



**Government of the People's Republic of Bangladesh  
Ministry of Local Government, Rural Development and Co-operatives  
Department of Public Health Engineering (DPHE)**

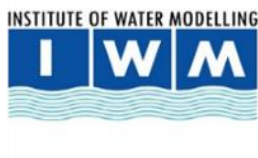
**Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP)**



**Environment and Social Screening Report**

**Sub-project: EMCRP/WD-04  
Construction of Mini Piped Water Supply System Scheme including O & M  
Location: Camp KRC, WDZ\_KRC.03, Block\_A**

**Funded by: GoB-World Bank  
Implemented Agency: Department of Public Health Engineering (DPHE)**



## Abbreviation and Acronyms:

ACF	Action Against Hunger
BBS	Bangladesh Bureau of Statistics
BD	Bangladesh
BMD	Bangladesh Meteorological Department
CIC	Camp in Charge
DC	Deputy Commissioner
DO	Dissolved Oxygen
DoF	Department of Forest
DPD	Deputy Project Director
DPHE	Department of Public Health Engineering
DRP	Displaced Rohingya Population
EC	Electrical Conductivity
EMCRP	Emergency Multi-sector Rohingya Crisis Response Project
ERP	Emergency Response Plan
ESMF	Environmental & Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GBV	Gender-Based Violence
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GPS	Global Positioning System
GW	Ground Water
HDPE	High Density Polyethylene
IEF	Important Environmental Feature
ISCG	Inter Sector Coordination Group
IUCN	International Union for Conservation of Nature
NGO	Non-Government Organization
LGED	Local Government Engineering Department
MPWSS	Mini Piped Water Supply System
PD	Project Director
PM	Particulate Matter
PMU	Project Management Unit
PPE	Personal Protective Equipment
PSC	Project Steering Committee
PTW	Production Tube well
PVC	Polyvinyl Chloride
ROW	Right of Way
RRRC	Refugee Relief and Repatriation Commission
SAE	Sub-Assistant Engineer
SMC	School Management Committee
SW	Surface water



## EMCRP Environment and Social Screen Report (DPHE)

TDS	Total Dissolved Solids
TSS	Total Suspended Solids
TTW	Test Tube Well
UN	United Nations
UNFPA	United Nations Fund for Population Activities
UNHCR	United Nations High Commissioner for Refugees
uPVC	Un-plasticized Polyvinyl Chloride
VfM	Value for Money
WASH	Water, Sanitation and Hygiene
WB	World Bank
WDZ	Water Distribution Zone
WFP	World Food Programme
WSC	Women's Studies Center

## EMCRP (DPHE part)

### Environmental and Social Screening Form

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#### Sub-Project Description Form

**Name of Sub-project:** Construction of Camp based Mini Piped Water Supply System (MPWSS) including Operation and Maintenance Scheme under (WD-04) for Displaced Rohingya People (DRP) at Ukhiya Upazila, Cox's Bazar.

**Implementing Agency/Agencies:** Department of Public Health Engineering (DPHE)

**Estimated total cost of subproject (in Taka):** 185, 15,057(Tk.)

**Estimated construction period duration:** 12 (Twelve) months.

**Estimated Operation and Maintenance period (life of sub-project):** Life time of this subproject shall be considered 10 to 15 month during its technical design. While operation and maintenance period would be 24 months.

**District:** Cox's Bazar

**Sub-District:** Ukhiya

**Union:** Palongkhali

**Name of Community/Local Area:** WDZ\_KRC.03, Block\_A

**Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.):**

**Subproject Activities:** Major activities will be the establishment of site office and labor shed, procurement of contractor and construction of proposed intervention as per approved design and drawings. To implement the proposed subproject intervention following tentative activities to be performed at sub-project area so far.

- Exploratory drilling & Test Tube well (TTW)
- Installation of Production Tube well (PTW)
- Solar panel Installation
- Construction of pump house with tin roof
- Submersible pump Installation
- Water reservoir (plastic) tanks Installation
- HDPE pipe networking
- Fittings and fixing of community taps for water collection, etc.

**Estimated footprint / land area:** Project will benefit an area of around 120693 square meter (Water Distribution Zone area). However, the land area may change during construction period. To construct the various components of the Scheme, the following land allocations were made totaling approx. 2638 square meter land required for this scheme out of total scheme area 120693 square meter: around 230 square meter land required for establishing solar panel and pump house, approx. 278 square meters for 9 nos. water tanks, around 2130 square meters for up to 66 nos. tap stands and around 4523 (for both transmission & Distribution pipeline) meter for the pipe line installation length.

**Natural Resources:** For implementing the proposed intervention some natural resources to be consumed by the project activities (i.e. water and sand for concreting, making mortar etc.) and camp site worker (i.e. Water for drinking and kitchen work). Required water would be sourced from nearby the available GW source. Beside sand would be collected from local market. Considering the subproject natures and extent, it's predict that approximately 300-350 litter/day water would be required for this scheme.

**Brief description of sub-project site: (e.g. present land use, Important Environmental Features (IEFs) near site, etc.):**

Camp based Mini Piped Water Supply System (MPWSS) is located at Camp- WDZ\_KRC.03-Block-A (Figure-1 & 2). The proposed land is owned by government. Insignificant amount of vegetation, trees will be affected for implementing the pipe line work in scheme area. The buildup infrastructures in and around the subproject site includes one health post, 4 mosques, 13 learning center, 4 maktabs, distribution center and one bazar and residence of DRP as well. Herringbone bond road



close to the sub project site somewhere only footpath exists. In few place along the proposed pipe line pucca drain are observed.

### **Overall Comments:**

The DRP of the sub-project areas are very much optimistic about the success of the project. The sub-project will environmentally sustainable and socially acceptable because expected environmental and social impact to be minimum and very much site specific for implementing the proposed intervention. DPHE, together with IWM Environmental & Social safeguard team, PMU Social & Environmental Consultant have conducted 04 (four) numbers of consultations with DRP communities and their community representative, CiC, Camp WASH area focal, Camp area focal, SAE & Mechanic, and relevant stakeholders.

Considering the suggestion/ opinion made by the participants of consultation meetings, potential environmental and social impact for implementing the proposed intervention, and sensitivity of the site location to protected area/ archeological sites/sensitive receptor, this site have been selected for constructing the proposed pipeline network and its associates facilities.

Most of the participants requested to involve the local community and DRP community during the construction work. In addition, suggestion / opinion received by the consultation meeting also considered in the design of ESMP. Most importantly, DRP communities were in favor of this subproject that may help to successful implementation of the subproject in sustainable manner.

There will be no significant impact on the ecosystem and biodiversity for constructing the planned intervention. No agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub-project. The water supply pipeline with reservoir tank, DTW and pump house construction works will be restricted to within the boundary of camp.

### **Sub-project site selection process:**

NGOF is acting as WASH camp focal agency, UNHCR is acting area focal agency and DPHE is implementing the Project with the financial assistance of World Bank and Government Republic of Bangladesh. After establishing the proposed Mini Piped Water Supply Scheme in the area about 8268 peoples will benefit from receiving their water requirements.

DPHE officials along with EMCRP consultants (pipe line design engineer, environmental Specialist and Social Specialist) was made their visit at Camp-KRC\_ WDC\_ 03for selecting the site for constructing the mini-pipe water supply system including TTW, PTW, Pipe Line, Pump House, Solar panel, Water Reservoir and Tap stand facilities. In this regard, consultant team have given emphasize on the following issues for site selection

- Accessibility of water to the household's level;
- Availability of water sources in scheme area;
- Impact on livelihood for lack of water supply;
- Social constrain if any,
- Environmental sensitive location;
- Existing hygiene facilities in study area and so on.

With this view, survey team has been selected the location of pipe line and its other components through discussion with camp wash focal NGO and area focal agency in such a way where less impact on surrounding structures, maximum accessibility of water supply in HH, and possibility of maximum livelihood restoration will be covered by the selected site.

### **Types of waste to be generated during construction and operation phase:**

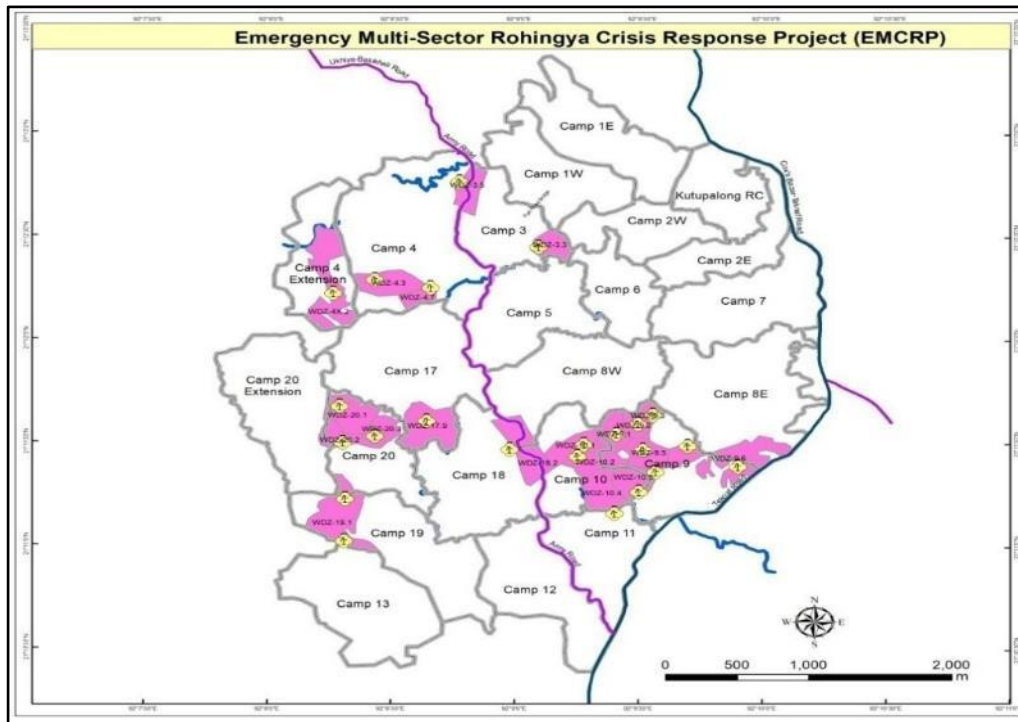
During construction phase solid and liquid waste will be generated due to construction activities. The types of wastes are uPVC pipe, HDPE pipe, concrete, iron, earth, liquid drilling mud, lubricants, chemicals etc. Quantity of the solid waste to be generated during construction phase may vary from 40-50 kg/day.



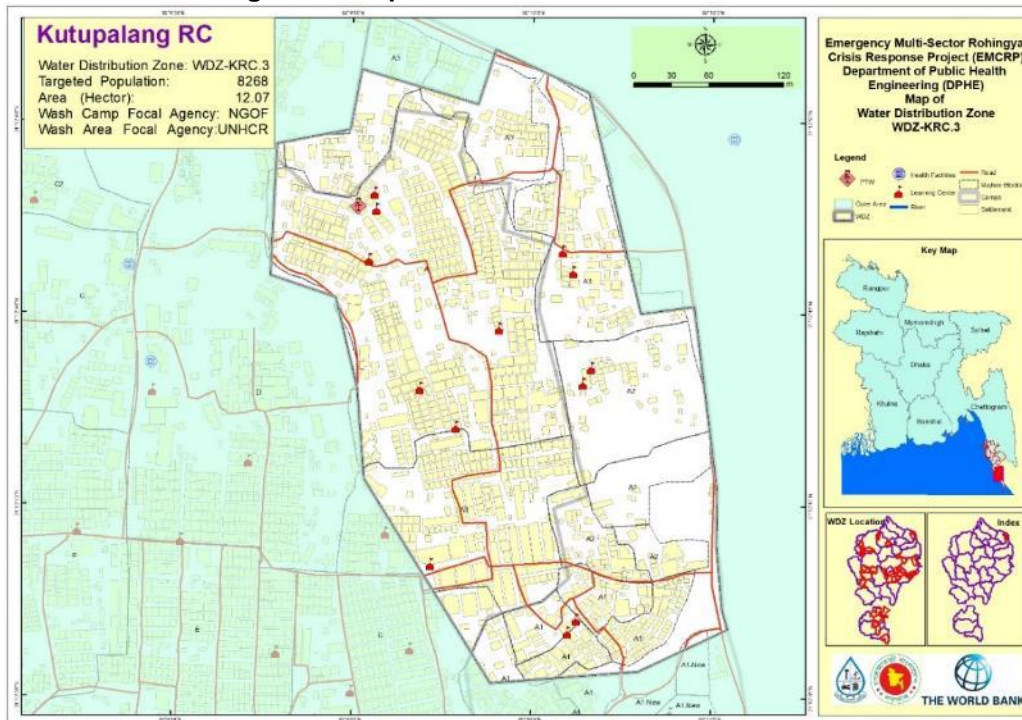


**Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:**

There is no sensitive environmental or archaeological sites within the 1km periphery. But, there are 4 mosques and madrasah which bring religious value. Along this religious institutes, within the subproject influence area, health post, bazars and food distribution centers, are identified. However, these structures are not to be affected by construction work. There is no elephant migration road near by the scheme site. But elephant migration routes are sited approximately 4.5 km away from the scheme area confirmed by the discussion with IUCN representative and as per UNHCR/IUCN map attached in **Figure 3**.



**Figure-1: Proposed PTW Site location at WDZ\_KRC.03**



**Figure-2: Pipe Network Information Map of Water Distribution Zone (WDZ)-KRC.03**

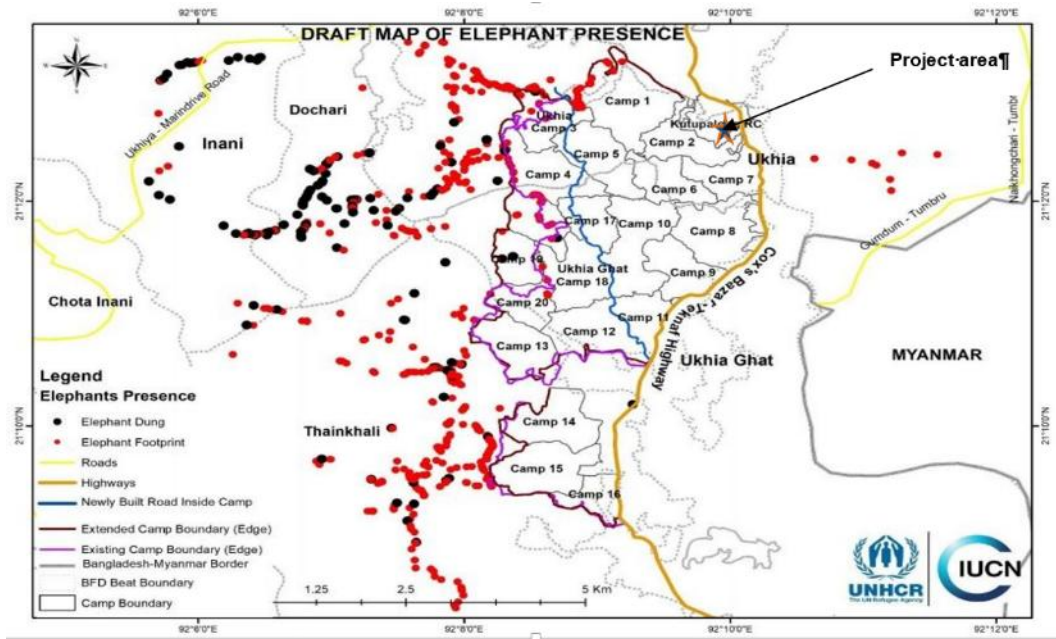


Figure3:Elephant Migration Road in and around the in Camp Area



## EMCRP (DPHE part)

### Work Package: WD-04 (Mini Piped Water Supply Scheme)

#### Environmental and Social Screening Form

#### Section A: Sub-Project Overview

##### Description of sub-project/component interventions:

Majority part of the camp are unable to provide the recommended daily water minimum of 20 liters' water per person per day especially at dry season when shallow aquifer goes down. As a result, scarcity of water become acute. The lack of water infrastructure makes it very difficult to transport sufficient amounts of water, and provide proper sanitation to all residents of a refugee camp. Hence, to ensure minimum water accessibility (that meet up the basic need) to refugees of this study area, DPHE has been taken an initiative to construct a mini water supply pipe system with providing following facilities.

- Exploratory drilling for test tube well
- Installation of production tube well (PTW)
- Installation of submersible pump
- Installation of solar panel
- Pump house construction (tin shed) with toilet
- HDPE (High-density polyethylene) pipe network
- Fittings and fixing of water reservoir (plastic) tanks including community tap for water collection

##### Sub-project Location:

The sub-project location is situated at Rohingya camp-KRC (WDZ\_KRC\_03 and Block\_ A) at Palongkhali Union under Ukhiya Upazila of Cox's Bazar District (**Figure-1**).

##### Land ownership: Land is owned by Government.

**Expected construction period:** 12 (Twelve) months.

##### Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets):

The proposed mini pipe water supply system is mostly located in the vacant land of camp. In and around the project intervention area covers mainly DRP settlement, few cultural institutes, some camp coordinator office of different NGO and Govt. office, relief distribution center etc. There is no environmental sensitive area (like protected area, reserve forest, elephant corridor etc.) within the sub project influence area. But there is some low land within the subproject influence area which are mainly remain dry over the year except monsoon season. Within the influence area of the sub-project no historical site found. Some institutes such as mosques, learning center are found there which convey socio cultural value to the DRP community.





## Section B: Environmental Screening

### B.1: Environmental feature of sub-project location

**Description of cultural properties (if applicable, including distance from site):**

There are four mosque and madrasah within the subproject influence area (1km). Apart from this structure, there are no other sensitive cultural, archaeological, religious sites.

**Location of environmentally important and sensitive areas:**

There is no environmentally important and sensitive location for instance protected forest, reserve park, etc.

**(1) Within/near Elephant Migration Routes Yes/No\*:**

**No.** Adjacent to the site there is no evidence of elephant migration road. In fact, most nearby elephant migration road is located 4.5 away from the proposed site.

**(2) Potential impacts on remaining forests in/around camps Yes/No\*:**

**No.** There are no forests within the subproject influence area. So, there will be no adverse impact on forest for implementing the proposed intervention of this subproject. But positive impact is expected from the ongoing project of tree plantation undertaken by different organizations in subproject area..

**Dust:**

Ambient air quality data are not readily available. In the proposed site the existing air quality is almost dust free except for few months in the dry season (November to March). However, increasing construction development program/project in camp area recently responsible for dust pollution. Beside, inadequate ventilation facilities and smoke from cooking is responsible for degrade the indoor air quality instudy area.

**Noise:**

Noise in the sub-project area is not a major concern based on the consultations. Noise is originating from the movement of vehicles of various NGO's to distribute relief among the Displaced Rohingya People (DRP) as well as for operation of construction vehicles and equipment of different construction project that is being implemented within the subproject influence area.

**Baseline soil quality:**

Soil types are alluvial reddish brown muddy & sandy soil and dupitila formation. The soils developing from the weathered sandstones tend to be sandy to clay loams. Presence of organic matter content in the soil is moderate. Surface soil is sand-mad mixed.

**Landslide potential (high/medium/low, with explanation):**

**Low.** As surface soil is sand-mad mixed so that potential erosion/land slide may occur when moderately to highly sloping terrains are disturbed for the construction of test tube well & production tube well, overhead tank, tap stand and pipe line construction. The impacts will be negative but short-term, small scale, site-specific within a relatively small area and minimized by mitigation measures.



**Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):**

**Surface water quality:**

The source of surface water in the subproject influence area is lowland or pond. However, there is no surface water body adjacent to the proposed subproject site. So, there will have no impact on surface water body.

**Groundwater quality:**

Groundwater is the main source of potable water in the Sub-project area. The shallow depth is about 100 feet and deep tube well depth is 500ft to 750ft. In the sub-project area, groundwater is slightly saline but arsenic free. Tube wells of shallow depth carries high concentration iron in study area, these tube wells water aesthetically not pleasant and safe for drinking. Substantial amount of shallow tube wells already has been installed in the camp area to support drinking water facilities in DRPs confirmed by the local community. As a result, excessive withdrawals of water from the shallow aquifer is cause of drying up of some of the wells. Following concentration of different parameter herein below reveals characteristic of study areas GW quality.

pH 7.00 to 8.00, DO 2.20 to 8.50 mg/l, TDS 25.50 to 280 mg/l, EC 20 to 425  $\mu$ s/cm, Fe 0.50 to 1.50 mg/l, Mn 0.01 to 0.06 mg/l, Chloride 10 to 70 mg/l, Hardness 60 to 160 mg/l and As Nit to 0.001 mg/l. (Tube well depth: 550 ft. to 750 ft.)

**\*Data source: Secondary data and field survey.**

**Status of wildlife movement:**

Wildlife movement has previously been reported in that area. At present, due to deforestation and settlement of DRP, wildlife movement is no longer there.

**State of forestation:**

To accommodate large numbers of Displaced Rohingya Population (DRP), hills have been cleaned and cut indiscriminately, and shelters have been set up on the hills. Steps have been cut into the slope to facilitate access to the shelters. Hill cutting loosens the soil and can result in soil erosion, sedimentation and siltation washing out of the valuable fertile top soil that will make the hills unsuitable for supporting any valuable vegetation cover. The eroded soil will also cause stream congestion, which might hinder stream flow, which in turn will result in habitat loss, water pollution and water scarcity. New plantations have been done by different organizations.

**Summary of water balance analysis (For water supply scheme only):**

Adjacent to the proposed subproject intervention location, there is no newly manmade forested area but within the influence area there is replantation program undertaken by different UN and INGO/ NGO. Hence need of water supply from this camp is not to be needed for that developing manmade forest. Thus, this issues are not taken to predict water balance calculation. But newly added settlement in the camp area and previous attended settlement of camp have been taken consideration to find out no of total HH and their number of population with their purpose of water consumption in daily basis. Along this total beneficiaries, average annual rainfall in Cox's Bazaar 3,524.1mm also has been considered. Based on these considerations it is estimated that 20 liters/person/day water will be needed for drinking and cooking purpose for camp area people. Therefore, for a total 8268 nos. of DRPs people approx. 165,360 liter water supply would be required in a day.



## B.2: Pre construction Phase

<p><b>Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):</b></p> <p>A herringbone bond brick road is located in the sub-project area. Other than that, there is a footpath in the DRP. This road could ensure to reach the site and the most feasible option is to carry the construction materials to the construction subproject interventions site. Existing footpath along with HBB road will be helpful to keep continue uninterrupted access of Rohingya people in their houses.</p>
<p><b>Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:</b></p> <p>Prior to commencement of construction work, contractor will arrange accommodation facilities with toilet, water supply, electricity for the associates working personnel.</p>
<p><b>Possible location of labor camps:</b></p> <p>Labor camp will be constructed at vacant place nearby the subproject site. This place should be selected in such a way so that there is no water body nearby the camp site.</p>
<p><b>Requirement and type of raw materials (e.g. sand, stone, wood, etc.):</b></p> <p>i) Bricks, ii) Sand iii) Cement iv) HDPE pipes v) uPVC pipe vi) Nut &amp; bolt vii) PVC solvent cement viii) Gravel ix) water x) Bamboo &amp; wood from mobilized materials by and other electro-mechanical equipment (small welding machine, small generator, etc.) are the most common type materials used in construction.</p>
<p><b>Identification of access road for transportation (Yes/No):</b></p> <p><b>Yes.</b> Existing herringbone bond road is the access road for transportation</p>
<p><b>Location identification for raw material storage:</b></p> <p>Raw material storage site would be very close to the site and in a vacant place. Stockpiling of raw material on the access road and footpath in camp area should be prohibited.</p>
<p><b>Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):</b></p> <p>At pre-construction phase, quantity of generation of waste would be minimum. Because except site clearing work there will have no other source of waste generation significantly. It is predicted that, approximately 400-450kg waste may be produced during site clearing work.</p> <p>During construction period solid and liquid waste will be generated.</p>
<p><b>Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:</b></p> <p>Considering the area of project intervention (approx. 2700 sq. meter land) it seems medium amount of natural grown wood-type of vegetation clearing work would be needed as an apart of site clearing work. However, there will be no impact on any privately/public owned trees or vegetation in proposed construction area.</p>
<p><b>Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors:</b></p>



**(High/Medium/Low with explanation):**

**Low.** There will be no possibilities of stagnant water unless site clearing wastes store on natural surface drainage courses.

**Disturbance or modification of existing drainage channels(rivers, canals) or surface water bodies (wetlands, marshes):**

**(High/Medium/Low with description):**

**Low.** Natural existing drainage channel not found close to the sub-project area. Manmade pucca drainage channel found close to the sub-project area. But the drain will not be affected due to pre-construction activities.

**Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development:**

**(High/Medium/Low with description):**

**Low:** Under this scheme establishment interventions, the effect of destruction or damage of lives and endangered species ecosystem will very low in the site area. Species and ecosystems have not been reported whose lives or movement may be disturbed (except some insects - ant, bees, earthworm, reptiles, birds etc.) by the scheme activities.

**Activities that can lead to landslides, slumps, slips and other mass movements in roadcuts:**

In pre-construction phase, stock piling of raw materials unlikely can lead to localized land slips by making muddy surface after rainfall. The impacts can be minimized by careful selection of stock pile locations and ensuring large amounts will not be stored in one place.

**Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:**

No traffic movement impacts on light but low effects of noise and no air pollution can be occurred.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

**B.3: Construction Phase**

**Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):**

**Solid waste:** i) Bricks, ii) Sand iii) Cement iv) HDPE pipes v) uPVC pipes vi) Nut & bolt vii) PVC solvent cement viii) Gravel ix) Bamboo & wood xi) excavated soil. It is difficult to figure out the exact amount of waste that to be generated from the construction activities of pipe water supply. However, 4500 kg of waste may be produced.

**Liquid waste:** Mud and drilling waste water will be generated from drilling of tube well. In addition, during construction period, fecal sludge will be generated from labor camp. It is difficult to give exact figures of construction waste that to be produced at sites. However, 750 kg of waste may be produced

**Type and quantity of raw materials used (wood, bricks, cement, water, etc.):**

**Raw materials:** A list of expected raw material that to be used so far for constructing the mini pipe water supply network are as follows) Bricks, ii)



Sand iii) Cement iv) HDPE pipes v) uPVC pipes with fittings vi) Nut & bolt vii) PVC solvent cement viii) Gravel ix) water x) plastic tanks xi) Bamboo & wood  
**Quantity:**Based on the extent of construction work, it is predicting that approximately 6,500 kg of raw materials may be required for constructing the mini-piped water supply network. Beside these raw materials (brick, cement etc.), nine plastic tank having 10000L capacity and around 4523 m HDPE pipe including 66 nos. stand tap material may be required.

**Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards**

Vegetation coverage along the proposed pipe laying alignment and in the location of other associated infrastructures of pipe line network are minimal. For temporary storage of generated waste from construction site, a total 20 sqm. vacant place would be identifying nearby the site and accumulated waste would be disposed regularly in the designated waste dumping area by contractor. Depends on availability of getting vacant land nearby the site, contractor will arrange adequate and suitable place for equipment yard.

**Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors:**

**(High/Medium/Low with explanation)**

**Low.**Trenches for laying of pipelines will be required. These can potentially store stagnant water for short period of time during and after rain events. This stagnant water may cause of spreading mosquito breeding in camp area as well as contact with the stagnant water also may spread different types of waterborne diseases in study area peoples in small extent.

**Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes):**

**(High/Medium/Low with description)**

**Low.**Natural existing drainage channel not found close to the sub-project area. Manmade pucca drainage channel found close to the sub-project area. Impact on this drainage channel minimal because unless dispose of waste into the nearby pucca drain there will be no chance of contaminate the drain water as well as clogged the drainage network.

**Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:**

Improper management of construction work such as stockpiling of material and trench cutting soil on the road side area may create muddy surface that may cause of slip. The impacts will be short-term and site-specific within a relatively small area and can be minimized by mitigation measures

**Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:**

Construction material carrying vehicles mobilization will follow schedule time mainly at day time. So, impact on light for traffic movement impacts is none. But movement of these vehicles may spread dust blowing and noise nuisance to the nearby sensitive receptor if any, thus some temporary, localized effects on noise and air pollution is expected due to truck movements.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)



### B.4: Operation Phase

<p><b>Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:</b></p> <p>In operation phase of mini-piped scheme, improper use of personal protective equipment (PPE) and lack of safety procedures may cause injuries. Plants growth in and around the site may hamper if construction dust accumulates on the leaf. This impact is expected to be insignificant because this will be a localized and temporary activity.</p>
<p><b>Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)</b></p> <p><b>Low.</b> Some localized semi-permanent destruction of soils may occur during maintenance of water supply pipelines.</p>
<p><b>Possibility of odor and water, soil quality impacts from SWM and FSM disposal system (High/Medium/Low with description):</b></p> <p><b>Not Applicable</b></p>
<p><b>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</b></p> <p>Local labors will be involved in maintenance activities. Safe drinking water supply will be helpful reduce water scarcity crisis of the DRP which will improve their health and environment condition.</p>
<p><b>Activities leading to landslides, slumps, slips and other mass movements in road cuts:</b></p> <p>Installed pipe channels can form preferential runoff paths, causing localized erosion. In addition, leaking pipes can lead to slope instability.</p>
<p><b>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</b></p> <p>Temporary, localized impacts on noise and air pollution from maintenance vehicles movement can occur. All maintenance works will be conducted during daytime, so no light impacts expected.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)





## Section C: Social Screening

### C.1 General Labor Influx Screening

Key Screening questions	Aspects to Consider
<p>Will the project potentially involve an influx of workers to the project location, and will the influx be considered significant for the local community?</p>	<p>The number of total skilled labor is 5-7 and unskilled labor 6-8. All the unskilled labor will be engaged from the DRP community. Since HDPE pipe will be used for water distribution network hence recruitment of skill labor from the outside of Cox's Bazar district will be needed because fitting of HDPE pipe is recent trend in country that is to be difficult for local labor to implement. All the skilled labor will be staying at labor shed within the camp. The size of the labor shed will be 10X15 SFT with basic water and sanitation facilities. Outsider labor movement not to be allowed beyond of their work place and their labor camp.</p>
<p>Is the project located in a rural or remote area?</p>	<p>The project area is in a camp area demarcated by the Government and belongs to camp-KRC, block _A in a remote specialized area. The total scheme (WDZ-KRC.03) population is 8268. The frequency and extent of the contract, communication between the local community and outsiders will be limited, and controlled by the respective authority.</p>
<p>Based on the socioeconomic, cultural, religious and demographic qualities of the local community, Rohingya population and the incoming workers, is there a possibility that their presence or interaction with the local community could create adverse impacts?</p>	<p><b>No.</b> It is not expected that the presence of the skilled (local) and unskilled labor (DRP) may generate any adverse impacts. The project will benefit the DRP communities. There will be a code of conduct for the labors to follow, which will be monitored by the RPMU on a regular basis. Contractor will be responsible to arrange LPG gas for cooking in the labor camp so that tendency of consumption of fuel wood by the labor is minimized.</p>
<p>Consultation with DRP Community People and relevant stakeholders (SH)</p>	<p>During screening and site identification DPHE, together with IWM Environmental &amp; Social safeguard team, PMU Social &amp; Environmental Consultant have conducted four consultation meetings with primary and secondary stakeholders. The stakeholders include CiC, WASH Sector, Site Management Committee representatives, Contractor team and DRP Community. In addition to the above-mentioned meetings, the local DPHE has undertaken many consultations with male and female members of the DRP.</p> <p>Through the coordination and linkage activities of the project, the authorities have accomplished some formal exchange meetings, individual household visits, FGD, Tea Stall discussion and other consultation meetings.</p>



### C.2 Land acquisition and stakeholder screening

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
<b>Involuntary Acquisition of Land/ Land Donation/ Land Taking</b>				
1. Will there be any land acquisition?		√		Land acquisition is not needed.
2. Is the project construction site known?	√			The land is selected with the recommendation of CIC SMC & Local DPHE and assigned UN agencies.
3. Who manage the land?	√			The lands are solely owned by the GOB and currently vacant.
4. Will easement be utilized within an existing Right of Way (ROW)? CRP ( Common Resource Property)	√			In the camp area Provision is available be utilized within an existing Right of Way (ROW) within this WDZ_KRC.03 under EMCRP.
5. Will there be loss of DRP tent, agricultural carps, trees, and other productive or fixed assets due to project intervention?		√		No DRP shelters will be affected. However, during construction if any shelters require to shift, mitigation measures will be taken according to RPF. Consultations will be conducted with stakeholders, camp and block focal persons, and site management. During construction, if any shelters are affected, contractors are responsible to mitigate the impacts following the RPF as well.
6. Will there be loss of businesses or enterprises due to project intervention?		√		No
7. Will there be loss of income sources and means of livelihoods due to project intervention?		√		No
<b>Involuntary restrictions on land use or on access to legally designated parks and protected areas</b>				
8. Will people lose access to natural resources, communal facilities and services?		√		No
<b>Information on Displaced Persons:</b>				
9. Any estimate of the likely number of persons that will be displaced by the Project? [√]No [ ] Yes If yes, approximately how many?				
10. Are any of them poor, female-heads of households, or vulnerable to poverty risks? [√]No [ ]Yes				
11. Are any displaced persons from indigenous or ethnic minority groups? [√]No [ ]Yes				
During Screening, project authority will conduct consultation with the primary and secondary stakeholders and provide their observations in the following sections (12 to 16 )				



## 12. Who are the stakeholders of the project? Please provide a summary of consultation meetings with stakeholders and the affected community.

The key stakeholders of this sub-projects are DRP, Labors, People/communities/organizations within the project influence area indirectly affected by project activities, relevant government departments/agencies, Dept. of Environment and Forest Department, Development Partners (WASH Cluster, UNHCR, WFP, IOM) and Local and international NGOs working with local host communities/DRP.

For determining the environmental and social impacts associated with subproject implementation, DPHE, PIU unit give great importance on involving primary and secondary stakeholders of the subproject area. Therefore, to collect local knowledge for baseline conditions, understand perceptions of the community regarding impact significance, and propose meaningful mitigation measures during survey of Environmental Screening, an attempt has been made to consult with relevant stakeholders and DPHE officials to obtain their views on subproject interventions.

The Community Consultation were conducted through a mix of conventional approach which involved as participatory, focus group discussions (FGD) and one-to one interviews, during the environmental and social study of the proposed subproject in conformity with the WB's environmental guidelines. However, for better understanding the socio-economic and environmental condition four. consultation has been conducted in the subproject study area (**Appendix-2**).

The Community consultations were conducted with the following objectives: (i) to intrude awareness of the stakeholders about the subproject and to collect their opinion, suggestions for planning and designing of the subproject (ii) to identify the need and concern of the DRP Community, (iii) to assess cultural patterns and behavior of local communities. Stakeholder consultation, was targeted at people/communities who may – directly or indirectly, positively or negatively- be affected by the outcomes of a subproject. The consultations were conducted at two different tiers of stakeholders: DRP people and different organization representative who are concern about the subproject. All of the proceedings and interaction of consultation and FGD have been recorded and are to be considered in the design of ESMP. In addition, attended list of participant of consultation meeting recorded and it's been attached in *Appendix-3*

### Feedback, Suggestions, and Recommendations of the Participants FGD

The participants' feedback, suggestions, and recommendations listed below:

- Community consultation confirmed that a pipe water supply network is needed to minimize acute water crisis in the camp area especially at dry season;
- They addressed that due to scarcity of ground water (shallow tube wells) especially in dry season they become force to receive unhealthy and aesthetically unpleasant surface water i.e. pond, canal etc.
- Water of shallow tube wells contain iron. Some tube wells contain so much iron that, those's water are not drinkable. So DRP peoples requested to supply iron free water.
- They emphasized for the construction of good quality of distribution pipe network so that they can receive no stop water service;
- They stated number of proposed plastic water tank for the camp is not adequate. They wanted provision of more tank with large capacity;
- They also expressed their concern about employment opportunities. They said that, if possible non skilled worker should engage from DRP community so that they can manage their livelihood.



Individual level consultation with project interest and influence parties (CiC, Site Management Committee (SMC)/Camp Wash focal team, UNHCR) representative were conducted in consistence with consultation objective during subproject selection stage to have their idea, concern, segregation about the proposed subproject. Consultation outcome with them are consolidated here in below:

### **Responds of CiC**

- Proper maintenance (protection from DRP child) of water collection tap should be ensured;
- Quality of fitting and fixing of tap must be ensured so that maximum durability assured;
- Always try to coordinate with related authority/group and give updates to CiC;
- CiC is ready to support you, if you face any obstacle to implement the scheme;
- After confirmation of site for schemes with the assistance of CiC and other related organization, site should be confined to avoid the neighboring disturbance
- After site section then try to keep boundary of the scheme areas and hang a signboard as soon as possible including name of executing agency, types of intervention, address of contractor, project duration, funding agency name and so on.
- COVID 19 issue should consider during construction period.

### **Wash Focal**

- Leakage of pipe fitting may cause of soil erosion and lead to landslide. So, fitting and fixing of distribution pipe network should be well sealed.
- Construction laborers should use Proper PPEs during working time. Pipe laying trenches should not keep open long time. After pipe laying, contractor should backfill trenches as quickly as possible.
- Frequent maintenance and look after by the project owner need to be assured in their liability period;
- In shallow depth, GW water carries high concentration of iron.

### **UNHCR**

- Intervention site should not be located in the elephant migration corridor. Hence, elephant migration road map set by the IUCN/UNCHR should follow during site selection
- They requested to inform them, if project face any elephant incident during implementation



**13. What social and cultural factors affect the ability of stakeholders to participate or benefit from the proposed policy or project?**

None.

**14. Are project objectives consistent with their needs, interests and capacity?**

Yes, the EMCRP project objectives are with the respective stakeholders, DRPs and host community, needs, interests and capacity in the project areas.

**15. What will be the impact of the project or sub-project on the various stakeholders, especially women and vulnerable groups?**

**Positive Impact:**

Having adequate water storage tank along with new distribution pipe network, production well and sufficient stand tap, after construction of mini water supply network in the camp area will be helpful to the DRPs to minimize their scarcity of water. Minimizing the scarcity of water, adequate and equitable distribution of water, less gender-based violence and minimizing conflict will be ensured in camp area by proper layout and design of adequate water points. For this well-structured design of mini water pipe supply network, access and distance of to the collection point would be more convenient to the women and child and will reduce the amount of energy expenditure they had spent on this task and time. In fact, after construction of water supply network, practicing of power if any which used to abuse for sexual or commercial exploitation during collection of water will be inactive through easy accessibility to water collection point. Further, adequate and no stop water supply facilities to the DRPs will contribute to improve the hygiene practice in camp area as well.

**Negatives impact:**

Operation of this subproject interventions, will have no significant negative impact on the community unless excessive withdrawal of water deplete the GW level and consequently ineffectiveness of production well. Failure of distribution pipe network may interrupt the non-stop water services in the camp. However, there are some adverse impacts during project construction works, but all adverse impacts are very much site & time specific and with proper management plan those adverse impacts are manageable.

**16. What social risks might affect project or sub-project success?**

According to the outcomes of site visit and consultation meeting with DRP community, other organizations and representatives of the scheme area, it has been revealed and perceived that the following social risks might be affected to accomplish the scheme interventions.

Since the skilled labor will be engaged from the host community and unskilled laborers will be engaged from the DRP, there may be some conflict between the two groups. To establish the scheme tasks, additional labor from outside such as technicians will be engaged. Thus, there may be risk of some social conflict. A complete Gender action plan has already been developed and approved, a full time Gender Specialist for this project has been assigned to oversee the GBV based issues for this subproject. The gender and GBV issues (i.e. human trafficking, eve teasing, etc.) are being addressed through mainstreaming activities. As a mitigation measure, the Social Safeguard team and grievance redress committee (GRC) has been following the respective GRM, is keeping abreast on GBV occurrences and will guide the community through consultation meetings and counseling. Given the sensitivities in the camps areas (social, cultural, religious, gender, disabilities, orphaned and vulnerable children, relationship with DRP and host community), if the site area will be used as the open play space for the DRP kids, it might hamper their movement and play time for the time being. Unexpected noise, dust pollution, waste materials due to scheme establishment activities, might affect general social, religious activity of the DRP community at site area. However, by adopting the project E&S safeguard and through community consultation, the CIC, community leader and local DPHE representatives may determine possible ways and options to overcome and mitigate the constraints and risks during the scheme implementation.



### C.3. Social Capital Format

The objective is to list various types of social institutes/bodies working in the camp, intended project influence areas to enlist them for the possible inclusion in the management, and monitoring of the projects. List the name of social institutes/ bodies under the given categorization along with the following information. Use separate sheet for each category of social institute/body. The information can be collected through secondary sources such as RRC/UN agencies or different development organizations that are involved with the Rohingya crisis projects, etc.

Type of Social Institutes/bodies	Name of Institution	Contact Person and Address and phone number	Primary areas of Work	Coverage areas in the camp and communities
Government Organizations	RRRC  DPHE  DC  LGED, MoDR, DRP CIC	Mr. MahbulAlamTalukder, RRRC Commissioner, Cox's Bazar, Email <a href="mailto:rrccox@yahoo.com">rrccox@yahoo.com</a> ..... Engr. Ritthick Chowdhury, CXB, DPHE, Executive Engineer Email. <a href="mailto:chowritthick@gmail.com">chowritthick@gmail.com</a> ..... Md.Kamal Hossain <a href="mailto:dccoxsbazar@mopa.gov.bd">dccoxsbazar@mopa.gov.bd</a> ..... Camp-in-Charge, Camp-KRC (Deputy Secretary) <a href="mailto:campkrc@rrrc.gov.bd">campkrc@rrrc.gov.bd</a>	Overall Coordination of GoBdept., Dev.partners, NGO, INGO, UN Agencies, Volunteers, Management of DRP Crisis in BD. Refugee Relief and Repatriation, Site management,  Ensuring DRP HH shelter, F/NFIs, WASH facilities, Education, Health, Livelihoods, Social security, power sources, renewable solar energy.	DRP Camps, Blocks, synchronizing with Host, E&S aspects, Elephant corridors, conserve NR. Establish proper road communication.
UN Agencies /INGOs	WSC IOM, UNICEF, WFP, FAO, UNHCR UNFPA	Damian Seal WASH Sector Coordinator UNICEF  <a href="mailto:dseal@unicef.org">dseal@unicef.org</a> <u>Please IUCN too.</u> ..... Tanvir Ahmed WASH Information Management Officer, UNICEF <a href="mailto:taahmed@unicef.org">taahmed@unicef.org</a>  Asif Arafat Sector Coordinator WASH, ACF	Management of DRP Crisis in BD. Refugee Relief and Repatriation, Site management,  Ensuring DRP HH shelter , F/NFIs , WASH facilities , Education , Health , Livelihoods , Social security , power sources , renewable solar energy .	DRP Camps, Blocks, synchronizing with Host, E&S aspects, Elephant corridors, conserve NR. Establish proper road communication.





Type of Social Institutes/bodies	Name of Institution	Contact Person and Address and phone number	Primary areas of Work	Coverage areas in the camp and communities
		<a href="mailto:washsecco-cox@actionagainsthunger.org">washsecco-cox@actionagainsthunger.org</a> .....		
National Organizations	Not yet onboarded	the database web link  <a href="https://www.humanitarianresponse.info/en/operations/bangladesh/document/wash-sector-coxs-bazar-members-contact-list-17-october-2017">https://www.humanitarianresponse.info/en/operations/bangladesh/document/wash-sector-coxs-bazar-members-contact-list-17-october-2017</a>		
Community Based Volunteer Organizations are those, which constitute the members of the community working towards social development.	Not yet involved	Yet to develop the database	Ensuring DRP HH shelter, F/NFIs, WASH facilities, Education, Health, Livelihoods, Social security, power sources, renewable solar energy.	



## Section D: Environmental and Social Screening Summary

Based on the above environmental and social screening, potential impact for implementing the proposed interventions, on different parameters of environment and social with consequence mitigation measures and suggestive monitoring plan including the responsibilities parties of implementation and supervise the subproject have been summarized in below.

Section	Main Environmental and Social Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
<b>1. Sub-Project Interventions</b>	Mini-pipe water supply system including TTW, PTW, Pipe Line, Pump House, Solar panel, Water Reservoir and Tap stand facilities.					
<b>2. Pre-construction Phase</b>	Sanitation, water supply	Under the sub-project intervention the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>• Provide suitable housing, adequate supplies of potable water, and toilet and bathing facilities within the housing area for the assigned laborer.</li> <li>• Provide means for disposing of wastewater from toilets, baths and food preparation areas either through a septic tank and soak away, or holding tank with removal by vacuum truck.</li> <li>• More details provided in ESMP</li> </ul>	Construction Contractor and monitored by Environmental Consultant and PMU	<ul style="list-style-type: none"> <li>• Site-specific H &amp; S Plan;</li> <li>• Records of supply of uncontaminated water;</li> <li>• Record of Health &amp; Safety orientation trainings;</li> <li>• Condition of sanitation facilities for workers</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspection monthly basis</li> </ul>
	Transportation	Under the sub-project intervention the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>• All vehicle movement to be done during the day time</li> <li>• Speed needs to be limited to 20kmph</li> <li>• Contractor's responsibility to verify the suitability carrying, loading and unloading of materials by trucks or others transport and head load arrangement.</li> <li>• More details provided in ESMP.</li> </ul>	Construction Contractor and monitored by Environmental Consultant and PMU	<ul style="list-style-type: none"> <li>• Check the vehicle pool.</li> <li>• Record of regular inspection.</li> <li>• Record of accidents/incidents</li> </ul>	Monthly monitoring.
	Storage of construction materials	Under the sub-project intervention the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>• Obviously orient to the concerned person, team assigned for the construction work.</li> <li>• More details provided in ESMP</li> </ul>	Contractor and monitored by Environmental Consultant and PMU	<ul style="list-style-type: none"> <li>• List of materials and sources of materials;</li> <li>• Location of stockpiling material</li> <li>•</li> </ul>	Weekly



Section	Main Environmental and Social Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
	Destruction or damage of terrestrial or aquatic ecosystems	Under the sub-project intervention the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>Vegetation clearing work will be done only where subproject intervention will take place.</li> <li>More details provided in ESMP</li> </ul>	Contractor and monitored by Environmental Consultant and PMU	<ul style="list-style-type: none"> <li>Ground openness in the intervention area</li> </ul>	Weekly
3. Construction Phase	Wastes (earth, mud HDPE cuttings, etc)	Under the sub-project intervention, the overall score is <b>medium</b> .	<ul style="list-style-type: none"> <li>Prepare and implement drilling mud and water runoff management plan approved by PMU.</li> <li>Wastes must be placed in the designated bins which must be regularly emptied.</li> <li>All waste must be removed from the site and transported to a disposal site.</li> <li>More details provided in ESMP</li> </ul>	Construction Contractor and monitored by Environmental Consultant of PIU, IWM	<ul style="list-style-type: none"> <li>Complaints from community;</li> <li>Regular inspection of waste management activity;</li> <li>Waste disposal record.</li> </ul>	As work weekly progresses
	Storage of materials (Creating dust/ air pollution spillage of liquid/ hazardous substance i.e. oil, drilling fluid, chemicals etc., Risk of crime)	Under the sub-project intervention the overall score is <b>medium</b> .	<ul style="list-style-type: none"> <li>By the site management committee in Camp to identify the storage site and other requirements, which will be approved by PMU and consultants</li> <li>More details provided in ESMP</li> </ul>	Construction Contractor and monitored by Environmental Consultant of PIU, IWM	<ul style="list-style-type: none"> <li>List of materials and sources of materials;</li> </ul>	Monthly basis during implementation phase.
	Noise pollution	Under the subproject intervention the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>Consultation with affected people; not to operate noisy equipment during working and operations time (17:00 – 06:00);</li> <li>Sound suppression for equipment;</li> <li>Ear protection for workers.</li> </ul>	Construction Contractor and monitored by Environmental Consultant PIU,	<ul style="list-style-type: none"> <li>Number of complaints from stakeholders; Use of silencers in noise-producing equipment</li> </ul>	Inspection by PMU and supervision consultants on monthly



Section	Main Environmental and Social Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
			<ul style="list-style-type: none"> <li>Conduct noise quality monitoring as per ESMP.</li> </ul>	IWM	and sound barriers; <ul style="list-style-type: none"> <li>Noise Level following decibel meter (dB)</li> </ul>	basis;
	Air pollution	Under the subproject intervention the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>Water spraying from test tube well for dust control; construction materials with potential for significant dust generation shall be covered; no smoke emitting equipment; and limiting speed of construction vehicles in access roads and work sites to maximum of 20 kph.</li> <li>More details provided in ESMP</li> </ul>	Construction Contractor and monitored by Environmental Consultant of PIU, IWM	<ul style="list-style-type: none"> <li>Location of stockpiles;</li> <li>Number of complaints from stakeholders;</li> <li>Records of air quality inspection; Air quality test report</li> </ul>	Air Quality: PM <sub>10</sub> PM <sub>2.5</sub> , SPM and SO <sub>2</sub> test once in construction period.
	Health & Safety issue	Under the subproject intervention the overall score is <b>Medium</b> .	<ul style="list-style-type: none"> <li>Construction laborers should use Proper PPEs during working time.</li> <li>Pipe laying trenches should not keep open long time. After pipe laying, contractor should backfill trenches as quickly as possible.</li> <li>Open trench (required for thrush block &amp; valve chamber) should be protected with safety tape. Sufficient lighting system should be provided at night time</li> <li>During pipe trenching &amp; earthwork for valve pit construction, working area should protect with marking tap</li> <li>First aid boxes will be made available at each construction site.</li> <li>More details provided in ESMP</li> </ul>	Construction Contractor and monitored by Environmental Consultant of PIU, IWM	Construction area	Site inspection daily/weekly basis.
4. Operational Phase	Odor& waste disposal of sludge from toilet at Pump House Shed	Under the issue the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>Use bin covers and/or tarpaulins during transport of wastes and end products (compost).</li> </ul>	Construction Contractor for first 2 years monitored by Environmental Consultant and	<ul style="list-style-type: none"> <li>Complaints from communities</li> </ul>	Site inspection daily/weekly basis.



Section	Main Environmental and Social Impacts	Impact Significance*	Suggested Mitigation Measures	Person/Institution Responsible	Monitoring Suggestions	
					Indicators	Frequency
				PMU Long-term responsibility to be determined by CIC/DPHE		
	Erosion of land	Erosion/land slide may occur in small scale near distribution pipes due to runoff from rainstorms or from pipe leakages and the overall score is <b>low</b> .	<ul style="list-style-type: none"> <li>Protection to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms</li> </ul>	Construction Contractor for first 2 years monitored by Environmental Consultant and PMU Long-term responsibility to be determined by CIC/DPHE and PMU	<ul style="list-style-type: none"> <li>No visible degradation to nearby drainages or water bodies due to soil erosion in scheme area.</li> </ul>	Site inspection weekly and monthly basis.
	Air Pollution and Noise from Traffic Movement	Temporary, localized impacts. <b>Low</b>	<ul style="list-style-type: none"> <li>Properly maintained vehicles to be used.</li> <li>Limit speed to 20kmph at/near work sites</li> </ul>	Maintenance Contractor DPHE XEN	<ul style="list-style-type: none"> <li>Complaints by nearby DRPs</li> </ul>	During maintenance works
	Stagnant water	From leaking pipes <b>Low</b>	<ul style="list-style-type: none"> <li>Ensure monthly inspections of pipelines for leakages</li> </ul>	Camp WASH NGO staff DPHE XEN	<ul style="list-style-type: none"> <li>Water pooling along, community taps, pipe alignment, overhead towers and production well.</li> </ul>	Monthly

\* Overall Impact Score: High = Likely to cause long-term E&S impacts; Medium = Likely to cause temporary impacts; Low = Likely to cause little, short-term impacts



## Social Screening Summary:

Under the Construction of MPWSS including O&M (WD-04) for DRP at WDZ\_KRC.03, Block\_ A herein have been illustrating the overall 'Social screening summary:

To furnish the details of social screening, ESMF and RPF has been followed focusing on major social impacts & its significance (Equity, labor influx, population coverage, easy access, GBV, impact mitigation measures, referral, and monitoring suggestions) of the sub-projects. For this purpose, no land acquisition is required for this sub-project. Provision is available to utilize existing Right of Way within this camp-KRC (WDZ-KRC.03). The sub-project location was found by the support of RRRC, CiC, SMC and local DPHE. Consultation meeting was organized with local representatives who will directly or indirectly be related in the sub-project. After visiting proposed site location by the assigned consultants and local DPHE, CiC representatives, SMC and WASH focal team the screening report has been prepared. Initially the team surveyed the locality and primarily sorted (2-3) places to establish the scheme. It has been sorted out the exact situation on safe water provision through consultation meeting with them. The foot of hill, natural drain or canal, toilet and others environmental obstructions not close to the site.

## Construction induced impact issues:

Since the Mini Piped Water Supply Scheme is being implemented in an empty government-owned land, there is no land acquisition, which will prevent any construction induced impacts. During construction, movements of heavy vehicles or construction materials may cause damages to the shelters or assets. If any damages are reported, DPHE will hold consultations with the site management along with contractors and camp focal points to take mitigation measures according to ESMF and RPF.

## Labor issues:

The Mini Piped Water Supply Scheme executing contractor will be involved skill & unskilled labors. The unskilled labor will involve 6-8 people who will be engaged from the camp. Only 5-6 skilled laborers will be engaged from the local/host community/other places of Bangladesh.

To implemented the sub-project there will be no needed any foreign labors. Since the number of incoming workers will be very low and they will be working for short periods of time (more than 3 months), there will be no competition in the using of resources amongst the host and DRP communities. Thus, the sub-project will not be created any influx of workers. The unskilled labors will be hired from the DRP community of Camp-20, who already reside in the camp. The skilled labors will be accommodated on site in the DRP camp by the contractors. The contractor will prepare a labor shed measuring 15ftX15ft for males and 15ftX12ft for females if necessary. All laborers (skilled and unskilled) must be giving appropriate training and capacity development to entail a multitude of codes of conduct pertaining to conflict, GBV and other issues.

## Linkage with other stakeholders:

The team has provided emphasis to keep better linkage with related stakeholders (*i.e.* RRRC, CiC, Camp focal, WASH focal, DRP & Host Community, INGO & Local NGO *etc.*). The team conducts several types of consultation meeting with them group/individually for any social issues.

## GBV issues:

The GBV risk for the project is assessed as high. The proposed project activities will involve major civil works through skilled (from the host community) and unskilled (from the DRP community) labor. Although a strict labor code of conducted will be enforced, a key concern is the potential exposure to sexual





exploitation and abuse (SEA), sexual harassment (SHA) and GBV for females in the area. During the construction of the pipelines many women and vulnerable groups in the project location may be exposed to male laborers, which may lead to sexual harassment of varying degrees. A GRM will be established to deal with related issues. The team will conduct consultation meetings with the DRP & Host communities, contractors and labor to address GBV. In this meeting, another topic of discussion will be the 'do's and don'ts' during implementation of the sub-project intervention to mitigate all the cross-cutting issues. The expected impact of the sub-project on the various stakeholders, women and vulnerable groups is expected to be positive and will create a friendly socioeconomic climate to implement the intervention. It has been determined that Camp WASH Focal, DRP communities and their community leader have no objection to establish the MPWSS in the proposed site of Camp 10. If any odd situation arises, the GRC will be attempt to minimize according to follow the ESMF GRM guideline. On the other hand, if any private land/land leases issues arise, the team will be conducted consultation meeting with the owner and related stake holder according the ESMF & resettlement guideline.

UNFPA is being hired as a specialized organization to deal with the GBV activities. This project is a part of the Gender Component of the UNFPA 9th Country Programme and will contribute to achieve the CP outcome 3 "Advanced gender equality, women's and girls' empowerment, and reproductive rights, including for the most vulnerable and marginalized women, adolescents and youth". In the event any issues on GBV arise, they will be well communicated with UNFPA through appropriate channels to resolve the issue following proper processes.

In this project, 16 new WFS will be established and 2 existing WFS will be fully operationalized, providing comprehensive GBV case management services such as lifesaving information, community and outreach initiatives, community-based psycho-social support, community engagement in GBV prevention activities through SASA, community engagement in safety audit, and strengthening of community-based support mechanism for women and girls through women support groups and adolescence support groups. The staff's capacity will be developed to adequately handle GBV case management, coaching, mentoring, supervision, GBVIMS and GBVIMS+ to ensure comprehensive case management services through proper supervision. Capacity development will also focus on inclusion of people with disability into response and prevention work for GBV. Various tools will be developed/adapted to facilitate GBV services, MHPSS services and engaging men and boys into GBV prevention work. Along with the GBV case management services mentioned above, GBV and labor code of conduct awareness programs will be implemented, where all stakeholders including the host and DRP communities, labor engaged for the project, site management, the WB and project clients such as DPHE and LGD can participate. Mukti will procure WFS strengthening materials and awareness raising materials. They will also implement the preparedness/ contingency plans for any and upcoming disasters. Finally, strict monitoring and supervision initiatives will be in place to ensure any arising issues are averted and to facilitate smooth project processes.

### **Consultations and Future Consultations:**

Under the EMCRP, the DPHE has initiated elaborate consultations with various stakeholders of this project for the Mini Piped Water Supply Scheme site management. These include GIS specialist (initially), hydro geologist located in the scheme area, E&S consultants, local DPHE authorities, other development partners such as UN as well as the DRP community. These sessions covered topics such as WB introduced Social and Environmental safeguard issues, GRM, possible social environmental and economic effects, livelihoods options, discussions on minimizing the laborer conflict among DRP and local host communities, Infrastructure, WASH, hygiene, GBV, forestation, waste. Most importantly, the benefits of safe drinking water options through installing the mini pipelines were discussed. It was also determined that there is no Elephant corridor and no scope of Elephant/Human conflict in the site area. The DRP community were made aware and sensitized on E&S safeguard issues, precautions, child safety, avoid resettlement, relocations of local institutions (mosques, school/ learning centers & others, any restrictions for the DRP, compensation mechanism if any objection and complaints.



As a result of these consultations, the community very much welcomed and appreciated the DPHE EMCRP initiatives on WASH sector sub projects. As per their opinion, the safe water access in to the DRP HH is one of the priority needs for them for secured and better livelihoods aspects.

Thus, future consultations during the lifetime of the project is expected to ensure that negative social and environmental impacts are being mitigated and community needs and opinions are being considered. Consultations will involve determining with the site management team whether proper signage is being used (e.g. for occupational hazard) and whether a properly GRM system is being implemented through an efficient GRC. The GRM will be set up to serve as an integral tool for engaging the various stakeholders during the project activities and its implementation. There will a complaint book for stakeholders and the GRM will be instituted with qualified personnel trained in handling relevant complaints. The GRM will be available for a wide array of issues such as malpractice, labor issues and GBV.

### **Recommendation for further environmental and social assessment and/or site specific environmental and social management plan:**

Currently globe is facing tremendous health risk for pandemic COVID-19, we are not out of this outbreak, hence to ensure precaution at working sites of EMCRP, additional management for Labour and Contractors in respect to COVID-19 is recommended and put as obligatory requirement until the normalcy of COVID-19

### **Labour and Contractors management during COVID-19:**

**For projects involving construction/civil works**, contractors will develop specific procedures or plans so that adequate precautions are in place to prevent or minimize an outbreak of COVID-19, and what should be done if a worker gets sick.:

- Assessing the characteristics of the workforce, including those with underlying health issues or who may be otherwise at risk
- Confirming workers are fit for work, to include temperature testing and refusing entry to sick workers
- Considering ways to minimize entry/exit to site or the workplace, and limiting contact between workers and the community/general public
- Training workers on hygiene and other preventative measures, and implementing a communication strategy for regular updates on COVID-19 related issues and the status of affected workers
- Treatment of workers who are or should be self-isolating and/or are displaying symptoms
- Assessing risks to continuity of supplies of medicine, water, fuel, food and PPE, taking into account international, national and local supply chains
- Reduction, storage and disposal of medical waste
- Adjustments to work practices, to reduce the number of workers and increase social distancing
- Expanding health facilities on-site compared to usual levels, developing relationships with local health care facilities and organize for the treatment of sick workers
- Building worker accommodations further apart, or having one worker accommodation in a more isolated area, which may be easily converted to quarantine and treatment facilities, if needed
- Establishing a procedure to follow if a worker becomes sick (following WHO guidelines)
- Implementing a communication strategy with the community, community leaders and local government in relation to COVID-19 issues on the site.



**For supporting health facilities**, plans or procedures will be in place to address the following issues:

- Obtaining adequate supplies of medical PPE, including gowns, aprons, curtains; medical masks and respirators (N95 or FFP2); gloves (medical, and heavy duty for cleaners); eye protection (goggles or face screens); hand washing soap and sanitizer; and effective cleaning equipment. Where relevant PPE cannot be obtained, the plan should consider viable alternatives, such as cloth masks, alcohol-based cleansers, hot water for cleaning and extra hand washing facilities, until such time as the supplies are available
- Training medical staff on the latest WHO advice and recommendations on the specifics of COVID-19
- Conducting enhanced cleaning arrangements, including thorough cleaning (using adequate disinfectant) of catering facilities/canteens/food/drink facilities, latrines/toilets/showers, common areas, including door handles, floors and all surfaces that are touched regularly
- Training and providing cleaning staff with adequate PPE when cleaning consultation rooms and facilities used to treat infected patients
- Implementing a communication strategy/plan to support regular communication, accessible updates and clear messaging to health workers, regarding the spread of COVID-19 in nearby locations, the latest facts and statistics, and applicable procedures.

## COVID Management Guidelines during implementation

A. **Labor, Workers and Working Conditions:** Contractors are responsible to manage the labors, workers and working conditions. PIU with the support of superstition and monitoring firms will ensure implementation.

1. Stop any Project Activities that may increase community exposure to COVID risks
2. Communicate to communities about protective COVID risks and measures
3. Monitor incidence and outbreak of communicable diseases
4. Identify hotspots based on health data available
5. Screen Security personnel for COVID
6. Follow strict protocols in management of project interventions that may increase the COVID risk for human health (for instance in livestock and commercial farming)
7. Undertake preventive measures in resettlement settlements
8. Practice social distancing in meetings, workshops and consultations.

**Land Acquisition and Involuntary Resettlement:** Though this sub-project will not require land acquisition and involuntary resettlement but during implementation if any involuntary resettlement issues arises, following steps will be followed:

1. Identify vulnerable PAPs and Non-title holders who may have increased vulnerability due to COVID outbreak and (lockdown or loss of livelihood); particularly NTH
2. Make accelerated payments for compensation and/or livelihood restoration to project affected persons, especially vulnerable households, non-titled holders to help them cope with lockdown;
3. Employ local population on wage labor, make advance payments;
4. Manage migrant labor for COVID related risks
5. Invest in living conditions in relocation settlements



**B. Community Health and Safety:** PIU and contractors are responsible to implement the following

1. Stop any Project Activities that may increase community exposure to COVID risks
2. Communicate to communities about protective COVID risks and measures
3. Monitor incidence and outbreak of communicable diseases
4. Identify hotspots based on health data available
5. Screen Security personnel for COVID
6. Follow strict protocols in management of project interventions that may increase the COVID risk for human health (for instance in livestock and commercial farming)
7. Undertake preventive measures in resettlement settlements
8. Practice social distancing in meetings, workshops and consultations \_

**Stakeholders and Citizen and Grievance Mechanism:**

1. Disseminate COVID advisories over phones, texts, what's app groups, radio, TV, frontline workers Communication;
2. Monitor existing grievance and public information mechanisms for any COVID related grievance, queries etc.;
3. Widely disseminate material on those who have recovered from COVID to remove stigma
4. Include Doctor or medical staff in the GRM
5. Use more video conference facilities and conferences.



## Appendix -01

### Environmental and Social Management Plan (ESMP)

Considering the intervention wise construction activities of proposed site potential impact with consequence mitigation measures have been designed (as a ESMP) in the following table for **Mini-Piped Water Supply System (MPWSS): WDZ\_KRC and Block\_A.**

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Assessment of Social Impacts and Risks	<p>To meet the requirements for disadvantaged and vulnerable directive:</p> <ul style="list-style-type: none"> <li>• Include COVID positive individuals, households and clusters as vulnerable category in Social Assessment TORs, surveys and consultations (particularly relating to social stigma);</li> <li>• Consult with such COVID positive households to Identify specific support mechanisms that projects could support;</li> <li>• Add tribal communities in self isolation under vulnerable groups who may need suitable and socially acceptable support;</li> <li>• Use alternative and virtual and video means for consultations and interactions.</li> </ul>	PMU	Social Development Specialist and Gender Specialist of PIU, IWM Supervision and monitoring firms.
Pre-Construction Stage	Construction and operation of <b>labor camp</b> for the workers will generated sewage and other form of waste, thereby surrounding environment pollution and health hazard of worker may occur due to <b>absence of safe sanitation and water supply</b>	<ul style="list-style-type: none"> <li>• Provide suitable housing, adequate supplies of potable water, and toilet and bathing facilities within the housing area for the assigned laborer;</li> <li>• Provide means for disposing of wastewater from toilets, baths and food preparation areas either through a septic tank and soak away, or holding tank with removal by vacuum truck;</li> <li>• Comply with requirements of Government of Bangladesh labor law of 2006 and all applicable laws and standards on worker's Health and Safety;</li> <li>• Conduct formal and unofficial discussion to increase awareness about hygiene practices among the workers;</li> </ul>	Construction Contractor	Environmental and Social Development of PIU, IWM Supervision and monitoring



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	<b>Soil erosion</b> may take place due to site clearing as well as natural drainage can alter for improper storage of construction material	<ul style="list-style-type: none"> <li>Vegetation clearing work not to be done more than required area of proposed intervention;</li> <li>Selected site will be far away from any water bodies or natural water flow path to avoid the flash flood or any kind of surface runoff.</li> <li>Minimize cut &amp; fill operations, the site clearing and grubbing operations should be limited to specific locations only.</li> <li>The existing slope and natural drainage pattern on the site should not be significantly altered because construction material/ equipment will be stored in selected place with sufficient earthen drainage facilities around to ensure continuous connection with nearby natural water body.</li> </ul>	Construction Contractor	Environmental and Social Development of PIU, IWM Supervision and monitoring
Pre-Construction Stage	Loss of land/and other physical assets	<ul style="list-style-type: none"> <li>No land acquisition will be allowed inside the DRP camp.</li> </ul>	PMU	Social Development Specialist and Gender Specialist of PIU, IWM
Pre-Construction Stage	Loss of livelihoods	<ul style="list-style-type: none"> <li>Under this sub-project, there is no scope of negative impact of DRP livelihoods.</li> </ul>	Contractor	Social Development Specialist and Gender Specialist of PIU, IWM
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> <li>All the project stakeholders will be engaged in consultation process</li> <li>Individual/Separate community level consultation meeting will be held with the potential affected HHs</li> <li>Consultation meeting with Rohingya male and female about the project safeguard documents will be disclosed to the stakeholders</li> <li>DRP camp people will be involved with the GRM, formed GRC</li> </ul>	PMU & Contractor	SD and Gender Specialist of PIU, IWM
Pre-Construction	Loss of Access rights	<ul style="list-style-type: none"> <li>Project to ensure thorough analysis of alternatives that access enjoyed by the community remains</li> </ul>	PMU	SD and Gender Specialist



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
Stage		<p>intact.</p> <ul style="list-style-type: none"> <li>In case of unavoidable circumstances, alternative access will be provided.</li> </ul>		of PIU, IWM
Construction Activity	Construction Induced Impacts	<ul style="list-style-type: none"> <li>Any construction induced impacts must be mitigated following the guidelines of RPF and ESMF</li> </ul>	Contractors	PIU, IWM
Construction Activity	<b>Noise pollution</b> will occur due to use of diesel based construction equipment/vehicles movement	<ul style="list-style-type: none"> <li>Construction activity will be pat daytime, not more than 4.00 pm;</li> <li>However, for some work like deep tube well drilling, contractor will be responsible for using noise abating gear such as mufflers for effective sound reduction in powered mechanical equipment and machineries development;</li> <li>Contractor will confirm proper measures for avoiding any disturbance of residents as well as biodiversity;</li> <li>Ensure use of the personal protective equipment's (helmet, goggles, gloves, safety boot) during cutting and welding of the reinforcement and during drilling work;</li> <li>Availability and access to first-aid equipment and medical supplies in case of any accidents.</li> </ul>	Contractor	Environmental Consultant of PIU, IWM
Construction Activity	<b>Air quality</b> will degrade due to dust blowing from earthwork (trench cutting for pipe laying), transportation of waste or fine material and emission of construction vehicles.	<ul style="list-style-type: none"> <li>Construction machinery shall be properly maintained to minimize exhaust emissions of CO<sub>2</sub>, particulate matter (SPM, PM<sub>2.5</sub> and PM<sub>10</sub>) and Hydrocarbons.</li> <li>Dust generated as a result of clearing, leveling and site grading operations shall be suppressed using water sprinklers.</li> <li>Dust generation due to vehicle movement on haul roads/access roads shall be controlled through regular water sprinkling.</li> <li>Carry the materials especially loose soil and sand</li> </ul>	Contractor	Environmental Consultant of PIU, IWM





Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
		<p>with adequate cover.</p> <ul style="list-style-type: none"> <li>• Ensure use of masks to construction workers if dust content is high.</li> </ul>		
Construction Activity	Stagnant water in the trench cut or pump drilling location may pose <b>soil erosion and correspondingly land side</b> may occur	<ul style="list-style-type: none"> <li>• All excess materials including debris generated from the trench backfilling operations are to be collected and reused in other segments quickly, and unusable debris shall be disposed of at designated dump site or locations for disposal of construction debris so that water cannot stagnant</li> <li>• Provision of submergible pump will be confirmed by the contractor at construction site to properly manage the stagnant water from erratic rain fall;</li> </ul>	Contractor	Environmental Consultant of PIU, IWM
Construction Activity	<b>Safety Issues</b> may delaine due to careless effort for open trench cuttingfor pipe laying/inspection pit/ installation of DTW & PWT and operation of mechanical equipment	<ul style="list-style-type: none"> <li>• Unauthorized entry to the site area is completely prohibited and the site will be properly fenced with a single entry, for this purpose;</li> <li>• Properly maintained and control store house, storages instruments as well as hazardous materials on the site;</li> <li>• Construction laborers should use Proper PPEs during working time. Pipe laying trenches should not keep open long time. After pipe laying, contractor should backfill trenches as quickly as possible.</li> <li>• Pipe line work should be performed section wise. 50-100m section should be considered to minimize disruptions to both pedestrians and vehicular traffic;</li> <li>• The HDPE pipe lowering, jointing operations and camp connection and installation of DTW can pose safety concerns; all work force deployed in operations shall be properly trained, and provided with all required PPEs mandatorily;</li> <li>• Health and safety training will be arranged for the Rohingya or other community'slabors before</li> </ul>	Contractor	Environmental Consultant of PIU, IWM



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
		<p>project intervention started.</p> <ul style="list-style-type: none"> <li>• Labour will bring their proper IDs and wear when they will entry in the camp area.</li> <li>• Child labours will not allowed for any kind of activities</li> <li>• Site shall be secured by fencing and maintained at entry points.</li> <li>• To avoid any accident and health hazard provision of lighting at inspection pit site during night time shall be arranged until covered up the pit.</li> </ul>		
	<p><b>Social conflict</b> may arise between camp workers and local residence due to different behavior or custom of outsider worker (if any) as well as consumption of natural resource by the camp worker</p>	<ul style="list-style-type: none"> <li>• An alternate arrangement for fuel wood, heating and cooking required to meet fuel requirement of the labor camps;</li> <li>• Alternating cooking arrangement for the HHs living in the camp should be arrange by the contractor;</li> <li>• Contractor will closely monitor all workers so that workers do not involve with local politics as well as sexual harassment, trafficking of women and children.</li> <li>• Contractor will be arranged a awareness building training for the camp workers about nutrition, disaster risk resilience or mitigation, adoption of clean energy for cooking; and prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade.</li> <li>• Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling.</li> <li>• If ground water is withdrawn, adequate approvals essential from the appropriate department/authorities before setting up bore wells.</li> <li>• Labor code of conduct to be disclosed through consultation and FGD.</li> </ul>	Contractor	Environmental and Social Consultant of PIU, IWM



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
Construction Activity	<p><b>Unplanned traffic management</b> (construction vehicles) may increase the road accident and traffic congestion</p>	<ul style="list-style-type: none"> <li>• Less busy road shall be identified for the movement of heavy machinery and equipment;</li> <li>• Ensure schedule deliveries of material/ equipment during off-peak hours;</li> <li>• Place traffic sign and cautionary sign at major junctions to avoid undue traffic congestion as well as accident;</li> <li>• Inform local people about the subproject activities including road diversions and closures well in advance;</li> <li>• Speed needs to be limited to 20kmph</li> <li>• The vehicular movement will be controlled near sensitive locations viz. schools, colleges, hospitals, mosques, learning center &amp; DRP camps identified along designated vehicular transportation routes.</li> <li>• Awareness training on proper traffic management for local community including construction workers shall be arranged by the contractor with the assistance of PIU safeguard officer. Local community will be trained up about traffic management and awareness.</li> </ul>	Contractor	Environmental and Social Consultant of PIU, IWM
	<p><b>Generated wastes</b> (earth, mud) from drill of pump and trench cutting for pipe laying may cause of degrade the quality of nearby water quality( if any) and surrounding environment</p> <ul style="list-style-type: none"> <li>• Hazardous waste i.e. waste oil, grease from vehicle maintenance also can decline the</li> </ul>	<ul style="list-style-type: none"> <li>• Wastes must be placed in the designated bins which must be regularly emptied;</li> <li>• All waste must be removed from the site and transported to a disposal site;</li> <li>• Working areas are kept clean and tidy at all times;</li> <li>• Construction site is to be checked for spills of substances i.e. chemical, oil, paint, etc.;</li> <li>• Refueling and maintenance of equipment and vehicles should be done in selected confined area with base of impermeable layer (paved) so that waste could not spill and get contact with nearby water body and soil. Waste oil and mobile will be collected and subsequently sold to authorized</li> </ul>	Contractor	Environmental Consultant of PIU, IWM



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
	<p>nearby water quality if any and surrounding environment</p>	<p>recyclers.</p> <ul style="list-style-type: none"> <li>The scrap material generated from the erection of structures and related construction activities including generated mud will be collected and stored separately in a stack yard and regularly disposed in designated waste dump area and residue that is carried value will sold to local recyclers;</li> <li>Hazardous Waste Management Rules should be maintained by the responsible contractor;</li> <li>Informal training on handling of hazardous waste shall be done regularly by the ES of PIU and Contractor's HSE.</li> </ul>		
Construction Activity	<p><b>Health &amp; Safety Risks</b> may pose due to following reason to associates workers:</p> <ul style="list-style-type: none"> <li>The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks.</li> <li>Exposure to health events during construction activities such as manual handling and musculoskeletal</li> </ul>	<ul style="list-style-type: none"> <li>All construction equipment will be properly inspected timely.</li> <li>The risk assessment will be prepared time to time for all types of work activities on site by the HSE of contractor and to be validated by the ES of PIU.</li> <li>Designated all walkways that to be used for subproject work, shall be ensured good conditions underfoot; signposted and with adequate lighting.</li> <li>Suspected place for slippery at working sites shall be identified and installation of signpost are to be assured;</li> <li>Fire risk assessment shall be done for the construction areas through identifying the sources of fuel and ignition and required precautions including, means of escape, warning and fighting fire are to be arranged by the contractor.</li> <li>Pipe laying trenches should not keep open long time. After pipe laying, contractor should backfill trenches as quickly as possible.</li> <li>Open trench (required for thrust block &amp; valve chamber) should be protected with safety tape.</li> </ul>	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU, IWM



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
	<p>disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.</p>	<p>Sufficient lighting system should be provided at night time</p> <ul style="list-style-type: none"> <li>• During pipe trenching &amp; earthwork for valve pit construction, working area should protect with marking tap</li> <li>• First aid boxes will be made available at each construction site.</li> <li>• This sub project has Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities, responsibilities and expertise, emergency response and evacuation procedure, in addition to training for personnel and drills to test the plan.</li> <li>• Carefully operation of electrical equipment must be maintained. In addition, works shall not be carried out on live systems.</li> <li>• Only competent authorized persons shall carry out maintenance on electrical equipment, adequate Personal Protective Equipment (PPE) for electrical works must be provided to all personnel involved in the tasks.</li> <li>• An adequate number of staff and first aiders shall be on site in accordance with Bangladesh Labor Law requirements.</li> <li>• First aid kit with adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. shall be made available by the contractor on site.</li> <li>• Emergency evacuation response shall be prepared by the contractor and relevant staff shall be trained through mock-up drills.</li> <li>• Ensure all equipment is suitable for jobs (safety,</li> </ul>		



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
		<p>size, power, efficiency, ergonomics, cost, user acceptability etc.), provide the lowest vibration tools that are suitable and can do the works.</p> <ul style="list-style-type: none"> <li>• Contractor will provide awareness training to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration.</li> <li>• Adequate quantities of drinking water will be available at different locations within the sub-project area.</li> <li>• Provision to maintain proper PPEs wherever necessary and to ensure that there are satisfactory washing and changing facilities.</li> <li>• Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training in how to protect themselves and there should be effective supervision to ensure that the correct methods are being used.</li> </ul>		
Operation & Maintenance	<ul style="list-style-type: none"> <li>• Draw down of groundwater due to excessive withdrawals</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination with other development agencies for groundwater extraction rates will be monitoring;</li> <li>• Regular third-party will be monitoring of groundwater levels;</li> <li>• Awareness training on optimum use of supply water (without loss) at community level shall be arranged by DPHE, PMU so that they can become aware about suffering for miss use of water.</li> <li>• Encroachment of surface water course in the study area for accommodation of DRPs or other development purpose shall be discouraged.</li> </ul>	<p>Contractor for first 2 years</p> <p>Long-term responsibility to be determined by CIC/DPHE</p>	<p>Environmental Consultant of PMU</p> <p>Long-term responsibility to be determined by CIC/DPHE</p>
Operation & Maintenance	<ul style="list-style-type: none"> <li>• Improper disposal of solids wastes from solar powered systems can cause land and</li> </ul>	<ul style="list-style-type: none"> <li>• Effective Waste Management Plan will be developed covering the following issues:</li> <li>• Rechargeable batteries shall be selected that life time is high;</li> </ul>	<p>Contractor for first 2 years</p> <p>Long-term</p>	<p>Environmental Consultant of PMU</p> <p>Long-term responsibility</p>



Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures/indicators	Institutional Responsibilities	Supervision Responsibility
	<p>water pollution as well as air pollution from open burning of solar panel battery.</p>	<ul style="list-style-type: none"> <li>• For reducing the waste battery, instead of replacement, battery maintenance work shall be given priority;</li> <li>• Damaged battery throwing in to the water bodies or store under open sky shall be prohibited;</li> <li>• Destroying of waste battery by open burning shall be restricted;</li> <li>• Landfilling of damaged battery not to be allowed;</li> <li>• If possible, reuse of damaged batter to be done;</li> <li>• Contractor will ensure third party monitoring of nearby surface and underground water bodies for signs of contamination. Parameters. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE.</li> </ul>	<p>responsibility to be determined by CIC/DPHE</p>	<p>to be determined by CIC/DPHE</p>
<p>Operation &amp; Maintenance</p>	<ul style="list-style-type: none"> <li>• Possible failure of the system due to low pressure and fluctuation of the pressure;</li> <li>• Possible failure of the system due to pipe leakage and use of substandard fitting may cause of soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct pressure test just before the operation of the water supply line;</li> <li>• Use good quality of the HDPE pipe to avoid any leakage;</li> <li>• Use good quality materials and accessories for pipe joining, and tap connection to the consumers.</li> <li>• Ensure regular and proper maintenance the water supply line;</li> <li>• To avoid damage of collection, tap by the DRP children, community leader (Majhi) shall be closely monitored accordingly.</li> </ul>	<p>Contractor for first 2 years</p> <p>Long-term responsibility to be determined by CIC/DPHE</p>	<p>Environmental Consultant of PMU</p> <p>Long-term responsibility to be determined by CIC/DPHE</p>





**Appendix-02: Community Consultation Meeting with DRP at Camp-KRC3**





Appendix 03: List of the Participants

Consultancy Services for "Monitoring and Supervision of Water Supply and Sanitation Schemes including review, update of existing drawing and design, EIA and SIA" under Emergency Multi-Sector Rohingya Crisis Response Project (EMCRP), DPHE.

Community Consultation Meeting Attendance Sheet

Camp No. KRC-3 Block No. A Sub-Project No. .... Name of Site MPWSS Date: 8.7.20

Sl. No.	Name	Sex		Designation	Mobile number	Signature	Remarks
		M	F				
1	Sona Ali	✓		DR P	—	<i>[Signature]</i>	
2	Nur Kabir	✓		h	—	<i>[Signature]</i>	
3	Salim	✓		h	—	<i>[Signature]</i>	
4	Ashraf Ali	✓		h	—	<i>[Signature]</i>	
5	Abdur Rashid	✓		h	—	<i>[Signature]</i>	
6	Enayet Ullah	✓		h	—	<i>[Signature]</i>	
7	Nasima		✓	h	—	<i>[Signature]</i>	
8	Lokman	✓		h	—	<i>[Signature]</i>	
9	Fazilatun Nusrat		✓	Gps. IWM	01730874	<i>[Signature]</i>	
10	SM Rahman.	✓		SDS, IWM	01711964885	<i>[Signature]</i>	
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Prepared by: *[Signature]*  
 Md. Mostamsirur Rahman  
 Social Development Specialist  
 Reg. No. SD-14, IWM, EMCRP, DPHE



**Prepared by:**

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