

Terms of Reference

GIS Mapping of Primary schools in the cities of Rangpur, Gazipur and Chattogram

1. Introduction

Water & Sanitation for the Urban Poor (WSUP) is a not-for-profit company that helps transform cities to benefit the millions who lack access to water and sanitation. We work in six countries in sub-Saharan Africa and Asia, supported by an office in the UK. Since inception we have helped nearly 19 million people gain access to better water, sanitation and hygiene (WASH) services.

The core WASH problems which schools in the cities of Rangpur, Gazipur and Chattogram are: over 40% of schools lack WASH facilities and the existing WASH facilities tend to be inadequate in size, shared by both boys and girls, and do not address the specific needs of women and girls with regard to MHM. The toilet per pupil ratio across Bangladesh is 184:1 and only 6% of schools have any form of menstrual hygiene facility¹. Additionally, only one-third of schools have handwashing facilities.

The WASH problems pupils face in schools across the three target cities in Bangladesh are: 1) limited number of well-designed facilities; 2) unhygienic and poorly maintained sanitation services; 3) prevalent unhygienic WASH practices. Underpinning these core problems is the limited resources and capacity of public institutions mandated to improve WASH conditions in schools.

This lack of functional systems for WASH service delivery results in generally poor access to water, sanitation and hygiene, and in negative environmental impacts. This, in turn translates into poor health and well-being of LICs, low school attendance rates, lack of dignity, and intensified poverty through productive time lost. If not addressed, these impacts are only set to intensify in the face of the growing urbanisation in urban cities in Bangladesh.

WSUP is going to conduct need assessment through analysing the WASH situation with GIS mapping regarding water & sanitation facility of primary schools in the cities of Rangpur, Gazipur and Chattogram City Corporation area so that all the WASH shareholders of these cities are thereby acquired a clearer view of needs of water and sanitation facility to be covered in the selected schools of these areas.

In July 2019, WSUP launched a project “Improving WASH in Schools in Bangladesh” to improved access to education opportunities and health outcomes through universal sustainable sanitation services in selected schools in three cities of Bangladesh. As part of this project initiative, under this Terms of Reference (ToR), WSUP is seeking consultancy services to prepare detailed GIS maps of the proposed intervention slums.

¹ UNICEF (2014) WASH in schools factsheet. Bangladesh country office.

2. Objective

To gather information from primary schools to prepare database and GIS (Geographic Information System) based maps that translate the database into a user-friendly interface to support decision making. Follow-on engagement and support will be provided to relevant authorities on the use of the database to improve prioritization and planning.

3. Scope of Area

The planned need assessment with GIS mapping regarding water and sanitation facility will take place in Primary schools in Rangpur, Gazipur and Chattogram City Corporation area.

4. Methodology

4.1. DESIGNING TOOLS & PROCESS AND DEFINING STEPS

As a first step the Consultant will design tools, process, questionnaire etc. to conduct this WASH assessment and GIS mapping of Primary Schools in close consultation with stakeholders including DPE, DPHE, LGED, City Corporation and WSUP.

4.2. DESK-BASED STUDY

The consultant will undertake a rapid assessment based on secondary information and in consultation with government officials and local NGOs to identify the primary schools in the intervention cities. The secondary information could be collected from DPE, DPHE, LGED, City Corporation and other stakeholders. Guidance should also be sought from WSUP.

The Consultant will undertake the desk-based study using existing data, including but not limited to:

- Any existing school survey / census in intervention city;
- SAWRP School survey reports by WSUP; PEDP Project; UNICEF Project etc.
- Other relevant reports on School's with water and sanitation services

The desk-based study should enable the Consultant to obtain a good appreciation of the schools areas in the intervention cities and an overview of the status of sanitation facilities in those schools.

4.3. DATA COLLECTION

The consultant will collect the spatial data i.e. Location data of existing WASH facilities (water points, latrines, hand washing station etc.) and proposed sites for installation of new WASH facilities in consultation with SMC members and teachers using modern GIS tools .

To collect the attributed data, the consultant will physically visit each of the primary schools in the city to collect the information through transect walks, consultation, FGD and collecting basic data using a standard questionnaire. The aims of this exercise will be to obtain an in-depth understanding of the different aspects of WASH situation through a participatory process.

For this WASH mapping in school the consultant will obtain information on:

- (a) The existing water and sanitation situation in the school and development plan if any
- (b) The existing FSM situation and plan if any
- (c) The scope of FSM services by vacuum tankers (accessibility), challenges and potential opportunities;

4.4. DATA VALIDATION & DIGITIZATION

The consultant will organize, process and convert the collected spatial data (water point, latrines, sites for new construction, drainage network, road network etc.) to the collected attribute information for specific school with a provision of future updates of the information in a user-friendly interface.

4.5. GIS MAP PREPARATION

- a) An overview mapping of all schools identified will be prepared which describes the general characteristics and WASH status of these schools;
- b) The data collected under this study will be linked with GIS map. This will provide more detailed information and assessments of the existing status and potential for future development of WASH facilities improvement in the school.
- c) Consultant shall prepare a report summarising the characteristics of the surveyed schools and their prevailing status of the sanitation services including faecal waste collection, disposal and treatment.

4.6. Time Frame

The stipulated time for completion of the tasks is 6 weeks and the tentative start time will be 1st of September 2019.

5. Detail Tasks and Deliverables

The tasks and deliverables as outlined for the assignment are listed below:

Tasks		Deliverables	
	Liaise with stakeholders and other organisations that might have existing maps or data/ information on the primary schools. If available, collect all the data that they accept to share. This can later be digitized or re-used in the GIS to be made for WSUP and DPE/city corporation.	1a	Folders (paper AND/OR digital) with copies of all the collected maps
		1b	A short report listing all the institutions visited, summarising the discussions and listing/referencing all the maps contained in the folder mentioned above
	Use the above paper/GIS maps and, if necessary, use Google Earth Pro (GEP) satellite images to prepare draft GIS maps of the school, including its boundaries, streets and blocks. Any water and sanitation facilities within or surrounding the school should also be included.	2	Folder (digital) with copies of the GIS layers (individual ESRI shapefiles, and possibly also a multi-layered ESRI ArcMap files gathering them in 1 map) AND .jpg OR .gif images of all the maps digitised/created from GEP and other sources.
	Using the above information, implement a field GPS/total station survey) to: <ul style="list-style-type: none"> - check the draft street/blocks plan from previous maps/GEP and correct/complete where necessary. The survey needs to collect GPS data at school level only. - collect GPS points and tracks of existing water points, latrines, hand washing point, and any other significant WASH infrastructure that could be useful to plan new WASH blocks construction works. - collect GPS points of 2-3 neighbouring catchment communities of each schools - if feasible, collect estimated population data for each catchment communities. 	3	Folder (digital) with copies of the GIS layers collected (individual ESRI shapefiles including attributes, and possibly also a multi-layered ESRI ArcMap files gathering them in 1 map) AND .jpg OR .gif images of all the maps created from them. Provisions shall also be there for future updates of the maps in a user friendly interface.
	Considering the information collected above, and using basic spatial analysis (e.g. overlays, buffer analysis, classification, scoring/ranking, etc) and possibly network/location-allocation analysis prepare a report, which will necessarily have consequences on the number of infrastructures to be planned and mapped.	4a	A report detailing the methodology used to conduct the GIS analysis, summarising, the coordination with all stakeholders, and the results of the GIS analysis (maps and justifications / explanations)
		6b	Folders (digital) with copies of all the GIS files used (in the ESRI shapefiles format, possibly also a

Tasks		Deliverables	
			multi-layered ESRI ArcMap files gathering them in 1 map)
		6c	The resulting maps should be made available physically (e.g. A3 to A0 paper maps, as appropriate)

6. Required Skills and Experience

The team of consultants should have the relevant qualifications/ experience required to accomplish the tasks as mentioned in this ToR. The assignment will require a team with the following characteristics:

- a. At least 5 years of experience in GIS application;
- b. Degrees in GIS from any reputed organization;
- c. Previous work experience in Bangladesh and established presence in Bangladesh;

7. Working Conditions

Table 1 outlines the expected activities and deliverables to be completed by the consultant. The consultant will be required to use their own resources to carry out this assignment. The proposal should include a financial proposal budgeting for the activities in Table 1, including the following:

- i. Vehicles/Transportation
- ii. Personnel
- iii. Stationery
- iv. Subsistence of staff
- v. Material costs of implementing the activities
- vi. Any other identified costs.

8. Submission of Proposal

Proposals shall be submitted to the contacts below before 17h00 on Thursday, August 22th, 2019.

WSUP Country Programme Manager, wsupbangladesh@wsup.com.

The indicative budget for the assignment is BDT1250,000.00

The consultant will submit separate technical and financial proposals. The **technical proposal** should provide the following amongst others:

- i. brief description of the consultant's experience and an outline of similar assignments conducted in the last five years;
- ii. previous clients list; and identify 3 that WSUP can contact for reference
- iii. detailed description of consultants' approach and methodology to the assignment;
- iv. the consultants' detailed work plan and schedule for executing the assignment; and
- v. the consultants' CV.; the proposed team with responsibilities

The **financial proposal must be priced in Bangladeshi Taka** and should include the following:

- i. all costs relevant for the implementation of the assignment; and
- ii. Value Added Tax (VAT).

The budget for assignment implementation should be broken down according to the activities and deliverables outlined in Table 1.

9. Evaluation of Proposals

Proposals will be evaluated based on the broad areas listed below:

- i. relevant experience
- ii. approach and methodology to executing the assignment
- iii. work plan and staff inputs; and
- iv. financial proposal

10. Reporting

The consultant would report to WSUP Bangladesh's Sanitation Lead. A reporting schedule will be developed with further consultation with WSUP.

11. General Terms and Conditions

- WSUP reserves the right to accept or reject any proposal without giving any verbal and/or
written rationale;
- All reports and documents prepared during the assignment will be treated as WSUP's
property;
- The reports/documents or any part, therefore, cannot be sold, used and reproduced in any
manner without prior written approval of WSUP;

- WSUP in Bangladesh reserves the right to monitor the quality and progress of the work during assignment;
- WSUP will deduct Tax and VAT at source according to the Bangladesh government policy.

12. Contract Requirements

It is a requirement of this Contract that the Consultant and all their staff and representatives will comply with the following policies of WSUP:

- Child Protection
- Health and Safety
- Business and Ethics <http://www.wsup.com/intro/documents/WBP800-BusinessEthicsPolicy.pdf>

These policies are available upon request at any time.