

Environmental Assessment of a Sub-project at Sreemangal Paurashava

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Introduction

Sreemangal, one of the oldest Municipalities of British regimes, is an “A” class Municipality that received its ‘Municipality’ status in 1935. It is an important urban center within Maulvibazar district. It has potentiality of development as a major trading center in the region. With an area of 2.58 sq. km., the Municipality accommodates 40,753 populations according to the estimated data. Density of population is 15,796 persons in per sq. km. The proposed extended area covers 2.63 sq. km. Sreemangal Municipality area indicating all of the 9 wards are shown in the Map (Master Plan, 2013). Sreemangal is a magical world famous for *nature, forests and wildlife*, which makes it another prime Bangladesh Eco-Tourism Destination. The only Tea Research Institute of Bangladesh is located at Sreemangal. Hence whole the year a great number of local as well as foreign tourists come in the town. The Municipality has an Auditorium cum Community Center (uncompleted) with modern facilities. This is a proposed subproject relates to the Vertical Extension of Community Center under the Municipal Governance and Services Project (MGSP) by Sreemanga Municipality. The name of the Sub-project is the Vertical Extension of Mohsin Auditorium cum Community Center has been proposed and adopted in the Sreemangal Five-Year Capital Investment Plan (2017-2022). The aim of Sreemangal Municipality is the creation of an urban livable environment, where people irrespective of their socio-economic, demographic and religious identities can live and enjoy today within affordable means without sacrificing interests of tomorrow. Therefore, considerable social, economic as well as environmental benefits may be obtained with the full construction of Mohsin Auditorium cum Community Center. It will be helpful for accommodating social gathering increase the facilities of different occasion or festival. Community Centre will bring a new life style on various occasions for the citizen and tourist as well. It will also increase financial permanent benefit to the Municipality through revenue generation.

Contextual Brief

The project site is located beside the Municipality Compound under Ward no. 6 at Vanugach Road. It is located between 24°52'48'' and 24°54'25'' north latitudes and between 92°20'33'' and 92°23'06'' east longitudes situated at the foot of Shilling Mountain range, a part of the Himalayan Mountain system and about 170 kilometres North East of Dhaka (Master Plan, 2013). An area of 0.247 acres of the Sreemangal

Municipality owned land has been identified and selected for the proposed project development. The proposed site is well connected with Dhaka road. The adjacent areas are Ward No. 3, 5, 6 and 9 where about 40 percent households of the municipality are situated in and around the proposed Auditorium cum Community Center.

Sreemangal Municipality proposed to establish such a community center with the financial support of BMDF. The project as proposed to be constructed under the overall technical guidance of BMDF entrusted for ensuring an environmental friendly planning, design and construction of physical structures qualitatively and enhancing a user friendly operation and management system. The Municipality rightly planned for such a modern community center with the realization of felt need of city dwellers.

This Environmental Assessment (EA) presents the screening of potential environmental impacts of the proposed sub-project with the recommendations of potential mitigation and enhancement measures in order to eliminate or reduce the negative impacts to an acceptable level, describes the institutional requirements, and provides a specific Environmental Management Plan (EMP).

The significant features of the Sub-project are mentioned below:

Name of the subproject	:	Vertical Extension of Mohsin Auditorium cum Community Center at Vanugach Road
Package No	:	-
District Name	:	Moulvibazar
ULB Name	:	Sreemangal Municipality
Auditorium cum Community Center side Wards Number	:	Ward - 3, 5, 6, 9
Structural design option	:	Structural bricks /stones built roof, walls and other works.
Estimated attendance		
Population	:	1,500 persons per day
Wards population	:	40,753
Tribal people	:	None
Land acquisition	:	Owned by Sreemangal Municipality
Estimated cost	:	BDT 1200.00 lacs only
Sub-project duration	:	01 Year and 10 months
Tentative start date	:	March 2018
Proposed size of the Project	:	2418.00 sq.m ⁵

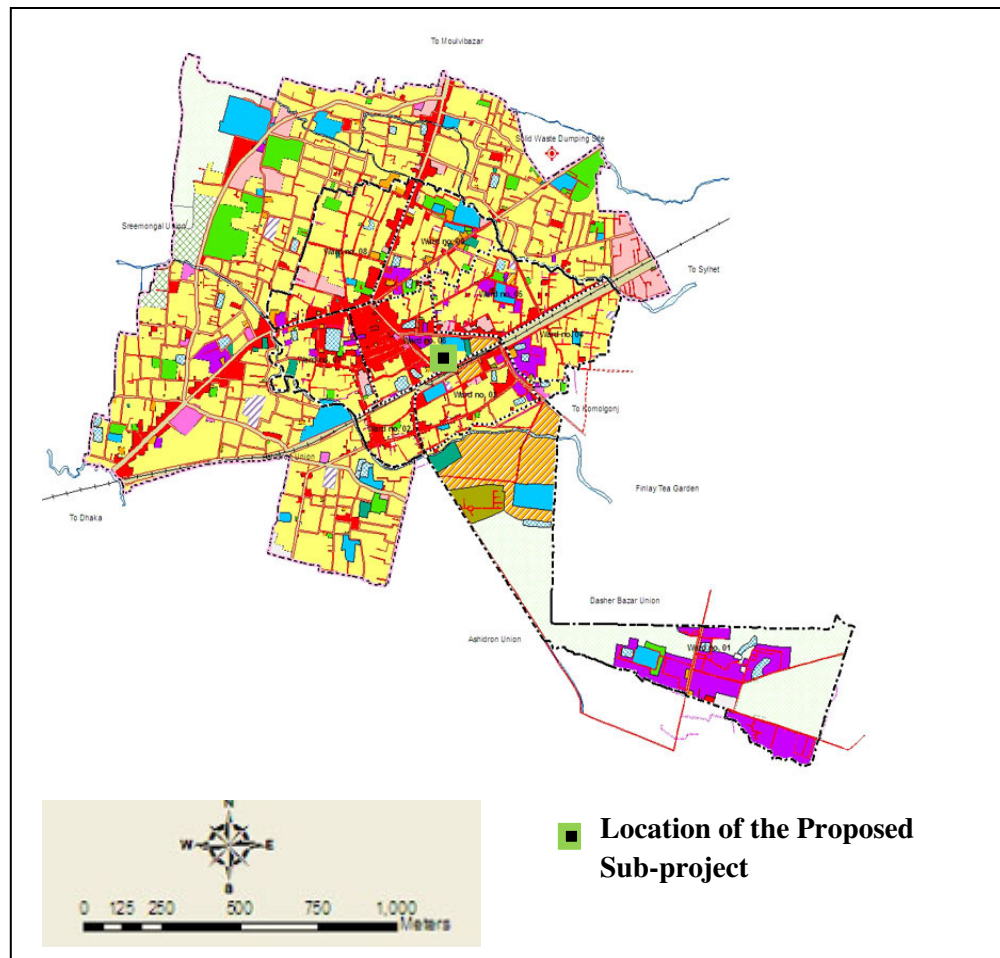


Figure 1: Location Map of Proposed Sub-project at Sreemangal Paurashava

Key Sub-project activities and Implementation processes

The proposed sub-project key activities include (a) 2nd Floor Community Center Vertical Extension, (b) East Side 4 Storied Vertical Extension, (c) Modern Furniture and Cookeries, (d) Electrical Works, (e) Sanitary Works and (f) Generators and others. These will be done with the using of high quality construction materials intensively following the approved design of the sub-project.

All construction materials to be used for those and other key activities are sand, bricks, brick chips, stone chips and reinforcement. Moreover, diesel used vibrator machine, electricity for reinforcement, fabrication and domestic purposes will be used during construction period. Besides, all other essentials equipment and machines like brick breaking or stone breaking machine, steel cutter, dump truck, water tanker and trucks for carrying construction materials and other essentials to be uses during the construction period.

All construction activities as planned will be undertaken following the standard rules and principles of competitive bidding process of the Municipality and country as well. Contractors' work will closely be supervised directly by assigned Municipality engineering team under the guidance and directive of the Executive Engineer of the Municipality.

Quality standard of construction materials will be maintained through site supervision, observation and in necessary cases through laboratory tests. The work will be continued following a work schedule and Environmental Management Plan (EMP) under the workman ship modality.

Category of the Sub-project

A) According to ECR 1997 : Green/ Orange A/ **Orange B**/ Red/ Not Listed

B) According to WB Classification : **Category B**/Category C

In view of the Environmental Conservation Rules (ECR 1997), the proposed sub project falls under the category '**Orange B**', assumed to have moderately significant adverse environmental impacts may observed due to the implementation of the proposed project activities. On the other hand, in consideration of the proposed sub-project nature i.e. potential adverse impact on human and environment includes natural habitats it has been categorized as '**Category B**' according to the World Bank classification.

Detailed Environmental and Land use Features

Environmental Assessment Report prepared based on the field observation of key environmental features of approximately 100 meters surroundings of the proposed sub-project. Detail observation and assessment made on existing environmental features like road communication and connectivity, rush-hour traffic flow, local vehicle movement, accidental risks, drainage congestion, waste water discharge, solid waste disposal, surface water contamination, dust spreading, soil degradation, erosion, odor spread around, increased traffic movement includes social conflict etc. in and around the catchment or influenced areas (100 meters around) of the sub-project. Moreover, land use pattern of the catchment areas and probable impact over those were also observed and found no agricultural land around the proposed community center but offices, commercial, health, educational and residential areas exists as mentioned in below Table 1.

Table 1: Land use pattern/environmental features around the proposed Sub-project

Sides/Direction	Ward Nos.	Major Land use/Environmental Features
North	W # 6, 9	Road Side Shops, Vocational Training Institute, Udayan Girls High School, Residential And Dwelling Houses (12 Houses), Cover Drain

Sides/Direction	Ward Nos.	Major Land use/Environmental Features
South	W # 6, 3	Sreemangal Rail Station, Railway Worker's Colony, Road side Shops
East	W # 5	Upazila Office, Temporary Car Station, Attar Jame Mosque, Pansi Restaurant, Pachvai Restaurant, Road side Shops, Residential and dwelling houses (35 Houses)
West	W # 6	Sreemangal Municipality Compound, Kitchen Market, Multi-purposes Markets, Road side Shops, Clinic, Cover Drain

Baseline Analysis of Environmental Condition

Physical Environment

Sreemangal Municipality is located in the South West part of Moulvibazar district. As a commercial center within the tea producing zone, it has good accessibility both by road and rail. Road transport takes about 3.5 hours to reach in the town by bus from Dhaka and only 2 hours from Sylhet. Train services are also available from Dhaka to Sreemangal. Physical environment of Sreemangal Municipality have denoted below:

Geology, Topography, and Soils

Sreemangal Municipality is of higher elevation area under Sylhet region. The lowest contour height is +9.3 m PWD and the highest contour height is +17.27 m PWD in Sreemangal Municipality. Average land height of the area is + 12.99 m PWD (Master Plan, 2013). Therefore, the Municipality is free from normal flooding. Only minor water logging occurs during the rainy season that does not stay for long time. On the other hand, since the Assam fault passes through the Sreemangal Municipality, it lies in a geologically sensitive area. On the other hand, the soil has different characteristics depending on age, drainage and parent material. According to the classification, the soil type of is Surma-Kushiyara Floodplain soil (Master Plan, 2013).

Climate and Meteorology

Sreemangal has a tropical climate and except for heavy rain falls, the climate is much like other parts of the country. The mean annual rainfall is 3880 mm with the heaviest occurring during June-July period (Master Plan, 2013). Despite the higher rainfall, the climatic regime is similar to that of the remainder of the county. The cool and dry winter, December-February is followed by a hot and showery pre-monsoon period, March-May, and then the relatively cooler but very wet monsoon season, June-September.

Flooding, Water Logging and Drainage System

The Municipality is free from normal flooding; even no severe flood was in 1988, 1998, 2004 and 2007 (Master Plan, 2013). Only minor water logging occurs during the rainy season that does not stay for long time, it occurs mainly due to inadequate

maintenance of drainage network within the Municipality area. However, the Sub-project area comparatively being in the higher area adjacent to the road side drain in the north and discharge passage in the west towards the south offshore. No water congestion or any logging noticed by adjacent dwellers during the physical observation in assessment period as well.

Dust

During the assessment no dust at noticeable level is observed in and around the Sub-project area and no any earth work, factory operation or huge traffic movement which may generate dust in the area but possibility of dust spreading due to wind flow in the summer may not be avoided. Moreover, it has been assumed that dust flow would be observed during the construction period in the proposed site.

Noise

In the proposed area a moderate level multi vehicles like trucks, cars, auto and rickshaw are found usually moves through the adjacent road in the north to generate noise at acceptable level and no other perceptible sources of noise generation such as factories or industries were found near the proposed Sub-project area.

Biological Environment

Flora and Fauna

As observed no remarkable fruit, fire wood or timber trees found inside or neighboring or adjacent areas of the proposed Sub-project. A few trees over the dwelling houses in the north as well as east have seen on which native birds take breaks prior to reaching their shelters or catches from the nearby haor offshore. Except those natives no other endangered or critical species of both flora and fauna observed. Moreover, no possibility of having any aquatic species in the area but existence of species (frogs, rats, reptiles, creepy-crawlies, aquatic pests or algae around) might have been in the south eastern side of the ground and maintain their livelihood (food, shelter and birth) from the nearby low land, bushes and off shores in the south or surrounding environment.

Biodiversity Status

During the public consultations discussed the impacts and assumed that there are no special or site specific terrestrial and aquatic ecosystems may have disturbed heavily with this community center establishment.

Socio-Economical Environment

Land Use Pattern

Location of the Sub-project is almost at the center of Municipality and at the eventful area. Land use pattern of the catchment areas were observed and found a few shops and residential houses as well as a temporary car stand and rail station alongside of the wide pucca road opposite to the proposed site.

Beneficiary Population

This proposed Sub-project is situated in Ward No. 6 (Vanugach Road), and about 2,500 households are settled around the proposed community center that will be benefited directly through accommodating social gathering facilities of different occasion or festival. Moreover, peoples living all over the municipality and others from surroundings will have the benefit of the proposed Sub-project.

Tribal Communities

There is no tribal community as noticed living around the proposed Sub-project site.

Land Acquisition and Resettlement

No additional land acquisition and any resettlement for the implementation of this sub-project are required.

Environmental Screening

The Sub-project has been selected through a cautious Environmental Screening (ES) process following the guidance and the checklists in line with the requirements of DoE and WB. The screening data and information for this subproject have been analyzed and are shown in below:

Potential environmental impact during construction phase**(A) Ecological Impacts:**

- Felling of Trees : Significant Moderate Minor **NO**
- Clearing of Vegetation : Significant Moderate Minor **NO**
- Potential Impact on Aquatic Species : Significant Moderate **Minor**

(B) Physico-Chemical Impacts:

- Noise pollution : Significant **Moderate** Insignificant
- Air pollution : Significant Moderate **Insignificant**
- Drainage congestion : Very likely Likely **Unlikely**
- Water pollution : Significant Moderate **Insignificant**
- Solid waste pollution : Significant Moderate **Insignificant**
- Construction wastes : Significant **Moderate** Insignificant
- Water logging : Significant Moderate **Insignificant**

(C) Socio-Economic Impacts:

- Traffic congestion : **Likely** Unlikely
- Health and safety : Significant Moderate **Insignificant**
- Impact on archaeological : Significant Moderate **Insignificant**
- Impact on historical : Significant Moderate **Insignificant**
- Employment generation : Significant **Moderate** Insignificant

Potential Environmental Impact during Operational Phase**(A) Ecological Impacts:**

- Potential impact on species of aquatic : Significant Moderate Minor **NO**

(B) Physico-Chemical Impacts:

- Potential air quality & noise level : Improvement **No-improvement** Deterioration
- Drainage congestion Improvement Minor Improvement **No Impact**
- Risk of Water pollution Significant Moderate **Minor**
- Pollution from solid waste Improvement **No-improvement** Deterioration

C) Socio-Economic Impacts:

- Traffic : Improvement No-improvement **Adverse**
- Safety : **Improvement** No-improvement Adverse
- Employment generation : **Significant** Moderate Minor

Synopsis of possible Environmental Impacts of the Sub-project

The environmental assessment of this Sub-project has been conducted and observed that there will be no significant adverse environmental impacts with the establishment of this proposed community center in present location. During the assessment period, closely observed and shared all potential environmental features with local communities of different strata based on which adopted the screening process. Through the review and analysis of all observations and findings it has been assumed that the project, if implement, will not incur any negative impact neither on ecological nor on Physico chemical or any of the ingredients of those components. Moreover, the project will be helpful to enhance positive socio-economic impact through the increasing of opportunity for citizens to celebrate different social occasion with peaceful way as well as generating the income and employment of local people both in construction and operational phases. The screening process indicate that a few negative impacts may arise categorized as local in nature and low in magnitude, very minimal possibilities of adverse impacts on some of the parameters of the physical, biological or socio-economic environment of the sub-project area. The sub-project as stated is also expected to produce a large number of positive benefits on the overall community in respect of social and economic strengthening of the area.

However, as assumed those insignificant or moderate or minor adverse environmental impacts are subject to mitigation and would be addressed through proper mitigation and enhancement measures as will be appropriate earliest during the implementation as well as in operational period. The limiting of noise levels during construction and operation of the project, proper disposal of solid and other

waste materials through sewage connectivity development, preservation of air quality by limiting dust spreading and gas emissions from equipment to be used during construction and vehicle exhaust as well as ensuring community and workers health safety measures have been prescribed for the mitigation of likely impacts. Similarly, construction activities in close and active participation of local communities and capacity development initiative of concerned staff of the Municipality and workers as well will be undertaken to implement appropriately all recommended mitigation measures.

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