Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development and
Cooperatives Local Government Division

Improving Urban Governance and Infrastructure Program (IUGIP)

Environmental Screening Report for

LIN Upgradation at Araihazar Pourashava

Sub-Project No: IUGIP/ARAI/SI/01-05/2023

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CURRENCY EQUIVALENTS

(As of 13th December, 2023)

Currency Unit = BDT BDT 1.00 = $ 0.0097

$ 1.00 = BDT 105.4

ABBREVIATIONS

ADB	-	Asian Development Bank
AFD	-	Agence Francaise de Developpment
Ap	-	Affective Person
DoE	-	Department of environment
DLI	-	Disbursement Link Indicator
ESMF Framework	-	Environmental and Social Management
ECA	-	Environmental Conservation Act
ECC	-	Environmental Clearance Certificate
ECR	-	Environmental Conservation Rules
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
ESR	-	Environmental Screening Report
FD	-	Forest Department
GoB	-	Government of Bangladesh
GRC	-	Grievance Redressal Cell
GRM	-	Grievance Redress Mechanism
IEE	-	Initial Environmental Examination
IUGIP Program	-	Improving Urban Governance and Infrastructure
LGED	-	Local Government Engineering Department
MDSC Consultant	-	Management Design and Supervision
MLGRDC Development, Cooperatives	-	Ministry of Local Government, Rural
O&M	-	Operation and Maintenance
PMU	-	Project Management Unit
PPTA Assistance	-	Project Preparatory Technical
PRSP Paper	-	Poverty Reduction Strategy
RBL	-	Result-Based Lending
RP	-	Resettlement Plan
SPS	-	Safeguard Policy Statement
UGIAP	-	Urban Governance Implementation Action Plan
LIN	-	Low Income Neighborhood
LINIC	-	Low Income Neighborhood Improvement Committee

I. GLOSSARY OF BANGLADESHI TERMS

Crore	-	10 million (= 100 lakh)
Ghat	-	boat landing station
Hartal	-	nationwide strike/demonstration called by opposition
parties Khal	-	drainage ditch/canal
Khas, khash	-	belongs to government (e.g., land)
Katcha	-	poor quality, poorly built
Lakh, lac	-	100,000
Madrasha	-	Islamic college
Mouza	-	government-recognized land area
Parishad	-	authority (Pourashava)
Pourashava	-	municipality
Pucca	-	good quality, well built, solid
Thana	-	police station
Upazila	-	sub district

II. WEIGHTS AND MEASURES

ha	-	hectare
km	-	kilometre
m	-	meter
mm	-	millimetre

NOTE{S}

(i) In this report, "$" refers to US dollars.
(ii) —BDT refers to Bangladeshi Taka

PREFACE

The premises of this Environmental Screening Report (ESR) are the MDS Consultant services presentation of an analysis of data and conclusions, together with its appendices.

The key elements of the ESR focus on: Assessment of Compliance Guidelines of Environment Safeguards according to ADB, AFD and GoB policy.

DISCLAIMER

This draft Environmental Screening Report (ESR) of Araihazar Pourashava, Under Management Design & Supervision for Improving Urban Governance and Infrastructure Program (IUGIP) at (RBL). All the data used to prepare this ESR have been collected from the Pourashava Development Plan (PDP) and field visit. Some of the information's have also been collected from the Pourashava personnel over telephone. Moreover, some information's have been collected by the respective experts of MDS consultant through intensive field visit which have been used in writing this report. If any information or data or any other things coincide with other project documents that are beyond our knowledge and fully coincidental event and we express apology for that.

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III. INTRODUCTION

1. Bangladesh is still a predominantly rural country, but it is rapidly urbanizing. Its total population is nearly 160 million and by one account, around 28 percent of the aggregate population lives in the urban areas. With the present high increase-trend in urban population, it is justifiably anticipated that by the year-2020, such populace will constitute nearly 40 percent of the national aggregate. One principal cause of such rapid growth is the presence of better opportunities spanning economic, communication, education, health and other social aspects in the urban areas. It is worth noting that by one account, in countries of Bangladesh's standing, around 55-60% of a country's aggregate economic activities takes place within the urban confines.
2. Now, in line with aforesaid trend, and particularly the visibly sharp rise in rural-urban migration in the recent decades, urbanization of the existing Pourashavas of the country will as well register a concomitant speedy growth. This will warrant provision and development of adequate basic infrastructure for the dwellers. The poor people, mostly displaced by river erosion and landless, have migrated to the cities for better opportunities of earning their livelihoods and other social aspects. This type of new migrants and second-generation migrants tend to live in LIN areas without basic housing and services.
3. The LIN people have been suffering from acute problem of inadequate availability of drinking water, inadequate & deteriorating internal roads/footpaths/ walkways, street lighting, paucity of drainage and sewerage facilities, poor housing, and pollution. Thus, urban LINs improvement remains at the forefront of municipal infrastructure provision through UGIIP-III-AF in selected Pourashavas. The responsibility of improving the living conditions of the people of the LIN areas lies with the Pourashavas vis-a-vis urban service providers.
4. Basic services for the poor LINs include improvement of (i) internal roads, (ii) drainage facilities, (iii) footpaths/ walkways, (iv) supplying water (installation of hand tube wells), (v) sanitation facilities (construction of toilets/ community toilets), (vi) solid waste management and (vii) street lighting in LIN areas, (viii) construction of dust bins, and (viii) piloting low-cost housing for the poor LIN dwellers. The piloting of the construction of the low-cost housing will also be done for the sweepers in sweeper's colony.

A. Purpose of Environmental Screening Report

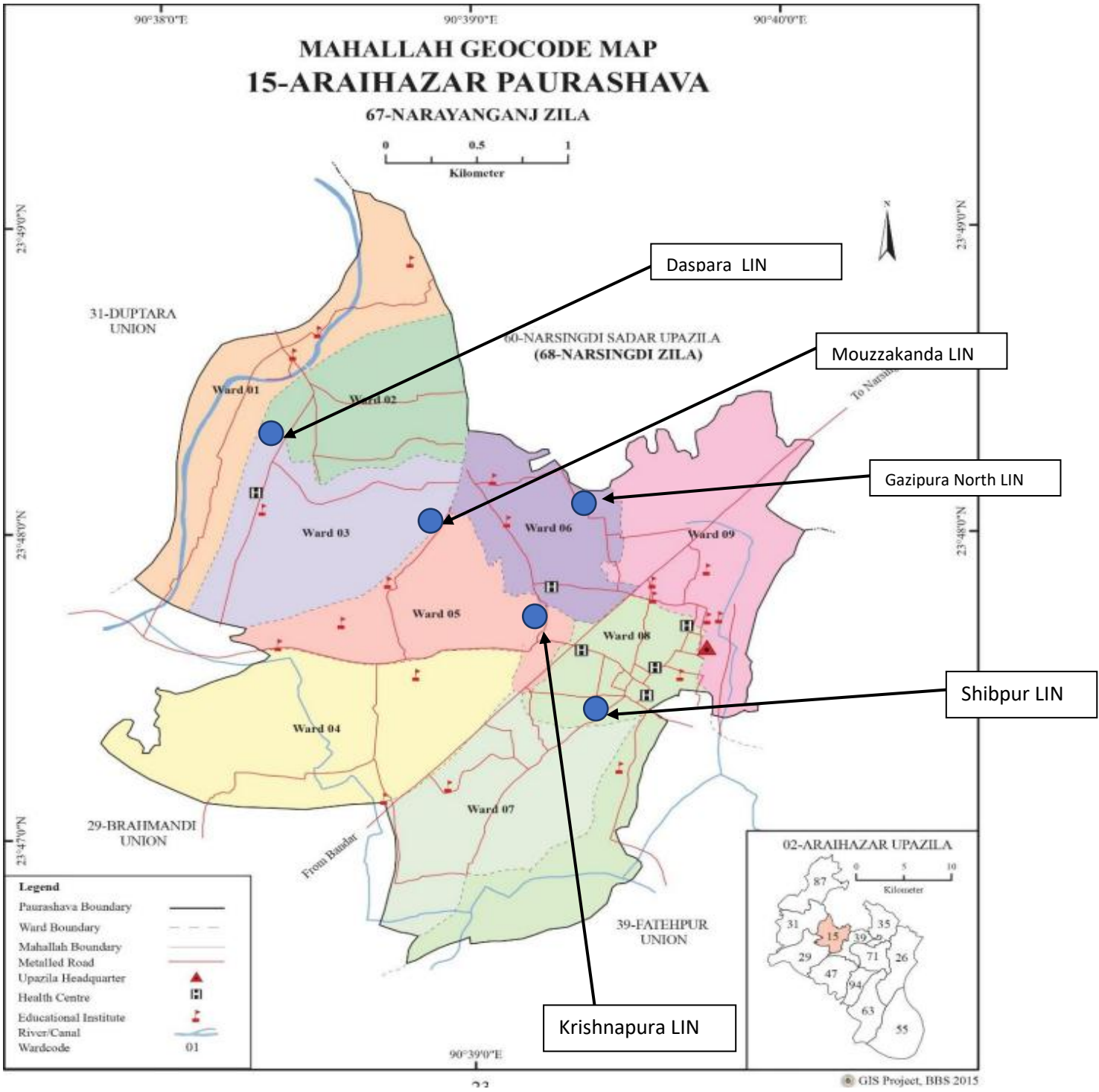
5. The objectives of the LIN Improvement sub-project are to improve the LIN environment through – installation of drinking water well, dustbins, sanitation, street light facility, rehabilitation/ improvement of footpath and drains on various locations in LIN area, which ultimately improves the basic services for the urban poor. The purpose of the report is to improve the urban environment through identify the potential impacts of proposed interventions and taking mitigation measures.

B. Proposed LINs

6. Environmental screening reports on the five proposed LINs in Araihazar Pourashava have been presented in this report (Shibpur LIN, Daspara LIN, Krisnopura LIN, Mouzakanda LIN, Gazipura LIN). Location of the proposed LINs is given in the Figure I.1.

Figure I.1: Pourashava Map and Location Map of Proposed LINs

Figure I.2: Location Map of Proposed LINs



IV. ENVIRONMENTAL SCREENING OF PROPOSED LINS

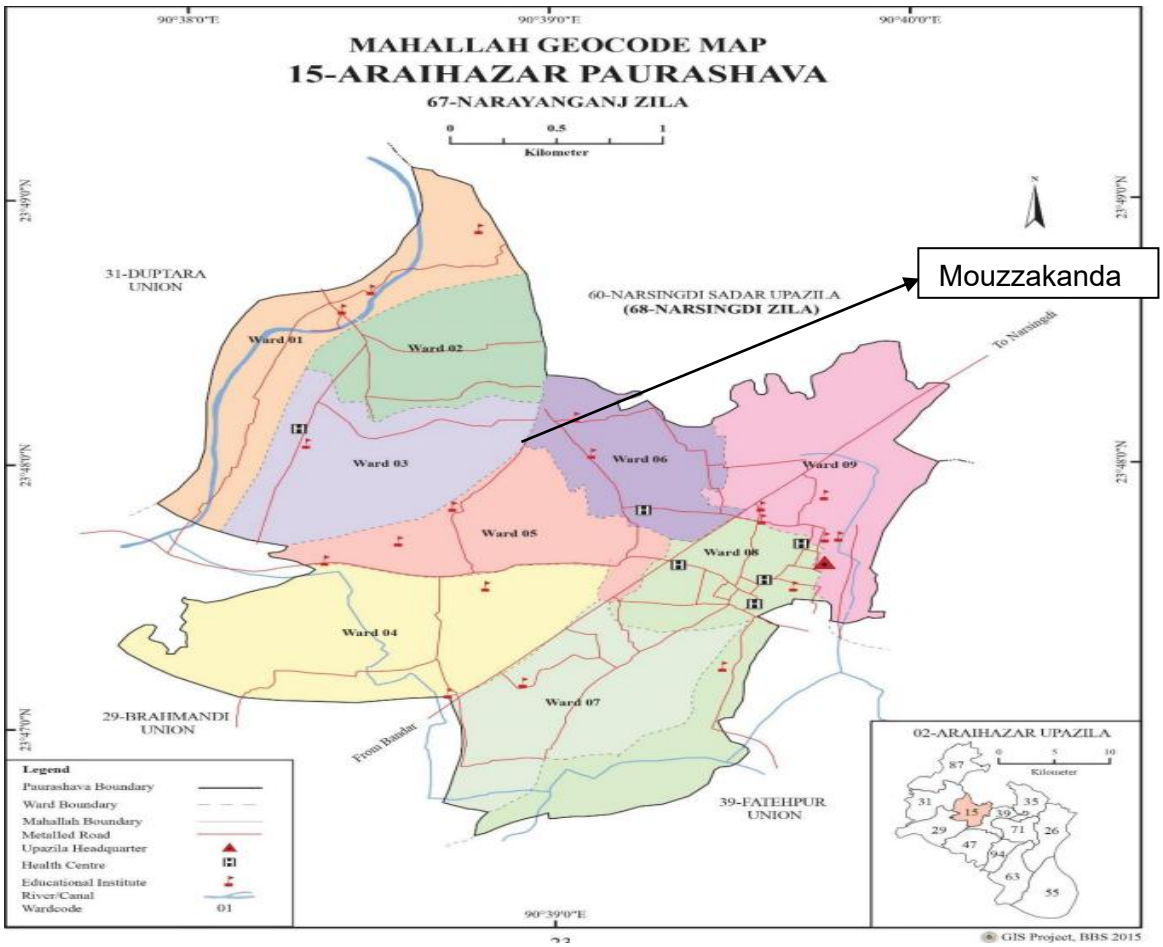
A. Mouzzakanda LIN (Ward- 02)

Package No: IUGIP/ARAI/SI/01-05/2023

7. The LIN is situated in ward no. 2. There are 300 families with 780 members; of which 350 male and 430 female. The land area is 2.70 acre and the owner of the land is the LIN peoples. The chief of 123 families earns their livelihood by physical labor like construction daily labor, transport labor & 53 by rickshaw pulling, 11 by small business,52 by service and the rest by different means. Most of the families live in katcha/tin shed houses. The average income per head per month is about Tk.8000.00 only. They are deprived of most of the needed basic services. This LIN has acute problem of deteriorating internal roads/footpaths/ Street light, paucity of drainage, sewerage facilities and walkways etc.

a. Location of the LIN

8. The Mouzzakanda LIN is situated in ward no. 02 under Araihazar Pourashava of Narayanganj district (Figure I.1).



b. Description of Interventions

Description of the proposed interventions for Mouzzakanda LIN is given in Table II.1.

Table IV.1: Description of Proposed Interventions of LIN

			Name of Lin: Mouzakanda			
			Name of works: Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well, 02 number dustbin, 130-meter footpath, 765-meter RCC drain, Installation of 27 numbers of solar street light, Installation of 07 numbers of hand Tube well & 100 nos Tree Plantation in Shibpur LIN area, at Ward no.-02, under Araihazar Pourashava, Narayanganj.		
	IUGIP/ARAI/SI/01-05/2023 (Lot-04)	2023-2024	**Toilet**			
1			a)	Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well.	1	Nos.
				Sub-Total Toilets Amount =		
2			b)	Construction of 02 number dustbin	2	No.
3			c)	Construction of 130-meter footpath.	130	m
4			d)	Construction of 765-meter RCC drain	765	m
5			e)	Installation of 27 numbers of solar street light	27	Nos.
6			f)	Installation of 07 numbers of hand Tube well	7	Nos.
7			g)	Plantation of 100 nos. tree	100	Nos.

c. Present Condition (Baseline Environment)

(i) Flooding/Water-clogging

9. Flood does not occur in this LIN. The existing drains are earthen and are not functioning. Water logging condition occurs due to heavy rainfall during rainy season. Rain water in the monsoon and the water coming out from bathing and washing round the year are stagnant there. As such water logging becomes a common feature there. Construction of drain is necessary in this LIN.

(ii) Water Source/Level/Quality/Tube well

10. At present, the LIN people do not have problem with the availability of drinking water. So, LIN dwellers do not demand for tube wells. The bore-log records of the suitable aquifer and quality of water in that aquifer such as iron, manganese, arsenic, hardness, chloride contents by testing through DPHE laboratory and having all those within acceptable limits as shown in Table II.2. This water quality test result can be considered as the water quality of whole Pourashava area.

Table IV.2: Water Quality Test Results of Araihazar Pourashava

Sl. No.	Location	Parameters					
		Arsenic (Mg/l)	Iron ((Mg/l)	Manganese (Mg/l)	Hardness (Mg/l)	Chloride (Mg/l)	pH
1	Mouzzakanda LIN, Ward No.2 Araihazar Pourashava	<0.001	0.27	0.20	-	140	4.64
2	Mouzzakanda LIN, Ward No.2 Araihazar Pourashava	<0.001	0.55	<0.05	-	40	5.11
3	Mouzzakanda LIN, Ward No.2 Araihazar Pourashava	<0.001	0.17	<0.05	-	100	5.84

Bangladesh Standard (mg/l)	0.05	0.3-1.0	0.1	200-500	150-600	6.5-8.5
WHO Standard	0.01	0.3	0.2	300	250	6.5-8.5

Source: Water quality test report done by Pourashava at DPHE Zonal Laboratory

11. The concentration of all PTWs in the water quality test result is within the Bangladesh standard and World Health Organization (WHO) except the pH for all the considered wells. However, excessive iron in water has no adverse health effect.

(iii) Sanitations

12. There is insufficient toilets facility in the LIN area. LIN dwellers do not have enough hygienic sanitation. There is 1 nos proposal sanitation improvement within the LIN area.

(iv) Access Roads/Footpaths

13. There is existing earth road are poor condition in the LIN area. LIN dwellers wanted footpath for their communication within the LIN area. The proposed footpaths have been designed with cement concrete (CC) with crushed stone chips and over Single Layer Brick Flat Soling (BFS). LIN area is connected by Pourashava roads.

Figure IV.1: Existing Situation of Footpath at Mouzzakanda LIN

(v) Solar Street Lights

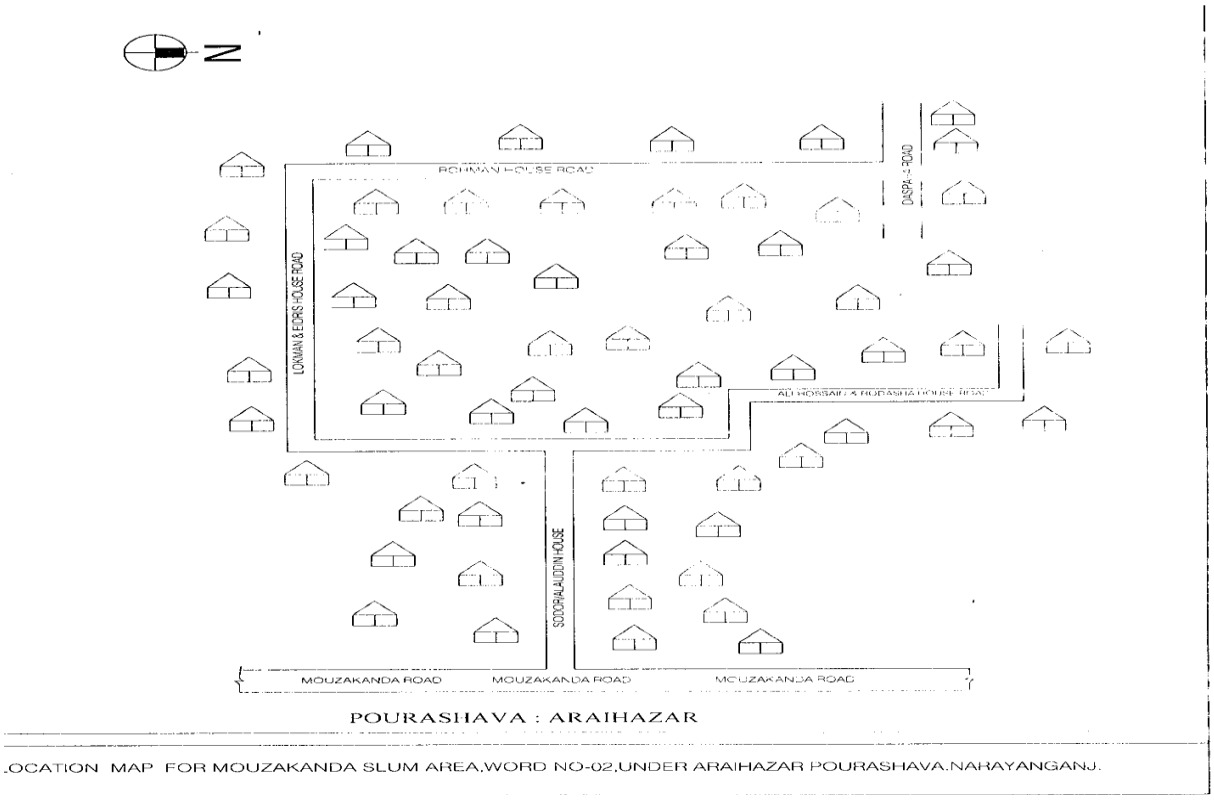
14. There are insufficient numbers of street light in this LIN area therefore 27 nos provisions of light are proposed under this package.

(vi) Drain

15. The existing drains are earthen and are inactive. So, the LIN dwellers experience water logging especially during rainy season. The out fall of proposed drain is Poura secondary drain to primary drain (Section-3 site map) and because as the coming water to the proposed drain is only from rainfall run-off or household waste water. All drains have been designed to be built by RCC/brick. But well-defined slopes and outfalls have been ensured. The U-type drains have been designed considering the constraint in land availability. The design life has been considered as 20 years.

Figure IV.2: Existing Situation of Drain at Mouzzakanda LIN

d. Site Map of the Mouzzakanda LIN



e. Environmental Impact Assessment and Mitigation

16. (The review process will be greatly facilitated by comprehensive and detailed answers in this section. When completing this section, please state a specific reason [i.e., "there will be no impacts to environment because this project will not involve any disturbance"] and cite a source [i.e., local master plan, previous environmental assessment, correspondence with Pourashava Office, etc.] to support a response of "no impact (-)" or "potential to impact (+).")
17. **The key baseline information on the LIN area are depicted in below table:**

Sl	Key environmental and social aspects	Key baseline information
1	Noise	Noise is not a major impediment for the quality of the environment in the study area. Vehicles such as electric rickshaw, motor cycle, van, tempo, mini truck, outvote, and tractor trailer etc. move on the road during day and night. Particular areas adjacent to the main road have some noise pollution created by movement of heavy vehicles near LIN. These vehicles generate noise in the LIN area but within tolerable limit in most cases. No other perceptible sources of noise generation such as factories, industries, etc. are found near by the LIN area.
2	Air	Current air quality in LIN area of Araihazar pourashava, is in the moderate to poor range, with pollution levels that may affect sensitive groups. The moderate air quality in lin area of Araihazar is mainly caused by particulate matter (PM2.5 and PM10) from brick kilns, vehicle emissions, construction dust, and industrial activity. The Final Master Plan of the Pourashava shows that air pollution is quite a serious environmental consideration having adverse impacts within many parts of the LIN area of Araihazar Pourashava. Operations of shallow engine driven vehicles named Nochimon/Karimon are responsible for air pollution. Those vehicles use diesel as fuel. Diesel Particulate Matter (DPM) includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates and silicates.
3	Ground water	Groundwater in Araihazar Pourashava is widely used for drinking and irrigation, but it faces challenges such as arsenic contamination, salinity, and over-extraction. Shallow aquifers (10–50 meters) are common, but deeper aquifers (120–250 meters) are often tapped to avoid contamination. Quality concerns, Arsenic contamination: Many shallow tube wells in Narayangonj district (where Araihazar is located) show arsenic levels above the WHO guideline of 10.1 µg/L. In some areas, groundwater shows elevated salinity, affecting taste and crop irrigation. Iron & manganese naturally occurring elements are often present, leading to staining and taste issues.
4	Surface water	The town of Araihazar is situated near several rivers look likes Shitalakshya and Buriganga. Buriganga not directly flowing through Araihazar municipality but it influences the regions water management and ecology. During the monsoon season, the water level of this river increases and some of its effects are naturally reflected in the municipality. Every year a small expanse of land is erosion and deposition

Sl	Key environmental and social aspects	Key baseline information
		by the river. Due to the low altitude of the area, the area was kept flood-free by river embankments, but the area was inundated by major natural disasters. Moreover, there are several small and big water bodies and canals in the area.
5	Protected Area (PA)	There are no officially designated protected areas (such as national parks, wildlife sanctuaries, or eco-parks) located within Araihazar Pourashava. Araihazar Pourashava (Narayangonj District) does not host any of these nationally recognized protected areas.
6	Cultural Heritage	LIN area of Araihazar Pourashava is some in the cultural, historical and religious heritage. There are a number of places of interest within LIN area that can become attractions for business from home and abroad. The area has a long history with influences from various dynasties and rulers over the centuries, contributing to its unique cultural fabric.
7	Physcial Cultural Resoruces	Within 500m of the activity site in LIN area Araihazar Pourashava, there are mosques, Gazipura Bazar, educational institutions (such as Kinder Garden School) and community graveyards.

18. The LIN toilets are being considered with one type of design: Type B considered with pit along with soak pit. The note from the Pourashava engineers taken that in many of the LIN area there is shortage of space for constructing septic tank where soak pit is designed with the pit. However, such soak pit has mitigation measure for ground or surface water contamination (e.g., sand and brick chips envelope on the bottom of pit). Moreover, municipality will ensure good maintenance for such toilets having soak pit.

19. Most of the individual elements are relatively small and involve straight forward construction, so impacts will be mainly localized and not greatly significant; most of the predicted impacts are associated with the construction process and are produced because that process is invasive, involving excavation and earth movements; and being located in the built-up area of the Pourashava, will not cause direct impact on biodiversity values. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the LIN sites in built-up areas of Araihazar Pourashava where there are a variety of human activities, will result to temporary impacts to the environment and sensitive receptors such as residents, businesses and the community in general. These anticipated impacts are short-term, site specific and within a relatively small area. There are no impacts that are significant or complex in nature, or that need an in-depth study to assess the impact.

(i) Pre-construction and Construction Phase

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
Demolition of existing infrastructure: - Dust from demolition - Noise from demolition - Waste from demolition -Un-hygiene of demolition	(-)	-Different activities regarding the demolishing the existing structure (part) and broken footpath generate dust which impair the air quality -Unhygienic/unsanitary environment due to demolition of old/poor infrastructure and construction of camps in the development site -Creation of noise from demolition is negligible	-Water will be sprayed to control the dust, which is the main way to suppress dust in the working site as per necessary Appendix-2 EMP cost. -Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup. - Transport/handle debris from demolished infrastructures in a hygienic manner. -Tree plantation at the LIN boundary/open space/slope on the basis of space availability -Collection of construction debris and dispose in a hygienic way by LINIC and it is included in engineering estimate item (LGED rate schedule) -PIU/LINIC will strongly monitoring the construction activity and instant action will take.	PIU, LINIC
Dust Management	(-)	-Moving debris/sediments may create dusts during dry season. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	- Use tarpaulins to cover soils, sand and other loose material. - Water will be sprayed to control the dust when necessary	PIU, LINIC
Community facilities and services - Blockage to access roads - Fire & Safety	(-)	- Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children. - Chances of fire only from open cooking in the area which may create major loss of property to the residence in the LIN.	-Provide safety signage at all sites visible to public that is monitored by PIU/LINIC and it will be confirmed in semi-annual monitoring report -Provide safety barriers near any trenches, and cover trenches with planks during non-work hours. -LINIC's activities and movement of staff will be restricted to designated construction areas. -Consult with Pourashava local authority on the designated areas for stockpiling of, soils, gravel, and other construction materials. -If the LINIC chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner. -Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged. -Workers need to be made aware of the following general rules: (i) no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction workers are to make use of the facilities provided for them; (iv) no fires permitted on site except if needed for the construction works; and (v) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do. - Bucket filled with sand will be kept at the construction zone.	PIU, LINIC
Air/water/noise quality monitoring	(-)	- Component of works are scattered in the LIN area, which are not located near-by any water stream/canal. There stands little probability of surface and ground water pollution, as nothing like gasoline,	- No need for Air/water/noise quality monitoring in construction area by test due to short-term effect. - Water will be sprayed to control the dust, when necessary, it will be visually observed	Not required

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
		oil, road salts and chemicals are dumped on the adjoining ground. - Construction work yards are located in small areas and its activities are also minimum. Here the intensity of pollution from air/dust/ noise is also very low and short-term. As such little monitoring of water/air/noise pollution parameters is needed at the surroundings work place.		
Drainage congestion/water logging	(-)	- Clogging/stagnation of flow in the storm drain, source of waste water is LIN dweller used water (bathing and washing) - Backflow of water through drain (e.g., due to high water level at downstream discharge point, such as khal/ river) - Drainage congestion/water logging due to cross road/construction activity	-Designing drain considering the downstream discharge point; adequate slope and x-section; RCC cover for drain, where appropriate - Not allowing direct connection to drain from toilet -The out fall of proposed drain is primary to secondary drain and water quality will be monitoring as per necessary (in Appendix-2 EMP cost)	PIU, LINIC
Waste Management	(-)	- Uncollected wastes blocked the drainage and sewage system. - Air, water and soil pollution during the waste collection - Smoke from the open burning of uncollected waste. - The loading and unloading of waste at transfer station pollutes the air and soil. - Odor from waste disposal site and composting system. - Contamination of ground water by leachate.	- Follow the waste management plan given in Appendix 4 during construction period. - Encourage 3R (reduce, reuse, and recycle) - Encourage composting of kitchen waste on the basis of land availability otherwise transfer waste by hand trolley/van that is available in Pourashava and it is inspired by EMP implementation training - Adequate distance between waste bin and water body. - Adequate distance should be maintained between the waste collection point and house - Coordinate with the municipality for collection of domestic waste and disposal at the designated site	PIU/LINIC
Workers H & S	(-)	-There is invariably a safety risk when construction works such as excavation and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and long-term but reversible by mitigation measures.	- Comply with requirements of GoB Labor Law of 2006, Labor law and services rules 2015 and all applicable laws and standards on workers H & S. - Ensure adequate safety and provisions as per the Appendix 5 in relation to the COVID-19. - Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use PPE at all times; (iii) providing (H&S) training for all site personnel; (iv) Providing fire extinguisher at construction site (v) documenting procedures to be followed for all site activities; and (vi) maintaining accident reports and records. - Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances.	PIU, LINIC

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
			-Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; and (iii) sanitation facilities are available at all times. - Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;	
Sanitation/excreta management	(-)	-Noise and soil pollution during the construction but short- term -Microbial contamination to the ground water from the pit latrine. -Waste during loading of sewage from the sanitary communal containers. -Odor	-Design and installation of sanitary toilet to stop the microbial contamination to the ground water. -Adequate height with proper ventilation. -Water supply and hand wash facility -Regular cleaning and monitoring -5-10m distance should be maintained between toilet and tube-well	PIU, LINIC
Water supply (Tube well)	(-)	-Noise, dust and soil pollution during the construction but short- term	-The digging of soil should follow the proper design to avoid the pollution and water logging -The outlet of tube well should be connected with soak pit to existing drain. -A person has been engaged for cleaning and maintenance of Tube well. -One set of maintenance equipment of Tube well is kept with LINIC selected person.	PIU, LINIC
Footpath/connecting Road	(-)	-Dust and noise pollution from construction work	-Watering to reduce dust -Tree plantation on the footpath/road slope	PIU, LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the construction workers	-LINIC and all workers will be required to undergo EMP implementation including waste management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labor laws, applicable environmental laws, etc. - Provided training on use of TW, toilet, solar panel and tree plantation etc. during preparation of Community Action Plan (CAP) -Training is a continuous process by Capacity Development Fund of Pourashava. It is financed by UGIIP-III-AF.	Pourashava PRAP budget

- (Construction Phase (For any "negative" impacts "Environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

(ii) Operation Phase/Post-Construction

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
Water logging in drains and footpaths	(-)	Run-off from debris/ sediments from repair and maintenance of Footpath and drain which may cause siltation and reduction in the quality of adjacent bodies of	-Take all precautions to prevent run-off into streams, water courses, or irrigation system. Install temporary silt traps or sedimentation basins along drainage leading to the water bodies.	PIU, LINIC

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
		water. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	- Remove all debris/sediments immediately. - Dispose debris/sediments at a designated site such as landfill.	
Water quality monitoring (Arsenic, Iron, Chloride, Manganese etc.) (twice a year)	(-)	Due to polluted water, people may suffer from dangerous diseases like cholera, dysentery, diarrhea, Gastrointestinal disease and jaundice etc.	Necessary test will be performed occasionally by testing water sample from the tube wells (Pourashava PRAP budget)	PIU, LINIC
Solid Waste management	(-)	-Due to open dumping ambient environment will be polluted and will be breeding place of flies -Threat to human health and/or the environment -Due to bad odor, nuisance to sensitive receptors	- There is an existing sanitary landfill (SLF) of the Pourashava under UGIIP-III/AF and the waste management system will be connected with this system obviously. - The waste will soon be carried to the proposed SLF by Pourashava SWM system - Develop rodent and fly control plan - Ensure residual waste is not left in bins and allowed to decompose for a long time	PIU/LINIC
Community H & S - Walkway/drain - Toilet conditions - Drinking water quality (Tube well)	(-)	- The inhabitants may dump waste on the walkway - Bricks used in BFS, may be stolen when CC will wear out with the passage of time - Inadequate supply of water to toilet may spread bad odor - Improper use may spread germ - Irregular cleaning may create unhygienic condition - Epidemic may spread due to deteriorated quality of water	- Awareness to the inhabitants to discourage dumping of waste on the walkway - Ensure routine maintenance by the LINIC - Continuous supply of water will be provided - Awareness to user for proper use of latrine - LINIC will engage a person to clean and maintenance of Toilet and tube well regularly - Periodic maintenance of Tube well and Toilet will be done by Pourashava PRAP budget	PIU/LINIC
Dustbin	(-)	- Improper use of dustbins - Irregular cleaning of dustbin may create bad odor and birth place of flies	- Awareness to the LIN dwellers for proper use of dustbins - LINIC will engage a person who will monitor the cleaning the dustbin regularly	PIU/LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the community	-Twice a year Training/workshop/ meeting for maintenance of TW, Toilet, Planted Tree and Solar panel will be organized by LINIC/PIU and financed by Pourashava PRAP fund. -Provided training on maintenance of TW, toilet and Planted Tree, solar panel during preparation of Community Action Plan (CAP) -Regular maintenance of planted tree by LIN dwellers	Pourashava PRAP budget

- (Operation Phase (For any "negative" impacts "environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

f. Environmental Management Plan (EMP)

(i) Monitoring Plan (Construction and Operation Period)

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
Water quality	-Contamination (Arsenic, Iron, Chloride, Manganese etc.) or degrading of water quality of drinking water well -Contamination (DO, BOD, COD, TDS, TSS, Turbidity etc.) or degrading of water quality of surface water	-Water quality of tube well will be tested after installation/construction by LINIC and it is included in engineering estimate (Item LGED rate schedule) -Water quality of Tube well will be monitored periodically and DoE standard will be maintained properly. -The outlet of household waste water would be connected with Pourashava existing drain -PIU/LINIC will strongly monitoring the performance of the interventions	Twice a year/Yearly Operation /completion work	Pourashava
Dust from drains, footpaths, toilets, street light, dustbins and tube well	-Air and noise pollution may occur due to construction/operation -Irregular cleaning may damage the interventions	-Use tarpaulins to cover soils, sand and other loose material. -Water will be sprayed to control the dust when necessary -Regular maintenance/cleaning -PIU/LINIC will strongly monitoring the performance of the interventions	As per necessary	PIU/LINIC
Acoustic environment	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Plan activities in consultation with Pourashava local authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	No need for noise quality monitoring due to short-term project	Pourashava
Biodiversity	Activities in the built-up area of Pourashava. There are no protected areas in or around Sub-project sites, and no known areas of ecological interest.	• No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal).	No need for monitoring due to short-term project	Pourashava
Existing provisions for pedestrians and other forms of transport	Footpath closure is not anticipated. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	• Maintain safe passage for pedestrians during maintenance activities. • Notify affected sensitive receptors by providing sign boards informing nature and duration of maintenance activities and contact numbers for concerns/complaints. • Leave spaces for access between mounds of soil. • Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.	Duration of construction works	Pourashava
Worker's health and safety	Workers need to be mindful of the occupational hazards working in confined spaces such as closed drains. Potential impacts are negative and long-term but reversible by mitigation measures.	• Comply with requirements of Government of Bangladesh Labor Law of 2006, Labor Law services rule 2015 and all applicable laws and standards on workers H&S. • Ensure adequate safety and provisions as per the Annex 8 in relation to the COVID-19. • Ensure that all site personnel have a basic level of H&S training. • Produce and implement a O&M and H&S plan which include measures as: (i)	Duration of construction works	Pourashava/LINIC

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
		excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing H&S training for all site personnel; (iv) providing fire extinguisher at construction site • Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances • Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.		

g. Public Consultations

20. Public consultation meetings were held at Araihazar Pourashava Councilor room of Araihazar Pourashava on october 24, 2023. A total 30 participants attended in the meetings where 24 were female and remaining are male (6 persons). LINIC members, teachers, counselors, farmers, female workers, housewife, small business holder were present in the meetings. The safeguard team of IUGIP visited all the one (1) LINs under the respective Pourashava. Consultants described environmental and social issues in the context of development aspects and potential impacts of the infrastructure development work of the LINs. The meetings were held through presided over LIN Development Officer of Araihazar Pourashava.

Minutes of Public Consultation

Site : Pourashava Councilor room, Araihazar Pourashava

Date : 24-10-2023

Time : 10:30 AM

21. Participants of the meeting exchanged views with the safeguard team about their sufferings and the remedial measures to be taken to overcome it. At present the LIN dwellers use hanging and pit latrine, which is a threat to public health and un-hygienic as well. They insisted for a community latrine to overcome it. The drinking water was the burning issue. The water available at the LIN was inadequate and non-potable due to impurities (e.g., excessive iron). They urged for sufficient potable water at their door step. Water logging was an additional problem of the LINs. Their yard inundates during rainy season. It creates an un-hygienic condition of living. They wanted immediate relief from it, through an installation of proper drainage system. Inadequate internal road communication made their livelihood slower. A proper footpath would ease their safe movement. They asked for a proper footpath system in their LIN. There is inadequate dustbin in or around the LINs. As such they cannot dump the waste specially the kitchen waste properly. It creates bad odor and un-hygienic condition in and around the LIN. They wanted installation of dustbins. Inadequate light during night time is an additional problem. Social nuisance creates at it. Pilferage and unsocial activities promote in the dark. The LIN dwellers urged for street lighting system in and around the LINs.
22. Experts discussed regarding safeguard issues; focusing the sub-project components with its importance including socio economic and health hazard. Also discussed, environmental and social impacts and mitigation measures about air, dust, water pollution and waste management.
23. As per discussion and feedback from the SDO and all LINIC members, the LINs were selected through consultation with the local leader/councilors living in the Pourashava area. According to the discussion, the participants appreciated the proposed LIN improvement components, as it will improve the health and sanitation conditions of the LIN which will provide positive socio-economic impact.
24. The LIN dwellers demanded for more latrines and tube wells and also demanded separate latrines for women. The chairman of the meeting in his concluding speech mentioned that as per allocation of fund, elements of the proposed sub-project have been selected by the LIN dwellers. The sites have been selected based on the available space spreading all over the LIN. However, maximum old sites will be used and nobody will be affected. The toilet designs have considered separate unit for the women and it would not be possible to provide individual tube wells and individual toilets. He requested co-operation from the LIN dwellers during construction activities. The meeting was concluded with thanks from the chair to the participants. (Appendix 3).

h. Grievance Redress Mechanism

25. Grievance redress mechanism (GRM) has been established in the Pourashava to redress quickly social, environmental and any other project related grievances from the affected or any aggrieved person/ party with the creation of grievance redress cell (GRC) comprising of:

No.sl	Name & Designation	Designation in committee
1	Jonab Hatem Ali, Panel mayor-1,councilor-7 no ward,Araihazar paurashava.	President
2	Jonab md. Bashir ullah,councilor-6 no ward. Araihazar paurashava.	Member
3	Mst.rina begum,councilor-4,5,6 no reserve ward. Araihazar paurashava.	Member
4	md.mozahidul islam ,SAE,Araihazar Paurashava.	Member
5	Jonab mohammad ullah,head assistant,Araihazar paurashava	Member-Secretary

26. Affected or aggrieved persons will have the flexibility of conveying grievances/ suggestions in writing and dropping them in complaints/suggestion boxes that have already been installed in the Pourashava or through telephones, e-mails, by post or by writing in the complaint register in the Pourashava office. The cost related to environmental grievance redress are included in social and resettlement cost estimates.

(i) Grievance Redresses Process

27. **1st Level Grievance:** Names and contact phone numbers of the PIU safeguard focal person will be posted on the construction site at visible location (construction site signboard) to provide first level of contact for quick resolution of the grievances. The LINIC and the PIU safeguard focal person can immediately resolve on-site the grievances in consultation with each other within 7 days of receipt of a complaint/ grievance.

28. **2nd Level Grievance:** The grievances that cannot be redressed within 7 days at field/ ward level will be reviewed by the grievance redress cell (GRC) with support from PIU designated safeguard focal person and MDSC regional environment and resettlement specialists. The GRC will attempt to resolve the complaints/ grievances within 15 days.

29. **3rd Level Grievance**: The PIU designated safeguard focal person will refer the unresolved or, the major issues to the PMU safeguard officer and MDSC safeguard specialists. The PMU, in consultation with the above-mentioned officer/ specialists, will resolve the issues within 30 days. Despite project GRM, an aggrieved person shall have access to the country's legal system at any stage, and assessing can go parallel.

30. If the GRM cannot resolve the issues, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM) in any of the official languages of ADB.

31. **Recordkeeping:** Records all grievances including date of receive and detailed contract address of complainant, nature of grievance, agreed corrective actions, and the dates these were affected and final outcomes will be kept by PIU. The grievances recorded and resolved and the outcomes will be displayed/ disclosed in the PMU office, Pourashava office, on the web and reported in the semi-annual monitoring reports.

32. **Periodic review and documentation of lessons learnt:** The PMU safeguard officer will periodically review the functioning of the GRM in each Pourashava and record information on the effectiveness of the mechanism.

i. Conclusion

33. So, there will be no negative impact for the implementation of the sub-project and if there is any that would be very minimum most of which are construction related, localized and for short-term. Moreover, there will be a lot of positive impacts such as: Moreover, there will be a lot of positive impacts such as:

- Environmental & sanitation conditions will be improved.
- LIN dwellers will have comfortable walkway and improved drainage.
- Water-logging will be removed which will eliminate the mosquito breeding resulting the reduction of many diseases including waterborne diseases.

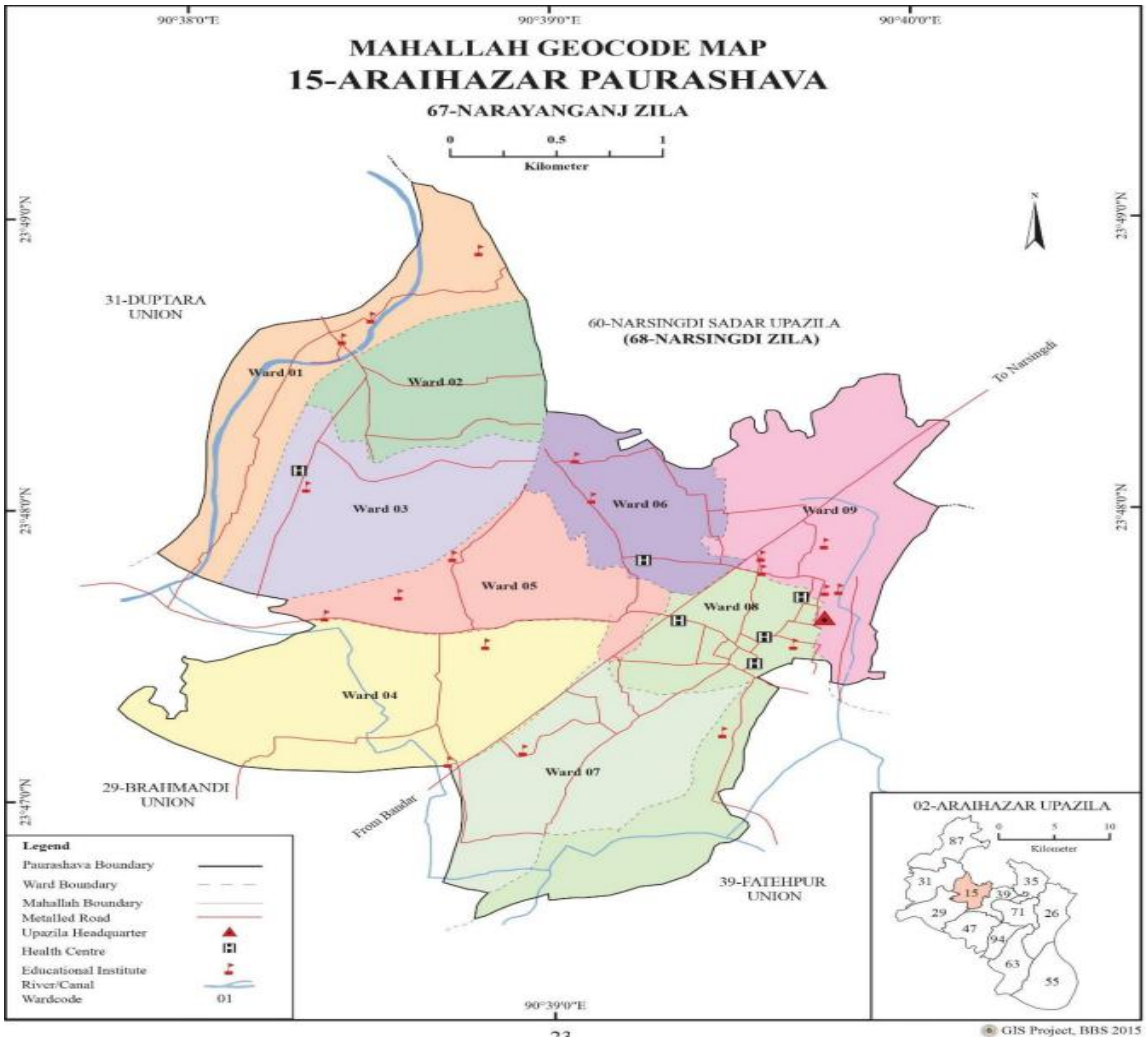
- LIN dwellers will have facilities for pure drinking water and facilities for solid waste disposal.
- There will be savings in the medical treatment cost. Thus, health conditions will be improved etc.

B. The Daspara LIN

34. The LIN is situated in ward no. 03. There are 28 families with 120 members; of which 550are male and 65 are female. The land area is 1 acre and the land is owned by the LIN dwellers. The chief of 13families earn their livelihood by daily labor, 7 by small business The average income per head per month is about Tk.9000.00 only. They are deprived of most of the needed basic services. This LIN has acute problem of deteriorating internal roads/footpaths/, paucity of drainage and sewerage facilities and Retaining wall etc.

a. Location of the LIN

Daspara LIN located at ward no 6 at Araihazar Pourashava in Narayanganj District (Location map Figure-I.1).



b. Description of Interventions

Description of the proposed interventions for the is given in Table II.3.

Table IV.3: Description of Proposed Interventions of LIN

			Name of Lin: Daspara			
			Name of works: Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well, 02 number dustbin, 130-meter footpath, 765-meter RCC drain, Installation of 25 numbers of solar street light, Installation of 06 numbers of hand Tube well & 100 nos Tree Plantation in Shibpur LIN area, at Ward no.-03, under Araihazar Pourashava, Narayanganj.		
	IUGIP/ARAI/SI/01-05/2023 (Lot-02)	2023-2024	**Toilet**			
1			a)	Construction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well.	1	Nos.
2			b)	Construction of 02 number dustbin	2	No.
3			c)	Construction of 130-meter footpath.	130	m
4			d)	Construction of 765-meter RCC drain	765	m
5			e)	Installation of 25 numbers of solar street light	25	Nos.
6			f)	Installation of 06 numbers of hand Tube well	6	Nos.
7			g)	Plantation of 100 nos. tree	100	Nos.

c. Present Condition (Baseline Environment)

(i) Flooding/Water-clogging

35. Flood does not occur in this LIN. The existing drains are earthen and are not functioning. Water logging condition occurs due to heavy rainfall during rainy season. Rain water in the monsoon and the water coming out from bathing and washing round the year are stagnant there. As such water logging becomes a common feature there. Construction of drain is necessary in this LIN.

(ii) Water Source/Level/Quality/Tube well

36. At present, the LIN people do not have problem with the availability of drinking water. So, LIN dwellers do not demand for tube wells. The bore-log records of the suitable aquifer and quality of water in that aquifer such as iron, manganese, arsenic, hardness, chloride contents by testing through DPHE laboratory and having all those within acceptable limits as shown in Table II.2. This water quality test result can be considered as the water quality of whole Pourashava area.

Table IV.4: Water Quality Test Results of Araihazar Pourashava

Sl. No.	Location	Parameters					
		Arsenic (Mg/l)	Iron ((Mg/l)	Manganese (Mg/l)	Hardness (Mg/l)	Chloride (Mg/l)	pH
1	Daspara LIN Ward No.3 Araihazar Pourashava	<0.002	0.38	0.20	-	160	4.64
2	Daspara LIN Ward No.3 Araihazar Pourashava	<0.004	0.44	<0.05	-	50	5.11
3	Daspara LIN Ward No.3 Araihazar Pourashava	<0.001	0.92	<0.05	-	80	5.84
Bangladesh Standard (mg/l)		0.05	0.3-1.0	0.1	200-500	150-600	6.5-8.5
WHO Standard		0.01	0.3	0.2	300	250	6.5-8.5

Source: Water quality test report done by Pourashava at DPHE Zonal Laboratory

37. The concentration of all PTWs in the water quality test result is within the Bangladesh standard and World Health Organization (WHO) except the pH for all the considered wells. However, excessive iron in water has no adverse health effect.

(iii) Sanitations

38. There is insufficient toilets facility in the LIN area. LIN dwellers have no enough hygienic sanitation. There are 1 nos proposal sanitation improvement within the LIN area.

(iv) Access Roads/Footpaths

39. There exists earthen access road in the LIN area and no pacca walkway also in the LIN area. LIN dwellers wanted footpath for their communication within the LIN area. LIN area is connected by Pourashava roads. The proposed Footpaths have been designed with cement concrete (CC) crushed stone chips and over Single Layer Brick Flat Soling (BFS). LIN area is connected by Pourashava roads. Images of existing access roads of the LIN are shown in Figure II.3. Typical design of footpath is given in Appendix-1.

Figure IV.3: Existing Situation of Footpath at Daspara LIN

(v) Solar Street Lights

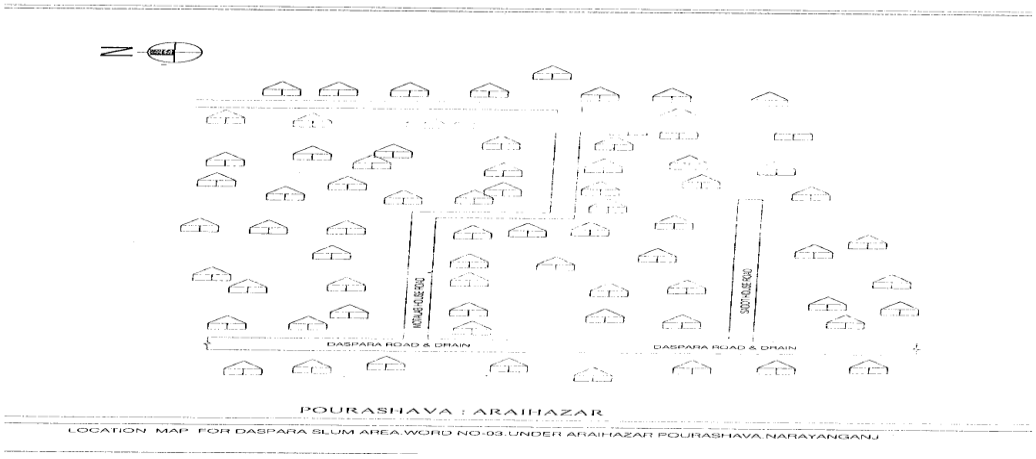
40. There are insufficient numbers of street light in this LIN area therefore 25 nos provisions of light are proposed under this package.

(vi) Drain

41. The existing drains are earthen and are inactive. So, the LIN dwellers experience water logging especially during rainy season. The out fall of proposed drain is Pourashava existing drain (Section-3 site map) and the coming water to the proposed drain is only from rainfall run-off or household waste water. All drains have been designed to be built by RCC. But well-defined slopes and outfalls have been ensured. The U-type drains have been designed considering the constraint in land availability. The design life has been considered as 20 years. Integration/connection of Road side drains with the town drainage system has been considered and considering the possibilities of increased precipitation owing to probable climate change, the sections have been designed keeping allowance to accommodate 10% additional flow. Typical Design of drains is given in Appendix-1;

Figure IV.4: Existing Situation of Drain at Daspara LIN

d. Site Map of the Daspara Area LIN



e. Environmental Impact Assessment and Mitigation

42. (The review process will be greatly facilitated by comprehensive and detailed answers in this section. When completing this section, please state a specific reason [i.e., "there will be no impacts to environment because this project will not involve any disturbance"] and cite a source [i.e., local master plan, previous environmental assessment, correspondence with Pourashava Office, etc.] to support a response of "no impact (-)" or "potential to impact (+).")

43. The key baseline information on the LIN area are depicted in below table:

Sl	Key environmental and social aspects	Key baseline information
1	Noise	Noise is not a major impediment for the quality of the environment in the study area. Vehicles such as electric rickshaw, motor cycle, van, tempo, mini truck, outvote, and tractor trailer etc. move on the road during day and night. Particular areas adjacent to the main road have some noise pollution created by movement of heavy vehicles near LIN. These vehicles generate noise in the LIN area but within tolerable limit in most cases. No other perceptible sources of noise generation such as factories, industries, etc. are found near by the LIN area.
2	Air	Current air quality in LIN area of Araihazar pourashava, is in the moderate to poor range, with pollution levels that may affect sensitive groups. The moderate air quality in lin area of Araihazar is mainly caused by particulate matter (PM2.5 and PM10) from brick kilns, vehicle emissions, construction dust, and industrial activity. The Final Master Plan of the Pourashava shows that air pollution is quite a serious environmental consideration having adverse impacts within many parts of the LIN area of Araihazar Pourashava. Operations of shallow engine driven vehicles named Nochimon/Karimon are responsible for air pollution. Those vehicles use diesel as fuel.

Sl	Key environmental and social aspects	Key baseline information
		Diesel Particulate Matter (DPM) includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates and silicates.
3	Ground water	Groundwater in Araihazar Pourashava is widely used for drinking and irrigation, but it faces challenges such as arsenic contamination, salinity, and over-extraction. Shallow aquifers (10–50 meters) are common, but deeper aquifers (120–250 meters) are often tapped to avoid contamination. Quality concerns, Arsenic contamination: Many shallow tube wells in Narayangonj district (where Araihazar is located) show arsenic levels above the WHO guideline of 10.1 µg/L. In some areas, groundwater shows elevated salinity, affecting taste and crop irrigation. Iron & manganese naturally occurring elements are often present, leading to staining and taste issues.
4	Surface water	The town of Araihazar is situated near several rivers look likes Shitalakshya and Buriganga. Buriganga not directly flowing through Araihazar municipality but it influences the regions water management and ecology. During the monsoon season, the water level of this river increases and some of its effects are naturally reflected in the municipality. Every year a small expanse of land is erosion and deposition by the river. Due to the low altitude of the area, the area was kept flood-free by river embankments, but the area was inundated by major natural disasters. Moreover, there are several small and big water bodies and canals in the area.
5	Protected Area (PA)	There are no officially designated protected areas (such as national parks, wildlife sanctuaries, or eco-parks) located within Araihazar Pourashava. Araihazar Pourashava (Narayangonj District) does not host any of these nationally recognized protected areas.
6	Cultural Heritage	LIN area of Araihazar Pourashava is some in the cultural, historical and religious heritage. There are a number of places of interest within LIN area that can become attractions for business from home and abroad. The area has a long history with influences from various dynasties and rulers over the centuries, contributing to its unique cultural fabric.
7	Physical Cultural Resources	Within 500m of the activity site in LIN area Araihazar Pourashava, there are mosques, Community Clinic, educational institutions (such as Daspara Primary School)

The LIN toilets are being considered with one type of design: Type B considered with pit along with soak pit. The note from the Pourashava engineers taken that in many of the LIN area there is shortage of space for constructing septic tank where soak pit is designed with the pit. However, such soak pit has mitigation measure for ground or surface water contamination (e.g., sand and brick chips envelope on the bottom of pit). Moreover, municipality will ensure good maintenance for such toilets having soak pit.

Most of the individual elements are relatively small and involve straight forward construction, so impacts will be mainly localized and not greatly significant; most of the predicted impacts are associated with the construction process and are produced because that process is invasive, involving excavation and earth movements; and being located in the built-up area of the Pourashava, will not cause direct impact on biodiversity values. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the LIN sites in built-up areas of Araihazar Pourashava where there are a variety of human activities, will result to temporary impacts to the environment and sensitive receptors such as residents, businesses and the community in general. These anticipated impacts are short-term, site specific and within a relatively small area. There are no impacts that are significant or complex in nature, or that need an in-depth study to assess the impact.

(i) Pre-construction and Construction Phase

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
Demolition of existing infrastructure: - Dust from demolition - Noise from demolition - Waste from demolition - Un-hygiene of demolition	(-)	-Different activities regarding the demolishing the existing structure (part) and broken footpath generate dust which impair the air quality -Unhygienic/unsanitary environment due to demolition of old/poor infrastructure and construction of camps in the development site -Creation of noise from demolition is negligible	-Water will be sprayed to control the dust, which is the main way to suppress dust in the working site as per necessary Appendix-2 EMP cost. -Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup. -Transport/handle debris from demolished infrastructures in a hygienic manner. -Tree plantation at the LIN boundary/open space/slope on the basis of space availability -Collection of construction debris and dispose in a hygienic way by LINIC and it is included in engineering estimate item (LGED rate schedule) -PIU/LINIC will strongly monitoring the construction activity and instant action will take.	PIU, LINIC
Dust Management	(-)	-Moving debris/sediments may create dusts during dry season. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	- Use tarpaulins to cover soils, sand and other loose material. -Water will be sprayed to control the dust when necessary	PIU, LINIC
Community facilities and services - Blockage to access roads - Fire & Safety	(-)	- Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children. - Chances of fire only from open cooking in the area which may create major loss of property to the residence in the LIN.	- Provide safety signage at all sites visible to public that is monitored by PIU/LINIC and it will be confirmed in semi-annual monitoring report - Provide safety barriers near any trenches, and cover trenches with planks during non-work hours. - LINIC's activities and movement of staff will be restricted to designated construction areas. - Consult with Pourashava local authority on the designated areas for stockpiling of, soils, gravel, and other construction materials. - If the LINIC chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner. - Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged. - Workers need to be made aware of the following general rules: (i) no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction workers are to make use of the facilities provided for them, as opposed to ad hoc alternatives (e.g. fires for cooking, the use of surrounding bushes as a toilet facility); (iv) no fires permitted on site except if needed for the construction works; (v) other than pre-approved security staff, no workers shall be permitted to live on the construction site; and (vi) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do. - Bucket filled with sand will be kept at the construction zone.	PIU, LINIC
Air/water/noise quality monitoring	(-)	- Component of works are scattered in the LIN area, which are not located near-by any water stream/canal. There stands little probability of	- No need for Air/water/noise quality monitoring in construction area by test due to short-term effect. - Water will be sprayed to control the dust when necessary, it will be visually observed	Not required

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
		surface and ground water pollution, as nothing like gasoline, oil, road salts and chemicals are dumped on the adjoining ground. - Construction work yards are located in small areas and its activities are also minimum. Here the intensity of pollution from air/dust/ noise is also very low and short-term. As such little monitoring of water/air/noise pollution parameters is needed at the surroundings work place.		
Drainage congestion/water logging	(-)	- Clogging/stagnation of flow in the storm drain, source of waste water is LIN dweller used water (bathing and washing) - Backflow of water through drain (e.g. due to high water level at downstream discharge point, such as khal/ river) - Drainage congestion/water logging due to cross road/construction activity	-Designing drain considering the downstream discharge point; adequate slope and x-section; RCC cover for drain, where appropriate - Not allowing direct connection to drain from toilet -The out fall of proposed drain is Pourashava existing drain	PIU, LINIC
Waste Management	(-)	- Uncollected wastes blocked the drainage and sewage system. - Air, water and soil pollution during the waste collection - Smoke from the open burning of uncollected waste. - The loading and unloading of waste at transfer station pollutes the air and soil. - Odor from waste disposal site and composting system. - Contamination of ground water by leachate.	- Follow the waste management plan given in Appendix 4 during construction period. - Encourage 3R (reduce, reuse, and recycle) - Encourage composting of kitchen waste on the basis of land availability otherwise transfer waste by hand trolley/van that is available in Pourashava and it is inspired by EMP implementation training - Adequate distance between waste bin and water body. - Adequate distance should be maintained between the waste collection point and house - Coordinate with the municipality for collection of domestic waste and disposal at the designated site	PIU, LINIC
Workers H & S	(-)	-There is invariably a safety risk when construction works such as excavation and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and long-term but reversible by mitigation measures.	- Comply with requirements of GoB Labor Law of 2006, Labor law and services rules 2015 and all applicable laws and standards on workers H & S. - Ensure adequate safety and provisions as per the Appendix 5 in relation to the COVID-19. - Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use PPE at all times; (iii) providing (H&S) training for all site personnel; (iv) Providing fire extinguisher at construction site (v) documenting procedures to be followed for all site activities; and (vi) maintaining accident reports and records. - Arrange for readily available first aid unit including an adequate supply of sterilized	PIU, LINIC

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
			dressing materials and appliances. - Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; and (iii) sanitation facilities are available at all times. - Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;	
Sanitation/excreta management	(-)	- Noise and soil pollution during the construction but short- term - Microbial contamination to the ground water from the pit latrine. - Waste during loading of sewage from the sanitary communal containers. - Odor	- Design and installation of sanitary toilet to stop the microbial contamination to the ground water. - Adequate height with proper ventilation. - Water supply and hand wash facility - Regular cleaning and monitoring - 5-10m distance should be maintained between toilet and tube-well	PIU, LINIC
Water supply (Tube well)	(-)	- Noise, dust and soil pollution during the construction but short- term	- The digging of soil should follow the proper design to avoid the pollution and water logging - The outlet of tube well should be connected with soak pit to existing drain. - A person has been engaged for cleaning and maintenance of Tube well. - One set of maintenance equipment of Tube well is kept with LINIC selected person.	PIU, LINIC
Footpath/connecting Road	(-)	- Dust and noise pollution from construction work	- Watering to reduce dust - Tree plantation on the footpath/road slope	PIU, LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the construction workers	-LINIC and all workers will be required to undergo EMP implementation including waste management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labor laws, applicable environmental laws, etc. - Provided training on use of TW, toilet, solar panel and tree plantation etc. during preparation of Community Action Plan (CAP) -Training is a continuous process by Capacity Development Fund of Pourashava. It is financed by UGIIP-III.	Pourashava PRAP budget

- (Construction Phase (For any "negative" impacts "environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

(ii) Operation Phase/Post-Construction

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
Water logging in drains and footpaths	(-)	Run-off from debris/ sediments from repair and maintenance of Footpath and drain which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	- Take all precautions to prevent run-off into streams, water courses, or irrigation system. Install temporary silt traps or sedimentation basins along drainage leading to the water bodies. - Remove all debris/sediments immediately. - Dispose debris/sediments at a designated site such as landfill.	PIU/ LINIC
Water quality monitoring (Arsenic, Iron, Chloride, Manganese etc.) (twice a year)	(-)	Due to polluted water people may suffers from dangerous diseases like cholera, dysentery, diarrhea, Gastrointestinal disease and jaundice etc.	Necessary test will be performed occasionally by testing water sample from the tube wells (Pourashava PRAP budget)	PIU/LINIC
Solid Waste management	(-)	-Due to open dumping ambient environment will be polluted and will be breeding place of flies -Threat to human health and/or the environment -Due to bad odor nuisance to sensitive receptors	-There is an existing sanitary landfill (SLF) of the Pourashava under CRDP and the waste management system will be connected with this system obviously. -The waste will soon be carried to the existing SLF by Pourashava SWM system -Develop rodent and fly control plan -Ensure residual waste is not left in bins and allowed to decompose for a long time	PIU/LINIC
Community H & S - Walkway - Toilet conditions - Drinking water quality (Tube well)	(-)	-The inhabitants may dump waste on the walkway -Bricks used in BFS, may be stolen when CC will wear out with the passage of time -Inadequate supply of water to toilet may spread bad odor -Improper use may spread germ -Irregular cleaning may create unhygienic condition -Epidemic may spread due to deteriorated quality of water	-Awareness to the inhabitants to discourage dumping of waste on the walkway -Ensure routine maintenance by the LINIC -Continuous supply of water will be provided -Awareness to user for proper use of latrine -LINIC will engage a person to clean and maintenance of Toilet and tube well regularly -Periodic maintenance of Tube well and Toilet will be done by Pourashava PRAP budget	PIU/LINIC
Dustbin	(-)	- Improper use of dustbins - Irregular cleaning of dustbin may create bad odor and birth place of flies	- Awareness to the LIN dwellers for proper use of dustbins - LINIC will engage a person who will monitor the cleaning the dustbin regularly	PIU/LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the community	-Twice a year Training/workshop/ meeting for maintenance of TW, Toilet, Planted Tree and Solar panel will be organized by LINIC/PIU and financed by Pourashava PRAP fund. -Provided training on maintenance of TW, toilet and Planted Tree, solar panel during preparation of Community Action Plan (CAP) -Regular maintenance of planted tree by LIN dwellers	Pourashava PRAP budget

- (Operation Phase (For any "negative" impacts "environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

f. Environmental Management Plan (EMP)

(i) Monitoring Plan (Construction and Operation Period)

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
Water quality	-Contamination (Arsenic, Iron, Chloride, Manganese etc.) or degrading of water quality of drinking water well	-Water quality of tube well will be tested after installation/construction by LINIC and it is included in engineering estimate (Item LGED rate schedule) -Water quality of Tube well will be monitored periodically and DoE standard will be maintained properly. -The outlet of household waste water would be connected with Pourashava existing drain -PIU/LINIC will strongly monitoring the performance of the interventions	Twice a year/Yearly Operation /completion work	Pourashava
Dust from drains, footpaths, toilets, street light, dustbins and tube well	-Air and noise pollution may occur due to construction/operation -Irregular cleaning may damage the interventions	-Use tarpaulins to cover soils, sand and other loose material. -Water will be sprayed to control the dust when necessary -Regular maintenance/cleaning -PIU/LINIC will strongly monitoring the performance of the interventions	As per necessary	PIU/LINIC
Acoustic environment	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Plan activities in consultation with Pourashava local authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	No need for noise quality monitoring due to short-term project	Pourashava
Biodiversity	Activities in the built-up area of Pourashava. There are no protected areas in or around Sub-project sites, and no known areas of ecological interest.	• No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal).	No need for monitoring due to short-term project	Pourashava
Existing provisions for pedestrians and other forms of transport	Footpath closure is not anticipated. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	• Maintain safe passage for pedestrians during maintenance activities. • Notify affected sensitive receptors by providing sign boards informing nature and duration of maintenance activities and contact numbers for concerns/complaints. • Leave spaces for access between mounds of soil. • Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.	Duration of construction works	Pourashava
Worker's health and safety	Workers need to be mindful of the occupational hazards working in confined spaces such as closed drains. Potential impacts are negative and long-term but reversible by mitigation measures.	• Comply with requirements of Government of Bangladesh Labor Law of 2006, Labor Law services rule 2015 and all applicable laws and standards on workers H&S. • Ensure adequate safety and provisions as per the Annex 8 in relation to the COVID-19. • Ensure that all site personnel have a basic level of H&S training. • Produce and implement a O&M and H&S plan which include measures	Duration of construction works	Pourashava/LINIC

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
		as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing H&S training for all site personnel; (iv) providing fire extinguisher at construction site • Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances • Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.		

g. Public Consultations

44. Public consultation meetings were held at Araihazar Pourashava Councilor room of Araihazar Pourashava on October 24, 2023. A total 30 participants attended in the meetings where 24 were female and remaining are male (6 persons). LINIC members, teachers, counselors, farmers, female workers, housewife, small business holder were present in the meetings. The safeguard team of MDSC, IUGIP visited all the one (1) LINs under the respective Pourashava. Consultants described environmental and social issues in the context of development aspects and potential impacts of the infrastructure development work of the LINs. The meetings were held through presided over LIN Development Officer of Araihazar Pourashava.

Minutes of Public Consultation

Site : Pourashava Councilor room, Araihazar Pourashava

Date : 24-10-2023

Time : 10:30 AM

45. Participants of the meeting exchanged views with the safeguard team about their sufferings and the remedial measures to be taken to overcome it. At present the LIN dwellers use hanging and pit latrine, which is a threat to public health and un-hygienic as well. They insisted for a community latrine to overcome it. The drinking water was the burning issue. The water available at the LIN was inadequate and non-potable due to impurities (e.g., excessive iron). They urged for sufficient potable water at their door step. Water logging was an additional problem of the LINs. Their yard inundates during rainy season. It creates an un-hygienic condition of living. They wanted immediate relief from it, through an installation of proper drainage system. Inadequate internal road communication made their livelihood slower. A proper footpath would ease their safe movement. They asked for a proper footpath system in their LIN. There is inadequate dustbin in or around the LINs. As such they cannot dump the waste specially the kitchen waste properly. It creates bad odor and un-hygienic condition in and around the LIN. They wanted installation of dustbins. Inadequate light during night time is an additional problem. Social nuisance creates at it. Pilferage and unsocial activities promote in the dark. The LIN dwellers urged for street lighting system in and around the LINs.
46. Experts discussed regarding safeguard issues; focusing the sub-project components with its importance including socio economic and health hazard. Also discussed, environmental and social impacts and mitigation measures about air, dust, water pollution and waste management.
47. As per discussion and feedback from the SDO and all LINIC members, the LINs were selected through consultation with the local leader/councilors living in the Pourashava area. According to the discussion, the participants appreciated the proposed LIN improvement components, as it will improve the health and sanitation conditions of the LIN which will provide positive socio-economic impact.
48. The LIN dwellers demanded for more latrines and tube wells and also demanded separate latrines for women. The chairman of the meeting in his concluding speech mentioned that as per allocation of fund, elements of the proposed sub-project have been selected by the LIN dwellers. The sites have been selected based on the available space spreading all over the LIN. However, maximum old sites will be used and nobody will be affected. The toilet designs have considered separate unit for the women and it would not be possible to provide individual tube wells and individual toilets. He requested co-operation from the LIN dwellers during construction activities. The meeting was concluded with thanks from the chair to the participants. (Appendix 3).

h. Grievance Redress Mechanism

49. Grievance redress mechanism (GRM) has been established in the Pourashava to redress quickly social, environmental and any other project related grievances from the affected or any aggrieved person/ party with the creation of grievance redress cell (GRC) comprising of:

গ্রীভেন্স রিড্রেস সেল (GRC)

No.sl	Name & Designation	Designation in committee
1	Jonab Hatem Ali, Panel mayor-1,councilor-7 no ward,Araihazar paurashava.	President
2	Jonab md. Bashir ullah,councilor-6 no ward. Araihazar paurashava.	Member
3	Mst.rina begum,councilor-4,5,6 no reserve ward. Araihazar paurashava.	Member
4	md.mozahidul islam ,SAE,Araihazar Paurashava.	Member
5	Jonab mohammad ullah,head assistant,Araihazar paurashava	Member-Secretary

46. Affected or aggrieved persons will have the flexibility of conveying grievances/ suggestions in writing and dropping them in complaints/suggestion boxes that have already been installed in the Pourashava or through telephones, e-mails, by post or by writing in the complaint register in the Pourashava office. The cost related to environmental grievance redress are included in social and resettlement cost estimates.

(i) Grievance Redresses Process:

1st Level Grievance: Names and contact phone numbers of the PIU safeguard focal person will be posted on the construction site at visible location (construction site signboard) to provide first level of contact for quick resolution of the grievances. The LINIC and the PIU safeguard focal person can immediately resolve on-site the grievances in consultation with each other within 7 days of receipt of a complaint/ grievance.

2nd Level Grievance: The grievances that cannot be redressed within 7 days at field/ ward level will be reviewed by the grievance redress cell (GRC) with support from PIU designated safeguard focal person and MDSC regional environment and resettlement specialists. The GRC will attempt to resolve the complaints/ grievances within 15 days.

3rd Level Grievance: The PIU designated safeguard focal person will refer the unresolved or, the major issues to the PMU safeguard officer and MDSC safeguard specialists. The PMU, in consultation with the above-mentioned officer/ specialists, will resolve the issues within 30 days. Despite project GRM, an aggrieved person shall have access to the country's legal system at any stage, and assessing can go parallel.

50. If the GRM cannot resolve the issues, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM) in any of the official languages of ADB.

51. Recordkeeping: Records all grievances including date of receive and detailed contract address of complainant, nature of grievance, agreed corrective actions, and the dates these were affected and final outcomes will be kept by PIU. The grievances recorded and resolved and the outcomes will be displayed/ disclosed in the PMU office, Pourashava office, on the web and reported in the semi-annual monitoring reports.

52. Periodic review and documentation of lessons learnt: The PMU safeguard officer will periodically review the functioning of the GRM in each Pourashava and record information on the effectiveness of the mechanism.

i. Conclusion

53. So, there will be no negative impact for the implementation of the sub-project and if there is any that would be very minimum most of which are construction related, localized and for short-term.

Moreover, there will be a lot of positive impacts such as:

- Environmental & sanitation conditions will be improved.
- LIN dwellers will have comfortable walkway and improved drainage.

- Water-logging will be removed which will eliminate the mosquito breeding resulting the reduction of many diseases including waterborne diseases.
- LIN dwellers will have facilities for pure drinking water and facilities for solid waste disposal.
- There will be savings in the medical treatment cost. Thus, health conditions will be improved etc.

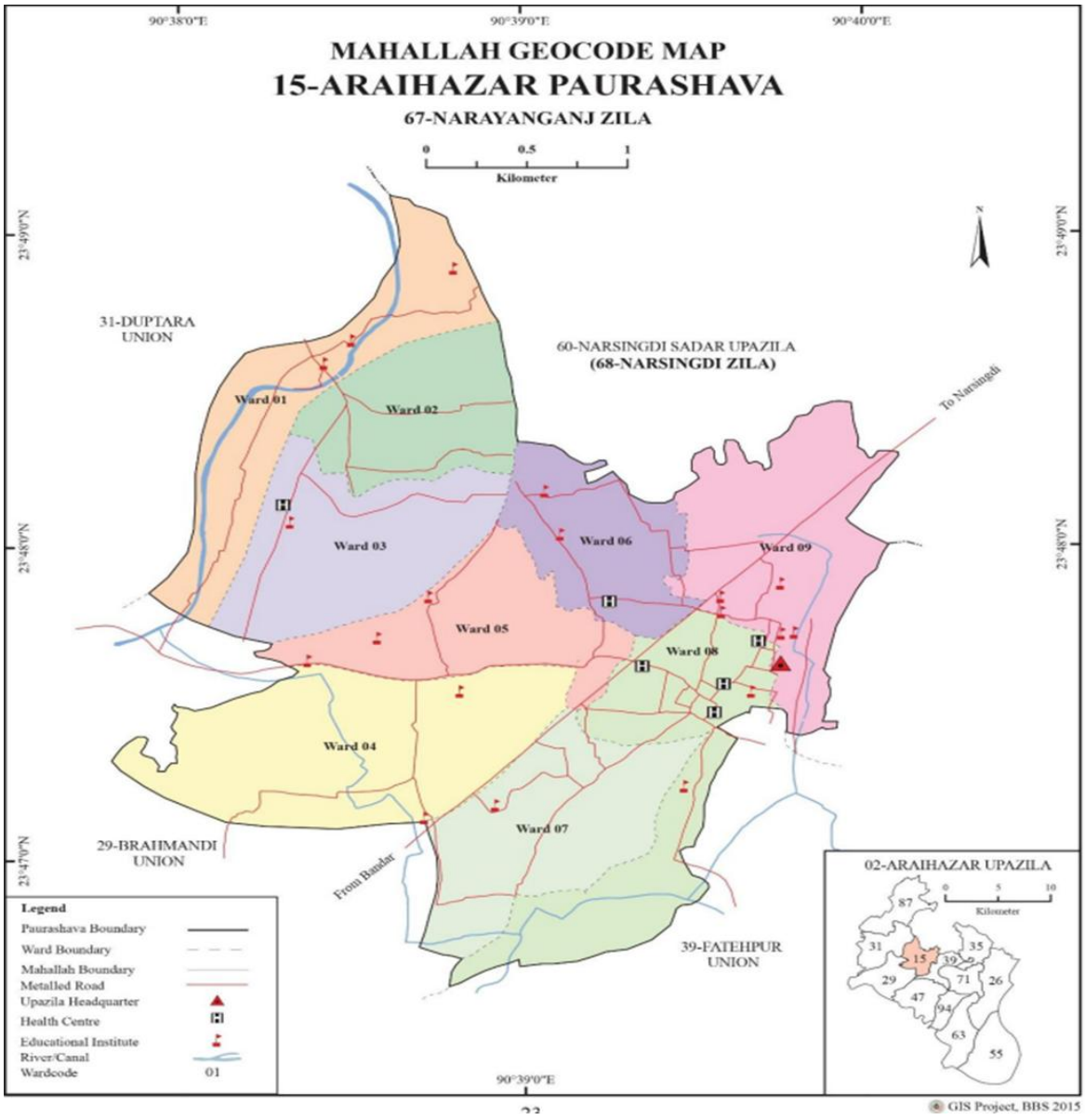
C. Krishnapura LIN

54. The LIN is situated in ward no. 05. There are 113 families with 660 members; of which 297 are male and 363 are female. The land area is 2 acre and the land is owned by the LIN dwellers. The chief of 13 families earns their livelihood by Hawker, 42 by service, 14 by small business and the rest by different means. The average income per head per month is about Tk.8000.00 only They are deprived of most of the needed basic services. This LIN has acute problem of deteriorating internal roads/footpaths/ Street light, paucity of drainage, sewerage facilities and walkways etc.

Package No: IUGIP/ARAI/SI/01-05/2023

a. Location of the LIN

The Krishnapura LIN is situated in ward no. 05 under Araihazar Pourashava of Narayanganj district (Figure I.1).



b. Description of Interventions

Description of the proposed interventions for The Krishnapura LIN is given in Table II.1.

Table IV.5: Description of Proposed Interventions of LIN

			Name of Lin: Krisnopura			
			Name of works: construction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well, 02 number dustbin, 130-meter footpath, 765-meter RCC drain, Installation of 25 numbers of solar street light, Installation of 08 numbers of hand Tube well & 100 nos Tree Plantation in Shibpur LIN area, at Ward no.-05, under Araihazar Pourashava, Narayanganj.		
	IUGIP/ARAI/SI/01-05/2023 (Lot-03)	2023-2024	**Toilet**			
1			a)	Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well.	1	Nos.
2			b)	Construction of 02 number dustbin	2	No.
3			c)	Construction of 130-meter footpath.	130	m
4			d)	Construction of 765-meter RCC drain	765	m
5			e)	Installation of 25 numbers of solar street light	25	Nos.
6			f)	Installation of 08 numbers of hand Tube well	8	Nos.
7			g)	Plantation of 100 nos. tree	100	Nos.

c. Present Condition (Baseline Environment)

(ii) Flooding/Water-clogging

55. Flood does not occur in this LIN. The existing drains are earthen and are not functioning. Water logging condition occurs due to heavy rainfall during rainy season. Rain water in the monsoon and the water coming out from bathing and washing round the year are stagnant there. As such water logging becomes a common feature there. Construction of drain is necessary in this LIN.

(iii) Water Source/Level/Quality/Tube well

56. At present, the LIN people do not have problem with the availability of drinking water. So, LIN dwellers do not demand for tube wells. The bore-log records of the suitable aquifer and quality of water in that aquifer such as iron, manganese, arsenic, hardness, chloride contents by testing through DPHE laboratory and having all those within acceptable limits as shown in Table II.2. This water quality test result can be considered as the water quality of whole Pourashava area.

Table IV.6: Water Quality Test Results of Araihazar Pourashava

Sl. No.	Location	Parameters					
		Arsenic (Mg/l)	Iron ((Mg/l)	Manganese (Mg/l)	Hardness (Mg/l)	Chloride (Mg/l)	pH
1	Krishnapura LIN, Ward No.5 Araihazar Pourashava	<0.005	0.73	0.20	-	30	4.64
2	Krishnapura LIN, Ward No.5 Araihazar Pourashava	<0.002	0.27	<0.05	-	380	5.11
3	Krishnapura LIN, Ward No.5 Araihazar Pourashava	<0.008	0.17	<0.05	-	60	5.84
Bangladesh Standard (mg/l)		0.05	0.3-1.0	0.1	200-500	150-600	6.5-8.5
WHO Standard		0.01	0.3	0.2	300	250	6.5-8.5

Source: Water quality test report done by Pourashava at DPHE Zonal Laboratory

57. The concentration of all PTWs in the water quality test result is within the Bangladesh standard and World Health Organization (WHO) except the pH for all the considered wells. However, excessive iron in water has no adverse health effect.

(iv) Sanitations

58. There is insufficient toilets facility in the LIN area. LIN dwellers do not have enough hygienic sanitation. There is 1 nos proposal sanitation improvement within the LIN area.

(v) Access Roads/Footpaths

59. There is existing earth road are poor condition in the LIN area. LIN dwellers wanted footpath for their communication within the LIN area. The proposed footpaths have been designed with cement concrete (CC) with crushed stone chips and over Single Layer Brick Flat Soling (BFS). LIN area is connected by Pourashava roads.

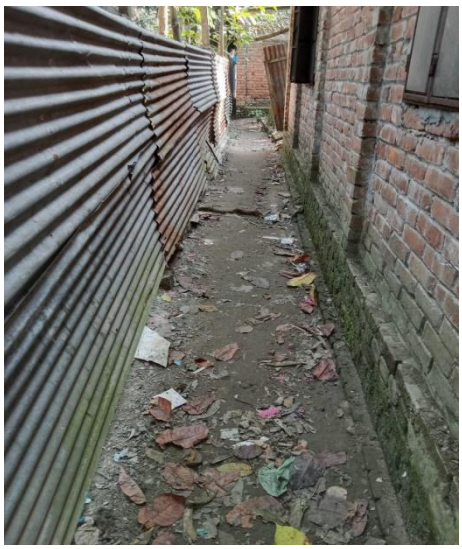


Figure IV.5: Existing Situation of Footpath at Krishnapura LIN

(vi) Street Lights

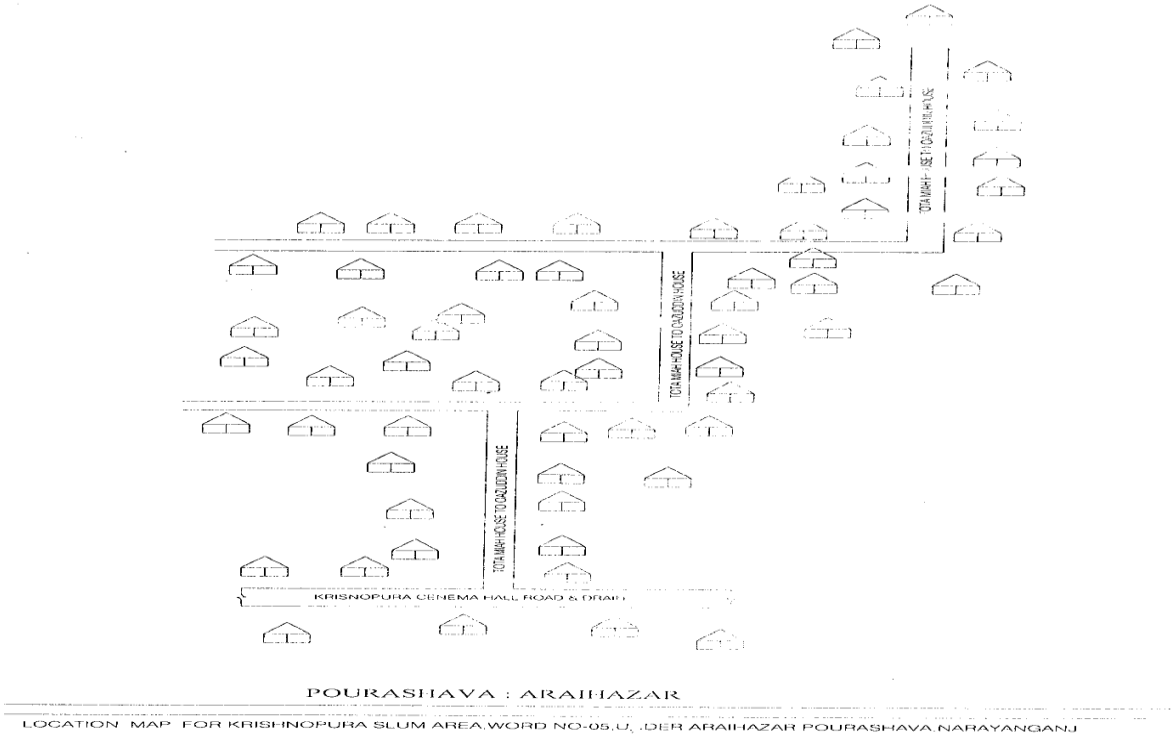
60. There are insufficient numbers of street light in this LIN area therefore 25 nos provisions of light are proposed under this package.

(vii)Drain

61. The existing drains are earthen and are inactive. So, the LIN dwellers experience water logging especially during rainy season. The out fall of proposed drain is Poura secondary drain to primary drain (Section-3 site map) and because as the coming water to the proposed drain is only from rainfall run-off or household waste water. All drains have been designed to be built by RCC/brick. But well-defined slopes and outfalls have been ensured. The U-type drains have been designed considering the constraint in land availability. The design life has been considered as 20 years. Integration/connection of Road side drains with the town drainage system has been considered and considering the possibilities of increased precipitation owing to probable climate change, the sections have been designed keeping allowance to accommodate 10% additional flow.

Figure IV.6: Existing Situation of Drain at Krishnapura LIN

d. Site Map of the Krishnapura LIN



e. Environmental Impact Assessment and Mitigation

62. (The review process will be greatly facilitated by comprehensive and detailed answers in this section. When completing this section, please state a specific reason [i.e., "there will be no impacts to environment because this project will not involve any disturbance"] and cite a source [i.e., local master plan, previous environmental assessment,

correspondence with Pourashava Office, etc.] to support a response of “no impact (-)” or “potential to impact (+).”)

63. **The key baseline information on the LIN area are depicted in below table:**

SI	Key environmental and social aspects	Key baseline information
1	Noise	Noise is not a major impediment for the quality of the environment in the study area. Vehicles such as electric rickshaw, motor cycle, van, tempo, mini truck, outvote, and tractor trailer etc. move on the road during day and night. Particular areas adjacent to the main road have some noise pollution created by movement of heavy vehicles near LIN. These vehicles generate noise in the LIN area but within tolerable limit in most cases. No other perceptible sources of noise generation such as factories, industries, etc. are found near by the LIN area.
2	Air	Current air quality in LIN area of Araihazar pourashava, is in the moderate to poor range, with pollution levels that may affect sensitive groups. The moderate air quality in lin area of Araihazar is mainly caused by particulate matter (PM2.5 and PM10) from brick kilns, vehicle emissions, construction dust, and industrial activity. The Final Master Plan of the Pourashava shows that air pollution is quite a serious environmental consideration having adverse impacts within many parts of the LIN area of Araihazar Pourashava. Operations of shallow engine driven vehicles named Nochimon/Karimon are responsible for air pollution. Those vehicles use diesel as fuel. Diesel Particulate Matter (DPM) includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates and silicates.
3	Ground water	Groundwater in Araihazar Pourashava is widely used for drinking and irrigation, but it faces challenges such as arsenic contamination, salinity, and over-extraction. Shallow aquifers (10–50 meters) are common, but deeper aquifers (120–250 meters) are often tapped to avoid contamination. Quality concerns, Arsenic contamination: Many shallow tube wells in Narayangonj district (where Araihazar is located) show arsenic levels above the WHO guideline of 10.1 µg/L. In some areas, groundwater shows elevated salinity, affecting taste and crop irrigation. Iron & manganese naturally occurring elements are often present, leading to staining and taste issues.
4	Surface water	The town of Araihazar is situated near several rivers look likes Shitalakshya and Buriganga. Buriganga not directly flowing through Araihazar municipality but it influences the regions water management and ecology. During the monsoon season, the water level of this river

Sl	Key environmental and social aspects	Key baseline information
		increases and some of its effects are naturally reflected in the municipality. Every year a small expanse of land is erosion and deposition by the river. Due to the low altitude of the area, the area was kept flood-free by river embankments, but the area was inundated by major natural disasters. Moreover, there are several small and big water bodies and canals in the area.
5	Protected Area (PA)	There are no officially designated protected areas (such as national parks, wildlife sanctuaries, or eco-parks) located within Araihazar Pourashava. Araihazar Pourashava (Narayangonj District) does not host any of these nationally recognized protected areas.
6	Cultural Heritage	LIN area of Araihazar Pourashava is some in the cultural, historical and religious heritage. There area number of places of interest within LIN area that can become attractions for business from home and abroad. The area has a long history with influences from various dynasties and rulers over the centuries, contributing to its unique cultural fabric.
7	Physcial Cultural Resoruces	Within 500m of the activity site in LIN area Araihazar Pourashava, there are mosques, temples, educational institutions (such as Madrasha, Kinder Garden, Krisnopura bazar)

The LIN toilets are being considered with one type of design: Type B considered with pit along with soak pit. The note from the Pourashava engineers taken that in many of the LIN area there is shortage of space for constructing septic tank where soak pit is designed with the pit. However, such soak pit has mitigation measure for ground or surface water contamination (e.g., sand and brick chips envelope on the bottom of pit). Moreover, municipality will ensure good maintenance for such toilets having soak pit.

Most of the individual elements are relatively small and involve straight forward construction, so impacts will be mainly localized and not greatly significant; most of the predicted impacts are associated with the construction process and are produced because that process is invasive, involving excavation and earth movements; and being located in the built-up area of the Pourashava, will not cause direct impact on biodiversity values. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the LIN sites in built-up areas of Araihazar Pourashava where there are a variety of human activities, will result to temporary impacts to the environment and sensitive receptors such as residents, businesses and the community in general. These anticipated impacts are short-term, site specific and within a relatively small area. There are no impacts that are significant or complex in nature, or that need an in-depth study to assess the impact.

(viii) Pre-construction and Construction Phase

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
Demolition of existing infrastructure: - Dust from demolition - Noise from demolition - Waste from demolition -Un-hygiene of demolition	(-)	-Different activities regarding the demolishing the existing structure (part) and broken footpath generate dust which impair the air quality -Unhygienic/unsanitary environment due to demolition of old/poor infrastructure and construction of camps in the development site -Creation of noise from demolition is negligible	-Water will be sprayed to control the dust, which is the main way to suppress dust in the working site as per necessary Appendix-2 EMP cost. -Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup. - Transport/handle debris from demolished infrastructures in a hygienic manner. -Tree plantation at the LIN boundary/open space/slope on the basis of space availability -Collection of construction debris and dispose in a hygienic way by LINIC and it is included in engineering estimate item (LGED rate schedule) -PIU/LINIC will strongly monitoring the construction activity and instant action will take.	PIU, LINIC
Dust Management	(-)	-Moving debris/sediments may create dusts during dry season. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	- Use tarpaulins to cover soils, sand and other loose material. - Water will be sprayed to control the dust when necessary	PIU, LINIC
Community facilities and services - Blockage to access roads - Fire & Safety	(-)	- Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children. - Chances of fire only from open cooking in the area which may create major loss of property to the residence in the LIN.	-Provide safety signage at all sites visible to public that is monitored by PIU/LINIC and it will be confirmed in semi-annual monitoring report -Provide safety barriers near any trenches, and cover trenches with planks during non-work hours. -LINIC's activities and movement of staff will be restricted to designated construction areas. -Consult with Pourashava local authority on the designated areas for stockpiling of, soils, gravel, and other construction materials. -If the LINIC chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner. -Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged. -Workers need to be made aware of the following general rules: (i) no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction workers are to make use of the facilities provided for them; (iv) no fires permitted on site except if needed for the construction works; and (v) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do. - Bucket filled with sand will be kept at the construction zone.	PIU, LINIC
Air/water/noise quality monitoring	(-)	- Component of works are scattered in the LIN area, which are not located near-by any water stream/canal. There stands little probability of surface and ground water pollution, as nothing like gasoline,	- No need for Air/water/noise quality monitoring in construction area by test due to short-term effect. - Water will be sprayed to control the dust, when necessary, it will be visually observed	Not required

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
		oil, road salts and chemicals are dumped on the adjoining ground. - Construction work yards are located in small areas and its activities are also minimum. Here the intensity of pollution from air/dust/ noise is also very low and short-term. As such little monitoring of water/air/noise pollution parameters is needed at the surroundings work place.		
Drainage congestion/water logging	(-)	- Clogging/stagnation of flow in the storm drain, source of waste water is LIN dweller used water (bathing and washing) - Backflow of water through drain (e.g., due to high water level at downstream discharge point, such as khal/ river) - Drainage congestion/water logging due to cross road/construction activity	-Designing drain considering the downstream discharge point; adequate slope and x-section; RCC cover for drain, where appropriate - Not allowing direct connection to drain from toilet -The out fall of proposed drain is primary to secondary drain and water quality will be monitoring as per necessary (in Appendix-2 EMP cost)	PIU, LINIC
Waste Management	(-)	- Uncollected wastes blocked the drainage and sewage system. - Air, water and soil pollution during the waste collection - Smoke from the open burning of uncollected waste. - The loading and unloading of waste at transfer station pollutes the air and soil. - Odor from waste disposal site and composting system. - Contamination of ground water by leachate.	- Follow the waste management plan given in Appendix 4 during construction period. - Encourage 3R (reduce, reuse, and recycle) - Encourage composting of kitchen waste on the basis of land availability otherwise transfer waste by hand trolley/van that is available in Pourashava and it is inspired by EMP implementation training - Adequate distance between waste bin and water body. - Adequate distance should be maintained between the waste collection point and house - Coordinate with the municipality for collection of domestic waste and disposal at the designated site	PIU/LINIC
Workers H & S	(-)	-There is invariably a safety risk when construction works such as excavation and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and long-term but reversible by mitigation measures.	- Comply with requirements of GoB Labor Law of 2006, Labor law and services rules 2015 and all applicable laws and standards on workers H & S. - Ensure adequate safety and provisions as per the Appendix 5 in relation to the COVID-19. - Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use PPE at all times; (iii) providing (H&S) training for all site personnel; (iv) Providing fire extinguisher at construction site (v) documenting procedures to be followed for all site activities; and (vi) maintaining accident reports and records. - Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances.	PIU, LINIC

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
			-Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; and (iii) sanitation facilities are available at all times. - Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;	
Sanitation/excreta management	(-)	-Noise and soil pollution during the construction but short- term -Microbial contamination to the ground water from the pit latrine. -Waste during loading of sewage from the sanitary communal containers. -Odor	-Design and installation of sanitary toilet to stop the microbial contamination to the ground water. -Adequate height with proper ventilation. -Water supply and hand wash facility -Regular cleaning and monitoring -5-10m distance should be maintained between toilet and tube-well	PIU, LINIC
Water supply (Tube well)	(-)	-Noise, dust and soil pollution during the construction but short- term	-The digging of soil should follow the proper design to avoid the pollution and water logging -The outlet of tube well should be connected with soak pit to existing drain. -A person has been engaged for cleaning and maintenance of Tube well. -One set of maintenance equipment of Tube well is kept with LINIC selected person.	PIU, LINIC
Footpath/connecting Road	(-)	-Dust and noise pollution from construction work	-Watering to reduce dust -Tree plantation on the footpath/road slope	PIU, LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the construction workers	-LINIC and all workers will be required to undergo EMP implementation including waste management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labor laws, applicable environmental laws, etc. - Provided training on use of TW, toilet, solar panel and tree plantation etc. during preparation of Community Action Plan (CAP) -Training is a continuous process by Capacity Development Fund of Pourashava. It is financed by UGIIP-III-AF.	Pourashava PRAP budget

- (Construction Phase (For any "negative" impacts "Environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

(ix) Operation Phase/Post-Construction

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
Water logging in drains and footpaths	(-)	Run-off from debris/ sediments from repair and maintenance of Footpath and drain which may cause siltation and reduction in the quality of adjacent bodies of	-Take all precautions to prevent run-off into streams, water courses, or irrigation system. Install temporary silt traps or sedimentation basins along drainage leading to the water bodies.	PIU, LINIC

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
		water. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	- Remove all debris/sediments immediately. - Dispose debris/sediments at a designated site such as landfill.	
Water quality monitoring (Arsenic, Iron, Chloride, Manganese etc.) (twice a year)	(-)	Due to polluted water, people may suffer from dangerous diseases like cholera, dysentery, diarrhea, Gastrointestinal disease and jaundice etc.	Necessary test will be performed occasionally by testing water sample from the tube wells (Pourashava PRAP budget)	PIU, LINIC
Solid Waste management	(-)	-Due to open dumping ambient environment will be polluted and will be breeding place of flies -Threat to human health and/or the environment -Due to bad odor, nuisance to sensitive receptors	- There is an existing sanitary landfill (SLF) of the Pourashava under UGIIP-III/AF and the waste management system will be connected with this system obviously. - The waste will soon be carried to the proposed SLF by Pourashava SWM system - Develop rodent and fly control plan - Ensure residual waste is not left in bins and allowed to decompose for a long time	PIU/LINIC
Community H & S - Walkway/drain - Toilet conditions - Drinking water quality (Tube well)	(-)	- The inhabitants may dump waste on the walkway - Bricks used in BFS, may be stolen when CC will wear out with the passage of time - Inadequate supply of water to toilet may spread bad odor - Improper use may spread germ - Irregular cleaning may create unhygienic condition - Epidemic may spread due to deteriorated quality of water	- Awareness to the inhabitants to discourage dumping of waste on the walkway - Ensure routine maintenance by the LINIC - Continuous supply of water will be provided - Awareness to user for proper use of latrine - LINIC will engage a person to clean and maintenance of Toilet and tube well regularly - Periodic maintenance of Tube well and Toilet will be done by Pourashava PRAP budget	PIU/LINIC
Dustbin	(-)	- Improper use of dustbins - Irregular cleaning of dustbin may create bad odor and birth place of flies	- Awareness to the LIN dwellers for proper use of dustbins - LINIC will engage a person who will monitor the cleaning the dustbin regularly	PIU/LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the community	-Twice a year Training/workshop/ meeting for maintenance of TW, Toilet, Planted Tree and Solar panel will be organized by LINIC/PIU and financed by Pourashava PRAP fund. -Provided training on maintenance of TW, toilet and Planted Tree, solar panel during preparation of Community Action Plan (CAP) -Regular maintenance of planted tree by LIN dwellers	Pourashava PRAP budget

- (Operation Phase (For any "negative" impacts "environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

f. Environmental Management Plan (EMP)

(x) Monitoring Plan (Construction and Operation Period)

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
Water quality	-Contamination (Arsenic, Iron, Chloride, Manganese etc.) or degrading of water quality of drinking water well -Contamination (DO, BOD, COD, TDS, TSS, Turbidity etc.) or degrading of water quality of surface water	-Water quality of tube well will be tested after installation/construction by LINIC and it is included in engineering estimate (Item LGED rate schedule) -Water quality of Tube well will be monitored periodically and DoE standard will be maintained properly. -The outlet of household waste water would be connected with Pourashava existing drain -PIU/LINIC will strongly monitoring the performance of the interventions	Twice a year/Yearly Operation /completion work	Pourashava
Dust from drains, footpaths, toilets, street light, dustbins and tube well	-Air and noise pollution may occur due to construction/operation -Irregular cleaning may damage the interventions	-Use tarpaulins to cover soils, sand and other loose material. -Water will be sprayed to control the dust when necessary -Regular maintenance/cleaning -PIU/LINIC will strongly monitoring the performance of the interventions	As per necessary	PIU/LINIC
Acoustic environment	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Plan activities in consultation with Pourashava local authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	No need for noise quality monitoring due to short-term project	Pourashava
Biodiversity	Activities in the built-up area of Pourashava. There are no protected areas in or around Sub-project sites, and no known areas of ecological interest.	• No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal).	No need for monitoring due to short-term project	Pourashava
Existing provisions for pedestrians and other forms of transport	Footpath closure is not anticipated. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	• Maintain safe passage for pedestrians during maintenance activities. • Notify affected sensitive receptors by providing sign boards informing nature and duration of maintenance activities and contact numbers for concerns/complaints. • Leave spaces for access between mounds of soil. • Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.	Duration of construction works	Pourashava
Worker's health and safety	Workers need to be mindful of the occupational hazards working in confined spaces such as closed drains. Potential impacts are negative and long-term but reversible by mitigation measures.	• Comply with requirements of Government of Bangladesh Labor Law of 2006, Labor Law services rule 2015 and all applicable laws and standards on workers H&S. • Ensure adequate safety and provisions as per the Annex 8 in relation to the COVID-19. • Ensure that all site personnel have a basic level of H&S training. • Produce and implement a O&M and H&S plan which include measures as: (i)	Duration of construction works	Pourashava/LINIC

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
		excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing H&S training for all site personnel; (iv) providing fire extinguisher at construction site • Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances • Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.		

g. Public Consultations

64. Public consultation meetings were held at Araihazar Pourashava Councilor room of Araihazar Pourashava on October 24, 2023. A total 30 participants attended in the meetings where 24 were female and remaining are male (6 persons). LINIC members, teachers, counselors, farmers, female workers, housewife, small business holder were present in the meetings. The safeguard team of IUGIP visited all the one (1) LINs under the respective Pourashava. Consultants described environmental and social issues in the context of development aspects and potential impacts of the infrastructure development work of the LINs. The meetings were held through presided over LIN Development Officer of Araihazar Pourashava.

Minutes of Public Consultation

Site : Pourashava Councilor room, Araihazar Pourashava

Date : 24-10-2023

Time : 10:30 AM

65. Participants of the meeting exchanged views with the safeguard team about their sufferings and the remedial measures to be taken to overcome it. At present the LIN dwellers use hanging and pit latrine, which is a threat to public health and un-hygienic as well. They insisted for a community latrine to overcome it. The drinking water was the burning issue. The water available at the LIN was inadequate and non-potable due to impurities (e.g., excessive iron). They urged for sufficient potable water at their door step. Water logging was an additional problem of the LINs. Their yard inundates during rainy season. It creates an un-hygienic condition of living. They wanted immediate relief from it, through an installation of proper drainage system. Inadequate internal road communication made their livelihood slower. A proper footpath would ease their safe movement. They asked for a proper footpath system in their LIN. There is inadequate dustbin in or around the LINs. As such they cannot dump the waste specially the kitchen waste properly. It creates bad odor and un-hygienic condition in and around the LIN. They wanted installation of dustbins. Inadequate light during night time is an additional problem. Social nuisance creates at it. Pilferage and unsocial activities promote in the dark. The LIN dwellers urged for street lighting system in and around the LINs.
66. Experts discussed regarding safeguard issues; focusing the sub-project components with its importance including socio economic and health hazard. Also discussed, environmental and social impacts and mitigation measures about air, dust, water pollution and waste management.
67. As per discussion and feedback from the SDO and all LINIC members, the LINs were selected through consultation with the local leader/councilors living in the Pourashava area. According to the discussion, the participants appreciated the proposed LIN improvement components, as it will improve the health and sanitation conditions of the LIN which will provide positive socio-economic impact.
68. The LIN dwellers demanded for more latrines and tube wells and also demanded separate latrines for women. The chairman of the meeting in his concluding speech mentioned that as per allocation of fund, elements of the proposed sub-project have been selected by the LIN dwellers. The sites have been selected based on the available space spreading all over the LIN. However, maximum old sites will be used and nobody will be affected. The toilet designs have considered separate unit for the women and it would not be possible to provide individual tube wells and individual toilets. He requested co-operation from the LIN dwellers during construction activities. The meeting was concluded with thanks from the chair to the participants. (Appendix 3).

h. Grievance Redress Mechanism

69. Grievance redress mechanism (GRM) has been established in the Pourashava to redress quickly social, environmental and any other project related grievances from the affected or any aggrieved person/ party with the creation of grievance redress cell (GRC) comprising of:

গ্রীভেন্স রিড্রেস সেল (GRC)

No.sl	Name & Designation	Designation in committee
1	Jonab Hatem Ali, Panel mayor-1,councilor-7 no ward,Araihazar paurashava.	President
2	Jonab md. Bashir ullah,councilor-6 no ward. Araihazar paurashava.	Member
3	Mst.rina begum,councilor-4,5,6 no reserve ward. Araihazar paurashava.	Member
4	md.mozahidul islam ,SAE,Araihazar Paurashava.	Member
5	Jonab mohammad ullah,head assistant,Araihazar paurashava	Member-Secretary

65. Affected or aggrieved persons will have the flexibility of conveying grievances/ suggestions in writing and dropping them in complaints/suggestion boxes that have already been installed in the Pourashava or through telephones, e-mails, by post or by writing in the complaint register in the Pourashava office. The cost related to environmental grievance redress are included in social and resettlement cost estimates.

(xi) Grievance Redresses Process

1st Level Grievance: Names and contact phone numbers of the PIU safeguard focal person will be posted on the construction site at visible location (construction site signboard) to provide first level of contact for quick resolution of the grievances. The LINIC and the PIU safeguard focal person can immediately resolve on-site the grievances in consultation with each other within 7 days of receipt of a complaint/ grievance.

2nd Level Grievance: The grievances that cannot be redressed within 7 days at field/ ward level will be reviewed by the grievance redress cell (GRC) with support from PIU designated safeguard focal person and MDSC regional environment and resettlement specialists. The GRC will attempt to resolve the complaints/ grievances within 15 days.

3rd Level Grievance: The PIU designated safeguard focal person will refer the unresolved or, the major issues to the PMU safeguard officer and MDSC safeguard specialists. The PMU, in consultation with the above-mentioned officer/ specialists, will resolve the issues within 30 days. Despite project GRM, an aggrieved person shall have access to the country's legal system at any stage, and assessing can go parallel.

If the GRM cannot resolve the issues, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM) in any of the official languages of ADB.

Recordkeeping: Records all grievances including date of receive and detailed contract address of complainant, nature of grievance, agreed corrective actions, and the dates these were affected and final outcomes will be kept by PIU. The grievances recorded and resolved and the outcomes will be displayed/ disclosed in the PMU office, Pourashava office, on the web and reported in the semi-annual monitoring reports.

Periodic review and documentation of lessons learnt: The PMU safeguard officer will periodically review the functioning of the GRM in each Pourashava and record information on the effectiveness of the mechanism.

i. Conclusion

70. So, there will be no negative impact for the implementation of the sub-project and if there is any that would be very minimum most of which are construction related, localized and for short-term. Moreover, there will be a lot of positive impacts such as: Moreover, there will be a lot of positive impacts such as:

- Environmental & sanitation conditions will be improved.
- LIN dwellers will have comfortable walkway and improved drainage.

- Water-logging will be removed which will eliminate the mosquito breeding resulting the reduction of many diseases including waterborne diseases.
- LIN dwellers will have facilities for pure drinking water and facilities for solid waste disposal.
- There will be savings in the medical treatment cost. Thus, health conditions will be improved etc.

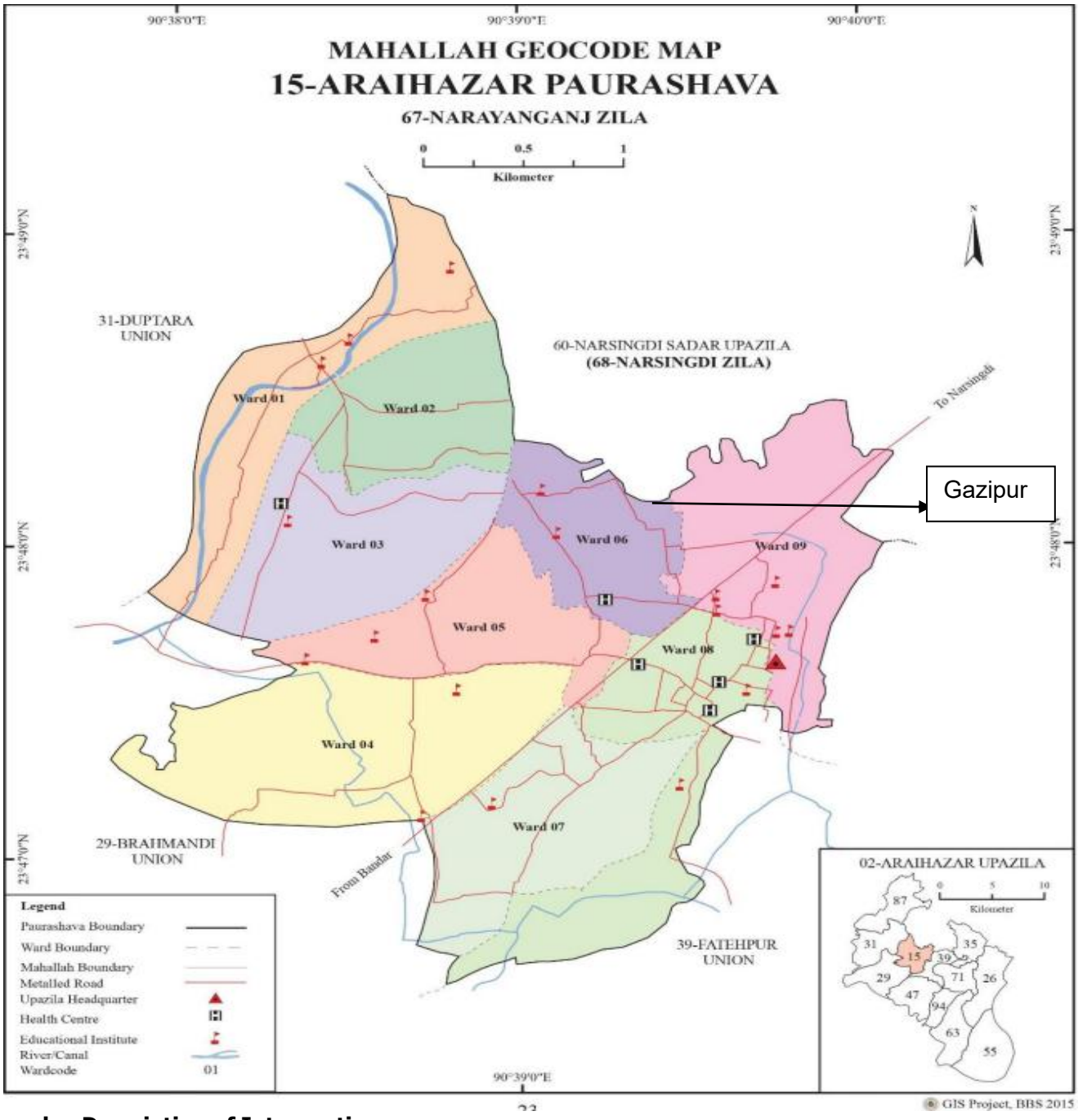
D. Gazipura LIN

71. The LIN is situated in ward no. 06. There are 127 families with 635 members; of which 298 are male and 337 are female. The land area is 3 acre and the land is owned by the LIN dwellers. The chief of 4 families earns their livelihood by small business, 3 by service, 53 by daily labor and the rest by different means. The average income per head per month is about Tk.9000.00 only. They are deprived of most of the needed basic services. This LIN has acute problem of deteriorating internal roads/footpaths/ Street light, paucity of drainage, sewerage facilities and walkways etc.

Package No: IUGIP/ARAI/SI/01-05/2023

a. Location of the LIN

The Gazipura LIN is situated in ward no. 06 under Araihazar Pourashava of Narayanganj district (Figure I.1).



b. Description of Interventions

Description of the proposed interventions for The Gazipura Area LIN is given in Table II.1.

Table IV.7: Description of Proposed Interventions of LIN

			Name of Lin: Gazipura			
			Name of works: Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well, 02 number dustbin, 130-meter footpath, 765-meter RCC drain, Installation of 27 numbers of solar street light, Installation of 06 numbers of hand Tube well & 100 nos Tree Plantation in Shibpur LIN area, at Ward no.-06, under Araihazar Pourashava, Narayanganj.			
	IUGIP/ARAI/SI/01-05/2023 (Lot-05)	2023-2024	**Toilet**			
1			a)	Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well.	1	Nos.
2			b)	Construction of 02 number dustbin	2	No.
3			c)	Construction of 130-meter footpath.	130	m
4			d)	Construction of 765-meter RCC drain	765	m
5			e)	Installation of 27 numbers of solar street light	27	Nos.
6			f)	Installation of 06 numbers of hand Tube well	6	Nos.
7			g)	Plantation of 100 nos. tree	100	Nos.

c. Present Condition (Baseline Environment)

(xii) Flooding/Water-clogging

d. Flood does not occur in this LIN. The existing drains are earthen and are not functioning. Water logging condition occurs due to heavy rainfall during rainy season. Rain water in the monsoon and the water coming out from bathing and washing round the year are stagnant there. As such water logging becomes a common feature there. Construction of drain is necessary in this LIN.

(xiii) Water Source/Level/Quality/Tube well

e. At present, the LIN people do not have problem with the availability of drinking water. So, LIN dwellers do not demand for tube wells. The bore-log records of the suitable aquifer and quality of water in that aquifer such as iron, manganese, arsenic, hardness, chloride contents by testing through DPHE laboratory and having all those within acceptable limits as shown in Table II.2. This water quality test result can be considered as the water quality of whole Pourashava area.

Table IV.8: Water Quality Test Results of Araihazar Pourashava

Sl. No.	Location	Parameters					
		Arsenic (Mg/l)	Iron ((Mg/l)	Manganese (Mg/l)	Hardness (Mg/l)	Chloride (Mg/l)	pH
1	Gazipura uttor LIN, Ward No.6 Araihazar Pourashava	<0.008	0.15	0.20	-	60	4.64
2	Gazipura uttor LIN, Ward No.6 Araihazar Pourashava	<0.001	0.30	<0.05	-	80	5.11
3	Gazipura uttor LIN, Ward No.6 Araihazar Pourashava	<0.001	0.46	<0.05	-	150	5.84
Bangladesh Standard (mg/l)		0.05	0.3-1.0	0.1	200-500	150-600	6.5-8.5
WHO Standard		0.01	0.3	0.2	300	250	6.5-8.5

Source: Water quality test report done by Pourashava at DPHE Zonal Laboratory

f. The concentration of all PTWs in the water quality test result is within the Bangladesh standard and World Health Organization (WHO) except the pH for all the considered wells. However, excessive iron in water has no adverse health effect.

(xiv) Sanitations

g. There is insufficient toilets facility in the LIN area. LIN dwellers do not have enough hygienic sanitation. There is 1 nos proposal sanitation improvement within the LIN area.

(xv)Access Roads/Footpaths

h. There is existing earth road are poor condition in the LIN area. LIN dwellers wanted footpath for their communication within the LIN area. The proposed footpaths have been designed with cement concrete (CC) with crushed stone chips and over Single Layer Brick Flat Soling (BFS). LIN area is connected by Pourashava roads.

Figure IV.7: Existing Situation of Footpath at Gazipura Area LIN

(xvi) Solar Street Lights

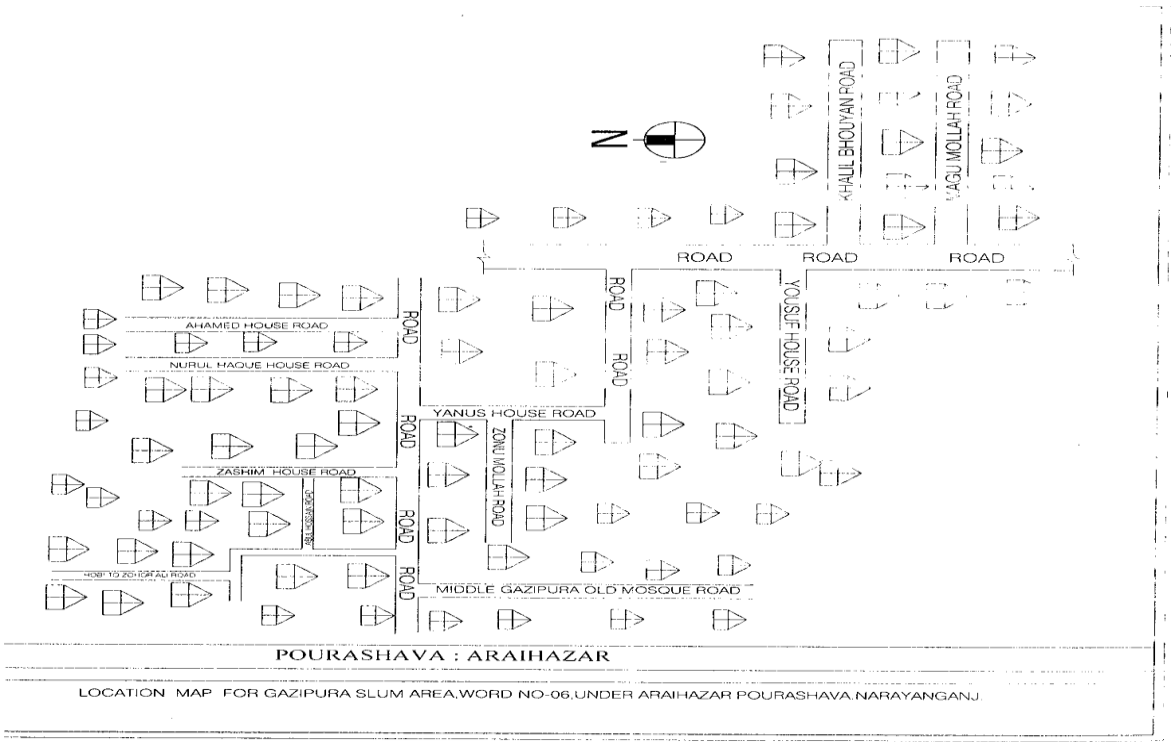
i. There are insufficient numbers of street light in this LIN area therefore 27 nos provisions of light are proposed under this package.

(xvii) Drain

j. The existing drains are earthen and are inactive. So, the LIN dwellers experience water logging especially during rainy season. The out fall of proposed drain is Poura secondary drain to primary drain (Section-3 site map) and because as the coming water to the proposed drain is only from rainfall run-off or household waste water. All drains have been designed to be built by RCC/brick. But well-defined slopes and outfalls have been ensured. The U-type drains have been designed considering the constraint in land availability. The design life has been considered as 20 years. Integration/connection of Road side drains with the town drainage system has been considered and considering the possibilities of increased precipitation owing to probable climate change, the sections have been designed keeping allowance to accommodate 10% additional flow.

Figure IV.8: Existing Situation of Drain at Gazipura LIN

d. Site Map of Gazipur LIN



e. **Environmental Impact Assessment and Mitigation**

f. (The review process will be greatly facilitated by comprehensive and detailed answers in this section. When completing this section, please state a specific reason [i.e., "there will be no impacts to environment because this project will not involve any disturbance"] and cite a source [i.e., local master plan, previous environmental assessment, correspondence with Pourashava Office, etc.] to support a response of "no impact (-)" or "potential to impact (+)."")

f. The key baseline information on the LIN area are depicted in below table:

Sl	Key environmental and social aspects	Key baseline information
1	Noise	Noise is not a major impediment for the quality of the environment in the study area. Vehicles such as electric rickshaw, motor cycle, van, tempo, mini truck, outvote, and tractor trailer etc. move on the road during day and night. Particular areas adjacent to the main road have some noise pollution created by movement of heavy vehicles near LIN. These vehicles generate noise in the LIN area but within tolerable limit in most cases. No other perceptible sources of noise generation such as factories, industries, etc. are found near by the LIN area.
2	Air	Current air quality in LIN area of Araihazar pourashava, is in the moderate to poor range, with pollution levels that may affect sensitive groups. The moderate air quality in lin area of Araihazar is mainly caused by particulate matter (PM2.5 and PM10) from brick kilns, vehicle emissions, construction dust, and industrial activity. The Final Master Plan of the Pourashava shows that air pollution is quite a serious environmental consideration having adverse impacts within many parts of the LIN area of Araihazar Pourashava. Operations of shallow engine driven vehicles named Nochimon/Karimon are responsible for air pollution. Those vehicles use diesel as fuel. Diesel Particulate Matter (DPM) includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates and silicates.
3	Ground water	Groundwater in Araihazar Pourashava is widely used for drinking and irrigation, but it faces challenges such as arsenic contamination, salinity, and over-extraction. Shallow aquifers (10–50 meters) are common, but deeper aquifers (120–250 meters) are often tapped to avoid contamination. Quality concerns, Arsenic contamination: Many shallow tube wells in Narayangonj district (where Araihazar is located) show arsenic levels above the WHO guideline of 10.1 µg/L. In some areas, groundwater shows elevated salinity, affecting taste and crop irrigation. Iron & manganese naturally occurring elements are often present, leading to staining and taste issues.
4	Surface water	The town of Araihazar is situated near several rivers look likes Shitalakshya and Buriganga. Buriganga not directly flowing through Araihazar municipality but it influences the regions water management and ecology. During the monsoon season, the water level of this river

Sl	Key environmental and social aspects	Key baseline information
		increases and some of its effects are naturally reflected in the municipality. Every year a small expanse of land is erosion and deposition by the river. Due to the low altitude of the area, the area was kept flood-free by river embankments, but the area was inundated by major natural disasters. Moreover, there are several small and big water bodies and canals in the area.
5	Protected Area (PA)	There are no officially designated protected areas (such as national parks, wildlife sanctuaries, or eco-parks) located within Araihazar Pourashava. Araihazar Pourashava (Narayangonj District) does not host any of these nationally recognized protected areas.
6	Cultural Heritage	LIN area of Araihazar Pourashava is some in the cultural, historical and religious heritage. There area number of places of interest within LIN area that can become attractions for business from home and abroad. The area has a long history with influences from various dynasties and rulers over the centuries, contributing to its unique cultural fabric.
7	Physcial Cultural Resoruces	Within 500m of the activity site in LIN area Araihazar Pourashava, there are mosques, Gazipura Bazar, educational institutions (such as Gazipura Primary School) and community graveyards & Eid Gha.

The LIN toilets are being considered with one type of design: Type B considered with pit along with soak pit. The note from the Pourashava engineers taken that in many of the LIN area there is shortage of space for constructing septic tank where soak pit is designed with the pit. However, such soak pit has mitigation measure for ground or surface water contamination (e.g., sand and brick chips envelope on the bottom of pit). Moreover, municipality will ensure good maintenance for such toilets having soak pit.

Most of the individual elements are relatively small and involve straight forward construction, so impacts will be mainly localized and not greatly significant; most of the predicted impacts are associated with the construction process and are produced because that process is invasive, involving excavation and earth movements; and being located in the built-up area of the Pourashava, will not cause direct impact on biodiversity values. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the LIN sites in built-up areas of Araihazar Pourashava where there are a variety of human activities, will result to temporary impacts to the environment and sensitive receptors such as residents, businesses and the community in general. These anticipated impacts are short-term, site specific and within a relatively small area. There are no impacts that are significant or complex in nature, or that need an in-depth study to assess the impact.

(xviii) Pre-construction and Construction Phase

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
Demolition of existing infrastructure: - Dust from demolition - Noise from demolition - Waste from demolition -Un-hygiene of demolition	(-)	-Different activities regarding the demolishing the existing structure (part) and broken footpath generate dust which impair the air quality -Unhygienic/unsanitary environment due to demolition of old/poor infrastructure and construction of camps in the development site -Creation of noise from demolition is negligible	-Water will be sprayed to control the dust, which is the main way to suppress dust in the working site as per necessary Appendix-2 EMP cost. -Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup. - Transport/handle debris from demolished infrastructures in a hygienic manner. -Tree plantation at the LIN boundary/open space/slope on the basis of space availability -Collection of construction debris and dispose in a hygienic way by LINIC and it is included in engineering estimate item (LGED rate schedule) -PIU/LINIC will strongly monitoring the construction activity and instant action will take.	PIU, LINIC
Dust Management	(-)	-Moving debris/sediments may create dusts during dry season. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	- Use tarpaulins to cover soils, sand and other loose material. - Water will be sprayed to control the dust when necessary	PIU, LINIC
Community facilities and services - Blockage to access roads - Fire & Safety	(-)	- Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children. - Chances of fire only from open cooking in the area which may create major loss of property to the residence in the LIN.	-Provide safety signage at all sites visible to public that is monitored by PIU/LINIC and it will be confirmed in semi-annual monitoring report -Provide safety barriers near any trenches, and cover trenches with planks during non-work hours. -LINIC's activities and movement of staff will be restricted to designated construction areas. -Consult with Pourashava local authority on the designated areas for stockpiling of, soils, gravel, and other construction materials. -If the LINIC chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner. -Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged. -Workers need to be made aware of the following general rules: (i) no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction workers are to make use of the facilities provided for them; (iv) no fires permitted on site except if needed for the construction works; and (v) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do. - Bucket filled with sand will be kept at the construction zone.	PIU, LINIC
Air/water/noise quality monitoring	(-)	- Component of works are scattered in the LIN area, which are not located near-by any water stream/canal. There stands little probability of surface and ground water pollution, as nothing like gasoline,	- No need for Air/water/noise quality monitoring in construction area by test due to short-term effect. - Water will be sprayed to control the dust, when necessary, it will be visually observed	Not required

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
		oil, road salts and chemicals are dumped on the adjoining ground. - Construction work yards are located in small areas and its activities are also minimum. Here the intensity of pollution from air/dust/ noise is also very low and short-term. As such little monitoring of water/air/noise pollution parameters is needed at the surroundings work place.		
Drainage congestion/water logging	(-)	- Clogging/stagnation of flow in the storm drain, source of waste water is LIN dweller used water (bathing and washing) - Backflow of water through drain (e.g., due to high water level at downstream discharge point, such as khal/ river) - Drainage congestion/water logging due to cross road/construction activity	-Designing drain considering the downstream discharge point; adequate slope and x-section; RCC cover for drain, where appropriate - Not allowing direct connection to drain from toilet -The out fall of proposed drain is primary to secondary drain and water quality will be monitoring as per necessary (in Appendix-2 EMP cost)	PIU, LINIC
Waste Management	(-)	- Uncollected wastes blocked the drainage and sewage system. - Air, water and soil pollution during the waste collection - Smoke from the open burning of uncollected waste. - The loading and unloading of waste at transfer station pollutes the air and soil. - Odor from waste disposal site and composting system. - Contamination of ground water by leachate.	- Follow the waste management plan given in Appendix 4 during construction period. - Encourage 3R (reduce, reuse, and recycle) - Encourage composting of kitchen waste on the basis of land availability otherwise transfer waste by hand trolley/van that is available in Pourashava and it is inspired by EMP implementation training - Adequate distance between waste bin and water body. - Adequate distance should be maintained between the waste collection point and house - Coordinate with the municipality for collection of domestic waste and disposal at the designated site	PIU/LINIC
Workers H & S	(-)	-There is invariably a safety risk when construction works such as excavation and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and long-term but reversible by mitigation measures.	- Comply with requirements of GoB Labor Law of 2006, Labor law and services rules 2015 and all applicable laws and standards on workers H & S. - Ensure adequate safety and provisions as per the Appendix 5 in relation to the COVID-19. - Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use PPE at all times; (iii) providing (H&S) training for all site personnel; (iv) Providing fire extinguisher at construction site (v) documenting procedures to be followed for all site activities; and (vi) maintaining accident reports and records. - Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances.	PIU, LINIC

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
			-Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; and (iii) sanitation facilities are available at all times. - Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;	
Sanitation/excreta management	(-)	-Noise and soil pollution during the construction but short- term -Microbial contamination to the ground water from the pit latrine. -Waste during loading of sewage from the sanitary communal containers. -Odor	-Design and installation of sanitary toilet to stop the microbial contamination to the ground water. -Adequate height with proper ventilation. -Water supply and hand wash facility -Regular cleaning and monitoring -5-10m distance should be maintained between toilet and tube-well	PIU, LINIC
Water supply (Tube well)	(-)	-Noise, dust and soil pollution during the construction but short- term	-The digging of soil should follow the proper design to avoid the pollution and water logging -The outlet of tube well should be connected with soak pit to existing drain. -A person has been engaged for cleaning and maintenance of Tube well. -One set of maintenance equipment of Tube well is kept with LINIC selected person.	PIU, LINIC
Footpath/connecting Road	(-)	-Dust and noise pollution from construction work	-Watering to reduce dust -Tree plantation on the footpath/road slope	PIU, LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the construction workers	-LINIC and all workers will be required to undergo EMP implementation including waste management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labor laws, applicable environmental laws, etc. - Provided training on use of TW, toilet, solar panel and tree plantation etc. during preparation of Community Action Plan (CAP) -Training is a continuous process by Capacity Development Fund of Pourashava. It is financed by UGIIP-III-AF.	Pourashava PRAP budget

- (Construction Phase (For any "negative" impacts "Environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

(xix) Operation Phase/Post-Construction

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
Water logging in drains and footpaths	(-)	Run-off from debris/ sediments from repair and maintenance of Footpath and drain which may cause siltation and reduction in the quality of adjacent bodies of	-Take all precautions to prevent run-off into streams, water courses, or irrigation system. Install temporary silt traps or sedimentation basins along drainage leading to the water bodies.	PIU, LINIC

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
		water. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	- Remove all debris/sediments immediately. - Dispose debris/sediments at a designated site such as landfill.	
Water quality monitoring (Arsenic, Iron, Chloride, Manganese etc.) (twice a year)	(-)	Due to polluted water, people may suffer from dangerous diseases like cholera, dysentery, diarrhea, Gastrointestinal disease and jaundice etc.	Necessary test will be performed occasionally by testing water sample from the tube wells (Pourashava PRAP budget)	PIU, LINIC
Solid Waste management	(-)	-Due to open dumping ambient environment will be polluted and will be breeding place of flies -Threat to human health and/or the environment -Due to bad odor, nuisance to sensitive receptors	- There is an existing sanitary landfill (SLF) of the Pourashava under UGIIP-III/AF and the waste management system will be connected with this system obviously. - The waste will soon be carried to the proposed SLF by Pourashava SWM system - Develop rodent and fly control plan - Ensure residual waste is not left in bins and allowed to decompose for a long time	PIU/LINIC
Community H & S - Walkway/drain - Toilet conditions - Drinking water quality (Tube well)	(-)	- The inhabitants may dump waste on the walkway - Bricks used in BFS, may be stolen when CC will wear out with the passage of time - Inadequate supply of water to toilet may spread bad odor - Improper use may spread germ - Irregular cleaning may create unhygienic condition - Epidemic may spread due to deteriorated quality of water	- Awareness to the inhabitants to discourage dumping of waste on the walkway - Ensure routine maintenance by the LINIC - Continuous supply of water will be provided - Awareness to user for proper use of latrine - LINIC will engage a person to clean and maintenance of Toilet and tube well regularly - Periodic maintenance of Tube well and Toilet will be done by Pourashava PRAP budget	PIU/LINIC
Dustbin	(-)	- Improper use of dustbins - Irregular cleaning of dustbin may create bad odor and birth place of flies	- Awareness to the LIN dwellers for proper use of dustbins - LINIC will engage a person who will monitor the cleaning the dustbin regularly	PIU/LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the community	-Twice a year Training/workshop/ meeting for maintenance of TW, Toilet, Planted Tree and Solar panel will be organized by LINIC/PIU and financed by Pourashava PRAP fund. -Provided training on maintenance of TW, toilet and Planted Tree, solar panel during preparation of Community Action Plan (CAP) -Regular maintenance of planted tree by LIN dwellers	Pourashava PRAP budget

- (Operation Phase (For any "negative" impacts "environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

g. Environmental Management Plan (EMP)

(xx) Monitoring Plan (Construction and Operation Period)

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
Water quality	-Contamination (Arsenic, Iron, Chloride, Manganese etc.) or degrading of water quality of drinking water well -Contamination (DO, BOD, COD, TDS, TSS, Turbidity etc.) or degrading of water quality of surface water	-Water quality of tube well will be tested after installation/construction by LINIC and it is included in engineering estimate (Item LGED rate schedule) -Water quality of Tube well will be monitored periodically and DoE standard will be maintained properly. -The outlet of household waste water would be connected with Pourashava existing drain -PIU/LINIC will strongly monitoring the performance of the interventions	Twice a year/Yearly Operation /completion work	Pourashava
Dust from drains, footpaths, toilets, street light, dustbins and tube well	-Air and noise pollution may occur due to construction/operation -Irregular cleaning may damage the interventions	-Use tarpaulins to cover soils, sand and other loose material. -Water will be sprayed to control the dust when necessary -Regular maintenance/cleaning -PIU/LINIC will strongly monitoring the performance of the interventions	As per necessary	PIU/LINIC
Acoustic environment	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Plan activities in consultation with Pourashava local authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	No need for noise quality monitoring due to short-term project	Pourashava
Biodiversity	Activities in the built-up area of Pourashava. There are no protected areas in or around Sub-project sites, and no known areas of ecological interest.	• No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal).	No need for monitoring due to short-term project	Pourashava
Existing provisions for pedestrians and other forms of transport	Footpath closure is not anticipated. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	• Maintain safe passage for pedestrians during maintenance activities. • Notify affected sensitive receptors by providing sign boards informing nature and duration of maintenance activities and contact numbers for concerns/complaints. • Leave spaces for access between mounds of soil. • Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.	Duration of construction works	Pourashava
Worker's health and safety	Workers need to be mindful of the occupational hazards working in confined spaces such as closed drains. Potential impacts are negative and long-term but reversible by mitigation measures.	• Comply with requirements of Government of Bangladesh Labor Law of 2006, Labor Law services rule 2015 and all applicable laws and standards on workers H&S. • Ensure adequate safety and provisions as per the Annex 8 in relation to the COVID-19. • Ensure that all site personnel have a basic level of H&S training. • Produce and implement a O&M and H&S plan which include measures as: (i)	Duration of construction works	Pourashava/LINIC

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
		excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing H&S training for all site personnel; (iv) providing fire extinguisher at construction site • Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances • Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.		

h. Public Consultations

Public consultation meetings were held at Araihazar Pourashava Councilor room of Araihazar Pourashava on october 24, 2023. A total 30 participants attended in the meetings where 24 were female and remaining are male (6 persons). LINIC members, teachers, counselors, farmers, female workers, housewife, small business holder were present in the meetings. The safeguard team of MDSC, IUGIP visited all the one (1) LINs under the respective Pourashava. Consultants described environmental and social issues in the context of development aspects and potential impacts of the infrastructure development work of the LINs. The meetings were held through presided over LIN Development Officer of Araihazar Pourashava.

Minutes of Public Consultation

Site : Pourashava Councilor room, Araihazar Pourashava

Date : 24-10-2023

Time : 10:30 AM

Participants of the meeting exchanged views with the safeguard team about their sufferings and the remedial measures to be taken to overcome it. At present the LIN dwellers use hanging and pit latrine, which is a threat to public health and un-hygienic as well. They insisted for a community latrine to overcome it. The drinking water was the burning issue. The water available at the LIN was inadequate and non-potable due to impurities (e.g., excessive iron). They urged for sufficient potable water at their door step. Water logging was an additional problem of the LINs. Their yard inundates during rainy season. It creates an un-hygienic condition of living. They wanted immediate relief from it, through an installation of proper drainage system. Inadequate internal road communication made their livelihood slower. A proper footpath would ease their safe movement. They asked for a proper footpath system in their LIN. There is inadequate dustbin in or around the LINs. As such they cannot dump the waste specially the kitchen waste properly. It creates bad odor and un-hygienic condition in and around the LIN. They wanted installation of dustbins. Inadequate light during night time is an additional problem. Social nuisance creates at it. Pilferage and unsocial activities promote in the dark. The LIN dwellers urged for street lighting system in and around the LINs.

Experts discussed regarding safeguard issues; focusing the sub-project components with its importance including socio economic and health hazard. Also discussed, environmental and social impacts and mitigation measures about air, dust, water pollution and waste management.

As per discussion and feedback from the SDO and all LINIC members, the LINs were selected through consultation with the local leader/councilors living in the Pourashava area. According to the discussion, the participants appreciated the proposed LIN improvement components, as it will improve the health and sanitation conditions of the LIN which will provide positive socio-economic impact.

The LIN dwellers demanded for more latrines and tube wells and also demanded separate latrines for women. The chairman of the meeting in his concluding speech mentioned that as per allocation of fund, elements of the proposed sub-project have been selected by the LIN dwellers. The sites have been selected based on the available space spreading all over the LIN. However, maximum old sites will be used and nobody will be affected. The toilet designs have considered separate unit for the women and it would not be possible to provide individual tube wells and individual toilets. He requested co-operation from the LIN dwellers during construction activities. The meeting was concluded with thanks from the chair to the participants. (Appendix 3).

i. Grievance Redress Mechanism

Grievance redress mechanism (GRM) has been established in the Pourashava to redress quickly social, environmental and any other project related grievances from the affected or any aggrieved person/ party with the creation of grievance redress cell (GRC) comprising of:

গ্রীভেন্স রিড্রেস সেল (GRC)

No.sl	Name & Designation	Designation in committee
1	Jonab Hatem Ali, Panel mayor-1,councilor-7 no ward,Araihazar paurashava.	President
2	Jonab md. Bashir ullah,councilor-6 no ward. Araihazar paurashava.	Member
3	Mst.rina begum,councilor-4,5,6 no reserve ward. Araihazar paurashava.	Member
4	md.mozahidul islam ,SAE,Araihazar Paurashava.	Member
5	Jonab mohammad ullah,head assistant,Araihazar paurashava	Member-Secretary

81. Affected or aggrieved persons will have the flexibility of conveying grievances/ suggestions in writing and dropping them in complaints/suggestion boxes that have already been installed in the Pourashava or through telephones, e-mails, by post or by writing in the complaint register in the Pourashava office. The cost related to environmental grievance redress are included in social and resettlement cost estimates.

(xxi) Grievance Redresses Process

1st Level Grievance: Names and contact phone numbers of the PIU safeguard focal person will be posted on the construction site at visible location (construction site signboard) to provide first level of contact for quick resolution of the grievances. The LINIC and the PIU safeguard focal person can immediately resolve on-site the grievances in consultation with each other within 7 days of receipt of a complaint/ grievance.

2nd Level Grievance: The grievances that cannot be redressed within 7 days at field/ ward level will be reviewed by the grievance redress cell (GRC) with support from PIU designated safeguard focal person and MDSC regional environment and resettlement specialists. The GRC will attempt to resolve the complaints/ grievances within 15 days.

3rd Level Grievance: The PIU designated safeguard focal person will refer the unresolved or, the major issues to the PMU safeguard officer and MDSC safeguard specialists. The PMU, in consultation with the above-mentioned officer/ specialists, will resolve the issues within 30 days. Despite project GRM, an aggrieved person shall have access to the country's legal system at any stage, and assessing can go parallel.

If the GRM cannot resolve the issues, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM) in any of the official languages of ADB.

Recordkeeping: Records all grievances including date of receive and detailed contract address of complainant, nature of grievance, agreed corrective actions, and the dates these were affected and final outcomes will be kept by PIU. The grievances recorded and resolved and the outcomes will be displayed/ disclosed in the PMU office, Pourashava office, on the web and reported in the semi-annual monitoring reports.

Periodic review and documentation of lessons learnt: The PMU safeguard officer will periodically review the functioning of the GRM in each Pourashava and record information on the effectiveness of the mechanism.

j. Conclusion

So, there will be no negative impact for the implementation of the sub-project and if there is any that would be very minimum most of which are construction related, localized and for short-term. Moreover, there will be a lot of positive impacts such as: Moreover, there will be a lot of positive impacts such as:

- Environmental & sanitation conditions will be improved.
- LIN dwellers will have comfortable walkway and improved drainage.

- Water-logging will be removed which will eliminate the mosquito breeding resulting the reduction of many diseases including waterborne diseases.
- LIN dwellers will have facilities for pure drinking water and facilities for solid waste disposal.
- There will be savings in the medical treatment cost. Thus, health conditions will be improved etc.

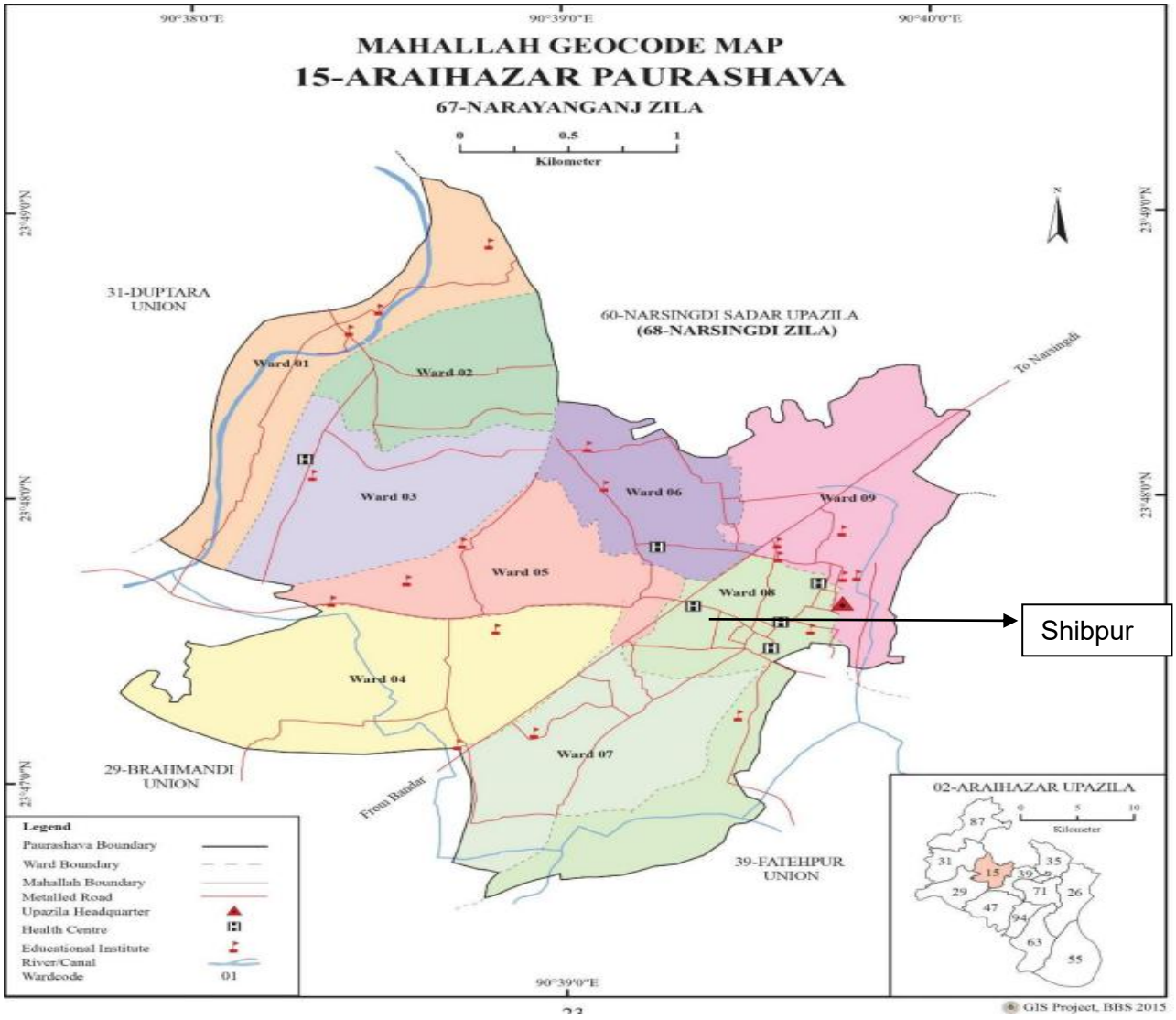
E. Shibpur LIN

Package No: IUGIP/ARAI/SI/01-05/2023

The LIN is situated in ward no. 08. There are 52 families with 231 members; of which 121 are male and 110 are female. The land area is 1.80 acre and the land is owned by the LIN dwellers. The chief of 13 families earns their livelihood by Hawker, 42 by service, 23 by daily labor and the rest by different means. The average income per head per month is about Tk.8000.00 only. They are deprived of most of the needed basic services. This LIN has acute problem of deteriorating internal roads/footpaths/ Street light, paucity of drainage, sewerage facilities and walkways etc.

a. Location of the LIN

The Shibpur LIN is situated in ward no. 08 under Araihazar Pourashava of Narayanganj district (Figure I.1).



b. Description of Interventions

Description of the proposed interventions for Shibpur LIN is given in Table II.1.

Table IV.9: Description of Proposed Interventions of LIN

			Name of works: Constuction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well, 02 number dustbin, 130-meter footpath, 765-meter RCC drain, Installation of 25 numbers of solar street light, Installation of 07 numbers of hand Tube well & 100 nos Tree Plantation in Shibpur LIN area, at Ward no.-08, under Araihazar Pourashava, Narayanganj.			
	IUGIP/ARAI/SI/01-05/2023 (Lot-01)	2023-2024	**Toilet**			
1			a)	Construction of 01 nos. Double unite (Type-A) toilets with 01 number septic tank and soak well.	1	Nos.
2			b)	Construction of 02 number dustbin	2	No.
3			c)	Construction of 130-meter footpath.	130	m
4			d)	Construction of 765-meter RCC drain	765	m
5			e)	Installation of 25 numbers of solar street light	25	Nos.
6			f)	Installation of 07 numbers of hand Tube well	7	Nos.
7			g)	Plantation of 100 nos. tree	100	Nos.

c. Present Condition (Baseline Environment)

(xxii) Flooding/Water-clogging

d. Flood does not occur in this LIN. The existing drains are earthen and are not functioning. Water logging condition occurs due to heavy rainfall during rainy season. Rain water in the monsoon and the water coming out from bathing and washing round the year are stagnant there. As such water logging becomes a common feature there. Construction of drain is necessary in this LIN.

(xxiii) Water Source/Level/Quality/Tube well

e. At present, the LIN people do not have problem with the availability of drinking water. So, LIN dwellers do not demand for tube wells. The bore-log records of the suitable aquifer and quality of water in that aquifer such as iron, manganese, arsenic, hardness, chloride contents by testing through DPHE laboratory and having all those within acceptable limits as shown in Table II.2. This water quality test result can be considered as the water quality of whole Pourashava area.

Table IV.10: Water Quality Test Results of Araihazar Pourashava

Sl. No.	Location	Parameters					
		Arsenic (Mg/l)	Iron ((Mg/l)	Manganese (Mg/l)	Hardness (Mg/l)	Chloride (Mg/l)	pH
1	Shibpur LIN , Ward No.8Araihazar Pourashava	<0.007	1.09	0.20	-	130	4.64
2	Shibpur LIN , Ward No.8Araihazar Pourashava	<0.001	0.22	<0.05	-	15	5.11
3	Shibpur LIN , Ward No.8Araihazar Pourashava	<0.001	0.46	<0.05	-	150	5.84
Bangladesh Standard (mg/l)		0.05	0.3-1.0	0.1	200-500	150-600	6.5-8.5
WHO Standard		0.01	0.3	0.2	300	250	6.5-8.5

Source: Water quality test report done by Pourashava at DPHE Zonal Laboratory

f. The concentration of all PTWs in the water quality test result is within the Bangladesh standard and World Health Organization (WHO) except the pH for all the considered wells. However, excessive iron in water has no adverse health effect.

(xxiv) Sanitations

g. There is insufficient toilets facility in the LIN area. LIN dwellers donot have enough hygienic sanitation. There is a 1 Nos proposal sanitation improvement within the LIN area.

(xxv) Access Roads/Footpaths

h. There is existing earth road are poor condition in the LIN area. LIN dwellers wanted footpath for their communication within the LIN area. The proposed footpaths have been designed with cement concrete (CC) with crushed stone chips and over Single Layer Brick Flat Soling (BFS).

Figure IV.9: Existing Situation of Footpath at Shibpur LIN

(xxvi) Solar Street Lights

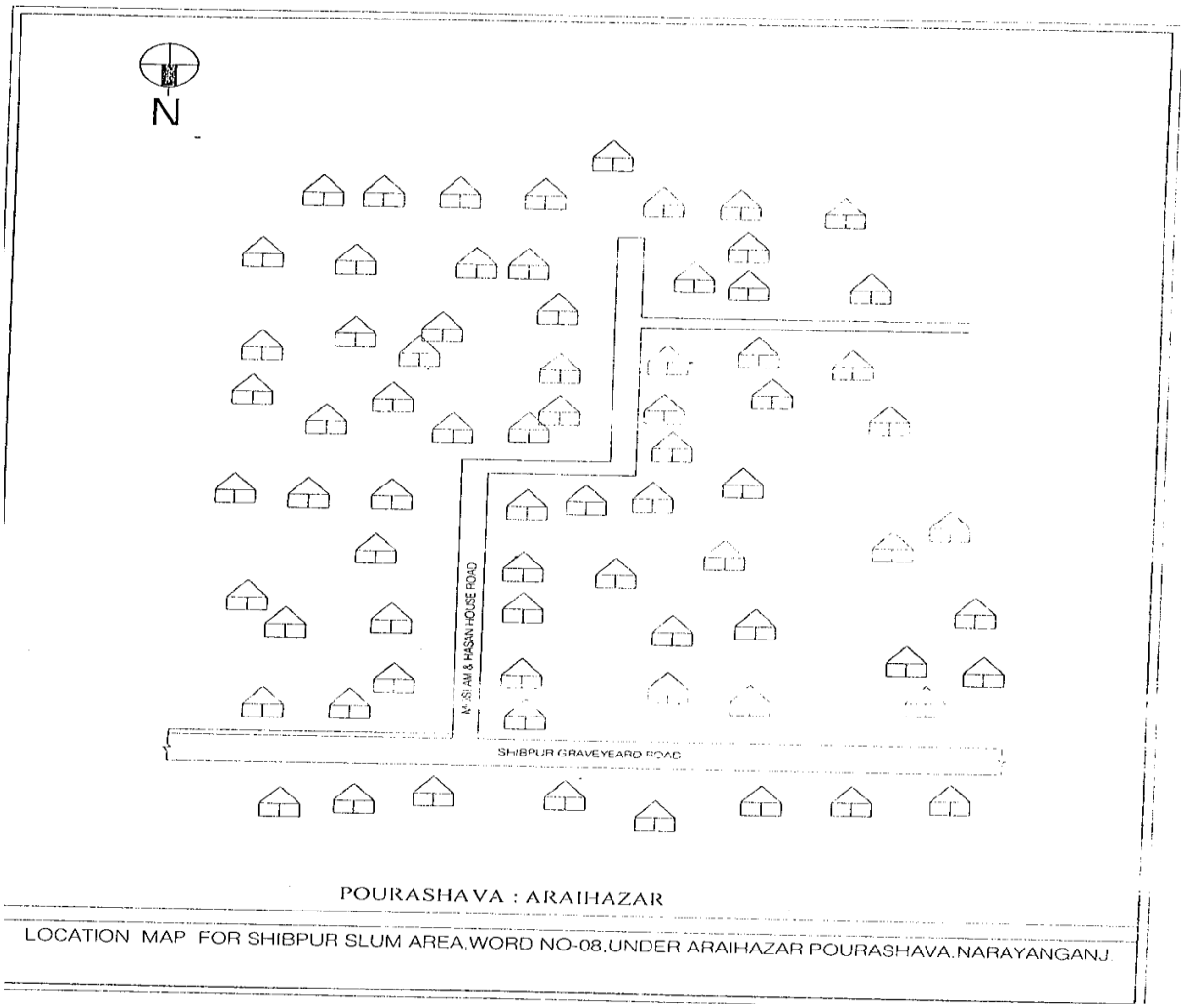
i. There are insufficient numbers of street light in this LIN area therefore 25 nos provisions of light are proposed under this package.

(xxvii) Drain

j. The existing drains are earthen and are inactive. So, the LIN dwellers experience water logging especially during rainy season. The out fall of proposed drain is Poura secondary drain to primary drain (Section-3 site map) and because as the coming water to the proposed drain is only from rainfall run-off or household waste water. All drains have been designed to be built by RCC/brick. But well-defined slopes and outfalls have been ensured. The U-type drains have been designed considering the constraint in land availability. The design life has been considered as 20 years. Integration/connection of Road side drains with the town drainage system has been considered and considering the possibilities of increased precipitation owing to probable climate change, the sections have been designed keeping allowance to accommodate 10% additional flow.

Figure IV.10: Existing Situation of Drain at Shibpur LIN

d. Site Map of Shibpur LIN



e. Environmental Impact Assessment and Mitigation

(The review process will be greatly facilitated by comprehensive and detailed answers in this section. When completing this section, please state a specific reason [i.e., "there will be no impacts to environment because this project will not involve any disturbance"] and cite a source [i.e., local master plan, previous environmental assessment, correspondence with Pourashava Office, etc.] to support a response of "no impact (-)" or "potential to impact (+).")

f. **The key baseline information on the LIN area are depicted in below table:**

Sl	Key environmental and social aspects	Key baseline information
1	Noise	Noise is not a major impediment for the quality of the environment in the study area. Vehicles such as electric rickshaw, motor cycle, van, tempo, mini truck, outvote, and tractor trailer etc. move on the road during day and night. Particular areas adjacent to the main road have some noise pollution created by movement of heavy vehicles near LIN. These vehicles generate noise in the LIN area but within tolerable limit in most cases. No other perceptible sources of noise generation such as factories, industries, etc. are found near by the LIN area.
2	Air	Current air quality in LIN area of Araihazar pourashava, is in the moderate to poor range, with pollution levels that may affect sensitive groups. The moderate air quality in lin area of Araihazar is mainly caused by particulate matter (PM2.5 and PM10) from brick kilns, vehicle emissions, construction dust, and industrial activity. The Final Master Plan of the Pourashava shows that air pollution is quite a serious environmental consideration having adverse impacts within many parts of the LIN area of Araihazar Pourashava. Operations of shallow engine driven vehicles named Nochimon/Karimon are responsible for air pollution. Those vehicles use diesel as fuel. Diesel Particulate Matter (DPM) includes diesel soot and aerosols such as ash particulates, metallic abrasion particles, sulfates and silicates.
3	Ground water	Groundwater in Araihazar Pourashava is widely used for drinking and irrigation, but it faces challenges such as arsenic contamination, salinity, and over-extraction. Shallow aquifers (10–50 meters) are common, but deeper aquifers (120–250 meters) are often tapped to avoid contamination. Quality concerns, Arsenic contamination: Many shallow tube wells in Narayangonj district (where Araihazar is located) show arsenic levels above the WHO guideline of 10.1 µg/L. In some areas, groundwater shows elevated salinity, affecting taste and crop irrigation. Iron & manganese naturally occurring elements are often present, leading to staining and taste issues.

Sl	Key environmental and social aspects	Key baseline information
4	Surface water	The town of Araihazar is situated near several rivers look likes Shitalakshya and Buriganga. Buriganga not directly flowing through Araihazar municipality but it influences the regions water management and ecology. During the monsoon season, the water level of this river increases and some of its effects are naturally reflected in the municipality. Every year a small expanse of land is erosion and deposition by the river. Due to the low altitude of the area, the area was kept flood-free by river embankments, but the area was inundated by major natural disasters. Moreover, there are several small and big water bodies and canals in the area.
5	Protected Area (PA)	There are no officially designated protected areas (such as national parks, wildlife sanctuaries, or eco-parks) located within Araihazar Pourashava. Araihazar Pourashava (Narayangonj District) does not host any of these nationally recognized protected areas.
6	Cultural Heritage	LIN area of Araihazar Pourashava is some in the cultural, historical and religious heritage. There are a number of places of interest within LIN area that can become attractions for business from home and abroad. The area has a long history with influences from various dynasties and rulers over the centuries, contributing to its unique cultural fabric.
7	Physcial Cultural Resoruces	Within 500m of the activity site in LIN area Araihazar Pourashava, there are mosques, temples, Araihazar Bazar, educational institutions (such as Shippur Madrasha, Shahajalal Mia high School) and community graveyards & Eid Gha.

The LIN toilets are being considered with one type of design: Type B considered with pit along with soak pit. The note from the Pourashava engineers taken that in many of the LIN area there is shortage of space for constructing septic tank where soak pit is designed with the pit. However, such soak pit has mitigation measure for ground or surface water contamination (e.g., sand and brick chips envelope on the bottom of pit). Moreover, municipality will ensure good maintenance for such toilets having soak pit.

Most of the individual elements are relatively small and involve straight forward construction, so impacts will be mainly localized and not greatly significant; most of the predicted impacts are associated with the construction process and are produced because that process is invasive, involving excavation and earth movements; and being located in the built-up area of the Pourashava, will not cause direct impact on biodiversity values. Although construction of these project components involves quite simple techniques of civil work, the invasive nature of excavation and the LIN sites in built-up areas of Araihazar Pourashava where there are a variety of human activities, will result to temporary impacts to the environment and sensitive receptors such as residents, businesses and the community in general. These anticipated

impacts are short-term, site specific and within a relatively small area. There are no impacts that are significant or complex in nature, or that need an in-depth study to assess the impact.

(xxviii) Pre-construction and Construction Phase

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
Demolition of existing infrastructure: - Dust from demolition - Noise from demolition - Waste from demolition -Un-hygiene of demolition	(-)	-Different activities regarding the demolishing the existing structure (part) and broken footpath generate dust which impair the air quality -Unhygienic/unsanitary environment due to demolition of old/poor infrastructure and construction of camps in the development site -Creation of noise from demolition is negligible	-Water will be sprayed to control the dust, which is the main way to suppress dust in the working site as per necessary Appendix-2 EMP cost. -Apply water to disturbed soils after demolition is completed or at the end of each day of cleanup. - Transport/handle debris from demolished infrastructures in a hygienic manner. -Tree plantation at the LIN boundary/open space/slope on the basis of space availability -Collection of construction debris and dispose in a hygienic way by LINIC and it is included in engineering estimate item (LGED rate schedule) -PIU/LINIC will strongly monitoring the construction activity and instant action will take.	PIU, LINIC
Dust Management	(-)	-Moving debris/sediments may create dusts during dry season. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures	- Use tarpaulins to cover soils, sand and other loose material. - Water will be sprayed to control the dust when necessary	PIU, LINIC
Community facilities and services - Blockage to access roads - Fire & Safety	(-)	- Construction works will impede the access of residents and businesses in limited cases. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures. Poor safety signage and lack of barriers at work site and trenches will create hazard to pedestrians and children. - Chances of fire only from open cooking in the area which may create major loss of property to the residence in the LIN.	-Provide safety signage at all sites visible to public that is monitored by PIU/LINIC and it will be confirmed in semi-annual monitoring report -Provide safety barriers near any trenches, and cover trenches with planks during non-work hours. -LINIC's activities and movement of staff will be restricted to designated construction areas. -Consult with Pourashava local authority on the designated areas for stockpiling of, soils, gravel, and other construction materials. -If the LINIC chooses to locate the work camp/storage area on private land, he must get prior permission from the environment management specialist and landowner. -Recycling and the provision of separate waste receptacles for different types of waste shall be encouraged. -Workers need to be made aware of the following general rules: (i) no alcohol/drugs on site; (ii) prevent excessive noise; (iii) construction workers are to make use of the facilities provided for them; (iv) no fires permitted on site except if needed for the construction works; and (v) no worker may be forced to do work that is potentially dangerous or that he/she is not trained to do. - Bucket filled with sand will be kept at the construction zone.	PIU, LINIC
Air/water/noise quality monitoring	(-)	- Component of works are scattered in the LIN area, which are not located near-by any water stream/canal. There stands little probability of surface and ground water pollution, as nothing like gasoline,	- No need for Air/water/noise quality monitoring in construction area by test due to short-term effect. - Water will be sprayed to control the dust, when necessary, it will be visually observed	Not required

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
		oil, road salts and chemicals are dumped on the adjoining ground. - Construction work yards are located in small areas and its activities are also minimum. Here the intensity of pollution from air/dust/ noise is also very low and short-term. As such little monitoring of water/air/noise pollution parameters is needed at the surroundings work place.		
Drainage congestion/water logging	(-)	- Clogging/stagnation of flow in the storm drain, source of waste water is LIN dweller used water (bathing and washing) - Backflow of water through drain (e.g., due to high water level at downstream discharge point, such as khal/ river) - Drainage congestion/water logging due to cross road/construction activity	-Designing drain considering the downstream discharge point; adequate slope and x-section; RCC cover for drain, where appropriate - Not allowing direct connection to drain from toilet -The out fall of proposed drain is primary to secondary drain and water quality will be monitoring as per necessary (in Appendix-2 EMP cost)	PIU, LINIC
Waste Management	(-)	- Uncollected wastes blocked the drainage and sewage system. - Air, water and soil pollution during the waste collection - Smoke from the open burning of uncollected waste. - The loading and unloading of waste at transfer station pollutes the air and soil. - Odor from waste disposal site and composting system. - Contamination of ground water by leachate.	- Follow the waste management plan given in Appendix 4 during construction period. - Encourage 3R (reduce, reuse, and recycle) - Encourage composting of kitchen waste on the basis of land availability otherwise transfer waste by hand trolley/van that is available in Pourashava and it is inspired by EMP implementation training - Adequate distance between waste bin and water body. - Adequate distance should be maintained between the waste collection point and house - Coordinate with the municipality for collection of domestic waste and disposal at the designated site	PIU/LINIC
Workers H & S	(-)	-There is invariably a safety risk when construction works such as excavation and earthmoving are conducted in urban areas. Workers need to be mindful of the occupational hazards which can arise from working in height and excavation works. Potential impacts are negative and long-term but reversible by mitigation measures.	- Comply with requirements of GoB Labor Law of 2006, Labor law and services rules 2015 and all applicable laws and standards on workers H & S. - Ensure adequate safety and provisions as per the Appendix 5 in relation to the COVID-19. - Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use PPE at all times; (iii) providing (H&S) training for all site personnel; (iv) Providing fire extinguisher at construction site (v) documenting procedures to be followed for all site activities; and (vi) maintaining accident reports and records. - Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances.	PIU, LINIC

Environmental issues/ concerns/components/ parameters/value	Potential impacts (+/-)	Description of impacts/ problems	Environmental mitigation/ enhancement measures	Responsibility
			-Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; and (iii) sanitation facilities are available at all times. - Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers;	
Sanitation/excreta management	(-)	-Noise and soil pollution during the construction but short- term -Microbial contamination to the ground water from the pit latrine. -Waste during loading of sewage from the sanitary communal containers. -Odor	-Design and installation of sanitary toilet to stop the microbial contamination to the ground water. -Adequate height with proper ventilation. -Water supply and hand wash facility -Regular cleaning and monitoring -5-10m distance should be maintained between toilet and tube-well	PIU, LINIC
Water supply (Tube well)	(-)	-Noise, dust and soil pollution during the construction but short- term	-The digging of soil should follow the proper design to avoid the pollution and water logging -The outlet of tube well should be connected with soak pit to existing drain. -A person has been engaged for cleaning and maintenance of Tube well. -One set of maintenance equipment of Tube well is kept with LINIC selected person.	PIU, LINIC
Footpath/connecting Road	(-)	-Dust and noise pollution from construction work	-Watering to reduce dust -Tree plantation on the footpath/road slope	PIU, LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the construction workers	-LINIC and all workers will be required to undergo EMP implementation including waste management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labor laws, applicable environmental laws, etc. - Provided training on use of TW, toilet, solar panel and tree plantation etc. during preparation of Community Action Plan (CAP) -Training is a continuous process by Capacity Development Fund of Pourashava. It is financed by UGIIP-III-AF.	Pourashava PRAP budget

- (Construction Phase (For any "negative" impacts "Environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

(xxix) Operation Phase/Post-Construction

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
Water logging in drains and footpaths	(-)	Run-off from debris/ sediments from repair and maintenance of Footpath and drain which may cause siltation and reduction in the quality of adjacent bodies of	-Take all precautions to prevent run-off into streams, water courses, or irrigation system. Install temporary silt traps or sedimentation basins along drainage leading to the water bodies.	PIU, LINIC

Environmental issues/concerns/ components/ parameters/value	Potential impacts (+/-)	Description of impacts/problems	Environmental mitigation/enhancement measures	Responsibility
		water. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	- Remove all debris/sediments immediately. - Dispose debris/sediments at a designated site such as landfill.	
Water quality monitoring (Arsenic, Iron, Chloride, Manganese etc.) (twice a year)	(-)	Due to polluted water, people may suffer from dangerous diseases like cholera, dysentery, diarrhea, Gastrointestinal disease and jaundice etc.	Necessary test will be performed occasionally by testing water sample from the tube wells (Pourashava PRAP budget)	PIU, LINIC
Solid Waste management	(-)	-Due to open dumping ambient environment will be polluted and will be breeding place of flies -Threat to human health and/or the environment -Due to bad odor, nuisance to sensitive receptors	- There is an existing sanitary landfill (SLF) of the Pourashava under UGIIP-III/AF and the waste management system will be connected with this system obviously. - The waste will soon be carried to the proposed SLF by Pourashava SWM system - Develop rodent and fly control plan - Ensure residual waste is not left in bins and allowed to decompose for a long time	PIU/LINIC
Community H & S - Walkway/drain - Toilet conditions - Drinking water quality (Tube well)	(-)	- The inhabitants may dump waste on the walkway - Bricks used in BFS, may be stolen when CC will wear out with the passage of time - Inadequate supply of water to toilet may spread bad odor - Improper use may spread germ - Irregular cleaning may create unhygienic condition - Epidemic may spread due to deteriorated quality of water	- Awareness to the inhabitants to discourage dumping of waste on the walkway - Ensure routine maintenance by the LINIC - Continuous supply of water will be provided - Awareness to user for proper use of latrine - LINIC will engage a person to clean and maintenance of Toilet and tube well regularly - Periodic maintenance of Tube well and Toilet will be done by Pourashava PRAP budget	PIU/LINIC
Dustbin	(-)	- Improper use of dustbins - Irregular cleaning of dustbin may create bad odor and birth place of flies	- Awareness to the LIN dwellers for proper use of dustbins - LINIC will engage a person who will monitor the cleaning the dustbin regularly	PIU/LINIC
Environmental awareness Training/workshop/meeting for the community (Maintenance of Tube well, Toilet, Planted Tree, Solar Panel)	(+)	-Increase environmental awareness among the community	-Twice a year Training/workshop/ meeting for maintenance of TW, Toilet, Planted Tree and Solar panel will be organized by LINIC/PIU and financed by Pourashava PRAP fund. -Provided training on maintenance of TW, toilet and Planted Tree, solar panel during preparation of Community Action Plan (CAP) -Regular maintenance of planted tree by LIN dwellers	Pourashava PRAP budget

- (Operation Phase (For any "negative" impacts "environmental mitigation measure" may be suggested. For any positive impacts environmental enhancement program may be carried out)

g. Environmental Management Plan (EMP)

(xxx) Monitoring Plan (Construction and Operation Period)

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
Water quality	-Contamination (Arsenic, Iron, Chloride, Manganese etc.) or degrading of water quality of drinking water well -Contamination (DO, BOD, COD, TDS, TSS, Turbidity etc.) or degrading of water quality of surface water	-Water quality of tube well will be tested after installation/construction by LINIC and it is included in engineering estimate (Item LGED rate schedule) -Water quality of Tube well will be monitored periodically and DoE standard will be maintained properly. -The outlet of household waste water would be connected with Pourashava existing drain -PIU/LINIC will strongly monitoring the performance of the interventions	Twice a year/Yearly Operation /completion work	Pourashava
Dust from drains, footpaths, toilets, street light, dustbins and tube well	-Air and noise pollution may occur due to construction/operation -Irregular cleaning may damage the interventions	-Use tarpaulins to cover soils, sand and other loose material. -Water will be sprayed to control the dust when necessary -Regular maintenance/cleaning -PIU/LINIC will strongly monitoring the performance of the interventions	As per necessary	PIU/LINIC
Acoustic environment	Temporary increase in noise level and vibrations. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	Plan activities in consultation with Pourashava local authority so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance.	No need for noise quality monitoring due to short-term project	Pourashava
Biodiversity	Activities in the built-up area of Pourashava. There are no protected areas in or around Sub-project sites, and no known areas of ecological interest.	• No trees, shrubs, or groundcover may be removed or vegetation stripped without the prior permission. • Prevent workers or any other person from removing and damaging any flora (plant/vegetation) and fauna (animal).	No need for monitoring due to short-term project	Pourashava
Existing provisions for pedestrians and other forms of transport	Footpath closure is not anticipated. The impacts are negative but short-term, site-specific within a relatively small area and reversible by mitigation measures.	• Maintain safe passage for pedestrians during maintenance activities. • Notify affected sensitive receptors by providing sign boards informing nature and duration of maintenance activities and contact numbers for concerns/complaints. • Leave spaces for access between mounds of soil. • Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions.	Duration of construction works	Pourashava
Worker's health and safety	Workers need to be mindful of the occupational hazards working in confined spaces such as closed drains. Potential impacts are negative and long-term but reversible by mitigation measures.	• Comply with requirements of Government of Bangladesh Labor Law of 2006, Labor Law services rule 2015 and all applicable laws and standards on workers H&S. • Ensure adequate safety and provisions as per the Annex 8 in relation to the COVID-19. • Ensure that all site personnel have a basic level of H&S training. • Produce and implement a O&M and H&S plan which include measures as: (i)	Duration of construction works	Pourashava/LINIC

Parameters/issues/criteria to be monitored	Problems	Mitigation Measures	Monitoring Frequency	Budget
		excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing H&S training for all site personnel; (iv) providing fire extinguisher at construction site • Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances • Disallow worker exposure to noise level greater than 85 dBA for duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively.		

h. Public Consultations

Public consultation meetings were held at Araihazar Pourashava Councilor room of Araihazar Pourashava on October 24, 2023. A total 30 participants attended in the meetings where 24 were female and remaining are male (6 persons). LINIC members, teachers, counselors, farmers, female workers, housewife, small business holder were present in the meetings. The safeguard team of MDSC, IUGIP visited all the one (1) LINs under the respective Pourashava. Consultants described environmental and social issues in the context of development aspects and potential impacts of the infrastructure development work of the LINs. The meetings were held through presided over LIN Development Officer of Araihazar Pourashava.

Minutes of Public Consultation

Site : Pourashava Councilor room, Araihazar Pourashava

Date : 24-10-2023

Time : 10:30 AM

Participants of the meeting exchanged views with the safeguard team about their sufferings and the remedial measures to be taken to overcome it. At present the LIN dwellers use hanging and pit latrine, which is a threat to public health and un-hygienic as well. They insisted for a community latrine to overcome it. The drinking water was the burning issue. The water available at the LIN was inadequate and non-potable due to impurities (e.g., excessive iron). They urged for sufficient potable water at their door step. Water logging was an additional problem of the LINs. Their yard inundates during rainy season. It creates an un-hygienic condition of living. They wanted immediate relief from it, through an installation of proper drainage system. Inadequate internal road communication made their livelihood slower. A proper footpath would ease their safe movement. They asked for a proper footpath system in their LIN. There is inadequate dustbin in or around the LINs. As such they cannot dump the waste specially the kitchen waste properly. It creates bad odor and un-hygienic condition in and around the LIN. They wanted installation of dustbins. Inadequate light during night time is an additional problem. Social nuisance creates at it. Pilferage and unsocial activities promote in the dark. The LIN dwellers urged for street lighting system in and around the LINs.

Experts discussed regarding safeguard issues; focusing the sub-project components with its importance including socio economic and health hazard. Also discussed, environmental and social impacts and mitigation measures about air, dust, water pollution and waste management.

As per discussion and feedback from the SDO and all LINIC members, the LINs were selected through consultation with the local leader/councilors living in the Pourashava area. According to the discussion, the participants appreciated the proposed LIN improvement components, as it will improve the health and sanitation conditions of the LIN which will provide positive socio-economic impact.

The LIN dwellers demanded for more latrines and tube wells and also demanded separate latrines for women. The chairman of the meeting in his concluding speech mentioned that as per allocation of fund, elements of the proposed sub-project have been selected by the LIN dwellers. The sites have been selected based on the available space spreading all over the LIN. However, maximum old sites will be used and nobody will be affected. The toilet designs have considered separate unit for the women and it would not be possible to provide individual tube wells and individual toilets. He requested co-operation from the LIN dwellers during construction activities. The meeting was concluded with thanks from the chair to the participants. (Appendix 3).

i. Grievance Redress Mechanism

Grievance redress mechanism (GRM) has been established in the Pourashava to redress quickly social, environmental and any other project related grievances from the affected or any aggrieved person/ party with the creation of grievance redress cell (GRC) comprising of:

গ্রীভেন্স রিড্রেস সেল (GRC)

No.sl	Name & Designation	Designation in committee
1	Jonab Hatem Ali, Panel mayor-1,councilor-7 no ward,Araihazar paurashava.	President
2	Jonab md. Bashir ullah,councilor-6 no ward. Araihazar paurashava.	Member
3	Mst.rina begum,councilor-4,5,6 no reserve ward. Araihazar paurashava.	Member
4	md.mozahidul islam ,SAE,Araihazar Paurashava.	Member
5	Jonab mohammad ullah,head assistant,Araihazar paurashava	Member-Secretary

97. Affected or aggrieved persons will have the flexibility of conveying grievances/ suggestions in writing and dropping them in complaints/suggestion boxes that have already been installed in the Pourashava or through telephones, e-mails, by post or by writing in the complaint register in the Pourashava office. The cost related to environmental grievance redress are included in social and resettlement cost estimates.

(xxxi) Grievance Redresses Process

1st Level Grievance: Names and contact phone numbers of the PIU safeguard focal person will be posted on the construction site at visible location (construction site signboard) to provide first level of contact for quick resolution of the grievances. The LINIC and the PIU safeguard focal person can immediately resolve on-site the grievances in consultation with each other within 7 days of receipt of a complaint/ grievance.

2nd Level Grievance: The grievances that cannot be redressed within 7 days at field/ ward level will be reviewed by the grievance redress cell (GRC) with support from PIU designated safeguard focal person and MDSC regional environment and resettlement specialists. The GRC will attempt to resolve the complaints/ grievances within 15 days.

3rd Level Grievance: The PIU designated safeguard focal person will refer the unresolved or, the major issues to the PMU safeguard officer and MDSC safeguard specialists. The PMU, in consultation with the above-mentioned officer/ specialists, will resolve the issues within 30 days. Despite project GRM, an aggrieved person shall have access to the country's legal system at any stage, and assessing can go parallel.

If the GRM cannot resolve the issues, the affected person also can use the ADB Accountability Mechanism (AM) through directly contacting (in writing) the Complaint Receiving Officer (CRO) at ADB headquarters or the ADB Bangladesh Resident Mission (BRM) in any of the official languages of ADB.

Recordkeeping: Records all grievances including date of receive and detailed contract address of complainant, nature of grievance, agreed corrective actions, and the dates these were affected and final outcomes will be kept by PIU. The grievances recorded and resolved and the outcomes will be displayed/ disclosed in the PMU office, Pourashava office, on the web and reported in the semi-annual monitoring reports.

Periodic review and documentation of lessons learnt: The PMU safeguard officer will periodically review the functioning of the GRM in each Pourashava and record information on the effectiveness of the mechanism.

j. Conclusion

So, there will be no negative impact for the implementation of the sub-project and if there is any that would be very minimum most of which are construction related, localized and for short-term. Moreover, there will be a lot of positive impacts such as: Moreover, there will be a lot of positive impacts such as:

- Environmental & sanitation conditions will be improved.

- LIN dwellers will have comfortable walkway and improved drainage.
- Water-logging will be removed which will eliminate the mosquito breeding resulting the reduction of many diseases including waterborne diseases.
- LIN dwellers will have facilities for pure drinking water and facilities for solid waste disposal.
- There will be savings in the medical treatment cost. Thus, health conditions will be improved etc.

Appendix 1: Environmental screening and categorization Form

Country/ Project No./ Project Title		Improving Urban Governance and Infrastructure Program (IUGIP)
Subproject title		Low Income Neighborhood Improvement Community upgradation RBL sub-project
Project Executing Agency		LGED, Dhaka
Project Implementing Agency		Araihazar Pourashava
Modality		RBL progress
Is Project eligible for funding under the RBL Program? [√] Yes [ ] No *(Ref DOE of ECR 2023)*		
Environment Impact categorization [√] New [ ] Re categorization – Previous Category [ ]		
[ ] **Category A** (Cat A - Not eligible for funding under the RBL)		
[√] **Category B** [ ] **Category C**		
(Ref Checklist- Rapid Environmental Assessment (REA) checklists)		
Prepared by:Rufaka Tabasum Jr. Environmental Specialist		
Environmental Specialist (Name, title, signature): Date;		
For Project Executing Agency / PMU (Name, title, signature):		

Checklist 1 - Project Exclusion Screening Checklist for Environmental Safeguards

The following checklist shall be completed before inclusion of any activity/subproject in the RBL program. If Answer to any of the mentioned criteria is 'Yes' then such activity/subproject will not be eligible and shall be excluded from the RBL program.

	Questions	Response		Remarks /Clarifications
		Yes	No	
1.	**Type and Nature of Subproject**			
1.1	Proposed activity / subproject classified under the Red Category per ECR 2023?		√	Complied the ECR 2023 for classification
1.2	Proposed activity / subproject includes components involving prohibited investment activities per ADB SPS?		√	Complied REA for prohibited list
2.	**Location of Proposed Subproject**		√	
2.1	Proposed activity/subproject located in ecologically sensitive areas such as protected areas (national parks, wildlife sanctuaries), notified wetlands or wetlands of significant value, critical habitats?		√	
2.2	Proposed activity/subproject located in world heritage sites, and/or within 250 m from the core zone of outer boundary of the world heritage area		√	
2.3	Proposed activity located within monuments/sites protected by Department of Archeology, Government of Bangladesh?		√	
3.	**Potential impacts**			

3.1	Proposed activity/subproject may significantly impact mangroves, wetlands, estuaries, buffer zones of protected Areas etc.?		√	
3.2	Proposed activity/subproject may potentially lead to encroachment/damage of physical cultural resources with significant value and/or places recognized by government agencies (e.g., Department of Archeology), which may include places of worship, cultural heritage sites, graves/cemeteries, historical monuments, etc.		√	
3.3	Proposed activity/subproject likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and may affect an area larger than the sites or facilities subject to physical works (i.e., category A projects as per ADB SPS 2009)		√	

REA check list

Instructions:

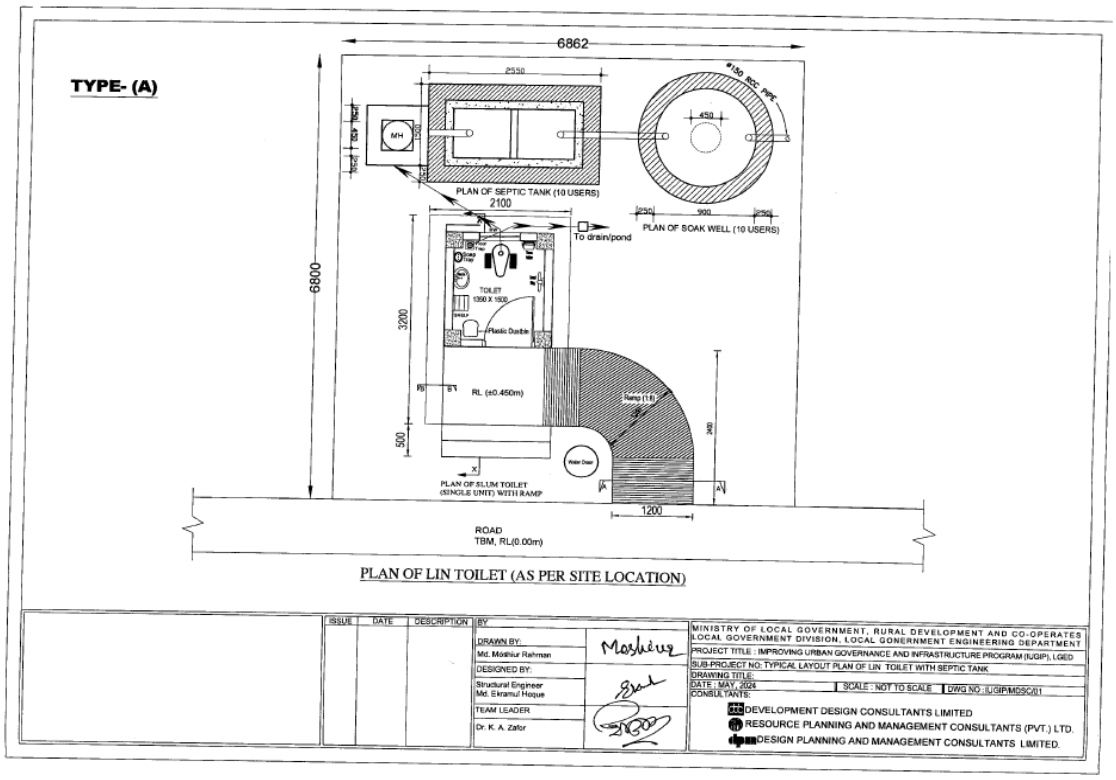
i. The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Project Management Unit, for endorsement by the Environmental Officer of PMU and for approval by the Project Director
ii. This checklist focuses on environmental issues and concerns
iii. Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks"
section to discuss any anticipated mitigation measures

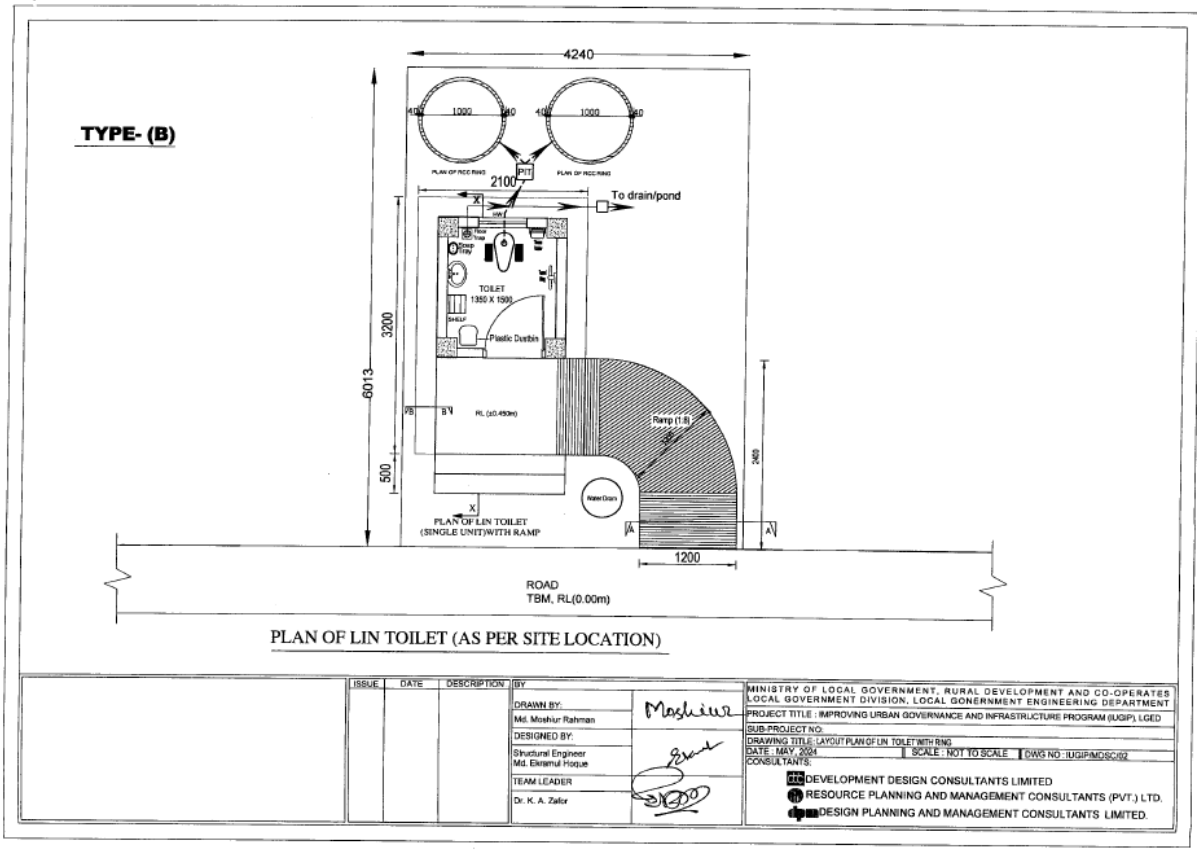
Sl no	Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following environmentally sensitive areas?				
1	Cultural heritage site		√	There is no protected area at the proposed site
2	Protected Area		√	There is no wetland area at the proposed site
3	Wetland		√	Not Applicable
4	Mangrove		√	Not Applicable
5	Estuarine		√	Not Applicable
6	Buffer zone of protected area		√	There is no special protected area for biodiversity within 5km aerial distance from the proposed site
7	Special area for protecting biodiversity		√	There are no buildings of archaeological and cultural heritage importance close to the sub-project.
8	100m distance from flowing water way?		√	
9	20m distance from static water supply?		√	
10	Training on before construction/ SOP and PPE, health and	√		
11	Proper way of fecal dumping generated wastes?	√		
12	Separate toilet for male and female?	√		
13	Toilet has good access for community people?	√		
14	Community toilets ram and hand railing facility for disabled and old aged person?	√		
15	Any Biogas Generation Plan nearby?		√	

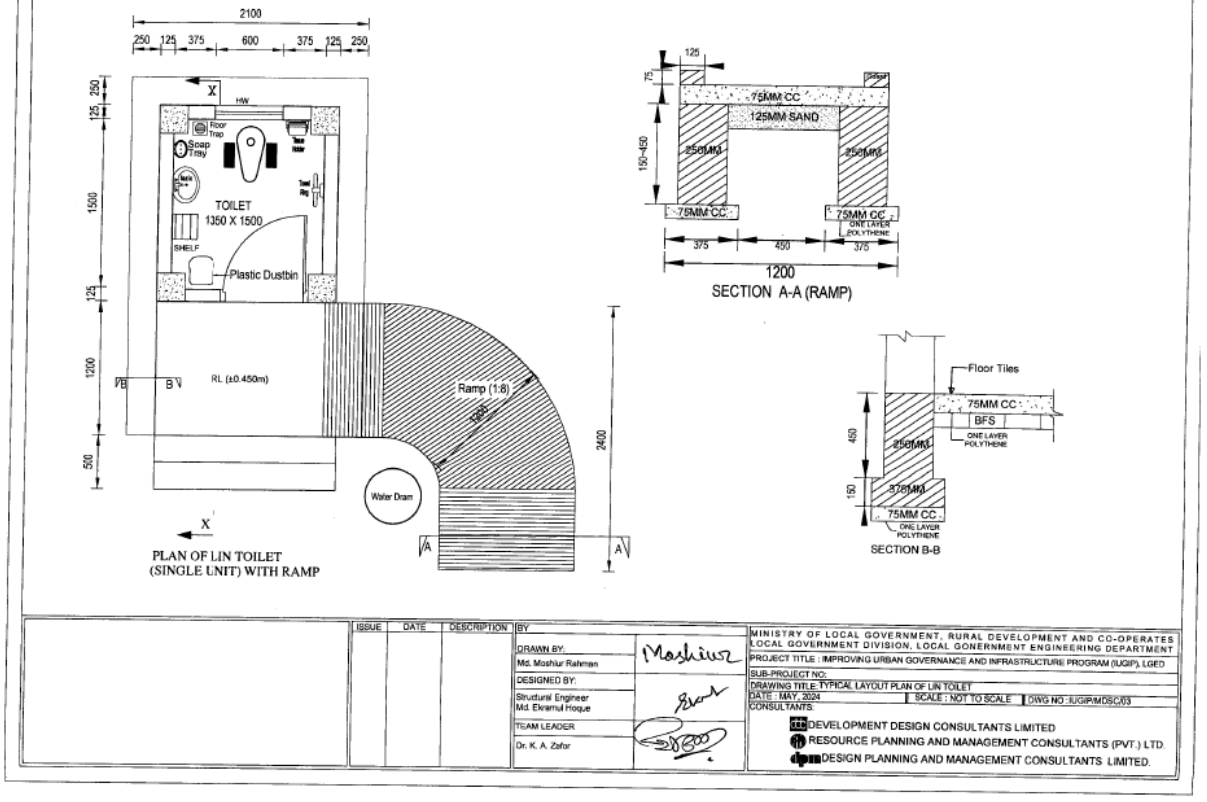
16	H & S measures maintained by workers during construction /management of disinfection?	√		
17	Proper water supply & electricity availability camp site Ensured?	√		
18	Toilet swear outlet connected to a Pourashava sewerage?	√		
19	community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and		√	
20	Proper Ventilation access availability?	√		

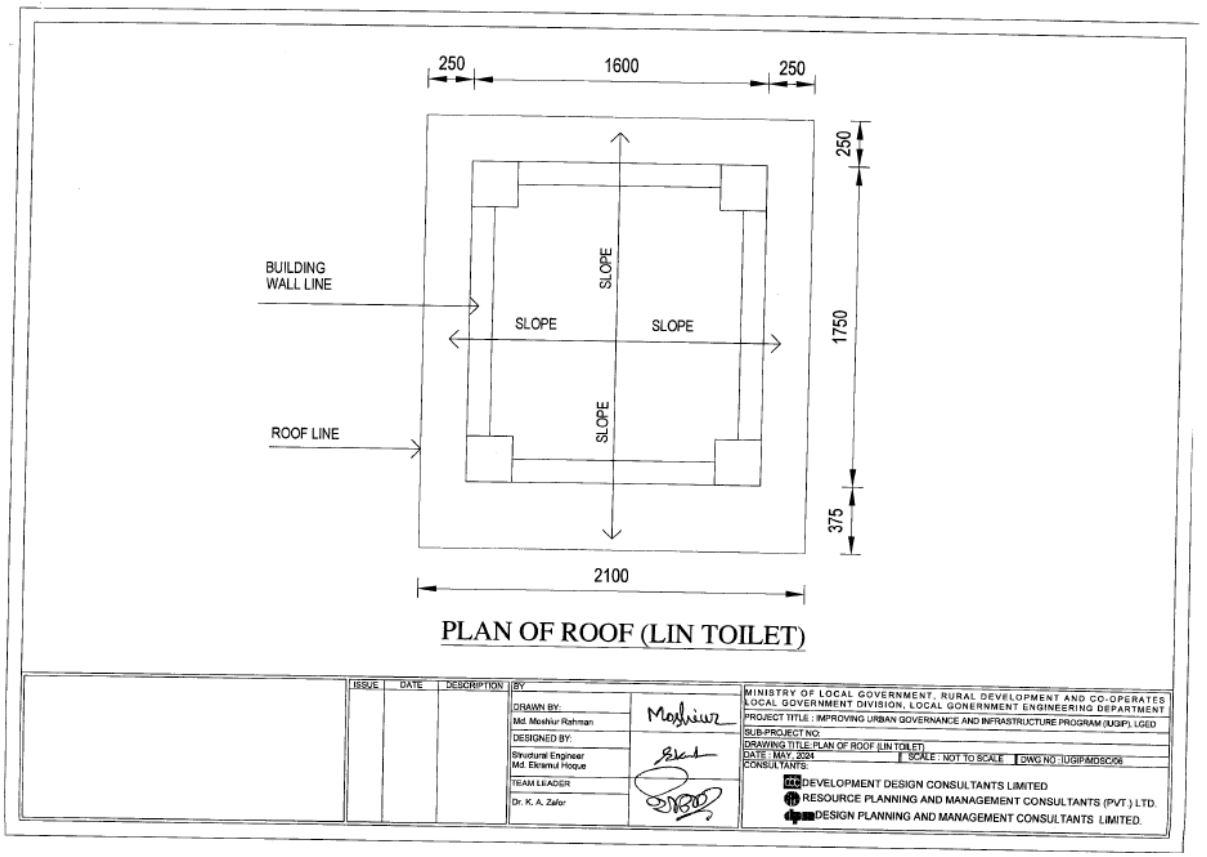
Appendix 2: Typical Detailed Design of Proposed LIN

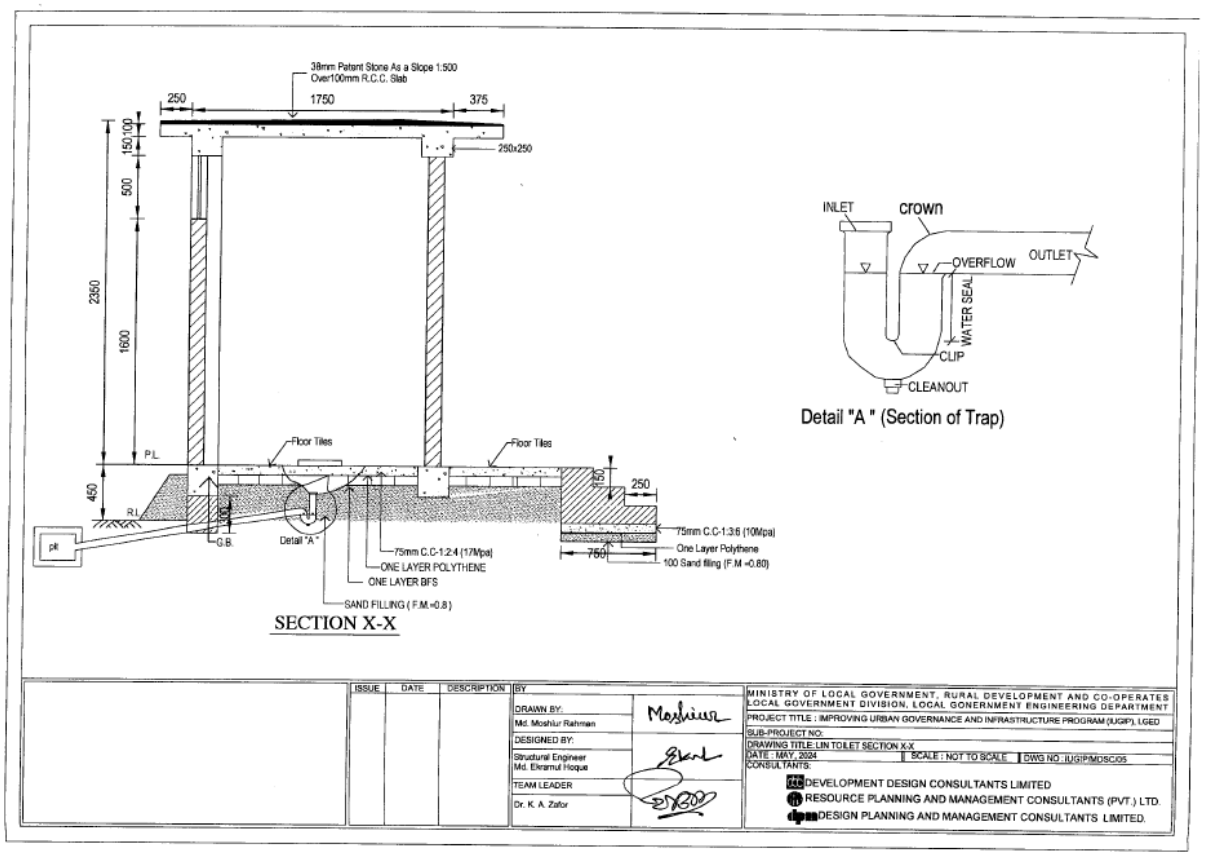
Typical Design of Toilet






2100
250 125 375 600 375 125 250
TOILET
1350 X 1500
SHELF
Plastic Dustbin
Soap Tray
Floor Trap
RL (±0.450m)
Ramp (1:8)
1200
2400
Water Dram
PLAN OF LIN TOILET
(SINGLE UNIT) WITH RAMP
75MM CC
125MM SAND
250MM
75MM CC
ONE LAYER POLYTHENE
1200
SECTION A-A (RAMP)
Floor Tiles
75MM CC
BFS
ONE LAYER POLYTHENE
250MM
75MM CC
SECTION B-B
ISSUE
DATE
DESCRIPTION
BY
DRAWN BY:
Md. Moshiur Rahman
DESIGNED BY:
Structural Engineer
Md. Ekramul Hoque
TEAM LEADER
Dr. K. A. Zafor
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND CO-OPERATES
LOCAL GOVERNMENT DIVISION, LOCAL GONERNMENT ENGINEERING DEPARTMENT
PROJECT TITLE : IMPROVING URBAN GOVERNANCE AND INFRASTRUCTURE PROGRAM (IUGIP), LGED
SUB-PROJECT NO:
DRAWING TITLE: TYPICAL LAYOUT PLAN OF LIN TOILET
DATE : MAY, 2024
SCALE : NOT TO SCALE
DWG NO : IUGIP/MDSC/03
CONSULTANTS:
DEVELOPMENT DESIGN CONSULTANTS LIMITED
RESOURCE PLANNING AND MANAGEMENT CONSULTANTS (PVT.) LTD.
DESIGN PLANNING AND MANAGEMENT CONSULTANTS LIMITED.

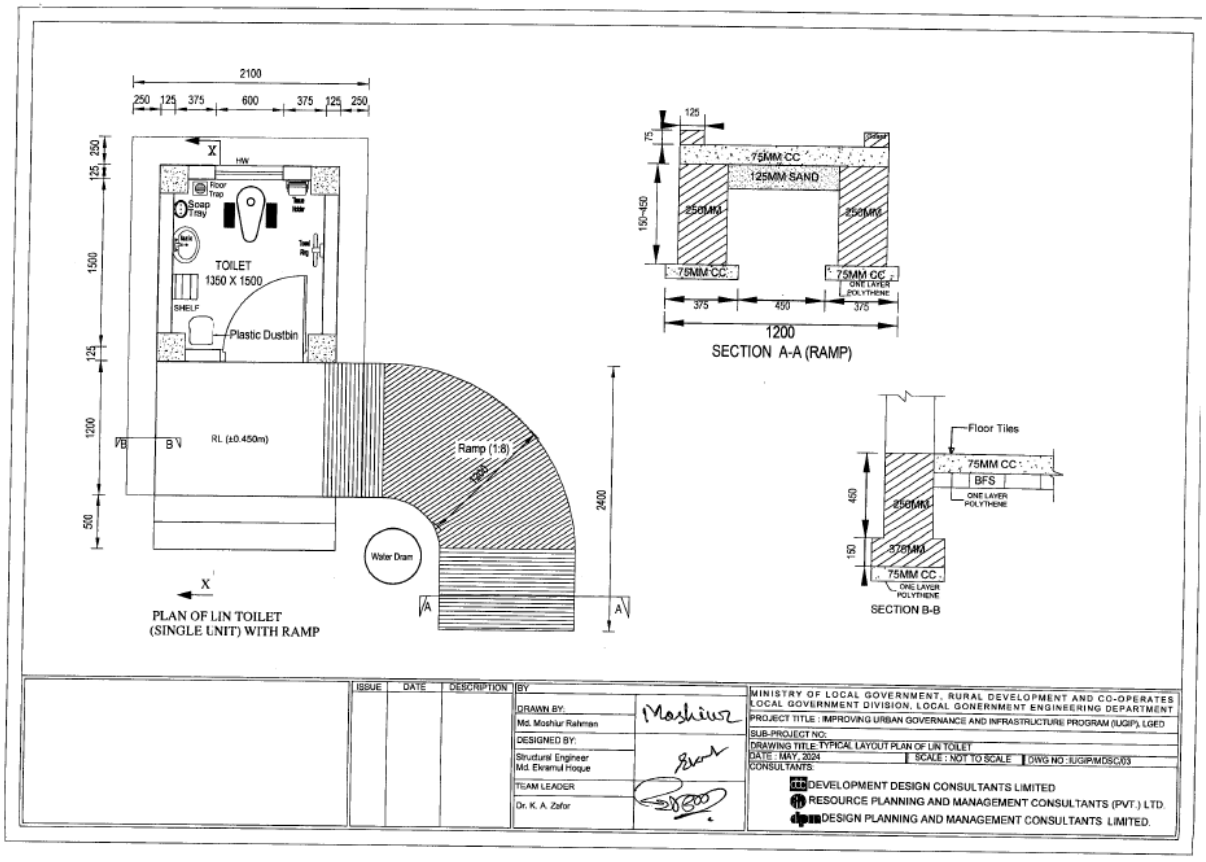

250
1600
250
250
1750
375
2100
BUILDING
WALL LINE
ROOF LINE
SLOPE
SLOPE
SLOPE
SLOPE
PLAN OF ROOF (LIN TOILET)
ISSUE
DATE
DESCRIPTION
BY
DRAWN BY:
Md. Moshiur Rahman
DESIGNED BY:
Structural Engineer
Md. Ekramul Hoque
TEAM LEADER
Dr. K. A. Zafor
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND CO-OPERATES
LOCAL GOVERNMENT DIVISION, LOCAL GONERNMENT ENGINEERING DEPARTMENT
PROJECT TITLE : IMPROVING URBAN GOVERNANCE AND INFRASTRUCTURE PROGRAM (IUGIP), LGED
SUB-PROJECT NO:
DRAWING TITLE: PLAN OF ROOF (LIN TOILET)
DATE : MAY, 2024
SCALE : NOT TO SCALE
DWG NO : IUGIP/MDSC/06
CONSULTANTS:
DEVELOPMENT DESIGN CONSULTANTS LIMITED
RESOURCE PLANNING AND MANAGEMENT CONSULTANTS (PVT.) LTD.
DESIGN PLANNING AND MANAGEMENT CONSULTANTS LIMITED.



ISSUE	DATE	DESCRIPTION	BY

DRAWN BY:	Md. Moshiur Rahman
DESIGNED BY:	Structural Engineer Md. Ekramul Hoque
TEAM LEADER	Dr. K. A. Zafor

MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND CO-OPERATES
LOCAL GOVERNMENT DIVISION, LOCAL GONERNMENT ENGINEERING DEPARTMENT
PROJECT TITLE : IMPROVING URBAN GOVERNANCE AND INFRASTRUCTURE PROGRAM (IUGIP), LGED
SUB-PROJECT NO:
DRAWING TITLE:LIN TOILET SECTION X-X
DATE : MAY, 2024 | SCALE : NOT TO SCALE | DWG NO : IUGIP/MDSC/05
CONSULTANTS:
DEVELOPMENT DESIGN CONSULTANTS LIMITED
RESOURCE PLANNING AND MANAGEMENT CONSULTANTS (PVT.) LTD.
DESIGN PLANNING AND MANAGEMENT CONSULTANTS LIMITED.

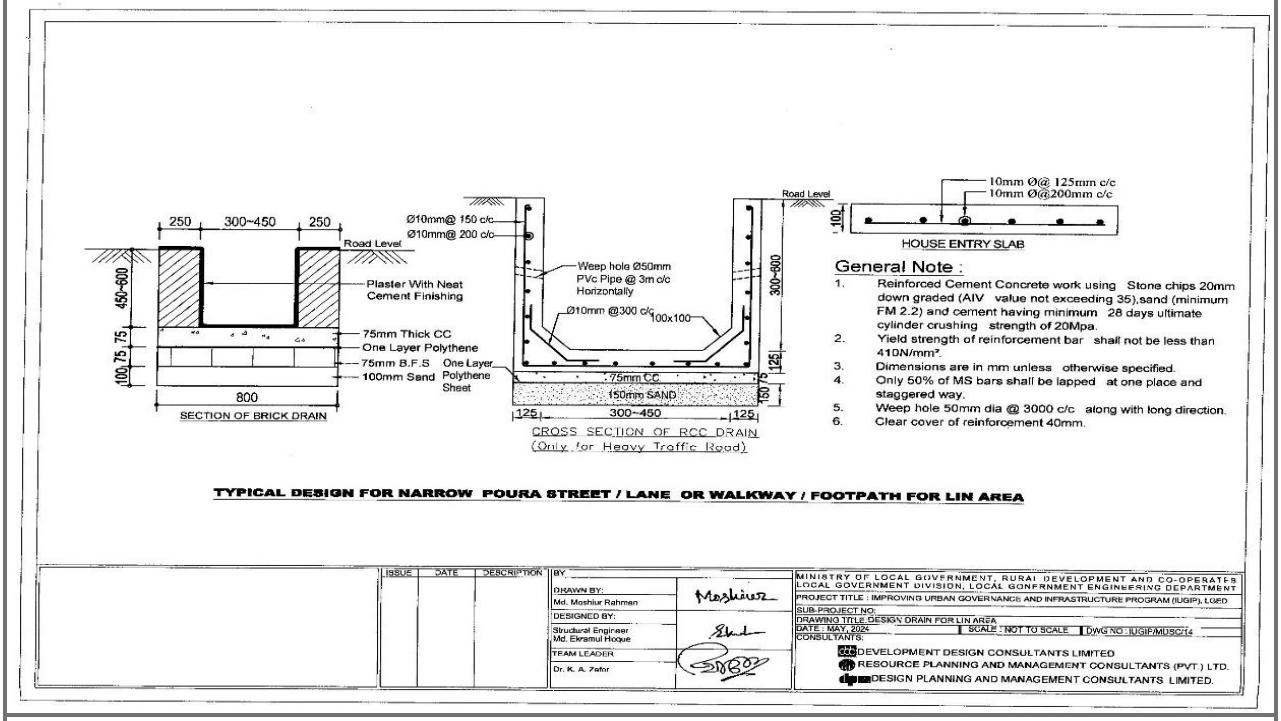


ISSUE	DATE	DESCRIPTION	BY

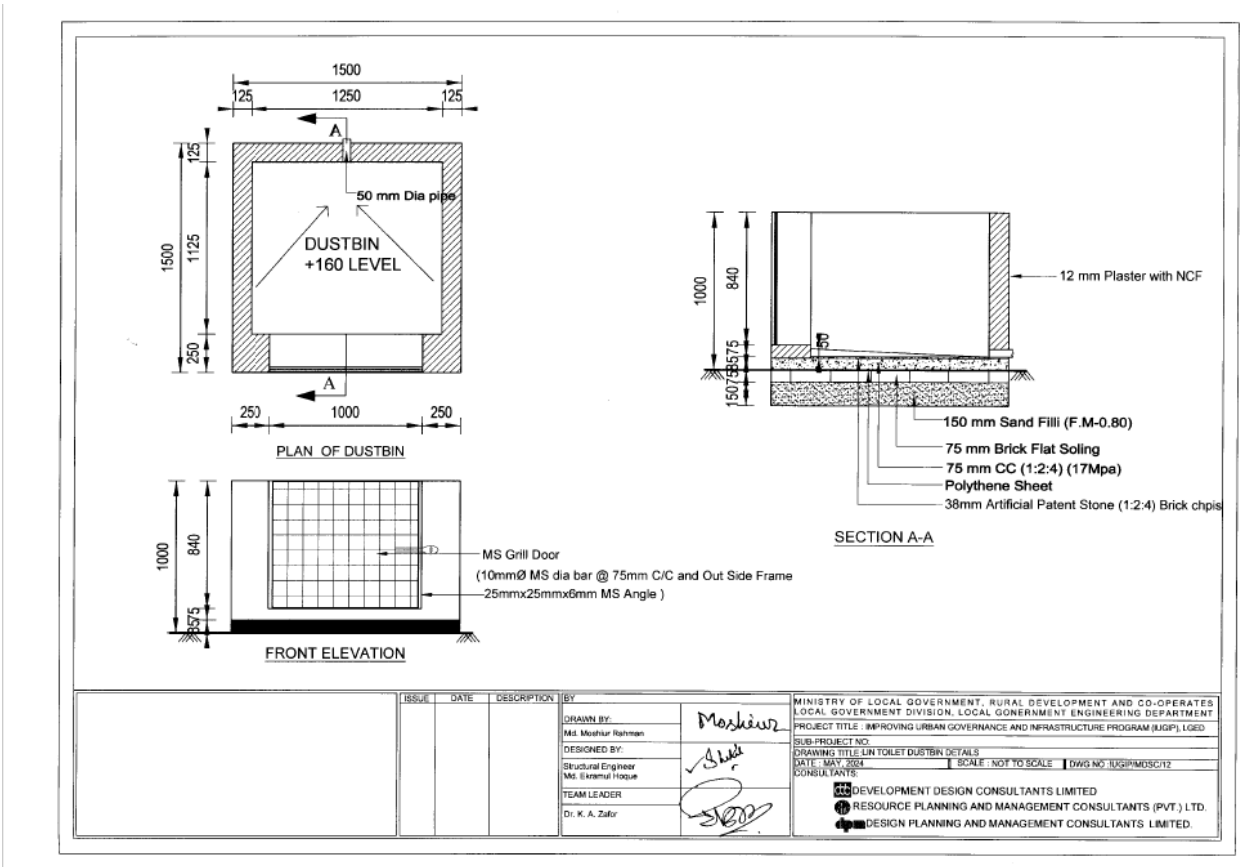
DRAWN BY:	Md. Moshiur Rahman
DESIGNED BY:	Structural Engineer Md. Ekramul Hoque
TEAM LEADER	Dr. K. A. Zafor

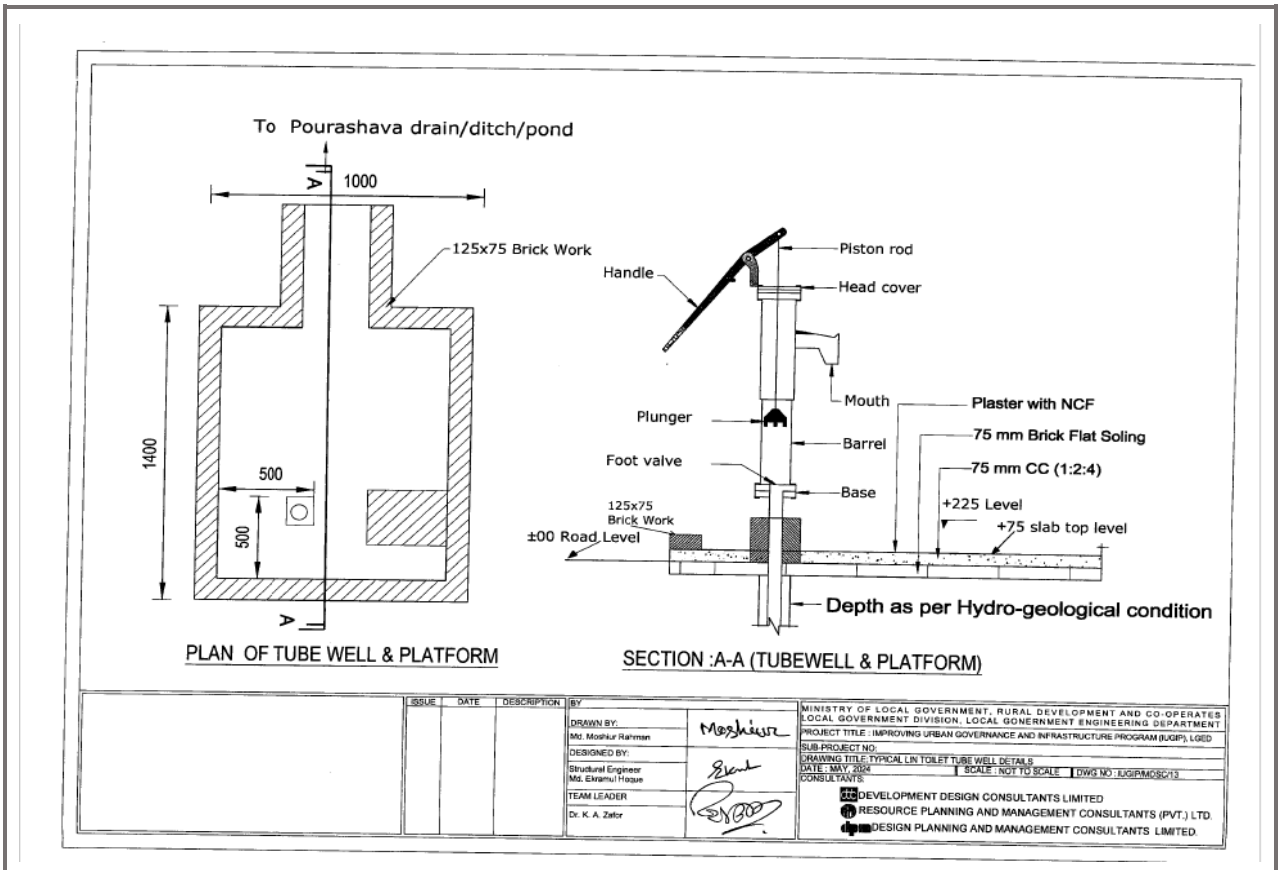
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT AND CO-OPERATES
LOCAL GOVERNMENT DIVISION, LOCAL GONERNMENT ENGINEERING DEPARTMENT
PROJECT TITLE : IMPROVING URBAN GOVERNANCE AND INFRASTRUCTURE PROGRAM (IUGIP), LGED
SUB-PROJECT NO:
DRAWING TITLE:TYPICAL LAYOUT PLAN OF LIN TOILET
DATE : MAY, 2024 | SCALE : NOT TO SCALE | DWG NO :IUGIP/MDSC/03
CONSULTANTS:
DEVELOPMENT DESIGN CONSULTANTS LIMITED
RESOURCE PLANNING AND MANAGEMENT CONSULTANTS (PVT.) LTD.
DESIGN PLANNING AND MANAGEMENT CONSULTANTS LIMITED.

Typical Design of Drain

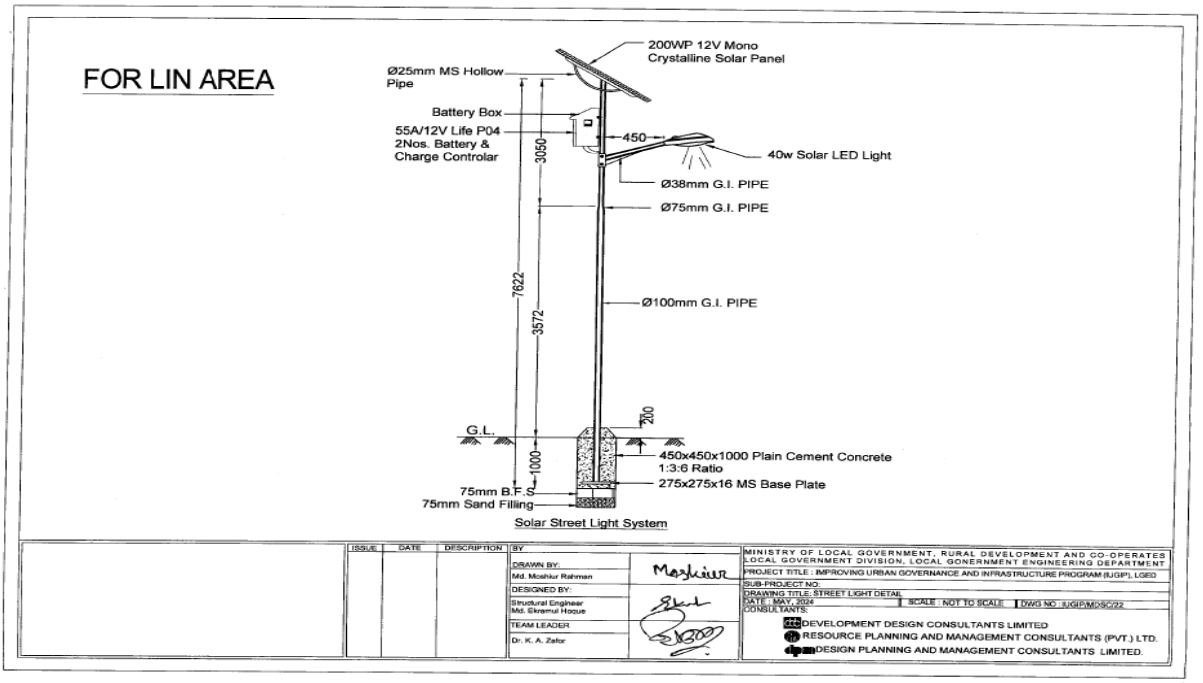


Typical Design of Dustbin





Typical Design of Tube Well & Typical Design of Street Light



Appendix 3: Budget for Implementation of EMP

The cost of mitigation measures and surveys during construction stage will be incorporated into the LINIC's costs. The surveys will be conducted by the LINICs.

The operation phase mitigation measures will be the responsibility of Pourashava/LINIC. All monitoring during the operation and maintenance phase will be conducted by Pourashava therefore, there are no additional costs. The indicative costs of EMP implementation during construction period are shown in Table 1.

Table1: EMP in CPP– LIN improvement sub-project (each LIN)

Item No.	Description of Item	Amount (Tk.)
Construction Period		
1	Providing and maintaining adequate potable water supply and sanitation facilities (Separate for Male and Female) at labor camp site including first aid box with necessary drugs to the entire satisfaction of E-in-C.	
	a) Sanitation: 2 nos. of temporary Toilet facility (1 no for male and 1 no for female) @ Tk. 10000.00	20,000.00
	b) Supply of potable water for drinking and household purposes for workers and staffs.	30,000.00
2	Water spraying for dust suppression	10,000.00
3	Supply of Personal Protection Equipment (PPE) helmet, gloves, safety shoes & glass, safety signs, first aid box with necessary drugs, Fire extinguisher and sand fill bucket etc. for workers.	35,000.00
4	EMP implementation training for workers/LINIC members, One set of maintenance equipment of Tube well	10,000.00
5	Tree Plantation on the slope of road/footpath, 100 nos. of trees @ 495 TK/per tree (except Sweeper LIN).	49,500.00
6	Proper storage of construction materials/equipment in a safe place and covering the sand with tarpaulins and fencing the site with barbed wire and cement should be stored on a dun age to avoid cake formation to the entire satisfaction of the E-in-C.	50,000.00
7	Proper maintenance of drainage system during construction period to drain out the surface water.	10,000.00
	Total	**2,14,500.00**
Note:		
-Water sample will be analyzed after installation of proposed Tube well by LINICS and it is included in engineering estimate/cost estimate. -Water sample will be analyzed during Operation period by Pourashava PRAP budget (Arsenic, Iron, Manganese and Chloride)		
During operation period- training for maintenance of Tube well, Toilet and Street light N.B. After plantation of trees and it is maintained by LIN dwellers		Pourashava PRAP budget

**** Cost of the EMP items should be as fixed budget**

Appendix 4: Photographs & Attendance List of Public Consultation

Shibpur LIN

কমিউনিটি ক্র্যাকশন প্লান (CAP) প্রনয়নে অংশগ্রহনকারীদের তালিকাঃ

ক্রমিক নং	নাম	পদবী	
১.	রুপা	সভাপতি	রুপা
২.	রাহিমা	সহ-সভাপতি	রাহিমা
৩.	আফিয়া	সদস্য	আফিয়া
৪.	জাহেদা	সদস্য	জাহিদা
৫.	নাজমা	সদস্য	নাজমা
৬.	রুবি	সদস্য	রুবি রুবী
৭.	রীনা	সদস্য	রীনা
৮.	কামাল	সদস্য	কামাল
৯.	মোঃ কাজেম	সদস্য	মোঃ কাজেম
১০.	তাহেরা	সদস্য	তাহেরা আলম
১১.			
১২.			
১৩.			
১৪.			

Mozzakanda LIN

কমিউনিটি অ্যাকশন প্লান (CAP) প্রনয়নে অংশগ্রহনকারীদের তালিকাঃ

ক্রমিক নং	নাম	পদবী	
১.	লিমা	সভাপতি	লিমা
২.	জরিনা	সহ-সভাপতি	[illegible]
৩.	আমেলা	সদস্য	[illegible]
৪.	[illegible]	সদস্য	[illegible]
৫.	শিরিনা	সদস্য	শিরিনা
৬.	নুরজাহান	সদস্য	নুরজাহান
৭.	হালিমা	সদস্য	হালিমা
৮.	পপি	সদস্য	পপি
৯.	দেলোয়ার	সদস্য	[illegible]
১০.	সাইদুল ইসলাম	সদস্য	SAIDUL.
১১.	লোকমান	সদস্য	[illegible]
১২.	আহম্মদ আলী	সদস্য	[illegible]
১৩.			
১৪.			

Krishnapura LIN

কমিউনিটি অ্যাকশন প্লান (CAP) প্রনয়নে অংশগ্রহনকারীদের তালিকাঃ

ক্রমিক নং	নাম	পদবী	
১.		সভাপতি	
২.		সহ-সভাপতি	
৩.	আফরিনা আক্তার	সদস্য	আফরিনা
৪.	রুমা আক্তার	সদস্য	রুমা
৫.	সিফাত জাহান	সদস্য	সিফাত জাহান
৬.	ফাতেমা বেগম	সদস্য	ফাতেমা
৭.	রেজিয়া বেগম	সদস্য	রেজিয়া
৮.	আমানি উল্লাহ	সদস্য	আমানউল্লা
৯.	হুমায়ন	সদস্য	হুমায়ন
১০.	রিনা আক্তার	সদস্য	রিনা
১১.	হেলাল	সদস্য	হেলাল
১২.	মাহবুব	সদস্য	মাহাবুব
১৩.			
১৪.			

Gazipura LIN

কমিউনিটি ত্র্যাকশন প্লান (CAP) প্রনয়নে অংশগ্রহনকারীদের তালিকাঃ

ক্রমিক নং	নাম	পদবী	
১.	আজহারুল	সভাপতি	মাসফিকা
২.	আকলিমা	সহ-সভাপতি	আকলিমা
৩.	আমেনা	সদস্য	আ মন
৪.	হামিদা	সদস্য	হামিদা
৫.	ফিরোজা	সদস্য	ফিরোজা
৬.	আবেদা	সদস্য	আবেদা
৭.	আমিনা	সদস্য	আমিনা
৮.	রহিতুন	সদস্য	রহিতুন
৯.	নুরুল হক	সদস্য	নুরুল হক
১০.	আব্দুল আজিজ	সদস্য	আব্দুল
১১.	আবু তালেব	সদস্য	আবু তালেব
১২.	ছেদ মিয়া	সদস্য	ছেদ মিয়া
১৩.			
১৪.			

Daspara LIN

কমিউনিটি অ্যাকশন প্লান (CAP) প্রনয়নে অংশগ্রহনকারীদের তালিকাঃ

ক্রমিক নং	নাম	পদবী	
১.	শারিফা বেগম	সভাপতি	শারিফা
২.	বিউটি	সহ-সভাপতি	[illegible]
৩.	শাহিদা বেগম	সদস্য	শাহিদা
৪.	নূরজাহান	সদস্য	[illegible]
৫.	রুমা	সদস্য	রুমা
৬.	আফিন আক্তার	সদস্য	আফরিন
৭.	হোসনে আরা	সদস্য	হোসনেআরা
৮.	হাসিম মিয়া	সদস্য	হাসিম
৯.	মোঃ মোতালিব মিয়া	সদস্য	মোতালিব
১০.	আরিফ	সদস্য	আরিফ
১১.	মোবারক	সদস্য	মোবারক
১২.	~~সোহেল~~ জহিরুল ইসলাম	সদস্য	জহিরুল ইসলাম
১৩.			
১৪.			

Summary of outcomes at public consultation meeting: As per discussion and feedback from the SDO, Pourashava officials and LINIC members, the LINs were selected through consultation with the local leader/councilors living in the Pourashava area. According to the discussion, the participants appreciated the proposed LINs improvement components, as it will improve the health and sanitation conditions of the LIN which will provide positive socio-economic impact.

The significant issues and suggestions that came out during the meeting which are given below:

- Construction wastes should be dumped properly in the dumping yard.
- During construction work adequate measures should be taken to minimize the probable impact arises.
- The people will accept the temporary disturbances which may arise during construction for their better future interest.
- In order to staging and stockpiling of construction equipment and materials there is sufficient space along the space of footpath, drains, tube-well platforms, latrines, dustbins, street light and so on.
- Besides, there is no possibility of affecting any structure needing relocation by the sub-project activities. Moreover, there is no possibility of loss of livelihood, neither permanent nor temporary due to construction work and proposed development due to very short-term project.
- Locations of all the proposed components of works are fixed with the opinion of all the residence in the LINs.
- Project will provide necessary safety measures and facilities to the workers during construction period.

Appendix 5: Waste Management Plan for LIN Development (for short-time period)

Aspect	Waste type	Classification	Proposed reuse/Recycling/Disposal	Responsible
Demolition/site clearing	Vegetation (logs, mulched timber, weeds)	General solid waste (organic)	- Recycling/Disposal whereas applicable	LINIC
	Concrete, asphalt and gravel	General solid waste (in-organic)	- Recycling/Disposal whereas applicable or where suitable and approved by PIU	LINIC
	Metal waste	General solid waste in-organic)	Recycling	LINIC
Earthworks	Excavated soil	General solid waste	- Beneficial reuse onsite. Balance cut and fill earthworks, where possible, to optimize reuse.	LINIC
Construction of -Footpath -Drain -Dustbin -Street light -Toilets and -Tube Wells	Steel Reinforcing	General solid waste (in-organic)	Recycling	LINIC
	Pipes/PVC pipes	General solid waste (in-organic)	Disposal/ Recycling	LINIC
	Concrete (solids and washouts) and asphalt	General solid waste (in-organic)	Disposal/Re-use	LINIC
	Timber/Steel formwork	General solid waste (in-organic)	Re-use	LINIC
	Packaging Materials,	General solid waste (in-organic/organic)	Disposal/ Re-use	LINIC
	Empty oil and other drums	General solid waste (in-organic)	Disposal/ Re-use	LINIC
	Metals and electrical cabling	General solid waste (in-organic)	Recycling	LINIC
Compounds /Construction camps	Waste generated by the maintenance of equipment, vehicles	General solid waste (in-organic)	Disposal/ Recycling/Disposal whereas applicable	LINIC
	Construction /labor camp waste generated by workers	General solid waste (organic)	Disposal	LINIC
Site Office Operation	Paper, cardboard and plastic	General solid waste (in-organic)	Recycling/ Disposal	LINIC
	Glass bottles and aluminum cans	General solid waste (in-organic)	Recycling	LINIC
	Ink Cartridges	General solid waste (in-organic)	Recycling/ Disposal	LINIC
	Food Waste	General solid waste (in-organic)	Disposal	LINIC

Appendix 6: Site and Design Conditions to Meet the ESMF Criteria

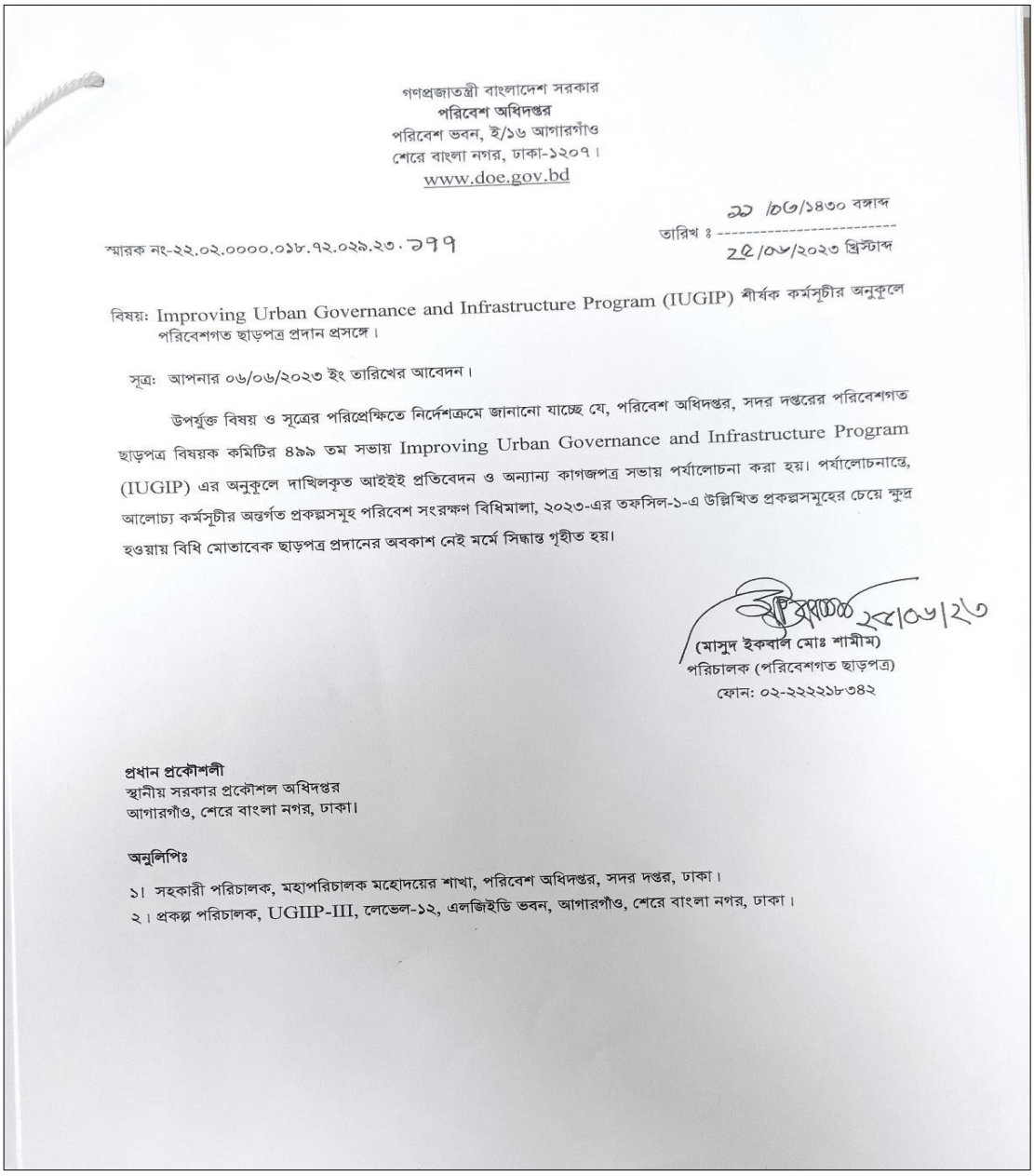
Environmental Guidelines for Subproject site selection, planning and design		Remarks
1. Overall selection guidelines - applicable to all subprojects		
i. Comply with all requirements of relevant national and local laws, rules, and guidelines, including obtaining environmental clearance certificate (ECC) from DOE for all subprojects classified as green/ yellow/orange/ red per Bangladesh Environmental Conservation rules 2023		-
ii. Comply with all requirements of ADB SPS 2009 and follow procedures set in this environmental assessment and review framework (ESMF)		-
iii. Ensure that subproject design should reflect inputs from public consultation		
iv. Avoid locations in forests, mangrove areas, estuaries, buffer zones of protected areas	i. Check and confirm the eligibility through exclusion criteria before proceeding further on such sensitive sites ii. if eligible, and unavoidable: - Approval from concerned authority -Alternative site analysis to justify site selection -confirm via detailed baseline and impact assessment that the project will not lead to significant impacts on respective areas -EMP to include measures to avoid, minimize, mitigate impacts, and monitoring actions to confirm mitigation	
v. Avoid locations within 100 m of protected monuments/sites protected by department of archeology, government of Bangladesh vi. Avoid locations within 1 km of UNESCO notified protected monuments / world heritage sites 10.	If unavoidable - conduct site screening by heritage expert, and conduct heritage assessment study if warranted; integrate recommendations into design, construction, and operation -ensure that no damage / disruption to such places/monuments -obtain necessary clearance and permissions -EMP to include measures to avoid destruction / disturbance of such places -Provide “chance find” procedures in the EMP that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.	
vii. Avoid tree-cutting where possible. Retain mature roadside trees which are important/valuable or historically significant. If any trees will have to be removed, plant two new trees for every one that is lost. viii. Preference shall be given to planting indigenous or local tree species.	For any tree to be cut, consider replacement of 2:1.	
ix. Ensure all planning and design interventions and decisions are made in consultation with local communities and include women. Reflect inputs from public consultation and disclosure for site selection.	All consultations should be documented, and concerns expressed by public addressed in IEEs.	
x. Synchronize all road improvement and pipe laying works (to extent possible) to minimize disturbance and optimize use of resources (e.g., water pipes laid prior to road improvements).	Coordinate planning of works with *Pourashavas*.	
xi. If subproject includes existing facilities to be rehabilitated or expanded and/or associated	For non-compliances, provide corrective action for each area of concern including cost and schedule to be included in the subproject EMP.	

xii. Locate all new facilities/buildings at sites where there is low risk of flooding or other hazards that might impair functioning of or present a risk of damage to water treatment plants, tanks/reservoirs, or their environs.	Flood statistics data of the project area needs to be reviewed. Location restriction may be reviewed depending on site availability, and flood or other hazards
2. Infrastructure in low-income neighborhoods	
Environmental Guidelines for Subproject site selection, planning and design	**Remarks**
i. Include measures to address additional sewage/domestic wastewater due to improved/new water supply system	
ii. Project design to address health and safety hazards to workers from handling and management of disinfection chemicals (such as chlorine), and other contaminants, and biological and physical hazards	
iii. Sanitation. Ensure toilets are a provided with water supply and power supply for hygienic, safe, and uninterrupted	
iv. Sanitation. Design toilet as leak proof, and connect outlet to a community sewer (if available) or to a septic tank (water sealed)	
v. Sanitation. Design septic tanks as water sealed compartments to avoided contamination of groundwater/land	
vi. Sanitation. Locate septic tanks where there is proper access to a mobile suction hose equipment to allow removal of contents periodically for further treatment and disposal	
vii. Sanitation. Locate sanitation facilities (public toilets and septic tanks) preferably (a) 20 m from any source of water supply; (b) 30 m from drainage lines and (c) 100 m to a designated waterway.	Distance restriction may be reviewed depending on the technology adopted for the sanitation facilities and treatment of septage, site plant availability, and buffer
iii. Sanitation. Ensure septage collection system is fully mechanized; prohibit manual collection	
ix. Sanitation. Do not locate septic tanks where there is risk of hazards such as floods, landslides etc.,	
x. Sanitation. Ensure no immediate drinking water intakes downstream of discharge point of effluent from sanitation facilities	Include design measures and consider relocating existing deep tube wells.
xi. Sanitation. Hazardous working conditions in some places of the facility due to lack of oxygen and flammable nature of methane emissions will be detrimental to the health and safety of workers and facility. Put in place standard operating procedures with appropriate equipment, and workers are provided with necessary training and personnel protection equipment to safeguard health and safety	

Appendix 7: Health Safety Manual of Construction workers

Parameters/issues	Workplace Hazards	Suggested PPE
Eye and Face protection	Flying particles, molten metal, liquid fuel, gases or vapors, light radiation.	Safety glasses with side-shields, protective shades, etc.
Head Protection	Falling objects, inadequate height clearance, and overhead power cords.	Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs of ear muffs.)
Foot Protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and fuels.
Hand Protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory Protection	Dust, vapors.	Facemasks with appropriate filters for dust removal and air purification spray, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines.) on site rescue equipment.
Body/leg Protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits, aprons etc. of appropriate materials.

Appendix 8: DoE Approval letter for IUGIP



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
পরিবেশ ভবন, ই/১৬ আগারগাঁও
শেরে বাংলা নগর, ঢাকা-১২০৭।
www.doe.gov.bd

স্মারক নং-২২.০২.০০০০.০১৮.৭২.০২৯.২৩.৩৭৭

তারিখ ঃ ২২/০৬/১৪৩০ বঙ্গাব্দ
২৫/০৬/২০২৩ খ্রিস্টাব্দ

বিষয়: Improving Urban Governance and Infrastructure Program (IUGIP) শীর্ষক কর্মসূচীর অনুকূলে পরিবেশগত ছাড়পত্র প্রদান প্রসঙ্গে।

সূত্র: আপনার ০৬/০৬/২০২৩ ইং তারিখের আবেদন।

উপর্যুক্ত বিষয় ও সূত্রের পরিপ্রেক্ষিতে নির্দেশক্রমে জানানো যাচ্ছে যে, পরিবেশ অধিদপ্তর, সদর দপ্তরের পরিবেশগত ছাড়পত্র বিষয়ক কমিটির ৪৯৯ তম সভায় Improving Urban Governance and Infrastructure Program (IUGIP) এর অনুকূলে দাখিলকৃত আইইই প্রতিবেদন ও অন্যান্য কাগজপত্র সভায় পর্যালোচনা করা হয়। পর্যালোচনান্তে, আলোচ্য কর্মসূচীর অন্তর্গত প্রকল্পসমূহ পরিবেশ সংরক্ষণ বিধিমালা, ২০২৩-এর তফসিল-১-এ উল্লিখিত প্রকল্পসমূহের চেয়ে ক্ষুদ্র হওয়ায় বিধি মোতাবেক ছাড়পত্র প্রদানের অবকাশ নেই মর্মে সিদ্ধান্ত গৃহীত হয়।

২৫/০৬/২৩

(মাসুদ ইকবাল মোঃ শামীম)
পরিচালক (পরিবেশগত ছাড়পত্র)
ফোন: ০২-২২২২১৮৩৪২

প্রধান প্রকৌশলী
স্থানীয় সরকার প্রকৌশল অধিদপ্তর
আগারগাঁও, শেরে বাংলা নগর, ঢাকা।

অনুলিপিঃ

১। সহকারী পরিচালক, মহাপরিচালক মহোদয়ের শাখা, পরিবেশ অধিদপ্তর, সদর দপ্তর, ঢাকা।
২। প্রকল্প পরিচালক, UGIIP-III, লেভেল-১২, এলজিইডি ভবন, আগারগাঁও, শেরে বাংলা নগর, ঢাকা।