direct contact with respiratory droplets of an infected person (generated through coughing and sneezing) Individuals can also be infected from touching surfaces contaminated with the virus and touching their face (e.g., eyes, nose, mouth). While COVID-19 continues to spread it is important that communities take action to prevent further transmission, reduce the impacts of the outbreak and support control measures. 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 WHO.
15. Identifying and Managing Construction Risks During the *Corona virus* Pandemic: In addition to the typical risks in every construction project, the current and lasting impacts of the COVID-19 pandemic have created a whole new set of risks that would have been unimaginable only a few short weeks ago. Moreover, owners and contractors alike must identify 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, management teams should consider the risks in the wake of the Corona virus pandemic

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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 will support 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, and (iii) 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 class rooms
- 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 class room 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 will support construction of school buildings and 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 (formerly School Information Hubs), construction of upazila education offices, and provision of safe drinking water, sanitation, and drainage facilities. Major infrastructure of the program is school buildings which will be built on already acquired areas and there is no such structure on ecologically sensitive areas or any of nature reserve. One District Education Office was planned in government land on the property of the Bandarban Govt. Girls' High School. This has to be changed to the land owned by the Bandorbon Hill District. The site was changed due to land dispute and changed to a site donated by CHT Council. The work is progressing well and expected to be completed by this financial year. IEE was prepared and EMP included in civil works package and is part of bid document.

a. 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.

b. Environmental Implications

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

- ICT equipment within existing schools (mostly within existing building footprints, therefore innocuous in terms of environment).
- 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).
- New buildings: in existing urban or town areas (minimal environmental sensitivities); or possibly "green" field construction (higher risk of environmental vulnerabilities, depending on location); increase in local service demands; good options for climate proofing and use of solar power (positive).
- 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 and reducing child mortality. 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..

c. Requirements for Master Planning : Digital Survey

Before planning a project, it is absolutely important to get the accurate shape of project area. Because the project land shape may not always be exact rectangular or any other regular shape. In this case manual hand survey can not produce accurate measurement. Because tapes and chains have lots of limitations and errors. That's why the digital survey comes in handy. What makes the digital land survey so accurate ? It's the EDM which stands for Electronic Distance measurement. EDM devices like Total Station, Level, Theodolite etc to handle any kind of projects very precisely. It's a technology that uses computerized methods to measure the angle, distance and height. This can't be achieved by conventional tape measurements. The availability of digital survey map will pave the way for master planning of the school and school finance for civil works can be systemic way. This plan/ map can be embedded with in the EMIS for future infrastructure planning, design and operation of school. The following are the features of digital survey and this will create an engineering data base for future planning:

- Digital Topographic Survey
- Contour Survey
- Layout/Settingout Survey
- Hill Survey
- As Build Survey of Existing Structure
- Drawing Digitization
- Map Pantographic

Table 1: The major civil works involved that need screening process and CEMP

Civil Works	Screening process and CEMP
640 schools/ madrasahs selected for extra classrooms for pre-vocational and vocational courses;	640 subprojects
Vertical extensions and outfitting for training venues in 53 District Education Offices (DEOs);	53 (now 47) subprojects
Refurbishment of 100 priority schools/madrasahs;	100 completed with screening and EMP
Construction of the Bandarban DEO.	completed with screening and EMP recommended as of IEE
Metropolitan Thana Education Offices	5 (out of 25) under implementation others has land problems.
Additional schools under ICT	70 Schools subproject for ICT

B. Progress in Civil Works Procurement

a. 640 schools/madrasahs selected for extra classrooms for Pro-Voc and vocational courses and labs.

More focus has been given on changing the perception of existing vocational training opportunities through nationwide awareness program and advocacy. It should not be portrayed as an option for the less fortunate who can't invest in education and, thus, opt for technical training. Reform is required not just about new ways of doing things; it is about changing the mindset of the vocational sector. If the sector is to meet the increasing demands of the global labour market, it needs to focus quickly on becoming flexible, inclusive, efficient and collaborative. More students should be encouraged to think outside the box, having fewer academic degrees and more practical knowledge, so that they can be highly skilled workers

640 Schools are being selected based on decision and criteria fixed taking opinion from all stakeholder as referred in Memo SPSU/Pre voc – Voc 3-13/2017 (attachment 1) to expand education on vocational trades in schools. Schools to be selected under the program should fulfill the following criteria:

- Must have interest in conducting Pro-Voc and Vocational Courses;
- Should have space to construct at least 2 additional rooms;
- Should have electricity;
- The school should have included in MPO and;
- However the conditions can be relaxed in case of geographically challenged area and under served Charland, Haor and Hilly areas

Based on the above criteria the following schools and institution has been selected:

1. 487 schools selected from 490 Upzila
2. 64 madrashas from 64 Upzila
3. 53 schools from inaccessible and underserved areas
4. 36 Madrasa from inaccessible and underserved areas

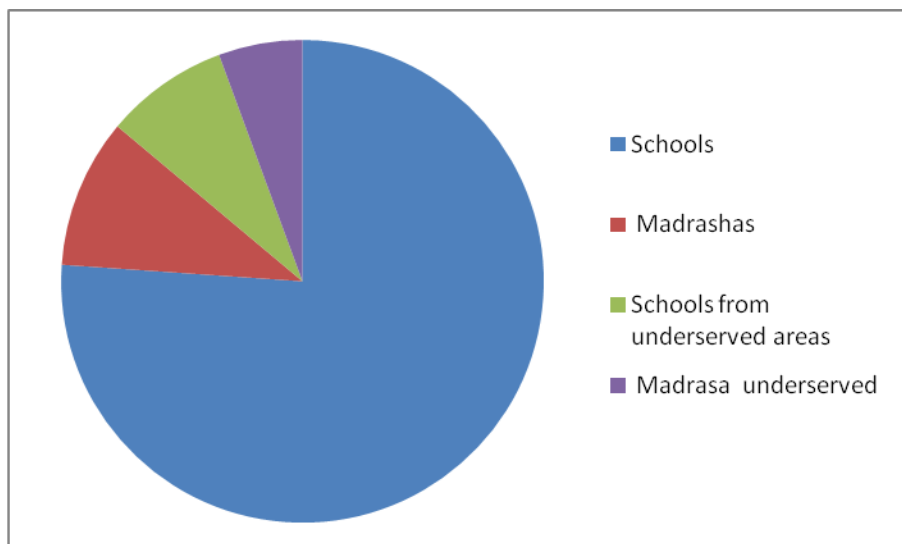


Figure 1: Selection of PVIP from among different educational institutes.

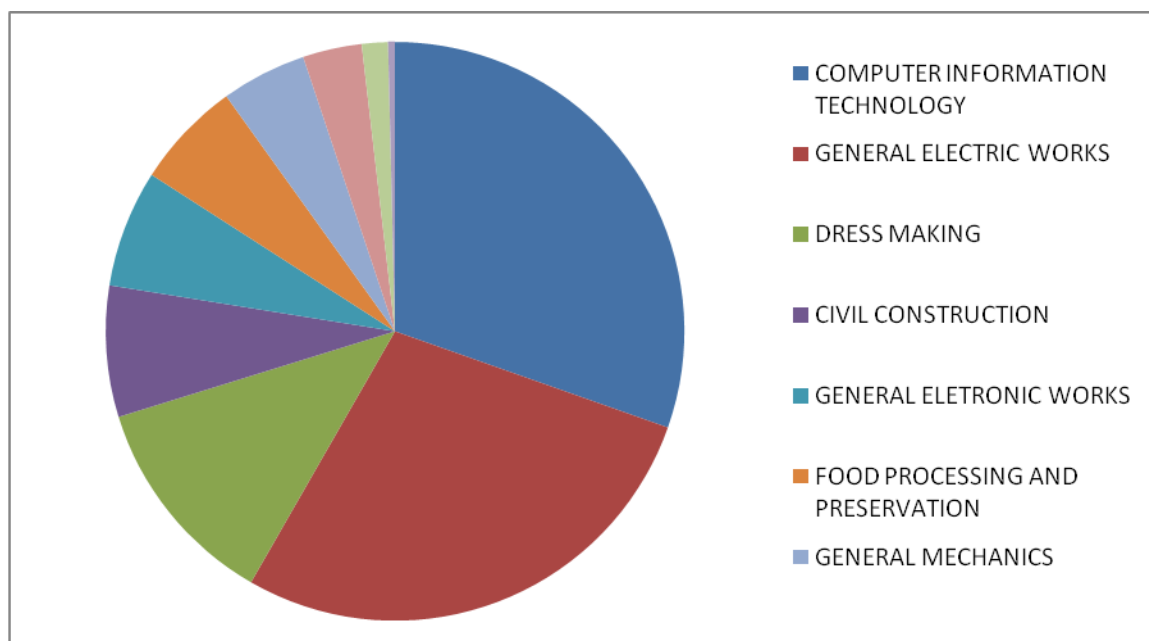


Figure 2: DISTRIBUTION OF TRADES CHOICE BY NO OF SCHOOLS

d. District and Thana Education Offices

Construction of the new Bandarban District Education Office and Vertical/ Horizontal extensions and outfitting for training venues in existing 53 District Education Offices (DEOs); and, 25 Thana Education Offices in Metropolitan cities

e. Choice of Trades:

The data shows that choice of trades are greatly inclined towards ICT (395) and General Electric works (363) which constitutes 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 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

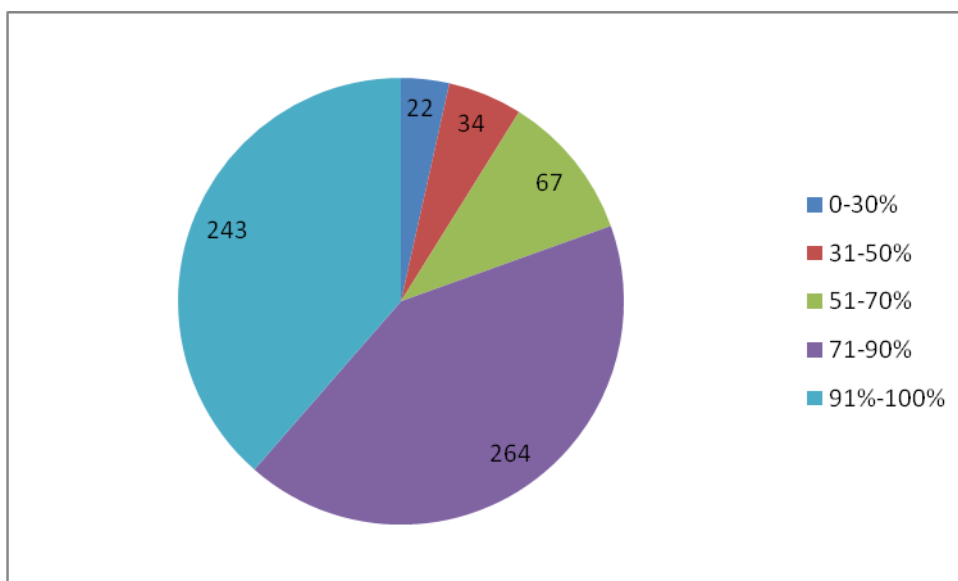


Figure 3: Progress of civil works PVIP

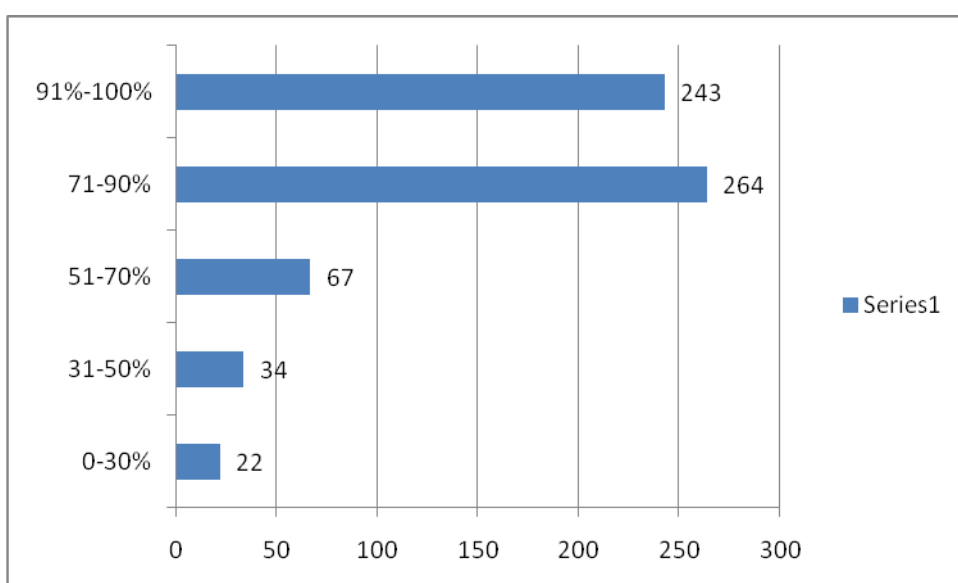


Figure 4: Progress in bar % for PVIP

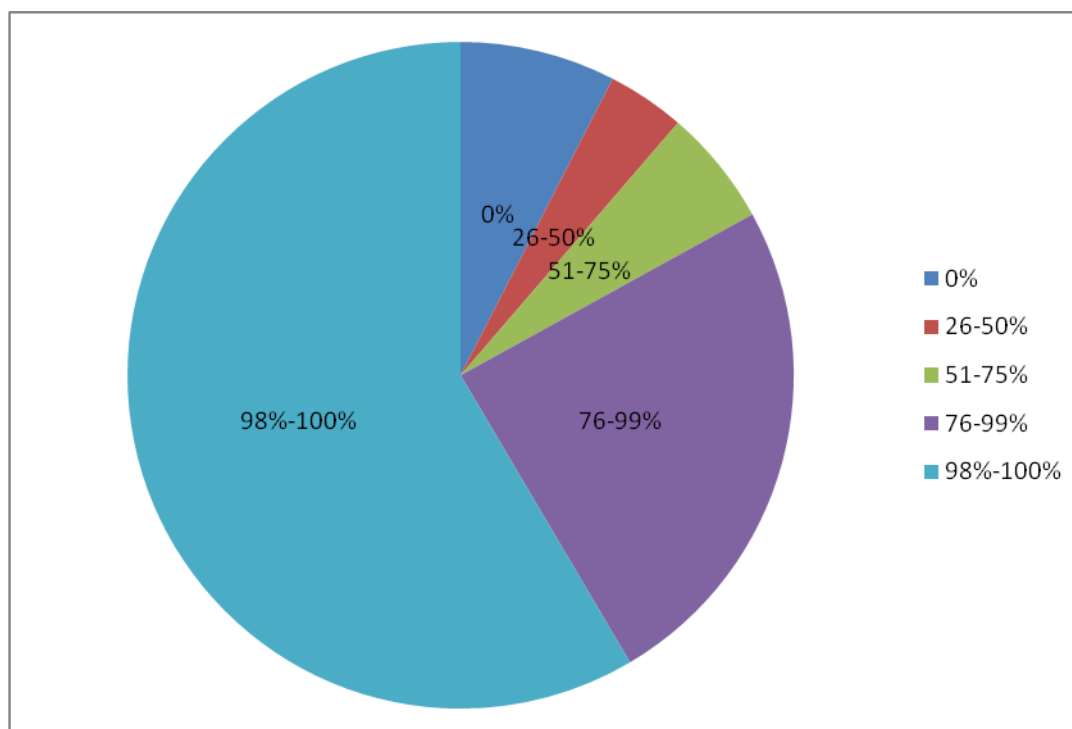


Figure 5: Progress in District Education Office

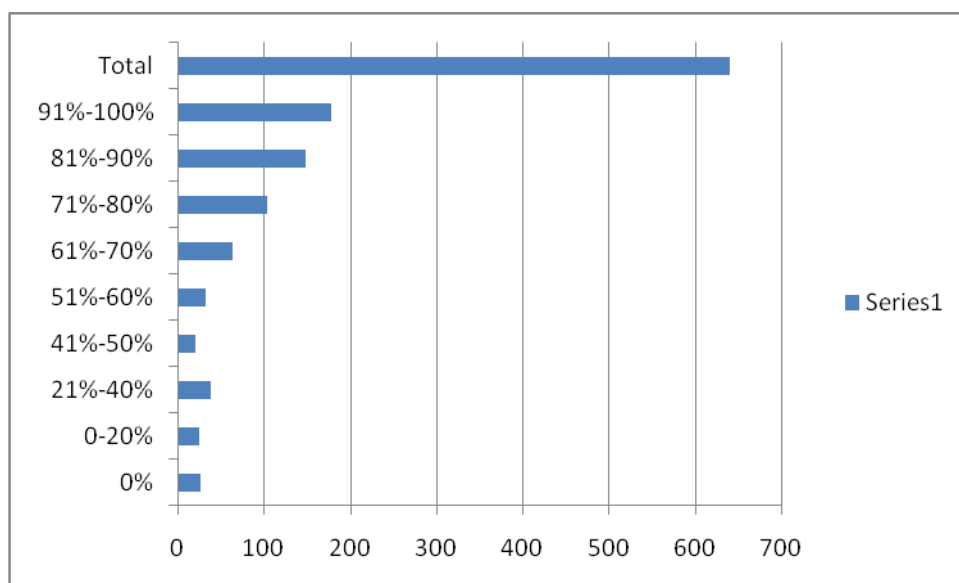


Figure 6: Progress in bar comparing total no of PVIP

The chart shows (Fig 3) that 75% of the civil construction for PVIP has progressed well but 25% are lagging to complete in due time in December, 2019. Out of the 25% (160 nos) 27 has problem either with land or change to a new school location.

Fig 4 shows the same in bar diagram & 5 shows the percent of schools in each slot has been progressed in comparison to the total school selected for PVIP. The progress of each of the selected schools for PVIP has been shown in the **Annexure-1**

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 programme;
- 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 planned.

A. 5-Year Infrastructure Development Plan

The implementation of the program-related infrastructural works and the other subproject will be governed by ADB's Safeguard Policy Statement (SPS, 2009) and the environmental laws, policies, and regulations of the Government of Bangladesh (GOB). The main provisions for environmental protection and pollution control in Bangladesh are contained in the Environmental Conservation Act, 1995 and Environmental Conservation Rules (ECR), 1997.

Construction of multi-storied buildings is considered as 'Orange B' category in ECR, 1997. However, there is no fixed definition of a multi-storied building. In practice, a building of more than 10 stories within Dhaka City (as per building construction rules of RAJUK) and a building of more than 6 stories outside of Dhaka city will be considered as 'Orange B' category. Environmental screening using Rapid Environmental Assessment (REA) checklist prepared to ascertain environmental category of each school and office infrastructure and other civil works. Procurement Plan Updates for ILC is in Table -2

B. Monitoring Requirements

Project Semi-Annual EMR to be 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 are:*

- 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 for the training of contractors preparing them on 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:

- a) Initial Environmental Examination (IEE) attached;
- b) Environmental Management Plan (EMP) attached; and
- c) 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:

Schools selected for construction for additional class rooms 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 will be basis for the design of the infrastructure. The screening will have REA as per the EARF and PIA (Project Area of Influence) mapping will be 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 workout 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 need to be developed to explain the general process of infrastructure planning, implementation, quality control and monitoring.

b. 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) shown in Table 6. This will be basis for the design of the infrastructure too.

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.

4. Status of Progress of Civil Works

b. Sub-project Description: District and Thana Education offices

The most critical and challenging was construction of building in hilly region. The hill district Banderbon have one new construction of 5 story District Education building. The hill area has special problem / constraint of slope failure and land sliding during heavy rainfall. The land available after long bargain was at the corner of the hill occupied by several building and structure of the hill district council. This is area is at the fringe of the hill slope. It has higher risk of land slide. The typical design was followed for the building without consideration of a resilient structure to withstand the land slide and protection of the slope affecting the

building. Engineering drawing and design expert while visiting the site has discussed with the supervising engineers and reported to SESIP. It is recommended that the proper design for the slope protection required by the is needed and should be started immediately to safe the newly constructed DEO structure. Existing District and Thana education offices has been extended horizontally / vertically as per convenience.

5. Environmental Monitoring

A. Qualitative and Quantitative Monitoring Data

In order to ascertain whether environmental management system is functioning properly, it is necessary to include a program to monitor. The environmental management plan will include an environmental monitoring procedure based on an environmental review study of the program of the Directorate of Secondary and Higher Education.

The Environmental Management Plan will focus on the implementation of mitigation measures during project construction period. The sub-project implementation (construction) will be carried out under the supervising engineers of the Education Engineering Department.

The project falls under “B” category according to ADB Safeguard Policy Statement, 2009 and “Orange B” category in accordance with the Bangladesh Environment Conservation Act 1995 and Environment Conservation Rules 1997. All subprojects require an EMP; but extension of school building / infrastructure development subprojects has minimal impacts. During the course of project implementation, monitoring of compliance and safeguard issues related to environmental matters are undertaken by the implementing agencies, with EED to ensure that the project is implemented with due concern for environmental safeguards and specifically to ensure that these issues are adequately addressed to the requirements of ADB (SPS).

a. Environmental Safeguard Measures

This report has been prepared based on observations made on available data , during field inspections, 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.

Construction Supervising Engineers of EED being Environmental Focal person will accomplish:

- Preparation of REA (screening) for the subproject for categorization and data base for engineering planning and design. This will encourage them to prepare EMP and embedded in the bidding documents.
- Ensure that the mitigation measures (EMP) has became part of bid documents
- Supervise and monitoring of implementing mitigation measure of the contractor during the construction stage
- Cooperate with environmental safeguard expert with monitoring data for regular submission of the Semi-Annual Environmental Monitoring Report (EMR) to SPSU (GoB) and ADB.

Construction and Environmental Management training completed between March-June 2019 the Engineer from EED, member of SMC, District Education Officers (DEO), Head Teachers and contractors of the civil works participated in the workshop. Exercise were being conducted to have hands on training of the use of the format for monitoring of the EMP. Now the trainee were able to collect the monitoring

data for EMP implementation during design, construction and operation period of the school. About 50% of the schools stakeholder and focal persons able to complete the forms and returned to the Environmental Safeguard Expert to include in the semi-annual Environmental Monitoring (Safeguard) Report (EMR) due in December 2019.

সেসিপ কর্তৃক Construction and Environmental (Safeguard) Management বিষয়ক Workshop (সক্ষমতা বৃদ্ধি) ১দিনব্যাপি কর্মসূচিতে অংশগ্রহণকারীগণের সংখ্যা (টার্গেট : ৬৪০)। ২৫.৩.২০১৯-১৪.৬.২০১৯ তারিখ

ক্রম	জেলার নাম (ডেন্ডা)	প্রকৌশলী		জেলা শিক্ষা অফিসার		প্রধান শিক্ষক		মাস্টার সুপার		এস এম সি- সদস্য		ঠিকাদার		মোট		মোট	মুঠাফিফ জনপোতা	
		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	খুলনা	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

Previous training program was participated by another 219 members of SMC, EED engineers, DSHE officials except contractor (under T-1). Capacity of the supervising engineers and other stakeholder are enhanced and they are now capable of monitoring of EMP implementation and can generate the environmental data that contribute to the semi-annual EMR. The huge data collected need to be compiled for publication of semi-annual EMR which in turn will uploaded on the ADB website. It was proposed by ADB for establishing one Environmental Unit headed by one Superintending Engineer, EED to handle the environmental monitoring process of the focal person in the field.

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

Water Sample from school sub-project tube well for testing for contaminants is another monitoring requirement. The cost of testing of tube well water during construction can be the responsibility of contractor under the guidance of Environmental focal person. This cost has been included in the work package. However large number of school outside SESIP funding are being left out for 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 regularly on annual basis for all the tube well water used for drinking by the children irrespective of SESIP funded schools.

c. Geographically challenged : Coastal and Hilly area

In coastal and flood prone area the design of the Water Supply component, are:

- Consider additional 15% water demand due to climate change;

- 22% additional storage of water in overhead tank of daily water demand;
- All infrastructure plinth level: production well, septic tank, water reservoir, pump house kept above high flood level (HFL);
- Surge time wind load (260 km/h) is considered for elevated structural design;
- High Density Poly Ethylene (HDPE) pipe and compatible fittings are used instead of PVC pipe to increase durability and reduce water losses;
- Backup Generator is provided and all electrical equipment are kept at a level above HFL;
- Rain water capture in the coastal and hilly area could be another possibility

Costing of water supply in coastal and hilly area need to be estimated according to above consideration

Source: CTIP

d. Water quality and Sanitation for schools.

Arsenic Hazards

Hundreds of tube wells in rural Bangladesh have been identified with high arsenic concentrations and many more are feared to have been contaminated with the same. So far 50,000 tube wells were tested and 63 percent of them were found to be contaminated with unacceptable concentrations of arsenic. Bangladesh has recognized the acceptable limit of arsenic concentration in water at 0.05 milligram/liter. Many people are suffering from arsenicosis and many more are at risk.

However in addition to arsenic pollution in many area of Bangladesh are salinity, iron content, magnesium has been detected and public health department has cautioned about it. In the testing for quality water the above contaminant testing has been included.

WASH in Schools aims to improve the health and learning performance of school-aged children – and, by extension, that of their families – by reducing the incidence of water and sanitation-related diseases. Every child friendly school requires appropriate WASH initiatives that keep the school environment clean and free of smells and inhibit the transmission of harmful bacteria, viruses and parasites.

WASH in Schools intervention should include:

- Sustainable, safe water supply points, hand-washing stands and sanitation (including menstruation hygiene) facilities;
- Fully integrated life skills education, focusing on key hygiene behaviors for schoolchildren and using participatory teaching techniques;
- Outreach to families and the wider community.

An efficiently and effectively implemented WASH in Schools will result in

- Perform better in school;
- Positively influence hygiene practices in their homes, among family members and in the wider community;
- Change their current hygiene behavior and continue better hygiene practices in the future;
- Learn about menstrual hygiene and physical and emotional changes during puberty
- Practice gender-neutral division of hygiene-related tasks such as cleaning toilets, fetching and boiling water and taking care of the sick.

Therefore, the guiding principle is that need based facilities should stimulate and promote appropriate hygiene practices among children.

e. Menstruation hygiene for adolescent school girls

Needs of adolescent girls Increasingly, evidence has shown that the absence of toilets or separate toilets without menstruation health facility in schools for girls is a major reason parents keep their daughters from attending school.

Adolescent girls attending school during menstruation require girl appropriate toilets, water supply for washing and receptacles for discarded sanitary pads. Without appropriate facilities, adolescent girls may be unable to remain comfortably in class. This has still not included in the concept of WASH block design. Keeping separate bin for the girls toilet and regular cleaning can help the adolescent girls to be safe from various disease.



Figure 7: Toilet planning for adolescent girls with receptacles for discarded sanitary pads

f. Water Supply and Sanitation:

Project in addition to the extension of the class rooms has included and emphasized on the proper toilets for the children. The school could organize to help achieve and maintain adequate water supply, sanitation and hygiene in schools. The stakeholder can play their roles for maintaining proper hygiene in the schools and ensure water supply for washing and receptacles for discarded sanitary pads

Provision of safe, clean and hygienic environment for students while also providing an opportunity to improve measures regarding water supply sanitation and promotion of hygiene. Having a properly maintained facilities in schools can have a multitude of benefits including (a) reducing the disease burden associated with unsafe water supply and sanitation and improve the quality of life, (b) decreasing of dropout and increasing academic performance.

g. Challenges in Water and Sanitary Hygiene:

- Lack of effective mechanism for operation and maintenance of facilities (human resources)
- Weak coordination mechanism among stakeholders involved in provision of Schools facilities.
- Inadequate attention to the software components: Hygiene promotion; Institutional capacity development; systems development for monitoring and evaluation; Partnerships and engagement with relevant stakeholders.

Inadequate utilization of EMIS for monitoring and analysis of facilities in schools for appropriate planning.

Meeting the challenges have been reported to the SESIP and as its policy matter and involve monetary allocation that is going to be long process. However the issues will be taken by the appropriate authority. ADB can take role during their mission to highlight those so that the implementation authority can take into cognizance and implement if they feel. These has been highlighted in table 11.

1. Challenges in COVID-19 for the schools and children

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 to many countries and territories. While a lot is still unknown about the virus that causes COVID-19, we do know that it is transmitted through direct contact with respiratory droplets of an infected person (generated through coughing and sneezing). Individuals can also be infected from touching surfaces contaminated with the virus and touching their face (e.g., eyes, nose, mouth). While COVID-19 continues to spread it is important that communities take action to prevent further transmission, reduce the impacts of the outbreak and support control measures. 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 WHO. This has given into two parts one for the school hygiene and another is for construction supervision.

A. FACTS ABOUT COVID-19

What is COVID-19?

COVID-19 is a disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and 'D' for disease. Formerly, this disease was referred to as '2019 novel corona virus' or '2019-nCoV.' The COVID-19 virus is a new virus linked to the same family of viruses as Severe Acute Respiratory Syndrome (SARS) and some types of common cold.

What are the symptoms of COVID-19?

Symptoms can include fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia or breathing difficulties. More rarely, the disease can be fatal. These symptoms are similar to the flu (influenza) or the common cold, which are a lot more common than COVID-19. This is why testing is required to confirm if someone has COVID-19.

How does COVID-19 spread?

The virus is transmitted through direct contact with respiratory droplets of an infected person (generated through coughing and sneezing). Individuals can also be infected from and touching surfaces contaminated with the virus and touching their face (e.g., eyes, nose, mouth). The COVID-19 virus may survive on surfaces for several hours, but simple disinfectants can kill it.

Who is most at risk?

We are learning more about how COVID-19 affects people every day. Older people, and people with chronic medical conditions, such as diabetes and heart disease, appear to be more at risk of developing severe symptoms. As this is a new virus, we are still learning about how it affects children. We know it is possible for people of any age to be infected with the virus, but so far there are relatively few cases of COVID-19 reported among children. This is a new virus and we need to learn more about how it affects children. The virus can be fatal in rare cases, so far mainly among older people with pre-existing medical conditions.

What is the treatment for COVID-19?

There is no currently available vaccine for COVID-19. However, many of the symptoms can

be treated and getting early care from a healthcare provider can make the disease less dangerous. There are several clinical trials that are being conducted to evaluate potential therapeutics for COVID-19.

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.

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

increase air flow 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 PARENTS/CAREGIVERS & COMMUNITY MEMBERS

- ☐ 1. Monitor your child's health and keep them home from school if they are ill
- ☐ 2. Teach and model good hygiene practices for your children

- Wash your hands with soap and safe water frequently. If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol.
 - Always wash hands with soap and water, if hands are visibly dirty
 - Ensure that safe drinking water is available and toilets or latrines are clean and available at home
 - Ensure waste is safely collected, stored and disposed of
 - Cough and sneeze into a tissue or your elbow and avoid touching your face, eyes, mouth, nose
- 3. Encourage your children to ask questions and express their feelings with you and their teachers. Remember that your child may have different reactions to stress; be patient and understanding.
 - 4. Prevent stigma by using facts and reminding students to be considerate of one another
 - 5. Coordinate with the school to receive information and ask how you can support school safety efforts (though parent-teacher committees, etc.)

c. 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.
 - o Ask questions, educate yourself and get information from reliable sources
- ☐ 2. Protect yourself and others
 - o Wash your hands frequently, always with soap and water for at least 20 seconds
 - o Remember to not touch your face
 - o 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.
- ☐ 5. Tell your parents, another family member, or a caregiver if you feel sick, and ask to stay home.

Source: WHO

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.

B. Identifying and Managing Construction Risks During the Corona virus Pandemic

In addition to the typical risks in every construction project, the current and lasting impacts of the COVID-19 pandemic have created a whole new set of risks that would have been unimaginable only a few short weeks ago. Moreover, owners and contractors alike must identify 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, management teams should consider the following risks in the wake of the Corona virus pandemic:

- Financial impacts of the pandemic;
- Site safety (including your employees and those under your control);
- Site security;
- Disruptions in supply chains;
- Labor shortages; and
- Unanticipated project delays associated with temporary shutdowns, governmental orders, reduced construction workers size to comply with social distancing requirements.

The following best practices can act as a guide for risk management team.

a. *Pre-Construction/Design Development Planning*

Pre-construction has become increasingly important for a variety of reasons, including to develop more accurate budgets, identify cost savings, develop better and more detailed plans before bidding, identify potential design and materials issues, properly vet contractors, and allow general contractors to buy pricing from subcontractors. Arguably, pre-construction has never been more important than in the age of the COVID-19 pandemic.

Regardless of whether government has ordered construction work to cease, these crucial pre-construction services do not necessarily have to stop. In fact, value can still be realized while you await the green light to proceed with construction. Many pre-construction services such as pre-planning meetings, team member selection, schematic design, scheduling/scope considerations and budgeting can be performed remotely and in accordance with social distancing guidelines. In addition, by continuing with design development, team can address potential design impacts the novel coronavirus may have on consumer preferences. Issues the team may want to consider include:

- Changes to building HVAC to create a healthier environment for occupants
- Open floor plan vs. individual office spaces
- Necessity for remote employee office space
- Touchless features such as faucets, doors, etc.
- Changes to materials that may be less resistant to the transmission of certain viruses
- Materials that are climate resilient, climate friendly and energy efficient

b. *Detailing a Site Safety Plan*

Implementation of additional safety measures or sanitation procedures necessary to help in preventing further spread of the virus is another way to mitigate risk. Although this may seem minor, preventive measures such as increasing sanitation stations This applies to the offices of owners and contractors alike, as well as to the actual construction sites. Generally speaking, a plan should consider the health and safety of the workforce, comply with government rules and advisory opinions, and maintain adequate flexibility to adapt to future changes and clarifications to any governmental issued order, including a future shutdown.

Specific plans may detail additional requirements relating to:

- 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; and
- 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).

c. Site Security

During this pandemic, project sites may be shut down by governmental order, infected workers or for other reasons. The shutdowns may last days or months. Often, the project team will have only a matter of days or even hours to shut down and secure the project site. To minimize risk, the project team should be familiar with the terms of the applicable builder's risk insurance regarding site security and should have a plan in place to comply with those requirements.

d. Supply Chain Disruptions

With widespread shutdowns in the country and abroad, supply chain disruptions are likely if the pandemic continues. To mitigate risk associated with supply chain disruptions, a full understanding of where materials are being sourced from is necessary. If alternative materials are more expensive or aesthetically less pleasing, but readily available, and that alternative is raised early in the process, owners can make educated decisions as to whether completing the project faster, at a higher cost or without some of the planned design features, is worth accepting. In any event, it is imperative that potential project materials be tracked, their availability continually monitored and possible alternatives considered.

e. Changes to Workforce and Impacts on Scheduling

Undoubtedly, workforce availability will be impacted by the coronavirus 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.

f. Collaboration Is Key

In addition to these risk mitigation practices, collaboration is more important than ever. With a variety of unknowns relating to labor supply, material availability and governmental requirements, project delays and

cost overruns can quickly increase. By dealing with these issues as early as possible and through effective teamwork, all parties can aid in limiting the potential impact of the coronavirus pandemic on the project.

C. COVID-19: Five ways the pandemic is changing construction

Corona virus across the world has caused detrimental effects for families, workers, governments, and key industries. We consider how the crisis could change the construction industry both in the short and long term.

a. The safety and cleanliness of job sites will improve

The COVID-19 pandemic put a spotlight on many of the different factors of worker health and safety within the industry. New job site policies have been introduced to improve safety such as employee temperature tests, staggered shifts, and deep cleans, and the disinfection of job sites, equipment, and machinery. even more thorough protocols to promote both health and social distancing messages such as a strict mask and glove policy, in addition to highly-stocked hand washing stations.

b. Technology will promote distancing as the norm

Even after the corona virus pandemic, social distancing on job sites across the country are likely to continue to some extent. The industry expects to see a reduced number of group activities and more clarity in procedures and protocols, even for some of the simplest daily tasks.

Social distancing may not be so hard in the future either, as technology companies have teamed up with the construction industry to develop and introduce innovative communication tools that can be used both on and off-site.

In addition to this, around the world building departments have been developing remote technology which will be used for inspections. This is certainly a trend that will continue after the crisis fizzles out.

c. Many projects will take longer

As a result of the new tech and health and safety measures that have been implemented into the industry, projects are expected to take considerably longer in favour of employee health. Suiting up with PPE and staggering shifts are just some of the new processes that will add considerable time to projects whilst on the other hand, increasing value.

“Construction schedules will not be the same as they used to be, things will take a little longer because we won’t be able to have lots of people in the same place at the same time,”

a. An increase in telework

Office employees in the construction industry have been encouraged and forced to stay at home in recent times. Workers have been relying on technology such as video conferencing from platforms like Zoom and Google Hangouts, and emailing to stay in touch and keep on top of business operations.

In numerous cases, working remotely will uncover benefits to both workers and construction companies that they were unable to see before. This could spark a trend of working remotely across the industry, making working away from the office more common.

b. Project demand types are set to change

Projects that were set to be built by the end of this year have been reshaped by the coronavirus outbreak and may be affected for many years to come. We are not sure if educational institution will be on more demand or not..

This is set to be a short to mid-term change which is expected to turn to normal when the COVID-19 crisis vanishes.

Source: **Dan Weatherley** . May 01, 2020

ADB's 'COVID-19 response:

Challenges in COVID-19 for the schools and children which is presently showing practices all around the world. This is inline with the ADB's 'COVID-19 Response Emergency Assistance Project :April 2020 and are shown in chapter E 'Safeguards' P-11 (chapter 35)

D. Environment friendly resources for schools***a. Rain water capture for the schools:***

The safe drinking water supply is problem in some of the region of Bangladesh. The whole coastal belt water is saline at low depth. However those can be mitigated by sinking the tubewell more than 1000ft to find the sweet water layer. This involve quite an amount of costing. The safe drinking water supply can be supplemented by harvesting of rain water.

The average amount of rainfall is about 1600 mm per year of which 80% occurs in 4 monsoon months of the year. The roof area available for the schools varies from 500 to 1000 m² that can give an yield of water 350,000 gallons (max). Taking the months of heavy rainfall and 90% to be effective amount of water it stands approximately 300,000 gallons. The average per day yield could be 2000 gallons as such 10,000 gallons of storage will be sufficient. Other allied parts will be piping that lead to the tank from the roof and pump to deliver water to the overhead tank. Technologically it is easy to construct and operate. The rain water harvesting has been recommended in the innovative wash block design for the schools. This can be included in the design and construction of SESIP funded schools.

Renewable (Solar Panel) Energy for schools:

The government is implementing a vision of electricity for all by 2021 by employing miniature solar systems in the areas outside the coverage of national grid. By now 4.5 million solar home systems have been installed on remote houses under a project, implemented by IDCOL, is considered to be the largest in the world. The school roof can be utilized for installing solar that can meet the requirements of the schools. Almost all the schools are day time school as such it goes with production and supply of electricity in daytime.

Most capital cost are due to storage batteries that need to maintain during the life time of solar panel. But the life of the battery is only for small period of time. Solar panel electricity can be used without storage battery. That can reduce the operation and maintenance in replacing costly batteries. The inverter will directly convert the DC inot AC to feed the electric line of the schools. Without storage battery one difficulty will be that it cannot be stored during night and rainy days when the sunlight is not available.

Bangladesh is being top scoring country of the world who has maximum no household solar panel. But unfortunately the school which are the seat of children during day time are not provide with such solar panel for electricity in the school. This environmental friendly energy supply could have been a small part of the civil works cost. The most cost coming from inverter and storage battery. School being day time activity as such the storage battery can be avoided and can directly use the energy from the solar panel. And it is technically possible.

On the roof top 1000 watt of electricity can be designed and will be sufficient to support the school air fans, lighting, motor of pumps, lab works, use of vacuum cleaner, campus lighting (needs small battery comes with the panel), and even washing machine if any. Use and consumption can be planned according to production and timing. It is likely that the school can save an electric billing amounting to approximately BDT 3000.00 per month or 36,000.00 per year. Moreover if there is opportunity the excess electricity can be transferred to the national grid. It is highly recommend that schools should have renewable energy to implement the government 'vision of electricity for all by 2021'

b. Planning and Design of school building in geographical challenged area

Due to climate change indicated storm surges of 5.7 m anticipated in 2050 in coastal area. Climate Change Adaptation design has been considered inclusive of rise in sea, flood levels due to tidal change and periodic flood surging. Plinth levels have therefore been designed for such changes requirements. Climate change adaptation need to be incorporated into the design of the school in the coastal area component, as follows:

- Increase plinth level up to 4.40m to 4.50 m (PWD);
- Establish hand pump on 1st floor (3.90m above highest flood level);
- Establish plinth and/or positive discharge point of septic tank outlet and solid waste collection bins above highest flood level;
- Establish runoff drain with rain water harvesting tank with overflow into drainage system;

Source: CTIP

(ii) 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 are dependent on the EMIS data base and other information.. The selection of the schools for further infrastructure development can be decided based of 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 and negligible cost. Based on digital mapping will help in master planning for the school. This need 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. 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.

a. EMIS data base for efficient use of school land.

One of the main constraint in school infrastructure improvement is the land. Most school lack in the availability of land for better planning for the school which supports the extracurricular practices of the students in addition to the academic activities. This lead 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.

b. 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 building so that engineering planning and design could be proper and may not hamper natural light and ventilation of the class room. 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 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 of the construction and ready for school operation.

EMIS can help in monitoring for COVID-19 pandemic measures both for construction 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.

c. EMIS component database

Activity	Parameter
1. Additional to minimize COVID-19 infection	Temp. check, hand washing, social distancing etc
2. Cleaning manpower	Employed/ Volunteer/none
3. Fund for cleaning	Yes/ No
4. Repair and maintenance fund	Yes/ No
5. Inspection	Daily/ Weekly
6. Rain water harvesting	Yes/ No
7. Renewable energy/ solar panel	Yes/No

8. Compliances under this Semi-annual EMR**A. EMR Instrument and Field Checks**

This report has been prepared based on observations made during field inspections, 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. The information of the implementation has received through the format supplied all the supervising engineers and contractors of the sub-project.

The field inspection was limited as for the COVID-19 pandemic lockdown following government instruction as it where it basis. However we have received the safeguard monitoring data as formatted and done earlier by the construction supervisors in charge.

Table 3: Safeguard Instrument available for School building and other infrastructure

	Institution_Name	TRADE NAME 1	TRADE NAME 2	REA for sub-project	EMP status	
					Included in Bid document	Delivered to Contractor
				Prepared		
1	Chandra Kala S.I. High School	Electrical	ICT	√	√	√
2	Shyampur High School	Electrical	ICT	√	√	√
3	Jhalmalia High School	Garment	Electrical	√	√	√
4	Talanda A. M. High School	ICT	Refrigeration And Air Conditioning	√	√	√
5	Char Mohon Pur High School	ICT	Electrical	√	√	√
6	Sankarbaty Hefzul Ulum F.K. Alim Madrasha	ICT	Plumbing And Pipe Fitting	√	√	√
7	Jahanabad High School	Electronics	ICT	√	√	√
8	Jhitka Ananda Mohan High School	ICT	Electronics	√	√	√
9	Manikganj Govt. High School	ICT	Electronics	√	√	√
10	Joymontop High School	ICT	Garment	√	√	√
11	Malkhanagar High School	Electrical	Mechanical	√	√	√
12	Betka Union High School	Electronics	ICT	√	√	√
13	Kabi Nazrul High School	Electrical	ICT	√	√	√
14	Chandganj A.S.M. BI High School	ICT	Agriculture and food production	√	√	√
15	Burir Hat High School	Electrical	ICT	√	√	√
16	Ekarchali High School	ICT	Electrical	√	√	√
17	Cox's Bazar Govt. High School	Electrical	ICT	√	√	√
18	Abul Kashem Noor Jahan Chowdhury High School	Electrical	Civil Construction	√	√	√
19	Falaya Chandkati Agrani Secondary School	Electrical	Mechanical	√	√	√
20	Alhaj Shamsuddin Bhuiyan High School	Electrical	Garment	√	√	√
21	Rashed Khan Menon Model Higher Secondary School	Garment	Refrigeration and Air Conditioning	√	√	√
22	Protap High School	ICT	Electrical	√	√	√
23	Uttar Kushiara Secondary School	Electrical	ICT	√	√	√
24	ISWARIPUR A. SOBHAN HIGH SCHOOL	Mechanical	Agriculture and food production	√	√	√
25	Subrang High School, Teknaf, Cox's Bazaar	Mechanical	ICT	√	√	√
26	Muktal Hossain High School, Netrakona	Electrical	Mechanical	√	√	√
27	Don Bosc High School	ICT	Refrigeration and Air Conditioning	√	√	√
28	PC Noll Ideal High School	Electrical	ICT	√	√	√
29	Chaykong Model High School	Garment	ICT	√	√	√
30	M.A. Wahab High School	Electrical	Electronics	√	√	√
31	Moholal High School	ICT	Electrical	√	√	√
32	Moshoria Emdadia Dakhil Madrasa	ICT	Electrical	√	√	√
33	Monaiullah Adarsha High School	Electrical	Plumbing and pipe Fitting	√	√	√
34	Birishiri Union Lower SS Durgapur	100 school left over		√	√	√
35	Konapara Adarsha Lower SS	100 school left		√	√	√

	Durgapur, Netrokona	over				
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DEO and others			EMP status				
	Name of the institution	Location	Vertical	Horizontal	Both V/H	Included in Bid document	Delivered to Contractor
1	District Education Office	Natore		√		√	√
2	District Education Office	Rajshahi			√	√	√
3	District Education Office	Chapainawabganj			√	√	√
4	District Education Office	Manikganj		√		√	√
5	District Education Office	Munshiganj		√		√	√
6	District Education Office	Mymensing			√	√	√
7	District Education Office	Bogra			√	√	√
8	District Education Office	Rangpur			√	√	√
9	District Education Office	Dinajpur			√	√	√
10	District Education Office	Netrokona			√	√	√
11	District Education Office	Moulavi Bazar			√	√	√

a. Subproject based monitoring data

Improvement in planning and design of building. Present situation demand green building planning which creates spaces that are well-proportioned, efficient, fit for purpose. Building need to be attractive in design, and are comparable to that found in other quality public buildings. Planning and improvement in design of school are remote possibility as most school has constraint with land availability.

Most school is poor in design (no consideration of environmental and social issues); inadequate and inconvenient sanitation facilities; no provision of solid waste management and drainage facilities; unsafe /poor quality drinking water; no provision of period water quality monitoring; inadequate provision of cleaning and maintenance.

Field monitoring during construction need to look into drainage congestion/water logging; Dust pollution; Noise pollution; Clearing of vegetation and trees; removal of spoil material/construction material; solid waste - lack of systematic collection of potential hazardous waste from school premises; lack in workers occupational health and safety; transmission of diseases among workers, and water-borne diseases to workers; non-use of PPE (e.g. ear protection gear, mask, gloves, goggles, safety shoes, helmet, etc.); community health and safety

All the above environmental concern has been formatted as shown in Tables from 7-9 to collect the information from the schools under construction. The form was introduced in workshop/training program to acquaint the focal persons (supervising engineers and other stakeholder). This format will help in upgrading of the environmental safeguard monitoring in addition to the quick monitoring checklist that was distributed earlier for the subprojects.

The field visit was limited as for the COVID-19 pandemic lockdown

b. Visit and Summary of subproject Monitoring (checklist) for 23 PVIP Schools**Table 4: Compliance and Non-compliance Issues Monitoring at the (640 PVIP) School Environment**

SN	Concern Issue	Recommended Measures	Implementation/Compliance:		Remedial Measures	Responsibility/Time line
			Yes	No		
1.	Seating arrangement	Seating arrangement should be comfortable	20	14	Increase classroom and size	DSHE/ Immediately
2.	First Aid facilities	First Aid facilities should be available in the schools	30	4	Advised to keep first aid box in school	SMC/HT Before next reporting in December 20
3.	Firefighting	Firefighting equipment should be available in the schools	18	16	Contractor's supply	SMC/ HT Before next reporting in December 20
4.	Pure Drinking Water/annual testing	Pure drinking water (Arsenic free) should be provided	34	0	As reported by head teacher no test result available	Complied
5.	Electricity	Electricity, fan, and light should be available in the schools; energy efficient light and fan should be used	34	0	Interrupted electric supply causing suffering to the student	Complied
6.	Disposal of Waste	Waste disposal bins should be in place in the classrooms and also at the school central	18	16	Bins are being used	SMC/ HT Before next reporting in December 20
7.	Smoking	Schools and classrooms should be marked up as a "no smoking zone"	34	0	None allowed to smoke in the school premises	Complied
8.	Sanitation facilities Separate for boys and girls.	Sanitation facilities (washroom, urinal etc.) should be ensured in the schools; provision of water closet and flushing system in toilet and bathroom; fixing of hand basins; and cleanliness.	30	4	Wash room, sanitary latrine construction part of civil works	SMC/ HT Before next reporting in December 20
9.	Ventilation	Provision of adequate ventilation in the classroom of the schools	34	0	New building has wide open window for ventilation and light	Complied
10.	Management of lab chemical waste	Chemical wastes from the laboratory should strictly be discharged to the designated concrete covered pit by the school authority so that surrounding environment is not polluted; a waste management plan should be prepared by the school authority and be strictly followed	10	24	School is taking care to dispose appropriately. All school does not have science lab facility	SMC/ HT Before next reporting in December 20
11.	Domestic Sewage	Domestic sewage from the classroom shall be subject to suitable treatment prior to discharge to the environment;	18	16	Deposited in a identified location for disposal	SMC/ HT Before next reporting in December 20

SN	Concern Issue	Recommended Measures	Implementation/Compliances:		Remedial Measures	Responsibility/Time line
			Yes	No		
		under no circumstances, untreated wastes will be discharged into the environment				
12	Praying Rooms	Separate praying rooms for men and women should be ensured in the schools	34	0	All schools maintain the room	Complied
13.	Gender equity	Gender equity should be followed during admission	34	0	Many schools girls exceed boys	Complied

Table 5: Monitoring at the School Environment for Construction Site

Sl. No.	Concern issue	Recommended measures	Implementation/Compliances: Yes/No	Remedial Measures
1.	Toilet and ablution facilities	Ensure that adequate toilet and ablution facilities are provided at the construction site	Yes(34)	Contractor make facility at construction site
2.	Environment Officer	Contractor should appoint an Environment Officer to monitor the issues recommended in the mitigation measures to make the project environment-friendly	No(10)	Contractor will appoint environmental officer by Dec 20

Table 6: Monitoring at the School Environment resources

SL	Concern issue	Recommended measures	Implementation/Compliances: Yes/No	Remedial Measures
1.	Rain water capture	Harvesting rain water through innovative design of the building	No	Provision has not been made and need to Start immediately
2.	Renewable energy	Use of solar panel on the building roof and arrangement for harnessing energy	No	Start immediately
3.	Menstrual hygiene	Menstruation hygiene require girls appropriate toilets, water supply for washing and receptacles for discarded sanitary pads	No	EED/ Start immediately
4.	Design of building in geographical challenged area	EMIS has divide of geographical challenged area in designing innovative and resilient building	No	EED/ Start immediately
5.	Master plan of the school	Master Plan to be developed for the school based on digital survey and mapping	No	EED/ Start immediately

Table 7: EA (Supervising Engineer) Infrastructure Compliance and Non-compliance Issues Monitoring

Issues	Yes	No	Responsibility Time line
1. Is there assigned official at the EED will be responsible for overall environmental compliance.	34	0	
2. Is Assistant Engineer of EED will be responsible for subproject specific environmental compliance and relevant reporting in EED	34	0	
3. The EED, in consultation with ESE, has finalize the EMP.	34	0	
4. Subprojects funded under the program have environmental clearance.	34	0	
5. Adequate sanitation facilities has been developed for the teachers and students with regular cleaning and routine maintenance	30	4	EED Dec 20
6. The toilets for girls and boys shall be separate with privacy and water facility.	34	0	
7. Is the design harmonize with local surroundings, including landscaping and planning for other uses for all additionally created spaces, proper ventilation, and lighting	14	20	EED Dec 20
8. In Chittagong Hill Tracts for preservation of the surrounding ecosystems around the school building avoid hill cutting and destruction of ecosystem for civil works (DEO Bandarban).	4	0	Complied
9. Is Design and construction of school building in the vulnerable coastal areas has considered 'climate proofing design' (e.g. raising of plinth level for flood, increase strength of building to resist cyclone and storm surge, avoid river bank erosion, etc	5	0	Complied
10. Is there public and community consultation with special emphasis on students/teachers in designing the infrastructure.	34	0	Complied
11. Are Students and Teachers informed in advance of the construction schedules and the timing of necessary interruption of public utilities?	34	0	Complied
12. Contractor allowed use classroom and school premises/playing ground to stack construction materials.	20	14	Contractor / immediately
13. EED and DSHE have clearance required from government or local government agencies/committees, for construction.	34	0	Complied
14. All areas and infrastructure affected is restored to their original condition, specially sidewalks, green street dividers, green- belt/fence, gardens, sidewalk trees, utilities, and side streets impacted by traffic diversion	25	9	EED/ Contractor immediately on completion of work by Dec '20
15. Annual water quality monitoring done to ensure safe drinking water facilities to the students and teachers.	2	32	EED/ Contractor by Dec 20
16. Is there plan for Rain water harvesting, pond sand filters, etc. in coastal areas due to salinity intrusion	1	33	EED Dec 20
17. Sanitation facilities for the teachers and students and mechanism for regular cleaning and routine maintenance.	20	14	SMC/ HT Dec 20
18. Plan for solid waste management and energy-efficient options solar lighting of school building.	20	14	SMC/ HT Dec 20
19. Testing of water sample from school tube well for safe drinking water annually on regular basis	1	33	EED/ Contractor Dec20

Table 8: Compliance and Non-compliance Issues Monitoring for the Contractors

Provisions/ Compliances	Yes	No	Responsibility Time line
1. Provision of adequate healthcare facilities (first aid) within construction sites;	20	14	Contractor December 20
2. Training of all construction workers in basic safety; sanitation and healthcare issues; specific hazards of their work; personal protection equipment for workers, Such as safety boots, helmets, gloves, protective clothing, goggles and ear protection	20	14	Contractor December 20
3. Clean drinking water for all workers;	34	0	
4. Safe access across the construction areas;	30	3	Contractor December 20
5. Arrangement for water spray at the construction area throughout the construction time;	23	11	Contractor December 20
6. Ensure that no child labor will be deployed;	34	0	
7. Lab wastes will be disposed properly with adopting an appropriate disposal facilities;	24	10	Contractor December 20
8. Keep work areas clean and tidy; and	20	14	Contractor December 20
9. Ensure that there is adequate provision of correctly marked waste containers made available at convenient locations for the disposal of wastes.	14	20	Contractor December 20

c. 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
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. EMP for the subprojects are initiated following EARF Banderbon DEO subproject has IEE like. EMP implementation are being monitored and reporting are being made on regular basis. However the design need to be changed by EED for the slope protection
5. The subproject are very small building structure there is hardly any requirements of mitigation measure required, 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 drinking water and toilet facilities at the site
7. Supervising Engineer as focal person at the construction site are Sub-Assistant Engineer can't cope with work as subprojects are scattered through out 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 fund allocation to engage person for cleaning and maintenance are not available. School does not make any effort 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 Monitoring Report is defined in the loan agreement that the borrower will prepare semi-annual Environmental (Safeguard) Monitoring Reports, which will report the progress of implementation of the EMP and compliance issues and observations, with recommended corrective actions, if any.

9. 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. The proposal is lying with the SESIP. 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 Annual Environmental Monitoring Reports of the project and submit annually. [EARF 2013]. ESE in coordination with EED.

B. Preparation of Environmental Management Plan

a. Environmental Management Plan (EMP)

Environmental Management Plan (EMP) following EARF has been prepared and included in the bid documents of construction work, likelihood of disruptions, impact on local amenity, dangers or risks involved, traffic management, or any other relevant issue required to be addressed under each new stage of construction. Ensure that construction do not adversely affect health, safety, amenity, traffic, or the environment in the surrounding area. Detailed range of health, safety, traffic management, and amenity issues consider broader obligations including recycling, waste management, and environmental initiatives. Requirements for Occupational Health and Safety are to co-ordinate Safety measures with all stakeholders, public safety, amenity and site security; operating hours; noise and vibration controls; air and dust Management; storm water and sediment control; waste and materials re-use; traffic management; etc. Implementation of the EMP was to be part of the bid document in civil works package and the contractor to submit their construction plan to the supervisory engineer.

The SPSU in the Secondary Education Sector Investment Program (SESIP) and Education Engineering Department (EED) under the Ministry of Education are responsible for monitoring and enforcement during construction. Technical and institutional mitigation measures were to be incorporated into the detailed design of the project. Planning, functional, institutional, and procedural measures are to be included in the selection criteria, tender documents, and the OHSP. Mitigation measures related to construction work must be specified in the contract with the contractor. DOE and ADB requires monitoring on implementation of environmental management plan and reporting on compliances on regular basis.

b. Emergency Plan for Disaster Management

Information on preparation of evacuation (emergency) plan should be displayed on the board which is part of the EMP during operation period of school as shown in following photographs. . Like this fire safety arrangement should also be hung for educating the teachers/students in case any fire outbreak. Mock drill need to be arranged by the school for demonstration etc.

Table 9: Potential Environmental Impact and Mitigation Measures

Category	Potential Environmental Impact/Issue	Possible Mitigation Measures
Occupational health, safety, and hygiene	Occupational Health and Safety	<ul style="list-style-type: none"> Implement suitable safety standards for all workers and site visitors Provide personal protection equipment for workers, such as safety boots, helmets, gloves, protective clothing, goggles, and ear protection Provide adequate healthcare (first aid) and safety facilities within construction sites Arrange safe drinking water and sanitation facilities for the labors Arrange water spray throughout the construction time Follow standard norms for toilet

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

Category	Potential Environmental Impact/Issue	Possible Mitigation Measures
Water and sanitation	Selection of appropriate location for water source and sanitary latrine	Discuss with medical authority to ensure selected schools have drinking water and proper sanitation 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
Separate toilets for male and females	Adolescent girls may face serious problem due to lack of separate toilet facility	Provide separate toilets at adequate distance between male and females Water supply should be available in the toilets One latrine should be designed for about 30 persons
Extreme climate events and disasters*	Extreme climate (e.g. cyclone, storm surge), natural disasters (e.g. earthquake, etc.), and fire	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. 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' Create awareness about natural calamities and extreme climate to students, teachers and parents Provide fire safety management training and mock drill Ensure emergency equipments and facilities like fire extinguisher/water hose, first aid

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.

C. 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 has 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.

The environmental mitigation measures, as stipulated in the respective EMP's and in the obtained environmental permit, are monitored during the implementation program. 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. 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 10: Monitoring Indicator and Compliances Status during Pre-Construction, Construction And Operation

S.N.	Indicators of Monitoring	Method of Monitoring	Monitoring frequency	Responsibility	Compliance Status	Remedial measures
A. Pre-construction Phase Monitoring						
1	Printing, publication, and distribution of EARF to all stakeholders including translation of the summary of EARF in	Direct observation	Once	SPSU/ DSHE	Complied	Needs further printing during orientation and training
2	Recruitment of part-time environmental consultant for the project	Review of appointment letter	Once	SPSU/ DSHE/ EED	Complied	Engagement to be continued on intermittent basis till the civil works completion
3	Incorporation of EARF in subprojects	Review of documents	Once	SPSU/ DSHE	Partially Complied	Enforcement of EMP implementation
4	Disaster prone area (landslide, flood, drought area) and climate risk (cyclone and storm surge) screening done	Review of documents	Once	EED	Partially Complied Resilient building based on REA has not been considered by EED.	Need resilient building. Exit plan during emergency and disaster
5	Incorporation of EMP in design and tender document	Direct observation	Once	SPSU/ DSHE /EED	Complied	EMP implementation during Civil works are included in bid document. contractor were issued with EMP compliance format and trained
B. Construction Phase Monitoring						
	Health check for COVID-19 pandemic	Temperature check, hand washing, wearing face mask and gloves	Daily	Contractor and supervising engineer	Start complaining	Sufficient provision for the instruments, ppe and to make budget provision.

S.N.	Indicators of Monitoring	Method of Monitoring	Monitoring frequency	Responsibility	Compliance Status	Remedial measures
1.	Drinking water quality	<ul style="list-style-type: none"> Sampling, lab testing and comparison with generic standards For arsenic/iron/salinity, testing follow country specific and/or WHO recommended protocols 	Annual	Note: SPSU/EE D/SMC shall coordinate with DPHE, NGO, INGOs working in water & sanitation sectors	Partially Complied	Sampling of water quality will be done with arrangement with DPHE. EED will arrange sampling and testing at school subproject by the contractors. It has 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/Contract or	Complied	Access to work site for carrying materials to be planned
3.	Water sprinkling in dusty construction area and access roads	Contractor/Direct Observation	Every Day	EED/Contract or	Complied	Sprinkling of water is undertaken by the contractor
4.	Stockpiling of excavated materials	Contractor/Direct Observation	Everyday	EED/Contract	Partially Complied	Need to cover stockpiled materials
5.	Reuse of excavated materials	Contractor/Direct Observation	Everyday	EED/Contract	Partially Complied	Can be used as floor fill of the building
6.	Solid waste segregation disposal	Contractor /Direct Observation	Everyday	EED/Contract or	Partially Complied	Separate bin are used
7.	Clearing of vegetation/trees	Contractor /Direct Observation	During construction once in 3 months	EED/Contract or	Complied	Following the forest rule in cutting tree
8.	Noise and dust pollution	Contractor / Direct Observation	Regular during construction	EED/Contract or	Complied	Adjust working hours Avoid night time and class hours. Sprinkling water
9.	Occupational health and safety, use of safety gears	Direct Observation	Once a month	EED/Contract or	Partially Complied	Supply of PPE to workers is in bid document
10.	Safety of workers, students, and teachers	Record of injury	Once a week	EED/Contract or	Partially Complied	Make arrangement for safety by marking work site ensured.
11.	Water logging and spread of vector born diseases	Direct Observation	Once a week	EED/Contract or	Complied	Proper drainage for the work site and washing made

S.N.	Indicators of Monitoring	Method of Monitoring	Monitoring frequency	Responsibility	Compliance Status	Remedial measures
C. Operation Phase Monitoring						
	Health check for COVID-19 pandemic for the students, teachers and other staff	Temperature check, hand washing, wearing face mask and	Daily	HT and SMC	Start complaining	Sufficient provision for the instruments, ppe and to make extra provision for the schools.
1.	Preparation of monitoring reports	Records/Documents	Monthly	EED	Complied	Submission of semi-annual EMR on regular basis.
2.	Drinking water quality, arsenic testing, and mitigation; adequate natural light, air, and ventilation	Samples taken from different points, source delivery points; laboratory testing; interview with students	Annual	EED/SMC	Partially Complied	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 period of the tube well.
3.	Solid waste and lab waste management system	Records of waste collected and managed	Bi-annual	EED/SMC	Partially Complied	Organized disposal by segregating of waste and finally to municipality
4.	Rainwater harvesting	Observation	Annual	EED	EED encouraged to plan and make necessary design for rain water 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 orientation and trainings conducted	Regular	EED/SMC	3 training program 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	
10.	Impact audit	Compliance with EARF	Annual	EED	Complied	EMR reflects the audit as per EARF

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.: Source: ADB.

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

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); 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.

Bangladesh National Building Code 2006**b. Demolition of Structure**

Demolition of some of the old/ dilapidated structure in the school will be needed. This demolition activity is serious environmental concern and needs due attention as BNBC sets guideline for demolition of structure. The highlights of the guideline are as follows:

1. At planning stage, detailed survey and study shall be carried out before demolishing the structure.
2. A written notice will be delivered to the adjoining property holder.
3. Required pedestrian precaution should be taken into account before commencing the demolition.
4. All utility lines will be disconnected and the sequence of demolition will be maintained as mentioned in the BNBC.
5. The owner will provide compensation for all damages and loss of life.
6. Demolition of the building where needed has not been brought into the civil work package for environmental monitoring.

D. Safeguard Requirements of the Government of Bangladesh

The Ministry of Environment & Forests is the nodal agency in the administrative structure of the Central Government, for the planning, promotion, co-ordination and overseeing the implementation of environmental and forestry programs. MoEF oversees all environmental matters in the country and is a permanent member of the Executive Committee of the National Economic Council. The Ministry also plays a pivotal role as a participant of United Nations Environment Programme (UNEP). The principal activities undertaken by Ministry of Environment & Forests consist of conservation & survey of flora, fauna, forests and wildlife, prevention & control of pollution, forestation & regeneration of degraded areas and protection of environment, in the framework of legislations.

GOB Rules in BNBC, ECR 1997

The following rules have defined certain measures to ensure proper safety and work environment:

- Environment Conservation Rules 1997
- The National Building Code, 2006 and
- National Labor Act, 2006

(i) The main provisions for environmental protection and pollution control in Bangladesh are contained in the Environmental Conservation Act, 1995 and Environmental Conservation Rules (ECR), 1997. Under the ECR, projects are classified as 'Green', 'Orange A', 'Orange B', and 'Red' to determine the level of environmental assessment required. It should be noted that they may obtain an initial site clearance on the basis of an IEE report, and subsequently submit an EIA report for obtaining an ECC along with other necessary papers, such as feasibility study reports and no objections from local authorities.

Construction of multi-storied buildings is considered as 'Orange B' category in ECR, 1997. However, there is no fixed definition of a multi-storied building. In addition to the ECR, there are a number of other policies, plans, and strategies which deal with the water sector, agricultural development, natural resource management, coastal area, protected area, disaster management, and climate change.

(ii) The National Building Code, 2006 and National Labor Act, 2006 have defined certain measures to ensure proper safety and work environment as well as the compensation measures to the laborers. By

national law, in order to be compensated, contractors must follow and comply with these safety provisions and compensation arrangements. The implementing agency must ensure that the appropriate occupational health and safety provisions have been included in the bidding documents and are being implemented by contractor. The water quality needs to be monitored periodically to ensure that the supplied water is safe for drinking.

E. Safeguard Requirements of the Asian Development Bank

ADB's Safeguard Policy Statement (SPS) include operational policies that seek to avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process. ADB's SPS set out the policy objectives, scope and triggers, and principles for three key safeguard areas: (i) environmental safeguard (ii) involuntary resettlement safeguards, and (iii) Indigenous Peoples safeguards.. All three safeguard policies involve a structured process of impact assessment, planning, and mitigation to address the adverse effects of projects throughout the project cycle. The safeguard policies require that impacts are identified and assessed early in the project cycle; plans to avoid, minimize, mitigate, or compensate for the potential adverse impacts are developed and implemented; and affected people are informed and consulted during project preparation and implementation. A basic principle of the three existing safeguard policies is that implementation of the provisions of the policies is the responsibility of the borrower/client. Borrowers/clients are required to undertake social and environmental assessments, carry out consultations with affected people and communities, prepare and implement safeguard plans, monitor the implementation of these plans, and prepare and submit monitoring reports.

ADB Environmental Screening				
Category	Category 'A'	Category 'B'	Category 'C'	Category FI
Description	The project is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works	The project has potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category 'A' projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Category 'A' projects.	The project is likely to have minimal or no adverse environmental impacts	A project is classified as category FI if it involves the investment of ADB funds to, or through, a financial intermediary.
EA Requirements	For a Category 'A' project, an Environmental Impact assessment (EIA) is required	An Initial Environment Examination (IEE) is required	No environmental assessment is required although environmental implications need to be reviewed	All FIs will ensure that their investment are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list.

All projects funded by ADB must comply with ADB's Safeguard Policy Statement (SPS), 2009 and Operational Manual F1, 2010. The purpose of the SPS is to establish an environmental review process to ensure that projects undertaken as part of programs funded under ADB's loans are environmentally sustainable and sound, are designed to operate in compliance with applicable regulatory requirements, and are not likely to cause significant environmental, health, or safety hazards.

The proposed program has been categorized as 'Category B' from an environmental point of view and an IEE, along with EMP, are required to be prepared and disclosed. The assessment will be carried out to ensure that the potential adverse environmental impacts are appropriately addressed in line with ADB's SPS, 2009. The following IEE of the program were (Table 16) prepared to meet the requirements of ADB and DOE.

F. Site Inspections and Audits

On behalf of the SPSU, the Environmental Safeguard Expert visited and made spot checks in 23 (PVIP) schools and 11 DEO (Vertical Extension) total 35 Sub-project and hold consultation meeting with supervising engineer, Contractor and other stakeholder /officials. The supervising engineer was informed the requirements to the implementation of EMP and submitting of monitoring report to the EED. The contractor was informed about the requirement of implementation of EMP. all stakeholder in the workshop organized informed about submission of EMR on regular basis List of subproject under visitation are shown in table 14. The visit was limited due to COVID-19 pandemic and government instruction.

Table 11: List of subproject visit

Name of the Sub-project visited	Physical Inspection	Stakeholder SMC consultation	EMP implementation Supervising Engineer	EMP implementation Contractor
Selected Schools for PVIP				
1. Chandra Kala S.I. High School	√	√	√	√
2. Shyampur High School	√	√	√	√
3. Jhalmalia High School	√	√	√	√
4. Talanda A. M. High School	√	√	√	√
5. Char Mohon Pur High School	√	√	√	√
6. Sankarbaty Hefzul Ulum F.K. Alim Madrasha	√	√	√	√
7. Jahanabad High School	√	√	√	√
8. Jhitka Ananda Mohan High School	√	√	√	√
9. Manikganj Govt. High School	√	√	√	√
10. Joymontop High School	√	√	√	√
11. Malkhanagar High School	√	√	√	
12. Betka Union High School	√	√	√	√
13. Kabi Nazrul High School	√	√	√	√
14. Chandganj A.S.M. BI High School	√	√	√	√
15. Burir Hat High School	√	√	√	√
16. Ekarchali High School	√	√	√	√
17. Cox's Bazar Govt. High School	√	√	√	√
18. Abul Kashem Noor Jahan Chowdhury High School	√	√	√	√

19. Falaya Chandkati Agrani Secondary School	√	√	√	√
20. Alhaj Shamsuddin Bhuiyan High School	√	√	√	√
21. Rashed Khan Menon Model Higher Secondary School	√	√	√	√
22. Protap High School	√	√	√	√
23. Uttar Kushiara Secondary School	√	√	√	√
24. Birishiri Union Lower SS Durgapur	√	√	√	√
25. Konapara Adarsha Lower SS Durgapur, Netrokona	√	√	√	√
26. Subrang High School, Teknaf, Cox's Bazaar	√	√	√	√
27. Chaykong Model High School	√	√	√	√
28. Muktal Hossain High School, Netrakona	√	√	√	√
29. Don Bosc High School	√	√	√	√
30. PC Noll Ideal High School	√	√	√	√
31. Iswaripur A. Sobhan High School	√	√	√	√
32. M.A. Wahab High School	√	√	√	√
33. Moholal High School	√	√	√	√
34. Moshoria Emdadia Dakhil Madrasa	√	√	√	√
35. Monaiullah Adarsha High School	√	√	√	√

District Education Offices				
36. District Education Office, Rajshahi	√	√	√	√
37. District Education Office, Chapainawabganj	√	√	√	√
38. District Education Office, Manikganj	√	√	√	√
39. District Education Office, Munshiganj	√	√	√	√
40. District Education Office, Mymensing	√	√	√	√
41. District Education Office, Bogra	√	√	√	√
42. District Education Office, Rangpur	√	√	√	√
43. District Education Office, Dinajpur	√	√	√	√
44. District Education Office, Netrokona	√	√	√	√

G. Disclosure of Environmental Monitoring Information

The EMR prepared since December 2016 and so far 7 nos of them are submitted to government and ADB. June 2020 EMR is going to be the 8th 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 31st December 2020 updating EARF has not been considered. Present status of subproject based environment documents are shown in Table 15

Table 12: 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
Initial Environmental Examination	Disrtic 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
II 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		

10. 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 13: Compliance with Loan Covenants (Tranche 2)

Item	Description	Due Date	Status / Remarks
Schedule 5, Para. No. 1	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.
Schedule 5, Para. No. 2	The Borrower, MOE and DSHE shall implement, manage, coordinate and monitor the Project in accordance with its		Complied.

Item	Description	Due Date	Status / Remarks
	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.		
Schedule 5, Para. No. 3	Borrower's contribution to the Investment Program The Borrower shall provide its contribution to the Investment Program in a timely manner.		Complied.
Schedule 5, Para. No. 4	Staffing 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.		Complied.
Schedule 5, Para. No. 5	PPMIS and Investment Program Website 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 (a) package number and name, (b) location of the school, (c) estimated cost, (d) financing agency, (e) date of issue of invitation for bids, (f) date and time of submission and opening of bids, (g) bid opening location, (h) bid opening committee, (i) bid opening statement, (j) names of bidders that submitted bids, (k) name of the approving authority, (l) name, designation and telephone number of officer in charge for implementation, (m) name of the successful bidder, (n) contract amount, (o) date of start, and (p) Scheduled date of completion.		PPMIS developed that provides the agreed information. http://sesip.gov.bd/
Schedule 5, Para. No. 6	Environment 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.		Complied.
Schedule 5, Para. No. 7	Tribes, Minor Races, Ethnic Sects and Community Peoples 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)		Complied.

Item	Description	Due Date	Status / Remarks
	the Tribes, Minor Races, Ethnic Sects and Community Peoples Safeguards impact; and (c) all measures and requirements set 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.		
Schedule 5, Para. No. 8	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.
Schedule 5, Para. No. 9	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.
Schedule 5, Para. No. 10	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) Reinstall pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.		Complied.
Schedule 5, Para. No. 11	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; (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,		Complied.

Item	Description	Due Date	Status / Remarks
	<p>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>		
Schedule 5, Para. No. 12	<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.
Schedule 5, Para. No. 13	<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.
Schedule 5, Para. No. 14	<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.
Schedule 5, Para. No. 15	<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.
Schedule 5, Para. No. 16	<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 the executing and implementing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project.</p>		Complied.
Schedule 5, Para. No. 17	<p>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.</p>		A website developed for the program http://sesip.gov.bd/ That included PPMIS. Necessary information are being uploaded in the website.
Schedule 5, Para. No. 18	<p>Gender Action Plan</p> <p>The Borrower shall ensure that the Gender Action Plan is</p>		Complied.

Item	Description	Due Date	Status / Remarks
	effectively implemented including all the specific targets outlined in the GAP.		

Source SESIP

11. Capacity Development

Capacity building (or capacity development) is the process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment and other resources needed to do their jobs competently. *Capacity on construction and environmental management needs to be strengthened at all levels of the Executing Agency including DSHE, EED, SPSU/SESIP. SESIP will implement capacity building measures through training, exposure visit to ideal schools in major divisions. Following capacity development training has been recommended in EARF.* Detailed Capacity Building Program will be developed by SESIP as per need for EARF implementation and capacity building program to EED/DSHE (training, research, and development). SESIP organized training for EED Engineers, SMC and Contractors with support from ADB BRM resource person for Training on construction of resilient school buildings, and Environmental Safeguard Management .

Moreover the working people new need to be protected infection from COVID-19 pandemic both in office and construction sites and its management. One briefing has been given in the earlier chapter that need to be monitored for capacity to be developed through training and need to be reflected in the Environmental Safeguard Monitoring Report

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.

a. Objectives of the Training

The objectives of the training are to:

- Build awareness and basic capacity for the stakeholders in regards to Construction Management , Environmental and Social safeguards monitoring and compliance
- Develop a sense of ownership and responsibility among the actors in ensuring compliance regarding Environment and Social Safeguards in project management
- Develop capacity on monitoring supervision and reporting for the quality control of civil construction works. Participants gain an understanding on supervision of EMP implementation and how to improve construction management and environmental performance of the sub-project
- Understanding on how to undertake monitoring and supervision of construction, implementation of EMP of the subproject.

B. The recommendation from Training / Workshop

- a. 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.
- b. 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.
- c. 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.
- d. Harmonizing of the school funding for class room extension and wash block 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.
- e. GIS in addition to the digital mapping for the school is now the necessity for administrative purpose and infrastructure planning for the school. 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 worth of civil works amounting to BDT 100.00 Billion of which SESIP contributes around 6/7 billion. 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. 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. Immediate setting up of Environmental Unit as suggested in the loan covenant of ADB should be addressed soon.

a. 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 working place to save the people of this 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 availability of Free

b. 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:

Skype

[Skype](#) is one of the most well-known and established methods of telecommunication available. This popular software product provides voice and video calls between multiple devices, including PCs, mobile phones, tablets, consoles and even smartwatches.

Remote teams simply need to download the Skype 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 Skype for Instant Messaging. Use it to conduct virtual meetings, too.

Google Hangouts

Google Hangouts is a free communication platform, which provides instant messages, voice and video calls, SMS and VOIP features. With just one tap, team members can turn a conversation into a free video call and chat with colleagues from remote situations like they were in the same room. With Google Hangouts, group calls can be up to ten people, perfect for meetings and catch-ups with small teams.

Google Hangouts can be accessed quickly and easily by opening Hangouts in Gmail or GSuite mail — really convenient for users of those mail services.

Zoho Cliq

Zoho offers a streamlined chat app for teams called Cliq. [Zoho Cliq](#) allows text chat, and it also offers audio and video chat with other Cliq users. You can hold video calls with up to 100 users. You can share files, too.

Zoho Cliq offers a forever free plan, and what's nice about it is that it has few limitations compared with other free plans. You can have an unlimited number of users on your plan. While other services substantially limit the number of video callers in a free version, 100 users is a pretty large group size for free. And you can also mute other users if you have a large group, so everyone isn't speaking at once.

Slack

What started as an internal tool used by their own company, the cloud-based set of team communication and collaboration tools and services provided by Slack have become a popular options for conducting business remotely.

[Slack](#) includes chat, but it provide a kind of virtual shared workspace. All your communications, files and information can accessed in one place, and you can organize it in channels or topics. It's part messaging, part shared files, part project management. Slack's free version provides businesses with unlimited private and public channels, up to 10,000 searchable messages, and the ability to connect up to ten apps.

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.

Remote Inspection: Relevant third parties who are either on-site at the facility or off-site in an office or home will have multi-party communication (up to 10 participants) during the remote inspection so that they may direct the personnel located at the facility to look at, move or focus on another piece of equipment as necessary. In conjunction with remote visual inspection

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 (ডেন্ডা)	প্রকৌশলী		জেলা শিক্ষা অফিসার		প্রধান শিক্ষক		মাদ্রাসার সুপার		এস এম সি- সদস্য		ঠিকাদার		মোট		মোট	মুতামিল 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	খুলনা	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

12. Recommendation

A. Key Issues and compliances under EMR

The key issues and measures recommended are (i) Preparation of Rapid Environmental Assessment and Environmental Management Plan for all sub-projects. The preparation of Master Plan of the school can be developed based on digital survey and mapping in cooperation of EED (ii) Ensure submission of semi-annual EMR for June 2020 and December 2020 (if project life is extended) and also one comprehensive EMR of SESIP. That will need Engagement of ESE till December 2020 on intermittent basis. Creation of environmental unit (EU) under EED.

The new issue of prevention from COVID-19 pandemic for the workers at office and construction site to be ensured. One chapter has been included in this report about the nature and method of protection from covid-19 pandemic.

The performance of the EED was likewise satisfactory but need to (i) keep the SESIP (ESE) informed about the implementation of EMP which is part of civil works package; (ii) EED's enhance its preparation on "good-for-construction" drawings; (iii) further reporting of construction materials so that it met the required construction standards; and (iv) engineering approval of sample material used, both before and after the execution of works and preparation of reporting. The above will be updated on regular basis through reporting in a checklist format supplied to the participants (EED, DSHE officials) for reporting. The status on issues and recommendation made in December 2018 semi-annual EMR is shown in Tables 18. Recommendation made in the June 2019 EMR are being tabulated in the Tables 18-23

a. **Status on Issues and Recommendations of December 2018 EMR and its compliances**

Table 14 : Issues and Recommendations for PMU, EED and their Rationale

Issues/Work Activity		Recommendations	Compliances EMR June .2019
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 for setting up of Environmental Unit under Superintending Engineer, 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 REA.	positioning the building blocks and extension are to be planned. More space needed for other activity of school. School environment should get priority in construction for ventilation, seating comfort ability, sanitation like separate toilets for boys and girls and other extracurricular activity area.	EMIS should be enriched with information that help in planning of building in the school. Digital survey and mapping should be available in EMIS. Therandom funding for the school should not be available without the master plan of the school..
3	Environmental information in REA as per the EARF and PIA (Project Area of Influence) needed.	School need digital survey and mapping and project influence from surrounding area. This information can be used for initial screening to design a properly oriented of the building in school.	School need to encouraged to prepare master plan so that it became easy to plan in proper orientation of the building..
4	Innovative design of the building for rain water harvesting	The rain water harvesting recommended that need the innovative design.	From now the schools in coastal and hilly area should have this facilities to capture the rain water as there is scarcity of sweet water.
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 has installed the solar panel for renewable energy. The building need to accommodate the solar panel at the convenient part of the building and should be included in the civil work packages.
7	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 due in December 2019
8	Environmental Clearance Certificate	Application required from SESIP for ECC. The DOE, will require IEE/ SIEE and present EMR to accompany the application	The project will be completed by December 2020.
9	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.ESE ensure regular submission and one comprehensive EMR at the conclusion of the project in 2020.
10	Develop and provide training to the staff of the executing agency, Contractors and the Consultant	SESIP organize and conduct the training as recommended in EARF. However recently EED has recruited several hundred 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.
11	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..
12	COVID-19	Follow as per gov. instruction time to time	DSHE/ SESIP will send instruction accordingly in line with ADB COVID-19 response

Table 15: Compliances on Recommendation as in EMR JUNE 2019

Recommendation as in EMR June, 2019	Compliances/Remarks
a. Engineering best practice should be visible in the works of EED. Engineering best practice can help the supervising engineers of EED to be focal person for EMP implementation.	Being Complied
b. All sub-projects should have Rapid Environmental Examination (REA) to be prepared by the Supervising Engineer for decision of Executive Engineer if it needed IEE preparation. The REA should be accompanied by digital mapping of school premises (including ownership)	25% schools prepared REA. But need precise information through digital survey and mapping of the school.
c. Supervising Engineers as Focal person should collect information and monitor implementation of EMP for Semi-Annual Environmental (safeguard) Monitoring Report.	Partially Complied. Self monitoring in structured format developed.
d. Creation of EU in EED should be approved by the Ministry of Education. Superintendent Engineer Design/Planning will lead EU	Process still to start. It is highly recommended in recent loan review mission (9-18 July 2019)
e. The Supervising Engineer, Contractor, SMC/ Head Teacher should use format for reporting so that Semi-Annual Environmental Report have proper information. .	30% has submitted the self reporting format
f. Format prepared for design, construction supervision, as check list to be filled on regular basis for reporting quality control of civil works. This will incorporated in the semi-annual EMR (640 PVIP, 47 DEO, 1 NEW DEO ETC.)	Supervising engineers and stake holder has been trained
g. Regular training program should be conducted for Supervising Engineer, contractor's focal person and SMC/Head Teacher (640 nos nominated) . Regular review needed for the capacity development of EU/EED in implementing EMP.	Complied
h. Consultation (FGD) and Coordination among EED (responsible for civil works), District Education Officer (responsible for approval based on school environment), BANBEIS (responsible for database development) and programs like SESIP, SEQAEP	Participation need to be guaranteed
i. Field checking of civil works for implementation of EMP could only cover 10% of the sub-projects which is very low. The ESE should ensure that 20% sub-projects is inspected and field report and stakeholder consultation are available in Environmental Monitoring Reporting.	Need to be complied

Table 16: Capacity Building of Contractor to contribute in EMR

Recommendation as in EMR June, 2017	Compliances/Remarks
a. In the updated EARF 2017 it is recommended to have Contractors Environmental Management Plan (CEMP) The cost of EMP implementation will be provided in the bid so that contractor is being paid for such mitigation works. Including Water quality sampling testing, plantation etc.	Contractors has been trained to take up the responsibility
b. DSHE should consider to have MOU with DPHE for blanket monitoring of water quality and sanitation in the schools as they are understood to have doing with Department of Primary Education.	Not initiated. For rest of the schools DSHE should initiate MOU with DPHE
c. Review of bid documents and procurement packages undertaken by EED if Environmental Management Plan is inclusive.	Complied
d. Prepare Rapid Environmental Assessment (REA) for each sub-project for categorization if it requires any IEE.	Complied
e. Contractor's EMP will be reviewed and advise if the deficiencies are noted	Contractors has not submitted
f. Support to improve the implementation procedure adopted by the supervising	Complied

engineer, contractor and Head teacher (school environment).	
g. Review the tendering procedure in the light of ADB's master e-tender bidding.	Complied
h. Support and guidance of the civil works were undertaken by EED on regular basis for SESIP for Tranche1 and Tranche 2.	Complied
i. Interaction and cooperation with SESIP, SPSU, EED and other organization related to sub-project civil works.	Complied
j. Orientation training at field level (supervising engineers, contractors and head Teachers) should be taken up to understand the 'self' reporting for safeguard monitoring information on regular basis..	Complied

Table 17: Summarized Issues

Recommendation as in EMR June, 2019	Compliances/Remarks
a. The basic principles of EARF regarding small-scale infrastructure development are	
i) harmonizing design of infrastructure with local surroundings,	Complied
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,	Partially Complied
iii) climate-proofing need innovative design and resilient building in vulnerable coastal and hilly areas,	Partially Complied
iv) students and teachers participation in designing infrastructure to be ensured,	Partially Complied
v) strict adherence to environmental codes of practice during civil construction activities .	Complied
b. The basic principles of EARF regarding water supply and sanitation provisions include	complied
i) regular testing of water sources for contaminants,	Partially complied. It is include in the work package for one time by the contractor
ii) adequate sanitation facilities and establishment of a mechanism for maintenance and cleaning	Need policy for cleaning and maintenance
iii. alternate sources for safe drinking water where tube wells are not feasible (due to water quality or quantity issues). The alternate source may include rain water harvesting.	Partially Complied

:

Recommendation as in EMR June, 2019	Compliances/Remarks
• Lack of effective mechanism for operation and maintenance of facilities	no clear policy
• Weak coordination mechanism among stakeholders involved in provision of Schools facilities.	no clear policy
• Inadequate attention to the software components: Hygiene promotion; Institutional capacity development; systems development for monitoring and evaluation; Partnerships and engagement with relevant stakeholders.	EMIS should have separate module
• Inadequate utilization of EMIS for monitoring and analysis of facilities in schools for appropriate planning.	Module under preparation for EMR data

Table 18: Disaster Management for School (Resilience Building and Evacuation Plan):

Recommendation as in EMR June, 2019	Compliances/Remarks
To enhance disaster resilience and ensure disaster preparedness of the secondary education sector, promote a culture of safety and enable continuity of education for all children during and after emergencies. This will be achieved by:	Policy need to be implemented
<ul style="list-style-type: none"> Making school facilities safer through enforcement of building codes, design and construction of schools based on safe school construction guidelines, and provision of the minimum kit of protective equipment/materials to all schools; 	Partially Complied Need instruction from DSHE
<ul style="list-style-type: none"> Strengthening disaster management and preparedness through development and operation of standard operating procedures (SOPs), regular disaster simulation drills and development of the school level disaster management plans; 	Partially Complied Need instruction from DSHE
<ul style="list-style-type: none"> Introducing disaster risk reduction (DRR)/prevention education through integration of the DRR elements into school curricula, teacher training modules and essential reading materials package; and 	Partially Complied Need instruction from DSHE
<ul style="list-style-type: none"> Strengthening emergency education response through development of the national/sub-national Emergency Preparedness and Response Plan, decentralized decision-making and allocation of block funds, development and approval of transitional schools/temporary learning space models eligible for emergency block grant financing. 	Partially Complied Need instruction from DSHE
Major repairs will be covered under the Component on Needs-Based Infrastructure. For minor repairs and routine maintenance, a dedicated budget will be allocated for the procurement of materials for cleaning the toilets and hand washing facilities and for carrying out minor repairs.	no policy initiated Need instruction from DSHE
Where mitigation measures are lacking, contractors are urged to improve their performance. The GRM is in the process of being implemented with Committees formed at local level. No grievance has been received by the committee in any of the sub-project	No complain has received.

Table 19: The major civil works involved that need screening process and CEMP




Civil Works	Screening process and CEMP	Remarks
640 schools/ madrasahs selected for extra classrooms for pre-vocational and vocational courses;	640 subprojects	Screening process and preparation of REA is very weak. Needs invigoration among planning and design engineers
Vertical extensions and outfitting for training venues in 53 District Education Offices (DEOs);	53 (47 approved) subprojects	Needs proper checking of foundation to avoid error in design.
Upgrading of 100 priority schools/madrasahs;	97 completed with screening and EMP	The construction work nearing completion for the rest 5 schools.
Construction of the Bandarban DEO.	Completed with screening and EMP	Nearing completion but need protection work against slope failure.
Construction of the TEO	25(5)	Land availability still a problem

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 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 huge work and creation of environmental unit under EED will partially solve the problem. The action plan for safeguard monitoring is in Table 25. Submission of semi-annual EMR for June 2020 and December 2020 (if project life is extended) and one comprehensive EMR of SESIP will need Engagement of ESE till December 2020 on intermittent basis.

Table 20: Action Plan For Safeguard Monitoring (January-December 2020)

SN	Months (Jan2020-December 2020,)	J	F	M	A	M	J	J	A	S	O	N	D
	Identified Works	1	2	3	4	5	6	7	8	9	10	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	Review Contractors EMP												
9	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>												
10	Semi-Annual Environmental Safeguard Monitoring Report (EMR): submission Mile Stones												
11	Comprehensive Environmental Safeguard Monitoring Report												