



Government of Nepal
Ministry of Water Supply
Department of Water Supply and Sewerage Management
Water Sector Governance and Infrastructure Support Project
Project Implementation Unit
Bardagoriya Rural Municipality, Kailali

Detailed Project Report of Matgaura Water Supply Project
Bardagoriya Rural Municipality-06, Kailali
NP-DWSSM-424255-CW-RFB

Final Report

Volume I: Main Report and Appendix

Volume II: Drawings

Volume III: Quantity and Cost Estimation

Volume IV: Bidding Document with Specification

Volume V: Environmental & Social Screening Report

Volume VI: Environmental & Social Management Plan



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ABBREVIATIONS & ACRONYMS

BoQ	: Bill of Quantity
CBS	: Central Bureau of Statistics
CoC	: Code of Conduct
DHM	: Department of Hydrology and Meteorology
DPR	: Detailed Project Report
DWSSM	: Department of Water Supply and Sewerage Management
EHS	: Environmental Health and Safety
EPR	: Environmental Protection Rule
ESIA	: Environmental and Social Impact Assessment
ESMP	: Environmental & Social Management Plan
ESMF	: Environmental and Social Management Framework
FPIC	: Free Prior Informed Consent
GBV	: Gender Based Violence
GoN	: Government of Nepal
IDA	: International Development Association
ILO	: International Labour Organization
MoWS	: Ministry of Water Supply
MWASH	: Municipal Water and Sanitation Hygiene
MSL	: Mean Sea Level
MST	: Municipal Support Project
OD	: Outer Diameter
OHS	: Occupational Health and Safety
OHT	: Over Head Tank
PIU	: Project Implementation Unit
PMU	: Project Management Unit
PPE	: Personal Protective Equipment
RAP	: Resettlement Action Plan
RM	: Rural Municipality
RoW	: Right of Way
SEA/SH	: Sexual Exploitation and Abused/ Sexual Harassment
STD	: Sexual Transmitted Disease
WASH	: Water and Sanitation Hygiene
WaSGISP	: Water Sector Governance and Infrastructure Support Project
WSUC	: Water Supply and Users' Committee

Executive Summary

The Matgaura Water Supply and Sanitation (WSS) sub-project, under the Water Sector Governance and Infrastructure Support Project (WaSGISP) with financial support from the World Bank, aims to improve water supply and sanitation services in Bardagoriya Rural Municipality, Sudurpaschim Province. Implemented by the Federal Water Supply and Sewerage Management Project, Kailali, the system is designed to cater the settlements of Ward No. 6, ensuring reliable and sustainable water service for current and future needs.

The Matgaura Water Supply Project is located in Bardagoriya Rural Municipality (RM), Ward No. 06, in the Kailali district of Sudurpaschim Province. Geographically, the project area is located at latitude 28°37'41.17368" N and longitude 81°0'49.71672" E, at an altitude of 145 meters above mean sea level (MSL). The project area experiences a hot and humid climate. Most of the area is flat, with the Kanda River flowing through this ward. The project area is approximately 500 meters South-West from Prithvipur Haat Bazar. The settlement pattern of the project area is heterogeneous.

The site proposed for major structures of the sub-project is located on OHT premises of the existing Matgaura WSP site and the ownership belongs to Matgaura WSP of Bardagoriya Rural Municipality. It is surrounded by unpaved road from Jagatpur to Rajipur to the east, Plot No. 532 & 533 private land to the west, unpaved road from Jagatpur to Rajipur to the North and Plot No. 471 & 611 private land to the South. Prithvipur Bazar is its largest market and the four forts proved by Bardagoriya Rural Municipality Ward No-06 office is attached in Annex.

The project relies on groundwater as the primary water source, utilizing two rehabilitated tube wells with a pumping discharge capacity of 13 liters per second (lps) and a safe yield of 13.57 lps, ensuring sustainable abstraction. A 230-cum Balancing Water Reservoir (BWR) is proposed to supplement the existing 225-cum Overhead Tank (OHT), supporting equitable distribution through a 66.740 km(11.711 Km Existing + 55.029 Km New) pipeline network. The system includes 1,103 household connections equipped with water meters and flow control valves for efficient distribution.

The most important part of this sub-project is laying 55.029 km of pipeline along RoW of existing roads, including Baaskoti road, Bishal Nagar road, Tulsipur Road, Prithvipur Road, Jagatpur Road, Raajipur Road, Sugarkhaal Road, Jokahi Road and Fulbari Road. These roads are in public use and require no felling of trees and do not traverse any protected areas or private land. Since the RoW of existing roads are already in public use, there are no issues of land acquisition or outstanding grievances. The pipe trench will have a depth of 90 cm and a width of 60 cm.

Scope of ESMP: The Environmental and Social Management Framework (ESMF), developed for the overall project, provides the guiding framework for site-specific environmental and social monitoring plans in conformance with World Bank policies and project-level standards. This ESMP is prepared in line with the requirements of Nepal's National Environmental Laws

and Regulations, as well as the World Bank's environmental and social safeguards, considering the anticipated impacts associated with the proposed sub-project, such as air pollution and noise pollution. The ESMP study for this water supply sub-project will guide its implementation, ensuring that adequate measures are taken to minimize any potential adverse environmental and social impacts associated with construction activities. This ESMP outlines the necessary actions to manage and mitigate negative impacts and risks while enhancing the project's significant positive and beneficial outcomes.

Environmental and Social Management Plan: An Environmental and Social Management Plan (ESMP) matrix is included as part of this ESMP, detailing:

- Mitigation measures for environmental and social impacts during implementation.
- An environmental and social monitoring program and the responsible entities for mitigation, monitoring, and reporting.
- Public consultation and information disclosure mechanisms.
- A Grievance Redress Mechanism (GRM).

Several potential impacts have already been reduced through design modifications. The ESMP and associated costs for Environmental and Social Management Plan (ESMP) implementation will be included in civil works bidding and contract documents, with an indicative ESMP implementation cost of NRs. 10,49,000.00 (In Words: Ten Lakhs and Forty-Nine Thousand Rupees Only).

During the construction phase, potential impacts primarily arise from the disposal of moderate quantities of waste soil, as well as disturbances to residents, businesses, and traffic. These are common issues in urban construction, with well-established mitigation methods. Temporary construction-related impacts will be minimized using best construction practices. Traffic management measures will be necessary during pipe laying along busy roads.

The base cost of the project is 133,477,080.31 and an additional 33% of the base cost for contingencies and VAT (Value added tax @ 13%, price adjustment 10% and Physical Contingency of 10%) has been allocated for the final cost. The final cost of the system is NRs 176,198,383.76.

Environmental and social risks are classified as 'moderate' (Category III) under the Environmental and Social Risk Management Procedures outlined in Chapter 6 of the Environmental and Social Management Framework (ESMF). Accordingly, an Environmental and Social Management Plan (ESMP) has been formulated to mitigate potential risks and ensure adherence to World Bank Environmental and Social Standards (ESS).

As per Rule 3 (1) of the Environment Protection Act (EPA), 2019, Environmental Studies must comply with Schedule 1, 2, or 3 of the Environment Protection Regulation 2020 (amended on 2021/05/24). However, this sub-project does not fall under any of these categories, exempting it from a Brief Environmental Study (BES), Initial Environmental Examination (IEE), or

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Environmental Impact Assessment (EIA). The screening report confirms that the sub-project does not impact National Parks, protected areas, or critical aquatic and terrestrial habitats, with minimal environmental and social consequences and no physical displacement.

The ESMP is integrated into the bid documents and will be reviewed and updated during implementation as needed. It forms part of the contractual obligations for the contractor. The ESMP outlines compliance measures, stakeholder engagement roles, and a Grievance Redress Mechanism (GRM), with a dedicated budget of NRs 10,49,000.00. These measures reinforce the project's commitment to community well-being, social accountability, and environmental sustainability while ensuring long-term operational efficiency.

1. INTRODUCTION

1.1 Background

The Government of Nepal (GoN) (Ministry of Water Supply (MoWS) as an executing agency and the Department of Water Supply and Sewerage Management (DWSSM)/ Participating Municipalities as implementing agencies) and the International Development Association (IDA) have signed an 80 million USD financing agreement for Water Sector Governance and Infrastructure Support Project (WaSGISP).

1.2 Sub-Project Description

The Matgaura Water Supply Project is located in Bardagoriya Rural Municipality (RM), Ward No. 6, in the Kailali district of Sudurpashim Province. Geographically, the project area is located at latitude 28°37'41.17368" N and longitude 81°0'49.71672" E, at an altitude of 145 meters above mean sea level (MSL). The project area experiences a hot and humid climate. Prithvipur Bazar is its largest market. Most of the area is flat. Kanda river flow through this ward. The project area is at a distance of 500 m South-West from the Prithvipur Haat Bazar. The settlement pattern of the project area is heterogeneous.

Baradagoriya Rural Municipality plans to enhance the existing Matgaura Water Supply Sub-Project located in Ward No. 6, with the support from WaSGISP. The current water supply system, which relies on groundwater as its source, is not operational. The existing infrastructure includes an overhead tank with a capacity of 225 cubic meters, two deep tube wells (constructed using drilling, casing, gravel packing, pumping, well development, geophysical logging, and monitoring technologies), an office building, a laboratory and a toilet. However, these facilities are only partially functional and require minor repairs and maintenance. A Water Quality test report is attached in *Annex-VI*. Additionally, approximately 11.711 km pipeline installation work has already been completed.

Under WaSGISP intervention following is planned:

- a) Rehabilitation of the existing Tubewells.
- b) Stretching of 100 kVA step-down transformer, approximately 50 meters of 11 kV transmission line extension, and installation of control panels for pump operation are proposed.
- c) Installation of two 18 HP Submersible Pumps TW
- d) Installation of two 14 HP Submersible Pumps in the sump well of CWR
- e) Installation of 2 sets of Electro-mechanical WTP.
- f) Installation of 25 HP Submersible Pump in sumpwell for backwashing WTP.
- g) Construction of Clear Water Reservoir (CWR) of 230 CUM capacity.

- h) Repair and Maintenance of existing one-storey office buildings
- i) Construction of a single-storey frame structure office building, since the old building can be used as a guardhouse.
- j) Rehabilitation of the existing boundary wall and new gate arrangement in the OHT area.
- k) Landfilling during landscape development.
- l) Laying, jointing (by PE coupler), and installation of about 55,604 m (excluding 11.711m existing) of distribution lines with pressure/leak testing.
- m) Installation of valves, pipe fittings, and other appurtenances as required.
- n) Households' connection of 1,103 HHs
- o) Sealing and re-sealing of gravel and a few stretches of black-topped road.

Auxiliary facilities include the high voltage transmission line of 11kV which is located near to the OHT premises. The electrical transmission lines have to be stretched about 50 m and a step-down transformer has to be installed in the OHT premises. The proposed transformer is a 100 kVA three-phase, 50 Hertz, oil-immersed, natural-cooled transformer suitable for outdoor installation. The proposed land requirement for the transformer foundation and safety clearance area is 9 square meters.

The most important part of this sub-project is laying 55.029 km of pipe along the existing width of the roads, such as: Baaskoti Road, Bishal Nagar Road, Tulsipur Road, Prithvipur Road, Jagatpur Road, Raajipur Road, Sugarkhaal Road, Jokahi Road, and Fulbari Road. These roads are in public use and require no felling of trees, and do not transverse any protected areas and private land. Since the existing road is clear and is already in public use there are no issues of land acquisition nor any outstanding grievances with the current public use of the road. Similarly, the pipe trench will have a depth of 90 cm and a width of 60 cm. During the excavation period, caution boards will be installed, and the area will be barricaded with caution tape to ensure pedestrian safety and prevent any impact on pedestrian movement. The trench will be immediately backfilled upon completion of the pipe-laying work.

The land proposed for the major structures of the sub-project is located within the Overhead Tank (OHT) premises of the existing Matgaura Water Supply Project (WSP) site, and the ownership belongs to Matgaura WSP under Bardagoriya Rural Municipality. The site is bounded by an unpaved road from Jagatpur to Rajipur to the east and north, private land (Plot Nos. 532 and 533) to the west, and private land (Plot Nos. 471 and 611) to the south. The total land area available within the OHT premises is 1,465 square meters (equivalent to 4.25 Kattha), and the land ownership certification letter issued by the ward office is attached in Annex-III.

All structures proposed under the WaSGISP will be accommodated within this site, except for the distribution pipeline, which will follow the existing public road alignment. An existing 11 kV high-voltage transmission line is located very close to the OHT premises. To provide power to the facility, approximately 50 meters of electrical transmission line will be extended from this existing line, and a 100 kVA, three-phase, 50 Hertz, oil-immersed, natural-cooled step-down transformer suitable for outdoor installation will be installed within the OHT premises. A total of 16 square meters has been allocated for the transformer foundation and safety clearance area within the site. Hence, no additional land acquisition is required for the installation of the transformer or associated electrical infrastructure. The salient features of the Matgaura WSP are given in table below.

Table 1: Salient Features of the Sub-project

S.N	Items	Description
1	Name of Project	Matgaura Water Supply Project
2	Type	
		Groundwater-based pumping (Pumping)
		Extension and enhancement of existing of uncompleted project.
3	Location Area	
	Province	Sudurpashchim Province
	District	Kailali
	Municipality	Bardagoriya Rural Municipality
	Ward	Ward No. 06
4	Status of the Project	
	Status and implementation.	Under construction by province DWSSM office
	Year of implementation	Started in 2077/78 Fiscal year
	Completed WS Components	Only 225 Cum capacity OHT, boundary wall, installation of 2 TWs and about 10 km of distribution lines and associated electrical works including a 100 kVA step-down transformer, approximately 50 meters of 11 kV transmission line extension, and installation of control panels for pump operation are proposed.
	Operational Status	Not in in operation and needs to introduce major Intervention for enhancement
5	Available Service level and coverage	Nil
6	Study Level	DPR for immediate enhancement work
5	Available Facilities	
	Road	Link road from the East-West Highway at North direction towards Bhajani

	Supply Water System	WSUC WS system and Hand pumps
	Electricity	Available
6	Social Status of the Service Area	
	Present HHs Numbers (2024)	1,103
	Present Population (2024)	5,515
	Base Year Population (2026)	5,620
	Design Year Population (2046)	6,847
	Growth Rate % (GR)	1
7	Water Demand (MLD) in Design Year	0.873
8	Source Characteristics	
	Source Name	Deep Tube well
	Source Type	Ground Water
	Source Location	Within Service Area
	Safe Yield (lps)	13 lps / TW
9	Type of Structures and Major Intervention	
	Proposed number of Bore Hole Drilling	Rehabilitation of existing 2 tube well
	Pumps in Deep Tube Well	2 Nos New 18 HP + 1 Nos Standby
	Pumps for lifting Water from CWR to OHT	2 Nos New 14 HP + 1 Nos Standby
	Pumps for Backwashing WTP	2 Nos New 20 HP + 1 Nos Standby
	Electricity line,	Available near OHT premises and stretching required
	Transformer	11 kVA high voltage transmission line and 100 kVA three-phase, 50 Hertz, capacity , oil-immersed, natural-cooled transformer proposed stretched about 50m step-down transformer
	Ground Collection Reservoir at TW fields	1N-230 cum (Clear Water Reservoir)
	Overhead Storage Reservoir (Nos.-Capacity m ³)	1 No existing 225 cum (Existing)
	Valve Chamber (Bricks/RCC)	28/28
	Office building	New Single storey frame structure office building.
	Household Connection	1103
	Fire Hydrant	5

10	Total Length of Distribution pipe (m):	Total 66,740 km (existing 11.711 km + New 55.029km) <i>(Carried out along the public RoW of existing road network)</i>
11	Total Cost of WS Component (Inclusive of all) NRs.	176,198,383.76.00

Under WaSGISP, the following intervention is planned and the site condition as well as the land availability status is as per the Table 2 below:

Table 2: Proposed Components, Site Condition and Land Requirement Status

S.N.	Site/ Component	Location	Required land (Sq.m) and ownership	Site condition	Land availability status	Likely E&S Impacts
1	Treatment plant	Bardagoriya Rural Municipality-ward no. 06, Jagatpur (OHT Premise)	61.31 Sqm. (Ownership belongs to Bardagoriya Rural Municipality)	Site is clear, no vegetation and structures	Available-Rural Municipality owned land (Annex-III)	There will be no use of chemicals and disinfectants except chlorination, No any harmful effluents will produced from this water treatment process.
2	Office building	Bardagoriya Rural Municipality-ward no. 6, Jagatpur (OHT Premise)	133.76 Sqm. (Ownership belongs to Bardagoriya Rural Municipality Office)	Site is clear, no vegetation	Available-Rural Municipality has given Consent Letter (Annex-III)	Minimal environmental and social impacts are expected, limited to temporary dust, noise, waste, and labor influx, manageable through proper site management and safety measures.
3	Ground reservoir	Bardagoriya Rural	85 Sqm.	Site is clear, no	Rural Municipality	Minimal environmental

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	tank (GRVT)	Municipality-ward no. 06, Jagatpur (OHT Premise)	(Ownership belongs to Bardagoriya Rural Municipality Office)	vegetation and other structures	has given Consent Letter	and social impacts, mainly limited to temporary dust, noise, and minor construction waste, which can be easily managed with standard mitigation measures.
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Table 3: Pipe Used for Distribution Network (meter)

Pipe Type	Length of Pipe (m)		Length of Existing Pipe (m)	Pipe Type	Length of Pipe (m)
	PE PN 6	PE PN 10		DI Spigot-socket Pipes	
PE pipe 50 OD		34,653	1,487	Pipe of 4" (100 mm)	22
PE pipe 63 OD		3,793	-	Pipe of 5" (125 mm)	
PE pipe 75 OD	4,723		-	Pipe of 6" (150 mm)	
PE pipe 90 OD	1,330		-	Pipe of 8" (200 mm)	
PE pipe 110 OD	2,706		530	Pipe of 10" (250 mm)	
PE pipe 125 OD	422		-	Pipe of 12" (300 mm)	
PE pipe 140 OD	1,414		995		
PE pipe 160 OD	1,488		3,460	DI Flanged Pipes	
PE pipe 180 OD	13		1,496	Pipe of 5" (125 mm)	
PE pipe 200 OD	1,231		3,743	Pipe of 6" (150 mm)	
PE pipe 225 OD	2,244		-	Pipe of 6" (150 mm)	
PE pipe 250 OD	990		-		
PE pipe 280 OD	0		-		
Sub-Total (m)	16,561	38,446	11,711		
Totally New Pipe Used (m)			55,029		
Total Pipe Used in Distribution (m)			66,740		

The existing pipelines of about 11.711 km have been incorporated into the proposed distribution system after leak testing. The undersized existing pipe has been proposed for reticulation purposes of the distribution mains, especially for household connections. A new distribution pipe of 55.029 km is required in the total distribution of 66.740 km.

1.3 Rationale of the ESMP

Rule 3 (1) of Environment Protection Act (EPA), 2019 describes completing Environmental Studies as per Schedule 1 or 2 or 3 under Environment Protection Regulation 2020 (First Amendment in 2021/05/24 on Nepal Gazette). For the Subproject, none of the legal provisions are compliant to Schedule 1 or 2 or 3 and hence detailed Environment Study (Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Study (EIA) is not mandatory. The screening report revealed that the proposed WSP does not lie in any National Parks /Protected areas or any critical aquatic and terrestrial habitat area. So, there ~~is~~ are minimal environmental/or social impacts and no physical displacement is caused by the sub-project. Consequently, in accordance with the Environmental and Social Risk Management Procedures outlined in Chapter 6 of ESMF, this sub-project is categorized as having a 'moderate risk of impact' (Category III), necessitating the preparation of Environmental and Social Management Plan (ESMP) to comply with World Bank

Environmental and Social Standards (ESS) requirements. The ESMP will form part of the bid document and to be reviewed and updated during implementation as per requirements. The ESMP will be included in the contractual clauses and will be made binding on the contracting firm.

1.4 Scope and Objective of Environment and Social Management Plan (ESMP)

The ESMF, which was developed for the overall project provides the guiding framework for the site-specific environmental and social monitoring plan study in conformance with World Bank policy and accordingly the project-level standards. This ESMP is prepared in line with the requirements of the National Environmental Law and Regulations of Nepal and World Bank considering the anticipated impacts associated with the proposed sub-project, such as: air pollution, noise pollution among other effects. The ESMP study for Water Supply sub-projects will guide the sub-project implementation and ensure that adequate measures are taken to protect and minimize any potential adverse environmental and social impacts associated with the proposed construction works. This ESMP provides the actions required to be taken for managing and keeping the negative impacts and risk of the proposed water supply scheme to a minimum, while enhancing the significant positive and beneficial impacts.

The major objectives of this Environment and Social Management Plan (ESMP) is to mitigate any social and environment impacts in development interventions. The specific objectives are:

- To identify the existing site-specific environmental and social condition of the project area;
- To identify the environmental and social risks and impacts of the proposed development intervention;
- To explore alternatives, and suggest practical mitigation measures with sufficient budget to mitigate the adverse environmental impacts;
- To prepare environmental monitoring plan;
- To specify institutional arrangement, and roles and responsibilities for environmental and social risk management, and monitoring of the sub-project.

1.5 Legal and Policy Framework

Under the legal and policy framework, a brief of legal acts, policies, regulations and guidelines of the GoN and the World Banks Environmental and Social Standards have been discussed that are relevant and applicable to the Matgaura Water Supply Project.

The ESMF reviewed country's legal and institutional framework, identified gaps from comparison of national and World Bank ESF requirements and suggested corresponding measures to meet the requirements. Nine of the ten World Bank Environmental and Social Standards (ESSs) are relevant to this project, namely ESS1 on Environmental Assessments, ESS2 on Labour and Working Conditions, ESS3 on Resource Efficiency and Pollution Prevention and Management, ESS4 on community Health and Safety, ESS8 Cultural Heritage and ESS10 on Stakeholder Engagement and Information Disclosure.

2. DESCRIPTION OF STUDY AREA

2.1 Location and Accessibility

The Matgaura Water Supply Project is situated in Bardagoriya Rural Municipality, Ward No. 6, Kailali District, Sudurpaschim Province. The project area is located 400 m north from East-West Highway of Muda Bazar. Muda Bazar serving as the largest market in this ward. The terrain is predominantly flat, and the Kanda river traverse the ward. The settlement pattern in the project area is heterogeneous.

Geographically, the area lies at a latitude of 28°37'41.17368" N and longitude 81°0'49.71672" E, and an altitude of 145 meters above mean sea level (MSL). The climate is characterized as hot and humid. The project site is bounded by unpaved road from Jagatpur to Rajipur to the east, Plot No. 532 & 533 private land to the west, unpaved road from Jagatpur to Rajipur to the North and Plot No. 471 & 611 private land to the South.

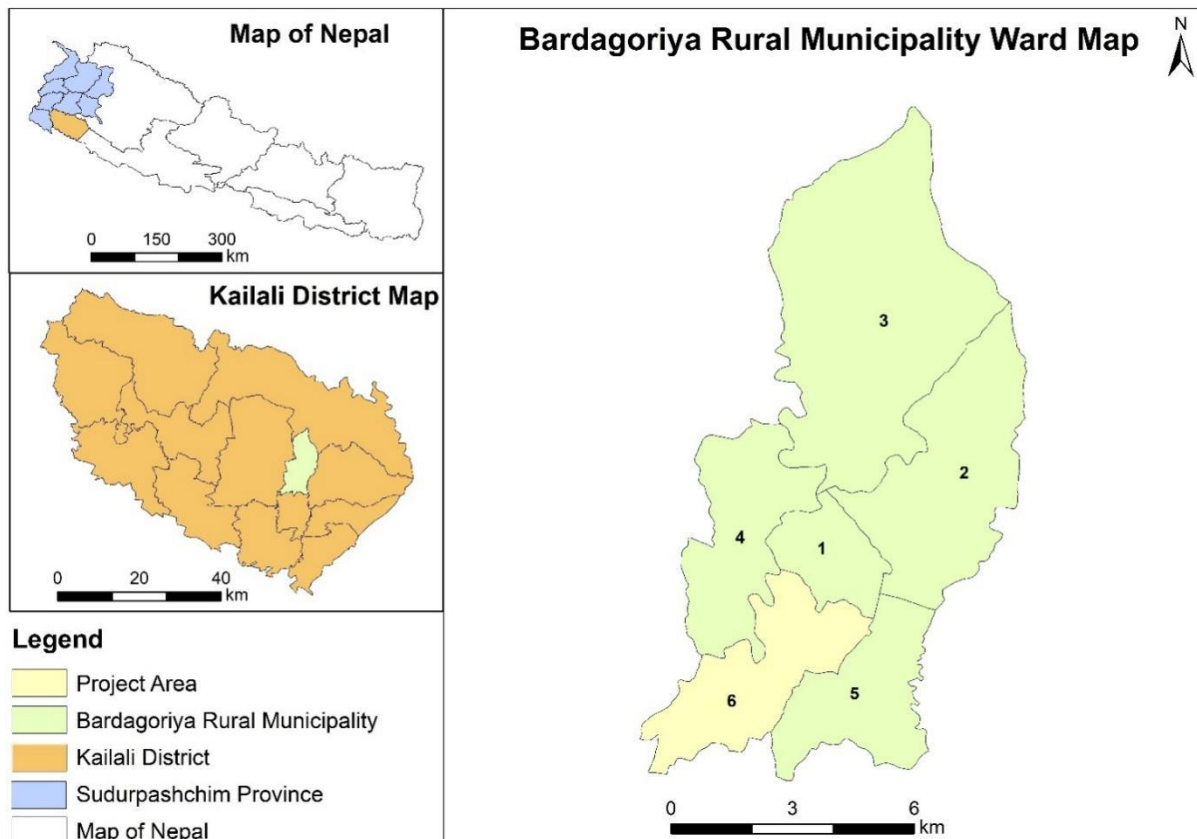


Figure 144: Location of Bardagoriya Rural Municipality Ward-6



Figure 222: Location of proposed land for Matgaura Water Supply Project and google Map

2.2 Ground Water Availability

The existing Matgaura Water Supply and Sanitation (WSS) Project in Bardagoriya RM was being implemented by the Federal Water Supply and Sewerage Management Project, Kailali. Although handed over to the RM, it is not yet operational and remaining works will be completed by the current intervention from WaSGISP. The primary water source for this sub-project is groundwater.

The sub-project's tube wells have a pumping discharge capacity of 13 liters per second (lps), with a safe yield of 13.57 lps. The yield assessment of the existing tube well has been checked as per the UWSSP guideline with available geophysical logs. This indicates that the safe yield capacity exceeds the pumping rate, affirming that the current groundwater abstraction rate is within safe limits. This conclusion is supported by geophysical logs of existing tube wells at the Overhead Tank (OHT) premises, which show sufficient yield to meet the projected demand without overexploitation of the groundwater resource.

The geophysical logs and well logging reports of the boreholes at the OHT premises demonstrate satisfactory conditions for sustainable groundwater abstraction. These tube wells were drilled and developed several years ago but require proper rehabilitation and sealing to maintain performance. The design of the tube well structure, including screens and the adopted tube well assembly, was found to be satisfactory.

Table 4: Assessment of Existing Tube well Design

Description	Unit	Values
Pumping Discharge	lps	13
Discharge of Well (m ³ /s)	m ³ /sec	0.013
Optimum screen entrance velocity (m/s)	m/sec	0.03
Screen Clogged	%	60%
Screen Diameter	m	0.20
Percent of Open Area	%	10%
Length of screen	m	15
Discharge Capacity of Tube Well	lps	16.96
Safe Yield (80% of Yield)	lps	13.57
The Length of Screen Provided in the TW is OK		

(Source: Federal Water Supply and Sewerage Management Project, Kailali)

2.3 Physical Features

2.2.1 Topography and Land Use

The project area is situated in the Terai region, on the northern boundary of the Indo-Gangetic Plain, nestled in the foothills of the Chure Mountains. The topography of the project area consists of flat lands molded by perennial and ephemeral streams originating in the foothills (Chure) forming meandering gullies.

The total 10.1 sq.km (13.07%) of area is covered by ward no.06 out of the total land area 77.3 sq.km of the Bardagoriya RM. There is no scientific land use planning at the moment. However, land use for Bardagoriya RM 06, can be divided as: agricultural 6.6 sq. km. (65.3%) residential 2.5 sq. km. (24.8%), commercial 0.43 sq. km. (4.3%), forest is 0.034 sq. km. (0.3%), River is 0.04 sq.km. (0.4%) and public land is 0.2 sq. km. (1.98%).

2.2.2 Geology

Geologically, the project area lies in the Terai Zone of the Nepal Himalaya. The flatland of Terai constitutes the north fringe of the extensive Ganga foreland basin. The Pleistocene and Holocene alluvial accumulations of this strip were laid down by rivers, originating within the Himalaya or beyond it in the Tibetan Plateau. The average thickness of these sediments exceeds 1,500 m. The project area is composed of thick deposit of recent alluvium consisting of gravels, sand and clay. The subsurface geology is dominated by the sediments from large and coalescing fans, the deposits of the Ganga Basin extending to the north, and the sediments constituting the Siwalik trough.

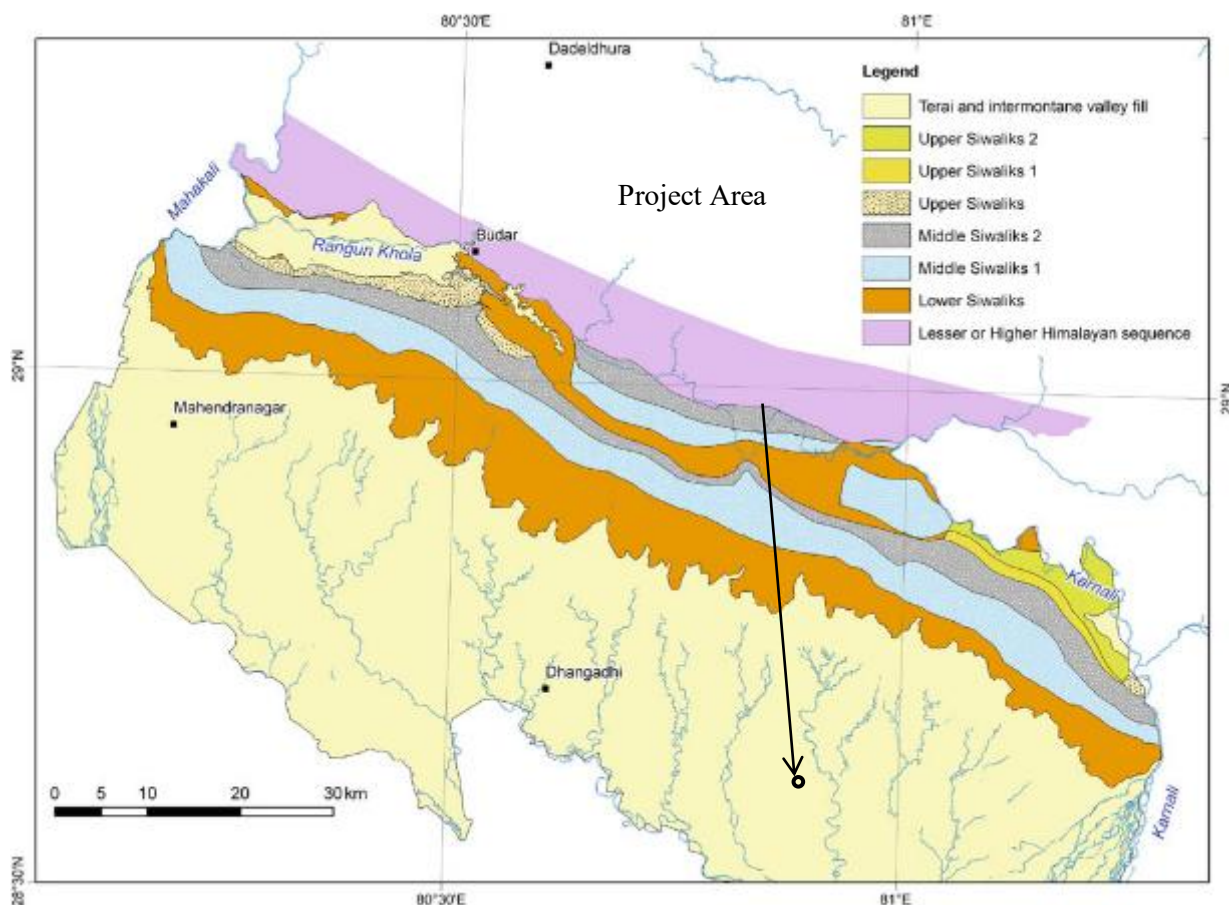


Figure 333: Modified Geological Map of Western Siwaliks and Terai. Source: Dhital, 2015

2.2.3 Climate

Temperature: The project area lies in Terai region with tropical climatic condition. The temperature rises as high as 46°C during summer and falls as low as 5°C during winter. Both the maximum and minimum temperature is increasing at the rate of 0.023°C /year and 0.016°C /year respectively (DHM, 2017).

Rainfall: Considering the 30 years rainfall data (from 1984 to 2013) recorded at Dhangadhi, Kailali, the district receives an annual rainfall of 1860.47 mm and the average annual rainfall shows an increasing trend. The observed climate trend analysis of Nepal from year 1971 to 2014 (DHM, 2017) shows that the annual precipitation trend of Kailali District is increasing at the rate of 3.44 mm/year but the post-monsoon precipitation shows decreasing trend at the rate of 0.22 mm/year. The temporal distribution of rainfall is highly controlled by the monsoon with more than 80% of rainfall occurring during June to September.

2.2.4 Climate Change and Disaster Vulnerability

According to Climate Change Vulnerability Mapping for Nepal (MoE, 2010) based on indices, Kailali district has low combined sensitivity, low overall vulnerability and moderate adaptation capability to the impacts of climate change. Likewise, District Disaster Management Plan of Kailali, (DDC Kailali, 2070) has assigned three vulnerability categories (high, medium and

low) to different disasters. The project area has medium level earthquake vulnerability, low level flood vulnerability and low level fire vulnerability.

2.2.5 Drainage Network

The project area is drained by some locally originating ephemeral creeks: Ghaila drains, Jhabadi nala into the Kanda River towards the west of the project area. The likelihood of flooding or waterlogging in the sub-project area is minimal, as the proposed site is situated on flat terrain.

2.2.6 Air and Water Quality and Noise Level

Point sources of air and water pollution were not visible in and around the project area. The water quality test of the existing tube wells located at the subproject site was done and found to comply with the NDWQS. Generally, the ground in Terai shows occasional increases in iron and turbidity. Therefore, a water treatment system comprising aeration, filtration, and disinfection is recommended to meet the requirements of the NDWQS for drinking water (*Water Quality Test report of Deep Tube wells is attached in Annex V*). Vehicles travelling along the Road and Bhajani road (Jagatpur to Rajipur) on the East side side of the project site generate dust, which sometimes increases the suspended particulate matters in the air. Additionally, dust generated by vehicular movement on the unpaved internal roads along the distribution pipeline areas; such as Baaskoti road, Bishal nagar road, Tulsipur road, Prithvipur road, Jagatpur road, Raajipur road, Sugarkhaal road, Jokahi road and Fulbari road are the main source of air pollution. The project area is near settlements, health post, and schools. Noise in the area primarily comes from vehicle traffic, wind, and frequent visitors. The air quality monitoring test and noise level monitoring has been conducted to establish the baseline and the monitoring report details given in table below.

Table 5: Air Quality Monitoring Report

Date	Location	Description		
15th February 2025	Bardagoriya RM-06; Jagatpur East	PM 2.5 Microgram/Cubic meter	PM 10 Microgram/Cubic meter	Air Temperature Degree Celsius
		30	80	10 ⁰ C
National Standards of Air Quality, 2069		35 Microgram/Cubic meter	120 Microgram/Cubic meter	

Table 6: Sound Level Monitoring Report

Date	Location	Noise Level (decibel) dB	National Standards of Sound Level, 2069 Day Time Limits Leq (Decibel) dB
16th February 2025	Bardagoriya RM-06; Jagatpur East	40	50
16th Febraury 2025	West	35	50

17th Febraury 2025	North	38	50
17th February 2025	South	40	50

National Ambient Air Quality Standards, 2012 (NAAQS)

2.2.7 Soil Type and Quality

Top soil in the project area is fine textured humus mixed loamy soil productive to vegetation. Regarding the quality of soil, for the remoteness of the project area, the soil is free from pollution of urban origin (like garbage, sewage and industrial discharge).

2.4 Biological Features

2.4.1 Vegetation

The Matgaura Water Supply Project is located in Bardagoriya RM, Ward No. 06 of Kailali district. Kailali district possesses abundant forest resources and a diverse range of biodiversity when compared to other districts of Nepal. The major tree species of the district are: Jamun (*Syzygium cumini*), Kusum (*Schleichera oleosa*), Peepal (*Ficus religiosa*), Mango (*Mangifera indica*), Bamboo (*Bambusa vulgaris*), Bel (*Aegle marmelos Correa*), Sisam (*Dalbergia sissoo*) etc. managed by the neighboring settlements at their home yards of Ward No. 4 of RM, surrounding the sub-project area.

2.4.2 Fauna/Birds

The study gathered information on the presence of fauna in the vicinity of the sub-project area. This data was obtained through interviews with local residents. Forests of Kailali district host the mammalian species such as Jackal (*Canis aureus*), Wild Cat (*Felis silvestris*), Monkey (*Macaca mulatta*), etc. However, the sub-project is situated within the settlement area of Ward no. 06 of RM and does not serve as a designated habitat for any terrestrial fauna.

Similarly, the Kailali district and its surroundings host the variety common avian species: Parrot (*Psittaciformes spp.*), Bulbul (*Pycnonotus barbatus*), Dhukur (*Streptopelia orientalis.*), Crow (*Corvus spp.*), Tailorbird (*Orthotomus sutorius*), Kokale/ Grey treepie (*Dendrocitta formosae*), Pigeon (*Columbidae spp.*), Sparrow (*Passeridae spp.*) etc. However, the sub-project area is not a designated bird habitat.

2.5 Socioeconomic and Cultural Features

2.4.1 Demographic Characteristics

According to the National Population Census 2021 and Bardagoriya Rural Municipality Village Profile, the total population of Ward No. 06 is 4,660, including 2,190 males and 2,470 females. This shows that female population outnumbers male population in project area. The sex ratio is 88.66%. The total number of households is 939 and the average size of a household is 4.9. The population density is 461.38 individuals per sq. km where the total area of Bardagoriya RM Ward No.06 is 10.1 sq.km. But according to the baseline survey 2024, total households is 1103 with population 5515. The baseline survey in this ward revealed the notable presence of Janajati/ethnic group (Tharu, Chaudhary, Magar, Gurung etc.) comprising about

41.6%, and the Brahmin/Chettri group comprising about 28.7% of total households in the project area, whereas 20.8% are Dalit. 8.9% are Thakuri. Tharu Chaudhary are the original inhabitants of this project area. People of more than 25 different castes and ethnic groups were reported in this area. Language spoken mainly depends on the caste/ethnicity. For the majority of people Chaudhary, Tharu is the most common language followed by Nepali, Achhami & Doteli, Bajureli, Dailekhi, etc.

2.4.2 Socio-economic Characteristics

Agriculture and livestock rearing are the main occupations in the project area. Major crops grown in the project area are cereal crops like paddy, maize and wheat, pulse seeds like gram, red gram, black gram, red lentil and pea, oilseeds like mustards, flaxseed and sesame, vegetables like potato, onion, cauliflower, lady's finger, garlic and cash crops like sugarcane and banana. Livestock reared in the area include cow/oxen, buffalo, goat and pig. Poultry is also common in the area. Meat and dairy are the major livestock products. For the availability of pasture, the livestock/cattle are grazed freely.

Besides agriculture, people are involved in other occupations like Business, Service, Labor and Foreign Employment. As understood from discussion with local people, they have adopted more than one occupations. The business ventures besides commercial agriculture includes wholesale and retail shops of daily utilities, electronics and electrical, packaged food, garments, construction materials, etc. Pritivipur Bazar, Raajipur, Jagatpur and Rajipur are the growing market centers in this ward of Bardagoriya Rural Municipality.

According to the National Population and Housing Census 2021, the literacy rate of population 6yrs of age and above of the Rural Municipality is 76%. Literacy is higher in male (83.3%) population than female (69.6%) which reflects the gender discrimination existent in education opportunities.

People have organized into different groups according to their subjective interest and involvement for the welfare to those interest groups. People are involved in community forest user groups, mothers group, youth clubs, civil awareness centers, committees and associations.

2.4.3 Available Public Service Facilities

There is one existing Water Supply & Sanitation Project in Bardagoriya Rural Municipality ward no.06 Matgaura WSP. There are 1 secondary schools, 3 primary schools in this ward. For health care service, there is two Primary health care center and 1 Health Post in Ward no 06. There is village clinic and immunization center at this ward, 5 numbers of female health care volunteers are mobilized at this health center and immunization clinic. Electricity supply through national transmission has reached to the entire ward of, but yet to benefit some 15% of the households. The source of drinking water for majority of families is ground water drawn through shallow tube well. All the settlements of the project area have been connected with road network. Four number of local community financial institutions are available in this ward for providing saving and credit service.

2.4.4 Places of Religious and Cultural Importance

Each specific caste and social groups in the project area have their own cultures based on their religion and traditions. There are many festivals that are specifically celebrated by specific types of caste/ethnic groups. For instance, Maaghi/Maanghey Sakraanti is the major festival celebrated by the Tharu community in the area. It is also celebrated by other groups. Additionally, Dashain, Tihar, Janaipurnima, Naag Panchami, Buddha Jayanti, Thulo Ekadashi, Holi, Shivaraatri etc. are other major festivals celebrated by general people in the project area. Similarly, all of these groups have their own set of intangible heritages for example, sacred spaces, belief systems, knowledge and practices. However, during consultation with the community, it was reported that the project footprints are unlikely to have a bearing on these intangible heritages.

In terms of tangible heritages, there are four places of religious and cultural importance in this ward. They are Shiva Mandir and Ram Janaki Mandir.

2.4.5 Gender Based Violence (GBV) and Sexual Exploitation Abuse (SEA)/ Sexual Harassment (SH)

Nepal has high incidence rates of GBV cases with mostly girls and women as reported victims. Latest DHS (2022) data shows that 23% of women in Nepal age 15–49 have experienced physical violence since age 15, and 8% have ever experienced sexual violence. Only 28% of women who have ever experienced any type of physical or sexual violence have sought help to stop the violence. Out of the 15 most GBV prevalent countries in the world, Nepal ranks 4th in domestic violence and violence by a partner and child marriage tops 2nd highest in South Asia (DHS, 2022). GBV in Nepal is prevalent due to unequal gender relations and discrimination towards women in both public and private spheres. It has direct implications on the reproductive health status of women and physical, emotional, and mental health of their children.

In case of project district, there is hospital based One Stop Crisis Management Centre (OCMC) at Seti Zonal Hospital of Kailali district, In this OCMC a total of 433 cases have been registered in 2080/081 fiscal year. Out of them there are nine cases of child labour, one case of cyber-crime, 109 cases of denial resources, and 1 case of human trafficking, 53 cases of mental abuse, 95 cases of physical assault / violence, 123 cases of rape, 39 cases of sexual abuse and three cases of social discrimination.

In case of sub-project level there is Department of Women and Children (DWC) under social development unit of Bardagoriya Rural Municipality to carry forward GBV/SEA/SH issues. The Bardagoriya RM has nominated GBV and SEA/SH focal person (Ms. Paanmati Rana). As per the consultation carried out with the local women and with Bauniya Area Police Office, there are 20 cases (3 cases of SH, 2 cases of child labour & 15 cases of domestic violence) in 2080/081 fiscal year related to GBV according to Bauniya Area Police Office and if any such cases happen, then those cases are settled under facilitation by the local elite and social figures. In case such cases are not resolved even under the facilitation of the local social figures, then they are reported to the Rural Municipality office and the Area Police Office.

Environmental & Social Management Plan (ESMP) Report for Matgaura Water Supply Project

The occurrence of such GBV issues in communities can be further triggered by the sub-project infrastructure work, wherein it is expected that around 40 to 45 labourers (20 local & 20-25 migrant) will be mobilized per day during the peak construction at the sub-project sites. Therefore, potential risks of SEA/SH will be assessed, and a code of conduct will have to be signed and understood by the workers so that it helps in mitigating the SEA/SH impacts of the sub-project. The sample of personal code of conduct for the Water Supply Project is attached in Annex VII.

3. STUDY METHODS

The methods adopted to achieve the objective primarily involved map analysis to establish a frame of reference, along with field investigations of the Matgaura WSP. This included the collection of field based information and mapping. The methods included:

3.1 Literature Review and Secondary Data Collection

The assignment commenced with a review literature and the collection of secondary data. Relevant information was sourced from project documents, including feasibility studies and detailed engineering design reports, district and municipal profile of the project area, topographical maps, geological maps, Google Earth imagery, published and unpublished project- related reports, and climatological records from the Department of Hydrology and Meteorology (DHM).

3.2 Field Survey, Mapping and Verification of Secondary Data

The study was conducted through an on-site walkthrough of the Matgaura WSP area, primarily focusing on the proposed location. It also included focused group discussions (FGDs), formal consultation meetings, and key informant interview (KII) with the local stakeholders, such as the local government, chamber of commerce, and local residents. Separate consultations with women, Dalits, and Tharu and other disadvantaged groups living in the service area was organized to discuss potential E&S issues related to proposed water supply sub-project and minute of meeting is attached in Annex II. The issues raised during public consultation along with its corresponding mitigation measures is given below in sub-heading 5.1 of public consultation section.

The environmental and social screening checklist was developed through desk study, and review of sub-project related documents, including feasibility studies, detailed engineering design report, environmental impact assessments of similar projects, and stakeholder consultation records. The checklist incorporates different parameters and issues outlined in the ESMF of the WaSGISP project and was further informed through consultations with stakeholders and municipal personnel.

Environmental and social assessment process involved gathering of relevant information on the existing physical, biological and socio-economic, and cultural environmental conditions. This was achieved through field walkthroughs, surveys, measurements, discussions, consultations, and stakeholder interactions. Additionally, potential issues to be addressed in the Environmental and Social Management Plan (ESMP) were identified.

3.3 Desk Work

Major part of the study was executed through desk-based work, which included engineering design, drawing and mapping, analysis, quantification, and planning of ESMP. Additionally, cost estimation for ESMP was carried out using information obtained from field studies and literature reviews.

4. ENVIRONMENT AND SOCIAL MANAGEMENT PLAN

4.1 Impacts and Mitigation

The proposed Matgaura WSSP sub-project is expected to have physical, biological, and socio-economic impacts. These impacts may arise during various phases of the project, including pre-construction, construction, and operation and maintenance. While some impacts may be negative, others can be positive. The objective of environmental management is to enhance positive impacts and minimize negative ones through appropriate mitigation measures. Key impacts are described below:

- 1. Disruption of natural drainage and pavements:** The pipe-laying activities along the public road through Baaskoti Road, Bishal Nagar Road, Tulsipur Road, Prithvipur Road, Jagatpur Road, Raajipur Road, Sugarkhaal Road, Jokahi Road and Fulbari Road may disrupt the existing roadside drainage system. Construction tasks such as earthworks, backfilling, and material stockpiling could obstruct natural drainage flows. This interference might lead to issues such as localized flooding, channel erosion, and other related impacts along these routes. Construction will be sequenced to ensure that trenches are back filled promptly to minimize the drainage and pavement disruption.
- 2. Disruption to traffic flow and accessibility:** The excavation and installation of pipelines (trenches 90 cm deep and 60 cm wide) along the public road from Baaskoti Road, Bishal Nagar road, Tulsipur Road, Prithvipur Road, Jagatpur Road, Raajipur Road, Sugarkhaal Road, Jokahi Road and Fulbari Road will cause temporary road disruptions. These disruptions may affect traffic flow, leading to delays and congestion. To minimize the impact, the pipeline installation will be carried out in short sections of 500 meters at a time, with testing and backfilling completed promptly, within a week.
- 3. Impact to Communities:** Communities will face a range of interrelated challenges due to construction activities, including impacts on air and water quality, increased ambient noise levels, traffic congestion, road safety concerns, and disruptions to the mobility of people, goods, and services. The pipe laying and conducting pre-cover testing will temporarily limit access to homes and may negatively affect businesses in Baaskoti Road, Bishal Nagar Road, Tulsipur Road, Prithvipur Road, Jagatpur Road, Raajipur Road, Sugarkhaal Road, Jokahi Road and Fulbari Road. However, these impacts can be effectively mitigated with proper management. The pipe trenches will be relatively small, measuring 90 cm in depth and 60 cm in width, and construction will be sequenced to ensure that trenches are backfilled promptly, typically within a week, following the completion and testing of pipe-laying work.
- 4. Occupational health and Safety:** Given the nature of construction activities, exposure to extreme weather conditions and the non-observance of health and safety measures could trigger occupational health and safety issues for workers. Additionally, an inadequate

supply of safe, potable water; insufficient sanitation facilities; poor sanitation practices on-site; and substandard housing conditions may pose significant threats to their well-being. Workers employed informally, such as migrant workers or individuals newly entering the labor market, are most vulnerable. This is particularly critical given that a strong occupational health and safety culture is not prevalent in Nepal. Therefore, the onus will be on the Project to ensure that workers are advised of their rights, and to actively promote and protect those rights on behalf of the workers.

The impacts have been identified and predicted by considering all activities related to the construction, operation, and decommissioning of support facilities. The possible impacts and their corresponding mitigation measures are listed in Table 6 below.

Table 7: Environmental and Social Management Plan Matrix

Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Cost NRs.	Frequency of Monitoring
1. Prior to Construction Activities						
Consents, permits, clearance, no objection certificate (NOC), etc.	Failure to obtain necessary consents, permits, NOCs, etc. for use of land and other property can result to design revisions and /or stoppage of works.	<ul style="list-style-type: none"> - Obtain all of the necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. - Acknowledge in writing and provide report of compliance on all consents, permits, clearance, NOCs, etc. 	PIU/MST	Incorporated in final design and communicated to the Contractors.		Prior to award of contract
Existing utilities	Disruption of services-existing water supply and electricity temporarily.	<ul style="list-style-type: none"> - Identify and include locations and operators of utilities, including roads in the detailed design documents to prevent unnecessary disruption of services and traffic during construction, especially since the pipes will be lined along the roads, which could significantly impact traffic flow. - Coordinating with local water authorities and communicating with public. - Avoid relocating transformers and electrical pole as much as possible. 	PST/MST/PIU	List of affected utilities and operators		During detailed design phase
Drinking Water Supply	Extraction of unsatisfactory raw water quality	<ul style="list-style-type: none"> - During the detailed engineering design stage, test water samples from existing tube wells located near proposed tube wells. The water Quality Test of Deep Tube well has been done and Report is attached in ANNEX VI. - The cumulative total daily water 	PST, PMU	Incorporated in final design and communicated to contractors	60,000.00	Prior to award of contract

		<p>demand for the Matgaura Water Supply Sub-Project has been estimated to be 1.55 MLD by the end of the design period in 2046 and discharge of 13lps per DTW has been recommended for a safe yield.</p> <ul style="list-style-type: none"> - Design to include basic treatment using lime dosing, pressure filter and disinfection using Ca(ClO)₂ and provisions for lab unit and kits. 				
<p>Stockpile areas, Storage areas, Disposal areas, and workers camp (if needed)</p>	<p>Disruption to traffic flow and sensitive receptors</p>	<ul style="list-style-type: none"> - Stockpile area, storage areas and workers camp area is proposed within OHT premises. Contractor's camp will be located in existing OHT premises at Jagatpur, Bardagoriya RM-06. - The details will be included in C-ESMP (Contractor's Environment and Social Management Plan) of Sub-Project by the Contractor within 60 days after site mobilization. 	<p>PIU</p>	<p>List of selected sites for stockpile areas, storage areas, disposal areas and workers camp (Workers camp is separated from contractor's camp within the Existing OHT premises) (Estimated No. of workers is 20 man/day) Written consent of landowner/s (not lessee/s) for reuse of excess spoils to agricultural land</p>	<p>100,000.00</p>	<p>During detailed design phase</p>
<p>Waste Generation</p>	<p>Generation of solid waste, wastewater and other construction waste may cause pollution from work sites and workers camp (if any is established)</p>	<ul style="list-style-type: none"> - Mechanism of safe disposal will be developed in the subproject site before the actual commencement of work, including provision of waste bins. - Prohibition of unwanted littering 	<p>Bardagoriya RM/Ward Office</p>	<p>Contractor records. visual inspection</p>		<p>During detailed design phase</p>

		<ul style="list-style-type: none"> - and discharge of waste. - Proper management of solid waste will be done using lined pits for waste disposal. 				
Preparation for excavation work along the roads:	Traffic Disruption, Public Safety Risks, Environmental Concerns	<ul style="list-style-type: none"> - Develop (and implement) a comprehensive traffic management plan in consultation with local authorities - Implement erosion control measures, such as silt fences and sediment traps, to prevent soil erosion. - Properly manage and dispose of excavated materials - Inform local communities about the construction schedule and potential disruptions in advance. 	PIU/RM/Contr actor	Approved TMP before commencement of works – regular updates		Before commencement of works
2. During Construction Activities						
A. Physical Characteristics						
Community facilities	Disruption of natural drainage Damage to existing facilities like water supply and pavements (roads along Baaskoti road, Bishal nagar road, Tulsipur road, Prithvipur road, Jagatpur road, Raajipur road, Sugarkhaal road, Jokahi road and Fulbari road).	<ul style="list-style-type: none"> - Avoid natural drainage pathways for pipe-laying works. - Stockpile the excavated material at safe but nearby place to construction site under the satisfaction of Construction Supervision Engineer. - Restore natural drainage system if the drainage system during the construction is blocked. - Conduct a detailed assessment if any drainage system exists. - Design and implement temporary drainage solutions to manage water flow during construction. - Prior permission has been obtained 	PIU/RM/Contr actor	List of any public or private infrastructure disturbed by the subproject works Minutes of meetings with the locals or affected persons.		As per need, or field-inspection if any such case is foreseen

		<p>from respective local authority for use of water for construction. Use of water for construction works shall not disturb local water users.</p> <ul style="list-style-type: none"> - If construction work is expected to disrupt, users of community shall be informed 7 days in advance and again 1 day prior to start of construction. - Coordinate with local water supply authorities to schedule any necessary rerouting or upgrades during low-demand periods, minimizing disruption. - Set up temporary water distribution points or alternative supply lines to ensure continuous access to water for affected areas. 				
Ambient air	<p>Conducting works at dry season and moving large quantity of materials may create dusts and increase in concentration of vehicle-related pollutants (such as carbon, monoxide, Sulphur oxides, particulate matter, nitrous oxides, and hydrocarbons) which will affect people who live and work near the sites (Baaskoti road, Bishal nagar road, Tulsipur road, Prithvipur road,</p>	<ul style="list-style-type: none"> - Confining earthworks according to an Excavation Segmentation Plan as part of the C-ESMP, which the contractor is required to prepare before construction begins. The C-ESMP should also include all necessary permits and documents that need to be obtained by the contractor before works commence. - Water sprinkling at dry exposed surfaces and stockpiles of aggregates at least twice daily, or as necessary. - If re-surfacing of excavated portion of roads cannot be done 	Contractor/MS T/PIU	<p>Location of stockpiles.</p> <p>Number of complaints from sensitive receptors.</p> <p>Heavy equipment and machinery with air pollution control devices.</p> <p>Certification that vehicles are compliant with air quality</p>	50,000.00	<p>Daily monitoring by MST in coordination with PIU</p> <p>Monthly visual inspection by PIU.</p> <p>Air quality measurement , once a year.</p>

	<p>Jagatpur road, Raajipur road, Sugarkhaal road, Jokahi road and Fulbari road).</p>	<p>immediately, spread of crushed gravel over backfilled surfaces</p> <ul style="list-style-type: none"> - Require trucks delivering aggregates and cement to have tarpaulin cover and maintain a minimum of 2” free board - Limit speed of construction vehicles in access roads to maximum of 20 kph. - Ensure use of equipment and fuel complying with applicable emission standards. - Do not allow construction equipment/vehicles that generate significant air pollution (above the applicable limit) and those that are poorly maintained on-site. Require all vehicles to be attested and certified for emissions compliance before use. - Conducting once a year Air Quality Test for dust nuisance (PM 10 and PM 2.5) at key locations such as settlement, Jagatpur and Prithvipurpur Bazar of Bardagoriya RM-06 during the dry working season (January-June). The tests will be carried out by the MST in coordination with the PIU or by a third party and the determined pollutants will be compared with the National Ambient Air Quality Standards (NAAQS) of 2012. 		<p>standards.</p>		
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<p>Acoustic environment</p>	<p>Construction activities will be along the Row of existing roads (Nimuwabojhi road, Matgaura road, Nauniya Puraina Taal road, Chaurashi road, Sundarpur road, Dhodharpur road, Chhatiun road, Muda Bazaar road and Puran Taal road).</p> <p>Temporary increase in noise level and vibrations may be caused by excavation equipment, and the transportation of equipment materials, and people.</p>	<ul style="list-style-type: none"> - Plan activities in consultation with local administration so that activities with the greatest potential to generate noise are conducted during periods of the day which will result in least disturbance. - Restrict noisy activities to daytime. - Minimize drop heights when loading and unloading coarse aggregates. - Horns should not be used unless it is necessary or unavoidable - Utilize modern vehicles and machinery with the requisite adaptations to limit noise and exhaust emissions, and ensure that these are maintained to manufactures' specifications at all times. - All vehicles and equipment used in construction shall be fitted with exhaust silencers. Use silent type generators (if required) - If it is not practicable to reduce noise levels to or below noise exposure limits, the contractor must post warning signs in the noise hazard areas. Identify any building at risk from vibration damage and avoiding any use of pneumatic drills or heavy vehicles in the vicinity. Complete work in these areas quickly. 	<p>Contractor/MS T/PIU</p>	<p>-Results of monitoring noise levels (Maintain maximum sound levels not exceeding 70 decibels when measured at a distance of 10m or more from the construction sites)</p> <p>-Number of complaints from sensitive receptors</p>	<p>50,000.00</p>	<p>Daily monitoring by MST in coordination with PIU</p> <p>Monthly inspection by PIU.</p> <p>Noise level measurement , once a year.</p>
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		<ul style="list-style-type: none"> - Providing ear muffers to workers operating high dB construction equipment. - Implementing regular inspection & maintenance of construction/transportation vehicles to ensure compliance with National Noise Standard Guidelines (NVMES, 2069 B.S., 2012). - Conduct noise level test once a year during the peak construction stage at specified locations near schools, health post and Jagatpur and Prithvipur Bazar. The test will be carried out by the MST in coordination with the PIU or by a third party. 				
Waste disposal	<p>Pollution of water and land resources, and cases of vector borne diseases due to haphazard waste disposal.</p> <p>Generation of solid waste and waste water from construction sites and labor camp</p>	<ul style="list-style-type: none"> - Waste minimization and waste segregation will be prioritized - Practices of composting will be promoted - Hazardous waste will be segregated from nonhazardous waste and stored in closed, labeled containers, away from direct sunlight, wind, and rain. Incompatible wastes will be kept separate by physical barriers or sufficient spacing, with secondary containment systems in place to prevent leaks. Only licensed contractors, following local and international regulations, will handle, treat, and dispose of the waste. - Waste minimization and waste segregation will be prioritized; 3R 	Contractor	On-site situation in campsites (if any), work sites and their vicinities	10,000.00	Monthly monitoring by PIU/MST.

		<p>approach will be promoted.</p> <ul style="list-style-type: none"> - Organic waste generated from the camps will be composted or properly managed in compost pit within the camp area by following the waste management guidelines. - Awareness raising event will be carried out. - Decommissioning waste will be re-used, sold to local scrap dealers. - Construction debris will be disposed at designated spoils site only (as recommended in the C-ESMP) and the efforts will be made to minimize such waste through reuse, reduction, and recycling concepts. While hauling and storing spoil temporarily, spoil will be covered with plastic/tarpaulin cover. - Backfilling will be done with an immediate effect. 				
B. Biological Characteristics						
Vegetation	<ul style="list-style-type: none"> - Loss of vegetation cover during construction works. However, at present, no tree clearance is envisaged during construction 	<ul style="list-style-type: none"> - Greenery promotion around the construction sites and road alignments where possible - Tree felling will be avoided, and if any such cases occur, prior approval from the local bodies will be received and compensatory plantation @ 1:10 will be carried out - Species of local economic significance and values will be 	Contractor	<p>Area of greenery that has been cleared</p> <p>Number of trees cut (only if unavoidable)</p> <p>Complaints or grievances by the locals</p>	1,50,000.00	Monthly monitoring by PIU/MST.

		<ul style="list-style-type: none"> - planted - Providing alternative fuel to worker for cooking - Establish, implement, and enforce a Worker Code of Conduct that expressly prohibits illegal logging, clearing, and collection of plant species in general, including fines and dismissal for repeat offences. 				
Impacts on fauna	<ul style="list-style-type: none"> - Disturbance to possible occasional movement of wildlife and birds and its surroundings from construction activities - Possible hunting and poaching by workers 	<ul style="list-style-type: none"> - Restrict noise-generating construction activities to established working hours 8 hrs. (8 AM to 4 PM) as per the Labour Act 2017. For any work outside these hours, obtain a special permit in advance. - Establish and enforce a speed limit of 20 km/hr for construction vehicles - Horn prohibited sign will be placed near the Shree Jagannath Awashiya School. There is no evidence of human-animal conflict within the project area, which is adjacent to the Water Supply Project, so additional measures for this concern are not necessary. - Establish, implement, and enforce a Worker Code of Conduct that expressly prohibits illegal logging, clearing, hunting, poaching, and collection of animal and plant species in general, including fines and dismissal for repeat offences. 	Contractor	<ul style="list-style-type: none"> - Vehicles running nearby WSP will be monitored. - Number of complaints from sensitive receptor on disturbance of hunting, poaching etc. 		Monthly monitoring by PIU/MST

		<ul style="list-style-type: none"> - Implement a worker environmental awareness program as part of worker induction to inform personnel about the prohibition of hunting and poaching and the penalties associated therewith 				
C. Socioeconomic Characteristics						
Community activities	<p>The construction related activities that impede access will disturb the local residents.</p> <p>Disturbances to local activities due to obstacle in movement during pipe laying may occur in service areas of Baaskoti, Bishal Nagar, Tulsipur, Prithvipur, Jagatpur, Raajipur, Sugarkhaal, Jokahi and Fulbari.</p>	<ul style="list-style-type: none"> - To minimize disturbances, construction work will be conducted at earliest possible. - The pipe trench will have a depth of 90 cm and a width of 60 cm. During the excavation period, caution boards will be installed, and the area will be barricaded with caution tape to ensure pedestrian safety and prevent any impact on pedestrian movement. To minimize the impact, the pipeline installation will be carried out in short sections of 500 meters at a time, with testing and backfilling completed promptly, within a week. - The local residents will be consulted and informed about the work schedule preferably a week before the construction starts and one day before the construction starts. - Temporary diversions and signboards will be provided for the pedestrian. 	Contractor	Time schedule of construction work; Information related to construction activity to local residents Number of temporary diversions sign, signboards etc.		<p>Daily (or whenever there are construction activities) by the Contractor/M ST</p> <p>Monthly visual inspection by PIU</p>

		<ul style="list-style-type: none"> - Ramps, where necessary, will be provided to ensure access to houses, and other service areas. Ramps provided will be of sturdy material and of sufficient width. 				
Labor Camp Management	Poor sanitation practices by workforce of 40 to 45 labours (15 local & 20-25 migrant) may cause pollution of surrounding environment. Social problems may arise due to bad behavior of the workforce such as gambling, alcoholism and disrespect to local people and culture	<ul style="list-style-type: none"> - Provide adequate health care facilities within construction sites and provide first aid facility round the clock - Camp shall not be in the vicinity of landslide and flood plains. - Provide and maintain proper drinking water, sewerage and waste disposal facilities at the camps. - Proper ventilation will be provided in the camp - Separate room for men and women workers will be managed. - Separate toilet will be established for male and female. - Raised bed is the minimum standard of bedding in labor camp. - Ensure no wood is burnt by any worker on or off site. Camps shall be provided free of cost, with electricity and regulator & adequate fuel supplies of LPG or Kerosene. 	Contractor	Daily entry-sheet of the workforce in the campsites Number of local people versus outside workers in the subproject area will be regularly monitored	1,00,000.00	Monthly inspection at campsites (if any) by PIU.
Occupational	During the construction	<ul style="list-style-type: none"> - Mandatory use of safety measures 	Contractor	Availability of	50,000.00	Daily (or

<p>Health & Safety</p>	<p>work, the laborers involved in the construction activities may be exposed to different level of health risks and are prone to accidents</p>	<p>(PPEs) such as mask, helmet, hand gloves and rubber boots, etc.</p> <ul style="list-style-type: none"> - The laborers will be insured for their health and safety. - Provide safe drinking water for labours - Prohibit child labour and forced labour in all construction activities. - Provide OHS orientation training to all new employees to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow employees - Provide comprehensive training to all workers on occupational health and safety practices. Training should consist of basic hazard awareness, sites specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training. - Contractor will arrange the First Aid Kit Box and standby medicine for workforce during working period and emergency situations. Adequate and easily accessible first-aid outfit should be available on the site. Some of the work force should be trained to use the outfit. The 		<p>personal protective equipment, First-aid facilities, Medical insurance coverage for workers, Housekeeping and condition of sleeping and sanitation facilities at campsite (if any), Roster of workers</p>		<p>when there is a construction activity) by the Contractor/MS T.</p> <p>Monthly visual and document inspection by PIU</p>
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		<p>contractor should also make provisions for an ambulance to take injured or ill person to the nearest hospital, if needed</p> <ul style="list-style-type: none"> - Adopt systematic labor registration procedures keeping up-to-date information of all workers including contact details of the person to be contacted in case of emergency. 				
Social Harmony	<ul style="list-style-type: none"> -Changes in social structure, cultural and traditional practices of the rural people due to exposure to the outside workforce - Conflict between Local and Outside Workers and erosion of law and order situation of the project area 	<ul style="list-style-type: none"> -Workforce will be informed about the culture and living style of the project area. They will be instructed to respect the locally accepted culture and living style. - Special instruction will be given to all workers to act in responsible manner during and after the working hours, respecting the rights, properties and practices of local people. - The use of local workers will be maximized in order to mitigate the impact. The use of locals will not only help in minimizing the adverse impact associated with the change in lifestyle but also a milestone to enhance the local economy through employment and cash flow. - Preference will be given to the local people in project related jobs and subsidiary opportunities - Construction workers from outside the project area will be well-informed about the general norms and values of society before deployment. The construction workforce will be 	PIU/RM/MST/ Contractor		-	Daily inspection

		<p>instructed to respect local people, especially the female members and the local culture and tradition.</p> <p>-A code of conduct (CoC) will be prepared for the construction workforce and the project staff on how to behave with the local people of the project area, which besides others will include a) Respect to the local people their culture, traditions and women; b) Not indulge in any conflict with the local people; c) Not to gamble with the local community people; d) Not to drink alcohol outside the construction camps and roam local markets after consuming alcohol.</p>				
GRM, Social Disturbance / Risk of SEA/SH, Human trafficking, GBV, HIV AIDS and Communicable diseases	During the construction work, the laborers including the community, may be exposed to risk of SEA/SH, Human Trafficking, GBV, HIV AIDS and Communicable diseases.	<p>(i) Regarding SEA/SH, GBV</p> <ul style="list-style-type: none"> - Locals will be given due priority for any employment opportunity - GRM will be established for the workers, focal person handling GRM including SEA/SH will be assigned, and every laborer will be informed of the GRM. - Follow Code of Conduct which applies to staff, laborers and others employees at works ite, personnel of subcontractors, any other personal assisting in the execution of the subproject works. - CoC will be COC signed, oriented on the CoC to ensure it 	PIU/MST	Regular monitoring and supervision of construction site/ camp <ul style="list-style-type: none"> - Information related to SEA/SH, Human trafficking, GBV, HIV AIDS and Communicable diseases 	50,000.00	Daily (or when there is a construction activity) by the Contractor. MST/ PIU Rural Municipality

		<p>is understood by those signing, and strictly adhered to and monitored for all workers. Signed copies of code of conduct will be maintained.</p> <ul style="list-style-type: none"> - Separate toilets will be provided for male and female workers - SEA/SH, GBV awareness raising activities, trainings and stakeholder engagements such as - community based-awareness program, school based awareness program. The GRM focal person related to GBV (Paanmati Rana) of Department of Women and children under social development unit of Bardagoriya RM will be part of trainings, awareness programs regarding SEA/SH. - Awareness program for women and against the gender-based violence will be conducted for the workers as well as the local community including school children regarding these concerns - 4 orientations/trainings with at least 25 participants in each training; to be conducted during Pre-construction and during Construction period. <p>(ii)HIV AIDS & Communicable</p>				
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		<p>diseases</p> <ul style="list-style-type: none"> ▪ Awareness creation and sensitization to workers and other persons post- project to reduce or eliminate chances of infections of HIV-AIDS and other sexually transmitted diseases ▪ Distribute HIV & AIDS awareness materials in collaboration local health related agencies ▪ Ensure protective measures for communicable diseases is followed, prepare and follow SOPs by all workers and staff (hand washing, using sanitizer, masks etc.) including the community health and safety awareness and management ▪ Health screening of the workers will be carried out before joining them into workforce ▪ Emergency Response Plan will be implemented during any critical circumstances (e.g. CoVID spread) 				
Child labour, forced labour and wage discrimination	During the construction work, the laborers involved in the construction activities may be a Children	<ul style="list-style-type: none"> - Ensure at least 33% of female workers in construction, operation and maintenance activities. - Grievance Redress Mechanism will be established for labor issues, focal person handling worker related GRM will be assigned and every laborer will be informed of the GRM. - Grievances box will be installed in contractor and labor camp. 	PIU/ MST and Contractor	- Copies of citizenship card or other valid personal ID card will be seen if any doubt		Daily by the Contractor. MST Monthly visual inspection by PIU

		<ul style="list-style-type: none"> - Child labour & forced labour will be strictly prohibited - Copies of citizenship card or other valid personal ID card will be kept in record of the workers - Awareness among the workers and the local community (at least two) will be conducted - Equal wage for male and female workers will be ensured 				
Community Health & Safety	Overall, communities will be exposed to cross-cutting threats from construction's impacts on air and water quality, ambient noise level; Chances of accidents, Communicable and transmittable diseases may potentially be brought into the community by construction workers	<ul style="list-style-type: none"> - Contractor's will maintain adequate space and adequate lighting, temporary fence, barriers and signage at worksites; - Children and community members will be prohibited from active construction sites - Proper fencing of stockpile areas - Awareness programs on communicable diseases and hygiene practices will be carried out - Disseminate the GRM to communities and affected stakeholders during consultations, community meeting, disseminate through local media and newspaper. - Sensitive localities in terms of risk of this environmental, social and health related impact is Bardagoriya Rural Municipality ward-06. - Inform and regularly update and organize awareness campaigns targeting the affected 	PIU/MST and Contractor	<ul style="list-style-type: none"> -Number of permanent signs, barricades and flagmen on worksites -Number of complaints from sensitive receptors; Number of walkways, signs, and metal sheets placed at subproject location 	100,000.00	<p>Daily by the Contractor/ MST.</p> <p>Monthly visual inspection by PIU</p>

		<p>communities, including vulnerable groups, about potential project hazards and changes to project activities that may have environmental, health, or safety impacts, as well as the proposed prevention, mitigation, and emergency response measures.</p> <ul style="list-style-type: none"> - Active sites will be well demarcated and bounded. Excavated sites will be well bounded with hard barricades. - Unauthorized entry to active construction sites and stockpile sites will be strictly regulated. - Movement of vehicles for construction activities will be strictly regulated under safety guidelines. - Code of conducts will be implied for the workforce so that they have no conflict with the local communities. - Provision of ramps will be made where trenching works are being carried out to provide access to houses and businesses. 				
3. During Operation and Maintenance Phase						
Exposure to chemicals	Excessive exposure to chlorine, hypochlorous acid, and hypochlorite ion generally results in irritation of the esophagus, a burning sensation in the mouth and throat.	<ul style="list-style-type: none"> - All disinfection chemicals require proper storage and handling practices - Provide safe storage for chemicals - Ensure that the person is hired, with knowledge of chlorine use for disinfection process during 	Contractor during DLP; WSUC or Operator after DLP	Visual inspection		Daily (or as needed) by the operator.

		<p>operation</p> <ul style="list-style-type: none"> - Ensure use of PPE while using chemicals - Use of chlorine guideline as per WHO - Training on the handling and on dosage of the chemicals will be given to the staff. Ensure there is storage area for chemicals in compliance with the Material Safety Data Sheet (MSDS) for each substance. This includes: <ul style="list-style-type: none"> • Storing chemicals in appropriate containers that are compatible with the substances. • Ensuring proper labeling and segregation of incompatible chemicals (e.g., acids and bases, oxidizers and flammables). • Maintaining temperature, ventilation, and humidity controls as specified in the SDS. • Implementing secondary containment measures to prevent spills or leaks. - Ensuring easy access to spill kits, eye-wash stations, and fire extinguishers in case of emergencies." - Additional measures, as required, will be defined in the O&M manual of the water treatment facility and operation of the pipeline. 				
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Water bodies	Water pollution due to effluent produced from the periodic Back washing of the filter plant, if discharged directly to the river course may cause harm to the water bodies and aquatic life especially during the dry season when flow will be less.	<ul style="list-style-type: none"> - A settling tank is proposed for decanting of the slurry from the effluent during backwash 	Contractor during DLP; WSUC or Operator after DLP	Visual inspection Effluent sampling		<p>For first year, DSMC After that WSUC daily inspection or as needed.</p> <p>Effluent sampling by the operator, only when necessary or practical.</p>
Drinking water supply system	Delivery of unsafe water due to source contamination, leakage in pipes	<ul style="list-style-type: none"> - The operations and maintenance plan and training for staff will cover; - (i) Competent/cautions handling and storage of calcium Hypochlorite and qualified persons to implement/oversee disinfection and treatment;(ii) Providing safe storage for chemicals; in compliance with the Material Safety Data Sheet (MSDS) for each substance. - (iii) ensure capacity of WSUC to implement quick response to hazardous substance/waste spills; - (iv) Implement Safeguard Policy Statement (SPS)-complaint EMP and a WSP. This policy ensures that the water supply sub-project is environmentally and socially sustainable; and 	Contractor during DLP; WSUC or Operator after DLP	Visual inspection Water Quality reports WTP records in the logbook		<p>Daily or as needed visual inspection by the operator.</p> <p>Quarterly or as needed water quality testing by the operator.</p>

<p>-Impact on Water Pollution</p> <p>-Pollution and nuisance due to sludge removal and its disposal</p>	<p>If the effluents from the WTP and waste water from the labor camp is not well treated, then there will be risk of pollution of local water bodies due to the discharge of effluent and liquid waste. However, likeliness of occurrence of this case is very low.</p>	<p>(v) Monitor water quality.</p> <ul style="list-style-type: none"> - The treatment plant will be cleaned on regular basis. - Quality of the effluent will be regularly monitored to ensure that the effluent meets the GoN tolerance limits of discharge of waste water from combined wastewater treatment plant - The operation and maintenance of the WTP will be carried out on timely and regular basis as per it O&M plan. - Standard Operation Procedure (SoP) will be adopted for the operation of WTP. - Floc produced from WTP will be disposed to Tikapur FSM treatment Plant. - Sludge will be handled only by designated trained team authorize by the municipality and taken to the Tikapur fecal Sludge management (FSM) treatment plant. - Sludge will be disposed to the sludge drying bed or other designated place under coordination and permission of the municipality 	<p>Contractor during DLP; WSUC or Operator after DLP</p>	<p>Visual inspection Water Quality reports WTP records in the logbook</p>		<p>Daily or as needed visual inspection by the operator. Quarterly or as needed water quality testing by the operator.</p>
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4.2 Capacity Development and Training

To enhance the capacity of officials for effective implementation of proposed mitigation measures and monitoring the resultant effect, as well as create awareness among workers and supervision staff, trainings and awareness programmes have been planned and is given in Table. The PMU, PST, PIU, MST can be consulted for such trainings. Experts/Consultants can also be the resource persons to impart trainings. These experts shall be appointed based on specific need for the training.

Table 8: Details of proposed training program

S. N	Title	Objective	Time of training	Duration/Days	Participants
1	Orientation on E&S by PMU/PST to MST/PIU.	-ESMF requirements -Roles & responsibilities of contractor & MWASH unit - Identification of social issues -Addressing social impacts -Preparing mitigation plans	Pre-construction stage(when contractors are substantially mobilized)	1 Day	PIU/MST/Contractor/MWASH unit
2	Environmental and Social Management Plan (ESMP) Implementation Training by PMU/PST to MST/MWASH Unit	-To implement ESMP efficiently and accurately, leading to unfavorable impacts to environment workers and community.	Before mobilization of contractor	1 Day	PMU/PST/PIU/MST/MWASH unit
3	Focused training on specific issues by PIU/MST to Labours/Contractor	-Issues relating to wage parity, child labour etc.	During construction or when needed	½ Day	PIU/MST/Contractor/MWASH unit
4	Training on STDs/ HIV Aids issues by	-To increase the level of awareness	During construction	1 Day	PIU/MST/Contractor/MWASH unit

	MST/PIU to labour/Contractor	about prevention and control of STDs/HIV Aids among communities			
5	Training on occupational Health by PIU/MST to labours/Contractor	-To ensure the safety health and welfare of labours and others who may be affected	During construction	1 Day	PIU/MST/Contractor/MWASH unit
6	Road safety by PIU/MWASH unit/MST to labours/contractor	-To raise road safety consciousness among the road users	During construction/During trench excavation along the road.	1 Day	PIU/MST/Contractor/MWASH unit
7	Operation and Maintenance of the Facilities (O&M Manual)	-To train the O&M staff on the implementation of operation phase E&S measures	During the DLP	1 Day	PIU/MWASH unit

4.3 Summary of cost of ESMP activities

The summary of costs for Environmental and Social Management Plan (ESMP) activities during the construction and operation phases itemizes expenses under various subjects, as shown in Table 9. These costs exclude mitigation actions that are typically the contractor's responsibility. Most physical environmental impact mitigation costs are included in the project cost or associated with contract bids, with some measures being non-cost bearing.

Mitigation costs for operation phase activities, such as infrastructure rehabilitation and periodic maintenance of the Matgaura WSP are not included. The proponent will cover all environmental management costs beyond the contractor's legal liabilities and the legal roles & responsibilities of governmental institutions.

Table 9: Summary of costs of ESMP Activities

S.N.	Items & Headings	Unit	Qty.	Rate	Total, NPR	Reference
	Provisional Sum amount					
1	Water quality test	Samples	12	5000	60,000.00	Dhangadhi Lab

2	Air quality and Noise level monitoring	Samples	2	50,000	1,00,000.00	Consulting with the air, water and noise level monitoring lab. (Once in a year)
4	Greenery promotion	Job	LS	1,50,000	1,50,000.00	Consulting with Nursery.
5	Labour Camp Management	Job	LS	1,00,000	1,00,000.00	
6	Water Sprinkling	Job	LS	50,000	50,000.00	As per the site accessibility.
7	No horn sign installation	Job	LS	20,000	20,000.00	As per local market price
7	Waste collection bins	Job	LS	10,000	10,000.00	As per local market price
8	First Aid and PPE	Job	LS	75,000	75,000.00	As per local market price
9	Environment and Social Awareness, Worker's & Community's Health and Safety and WASH Promotion (Events will be conducted by MST/PIU/MWASH unit for workers as well as community)					
(i)	Environmental and Social Awareness (during Pre-construction phase and construction phase; at least 30 participants/event)	Events	2	25,000	50,000.00	
(ii)	Occupational Health and Safety (including GBV, SEA/SH, HIV AIDS & Communicable diseases at least 35 participants in each orientation/training, during pre-construction and construction phase)	Events	2	25,000	50,000.00	
(iii)	Community level awareness on WASH and Sanitation and on SEA/SH	Events	2	20,000	40,000.00	
10	Stockpile/Construction Waste Disposal Management	Job	LS	1,40,000	1,40,000.00	
11	Environment & Social safeguards (grievance meetings, site monitoring, etc.)	Meetings /Events	18	8,000	1,44,000.00	
12	Information dissemination materials and medium					
	(a) Leaflets	Job	LS	10,000	10,000.00	Consulting with local press & media.
	(b) PSA (local media)	Job	2	25,000	50,000.00	Consulting with local press and media.
	Total				10,49,000.00	

(In Words: Ten Lakhs and Forty Nine Thousand Rupees Only)

Note: Environmental Mitigation will be covered from Provisional Sum A2 in Item no.2 of Contactor's BoQ & Community level awareness program will be conducted by PIU & MST

4.4 Environmental and Social Monitoring

Environmental monitoring is an essential aspect of environmental management. It consists of collection of data to measure environmental changes associated with implementation of the proposal. The purpose of monitoring is to investigate and understand the quality of the environment prior to implementation of the proposal and keep records of the impact of implementation of the proposal on the environmental quality so as to provide reliable information and scientific basis for environmental management. Therefore, environmental monitoring is a mechanism which evaluates whether the mitigation actions were actually carried out or not and evaluates the effectiveness of the implemented measures to curb the perceived impacts or identify unforeseen impacts for further corrective actions to avoid or minimize the impacts before it is too late.

Existing Environment Protection Act, 2076 and Environment Protection Rule, 2077 obliges the proponent to comply with the matters mentioned in the environmental management plan and provides the responsibility to the concerned department or ministry; these are basically related with the projects requiring environmental studies pertaining to these laws. Rule 45 of Environment Protection Rule, 2077 indicates towards self-monitoring of environmental impacts of implementation of the proposal and submit the report to the concerned agency.

Basically, two types of environmental monitoring will be carried out for this project: Impact Monitoring and Compliance Monitoring.

Impact monitoring will be carried out to assess the actual level of impact due to project construction. The impact monitoring includes:

- Monitoring of the impacts of the project on physical, biological and socioeconomic and cultural environment of the area;
- Monitoring of the accuracy of the predicted impacts;
- Identification of the emerging impacts due to project activities or natural process and development of remedial action; and
- Monitoring of the effectiveness of mitigation measures.

Compliance monitoring will be conducted to monitor the compliance of the proposed mitigation measures and regular monitoring activities by the PIU/MST. The compliance monitoring will mainly focus on:

- Compliance of the mitigation measures and specification in accordance with the environmental and social management plan;
- Allocation of adequate budget for implementation of mitigation measures and monitoring;
- Compliance of existing act, regulation and guidelines and mandate relevant with the proposal; and
- Overall environmental and social performance of the project.

E&S Reporting:

The MST is responsible for the day to day monitoring and reporting of the Contractor's E&S compliance. The MST will prepare monthly E&S progress reports and submit them to the PIU. The PIU will compile these monthly reports and, in coordination with MST, prepare a quarterly monitoring report. This quarterly report will then be submitted to the PMU, which will share it with the World Bank. In addition to these regular reports, the PMU, in coordination with the PIU, PST, and MST, will prepare an annual E&S monitoring report. This annual report will also be shared with the WB.

The monitoring plans have been presented in the form of matrix/table below. The plan includes the parameters to be monitored, the measurable indicators, the method, location and schedule. The schedule of monitoring will be daily, weekly, monthly, quarterly, half yearly or annually depending on the parameter and type of monitoring.

Table 10: Compliance Monitoring Plan

Issues	Indicators	Method	Schedule	Location	Responsible	Agencies to be consulted
Construction Phase						
Approval of operation plan of Bardagoriya Rural Municipality with proposed intervention	Approval letter	Review of approval letter	Prior initiation of work or Prior procurement	Bardagoriya Rural Municipality	PIU/MST	
Implementation of recommendations (mitigation and enhancement measures and monitoring requirements)	Inclusion of each of the environmental considerations from the tender documents in the contractor's or executor's work plan e.g. C-ESMP, Traffic management Plan, Earthwork Segmentation Plan, as applicable)	Review of proposed work plans, submitted by contractor or executing authority	During contract negotiations	Bardagoriya Rural Municipality	PIU/RM	
Mitigation management (Compliance with ESMP)	Budget allocation for mitigation measures and monitoring	Review of project budget document	Annual	Bardagoriya Rural Municipality	RM/PIU/MST	
Implementation of construction phase monitoring	Monitoring report and budget allocation for corrective actions	Review of monitoring report and budget allocation for corrective actions	Annual	Bardagoriya Rural Municipality	RM/PIU/MST	
Operation Phase						

Operation phase mitigation management	Budget allocation for mitigation measures for operation phase	Review of project budget document	Annual	Bardagoriya Rural Municipality	RM/PIU/	
Implementation of operation phase monitoring	Monitoring report and budget allocation for corrective actions	Review of monitoring report and budget allocation for corrective actions	Annual	Bardagoriya Rural Municipality	RM/MWAS H	

Table 11: Impact Monitoring Plan

Parameter	Indicators	Method	Location	Frequency & Schedule	Agencies to be consulted
Construction Phase					
Physical Environment					
Air quality	Dust and smoke	Field observation	Construction area and access road	Once in a Year	
Noise pollution	Noise level	Field observation and discussion	Construction site and access road	Once in a Year	
Land pollution	Open defecation and garbage disposal places	Direct observation	Disposal site	Daily	
Biological Environment					
Vegetation	No. of trees felled and area of site cleared	Site observation and record checking	Embankment site	Daily	
Socio-economic and Cultural Environment					
Existing infrastructures	Damages of road and culvert, access to houses	Observation and discussion with local people	Access road	Weekly during construction	
Law and Order	Incidents of different types of crimes in the project area; complaints in the local police	Discussions with the local people and the local police	Project area and surrounding	Monthly during construction	Local Police Office
Labor Issues	Number and type of grievances related to workers, number of grievances resolved, labor records	Site visits, visual inspections, reports and photographs, review of workers' grievances register		Regular	

Information disclosure, stakeholder engagements, GRM	-Number, type and topic of engagement activities Number, type and status of grievances -Number and type of engagement activities with vulnerable groups	Observation, discussion with the locals, GRM register and other reports/documents		Regular	
Occupational health and safety	Cases of accidents and injury	Observation and record checking	Active construction sites	Weekly	Health institutions
Traffic and road safety	Status of road for use; road accidents	Observation and record checking	Observation and record checking	Daily	
Gender, children and vulnerable group	Number of such people employed	Review of attendance and discussion	Construction site	Weekly	
Operation Phase					
Physical Environment					
Land pollution	Open defecation and garbage disposal places	Direct observation	Water Supply & Sanitation Project site and surrounding	Monthly	
Biological Environment					
Vegetation	Survival of plantations	Site observation and counting	Plantation sites	Monthly for 5 years	
Socio-economic and Cultural					
Existing infrastructures	Damages of road and culvert	Discussion with local people	Access road	Monthly	
Law and Order	Incidents of different types of crimes in the project area; complaints in the local police	Discussions with the local people and the local police	Surrounding settlements	Monthly	Local Police Office
Gender and social inclusion	Involvement of women and vulnerable groups in tourism business	Interview with local people	Water Supply & Sanitation Project site and surrounding	Biannually	Municipality/ Wards
Livelihood of local users	Involvement of users in commercial agriculture/tourism	Interview with local people	Water Supply & Sanitation Project site	Annually	Municipality/ Wards

	business/other related ventures		and surrounding		
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4.5 Implementation Schedule

The project is schedule for implementation after completion of tender process, which will be after the approval of all project documents (Design and drawing, cost estimate and ESMP) and completed within 18 month form the date of contract signing.

4.6 Project Environmental Management Framework and the Key Stakeholders

Overall project environmental management framework is the responsibility of the project proponent, Bardagoriya Rural Municipality. The Bardagoriya RM under its leadership will form a project implementation committee (PIC) including all other local level stakeholders. The PIC will procure construction contractor and oversee the overall construction activities. It will also monitor the performance of environmental and social safeguard measures.

The key stakeholders including the Bardagoriya Rural Municipality, to be involved in the project management are:

- a) **World Bank:** Implementation of World Bank’s Environmental and Social Framework (ESF), work plans, directives and guidelines as required, review monitoring report.
- b) **Project Implementation Unit (PIU):** The PIU will supervise the Municipality Support Team (MST) to aid in infrastructure development, construction oversight, and reporting. It will spearhead federal and provincial efforts to enhance sector governance, institutional capacity, and resilience of water supply and sanitation infrastructure through integrated watershed management, in collaboration with the municipalities.
- c) **Municipal WASH (M-WASH) Unit:** It include developing WASH governance, policy, and institutional arrangements, programming and regulation of municipality-wide water and sanitation services, as well as planning, managing, and monitoring the implementation of local water supply and sanitation services as provided for by the Constitutional provision and Local Governance Operations Act, 2017.
- d) **Project Support Team (PST):** The PST supports the Municipal Support Team by offering guidance on local project execution, capacity building, and community engagement, while also aiding the Project Management Unit (PMU) by providing essential data, reports, and on-the-ground insights to inform decision-making and ensure alignment with project objectives.
- e) **Municipal Support Team (MST):** MST offer specialized technical aid to the PIU, focusing on governance, institutional support, planning, design and construction supervision of infrastructure project. It aims to strengthen the M-WASH Unit's capacity in planning and managing water and sanitation services effectively. MST is also responsible for contractor’s daily compliance monitoring.
- f) **Contractor:** The Contractor is responsible to plan, execute, supervise, inspect and direct a construction project from start to finish regardless of the scope of the project.

The contractor ensures that the project complies with the ESMP and all the specifications as outlined in the contract documents.

- g) Sub-Contractor:** Subcontractor/Supplier is an institution, awarded a portion of an existing contract by a principal or general contractor. Subcontractor/Supplier performs work under a contract with a general contractor. Essentially, a Subcontractor/Supplier will perform and abide by all the obligations of the principal or general contractor's contract, including compliance to ESMP and all specifications in the contract documents.
- h) E&S Specialist/E&S Consultant:** The E&S Specialist are there in PMU, PST and MST who carry out the required E&S assessments and prepare reports. They provide guidance to PMU and PIU for effective implementation of ESMP recommendations. The MST E&S Specialists support the PIU to carryout day to day compliance monitoring of the Contractor's responsibilities. The Contractor will hire its own E&S Specialists to implement its E&S responsibilities as per the contract. In the guidance of PST/PMU E&S specialist, E&S specialist of MST prepare the site-specific environmental and social management plan (ESMP) report. E&S specialist support and provide guidance to PIU to ensure that the relevant E&S instruments/ESMP/ESSR/ESCoP etc. and also effective implementation of these reports for the sub-projects.
- i) Affected Wards, Municipality and District Coordination Committee (DCC):** Provide recommendations to the proponent with comments and suggestions and assist proponent in the project implementation.

4.7 Social Accountability and Grievance Redress Mechanism (Project level GRM and Central GRM)

The stakeholders may raise any grievances related to the impacts on them or any other grievances. Such types of grievances need to be addressed through Grievance Redress Mechanism (GRM) for timely response on stakeholder's query and concerns. At first instance, the project-affected grievant should raise their grievance with the Grievance Committee of the project, and the Grievance committee will determine whether it can be resolved within the project, at the ward level, or whether another mechanism should be used. The records will be kept properly.

A Grievance Redress Mechanism has been set up to allow stakeholders including PAPs to raise any concerns or complaints, or to appeal any disagreeable decisions, practices and activities arising from the project including compensation for land and assets (if applicable). Information about GRM will be published on the municipality's website, will be pasted at public space in the sub-project area, in the notice boards of municipality and ward offices. Locals will be encouraged to make use of the GRM established for the sub-project to raise any complaints/grievances induced due to this sub-project. Stakeholders will be made fully aware of their rights and the procedures.

The project municipality level GRM has been established and the Bardagoria RM Level Grievance Redress Committee (GRM) has been formed under coordination of the Chairperson of the Bardagoriya RM (Mr. Karna Bahadur Kunwar). At the RM level, the composition of GRC includes RM Vice Chairperson, Administrative officer, PIU Manager, MWASH Unit. (The details are provided in Annex 2). Likewise, Ward level GRC has also been formed at project's ward level. At the Ward level, the staffing of the Grievance Redress Committee (GRC) includes ward representatives, WSUC Chairman, PIU representative under coordination of Chairperson of WN 06. Mr. Ram Krishna Dangaura Tharu. The notice regarding formation of ward Level GRC and RM Level GRC has been published and shared to the stakeholders.

The second level GRC is at the PMU level, comprising members from the PMU. This committee formed under the chairmanship of the Project Director (PD), the staffing of the Grievance Redress Committee (GRC) includes Social Development Expert of PMU and one other employee appointed by the PD. These three -member committee can also seek the help of external experts or organizations if necessary to investigate and address complaints. Special project grievance mechanisms such as on site provision of complain hearings allows project affected persons to get fair treatment on time. The subproject will also handle issues regarding the compensation damages done during construction. The details of the proposed GRC structure and GRM process were discussed during public consultations with stakeholders in all levels.

Grievances about GBV

There is an existing GRM put in place for the project which will also be used for addressing GBV and SEA/SH-related issues at the PMU. In case of sub-project, there is Department of Women and Children (DWC) under social development unit of Bardagoriya Rural Municipality to carry forward the GBV/SEA/SH issues. The Bardagoriya RM has nominated GBV and SEA/SH focal person (Ms.Paanmati Rana). However, the PIU/MST will also map out any GBV service providers in the project area so that the focal person can also access any support and timely advice in cases related to GBV and SEA/SH. The project will place its uppermost priority on handling and managing the GBV-related grievance by maintaining full confidentiality of the survivor. The first responders of the grievances in relation to GBV will be the GBV focal person and the focal person will be trained on managing and handling such grievances. GBV referral pathway will be established and communicated to both PMU at the DoWSSM and local level. Further, the GRM will also put in place a system to immediately notify both the PMU and the World Bank of any GBV complaints, with the consent of the survivor. In accordance with the World Bank's requirements, the PMU, in collaboration with the World Bank, will prepare and implement the SEA/SH Action Plan during the project's implementation.

Organogram of E & S activities

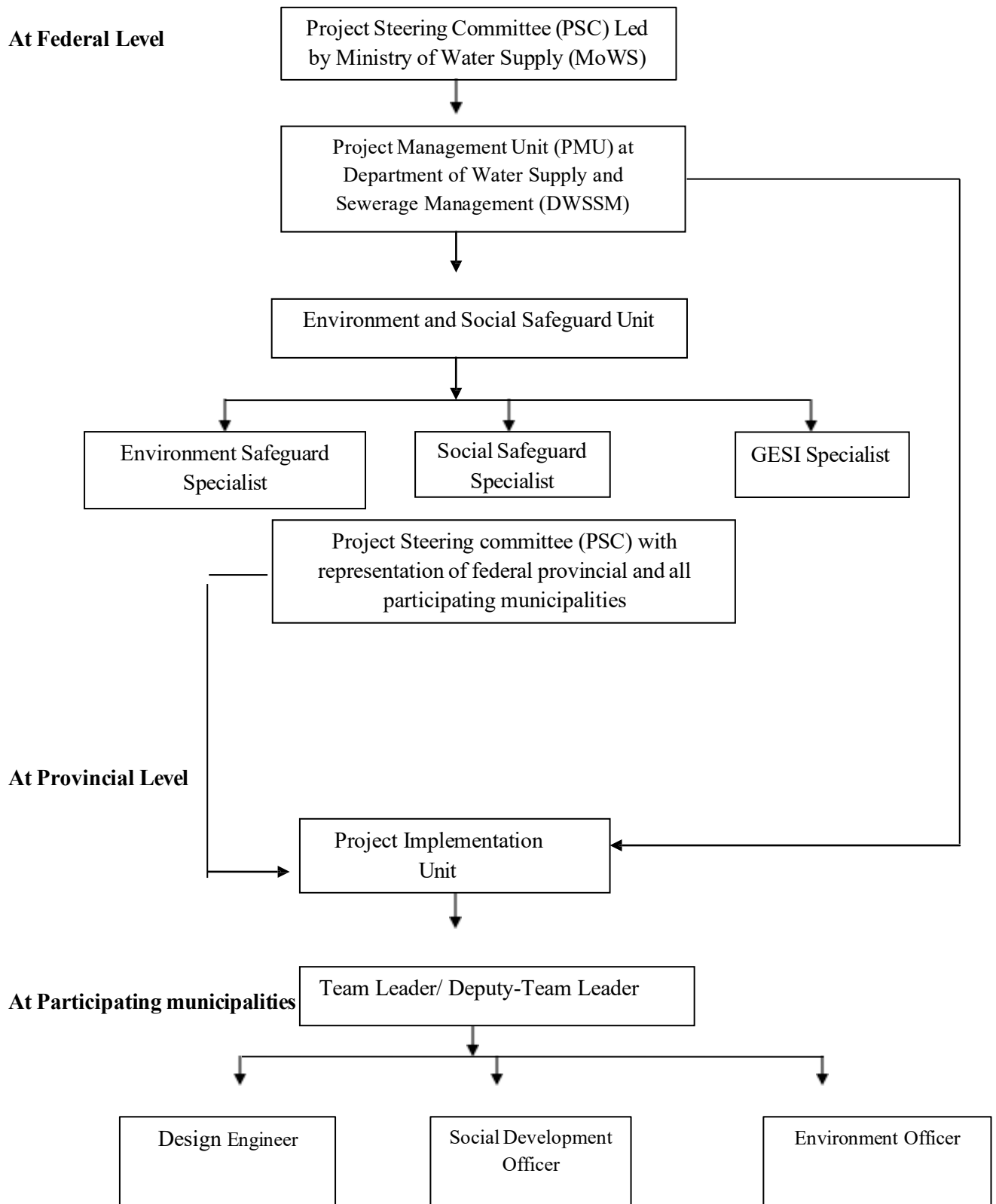


Figure 4: Organogram of E & S activities related to the project

5. STAKEHOLDER ENGAGEMENT AND INFORMATION DISCLOSURE

5.1 Public Consultation

Public consultation meetings, and Key informant interview (KII) were used to engage as many locals as possible during the public consultation process. The details of design aspects of the sub project, social & environmental risk, and GBV aspects were discussed during the public consultations. Separate consultations with women, Dalits, and Tharu and other disadvantaged groups living in the service area were organized to discuss potential E&S issues related to proposed water supply sub-project. (Please see annex II for details) The major concerns discussed during the public consultations were as followings;
Decisions made during consultation with water users', women's vulnerable peoples.

- A detailed discussion was held regarding the proposed upgrade of the Matgaura WSP located in Bardagoriya Ward No. 06, with the participation of all concerned stakeholders. It was agreed that the project should be constructed promptly and with quality. Information was also provided on the construction methodology and preventive measures to be adopted during implementation.
- A thorough discussion was held regarding the prioritization of local residents for employment opportunities during the construction phase of the project.
- Currently, incidents such as violence, child labor, gender-based discrimination, and child marriage are not significantly observed within the proposed project area. However, discussions were held and awareness was raised to prevent such sensitive incidents in the future, and guidance was provided on precautions to be taken should such issues arise.
- Although problems related to domestic violence and gender discrimination are not currently seen in the project area, discussions were held and information shared on codes of conduct to be followed to prevent possible disputes or undesirable behavior between external workers and the local community. Further discussions were also held on issues such as gender-based violence and discrimination, as outlined in the Environmental and Social Management Framework (ESMF).
- It was discussed that information regarding the Environmental and Social Management Plan can be obtained from the rural municipality office. In addition, an in-depth discussion was held on various environmental and social issues that may arise during project implementation and on the measures to resolve them.
- A detailed discussion was held on potential environmental problems during construction, such as water, noise, and air pollution, and on their mitigation measures.
- It was discussed that the vacant land within Ward No. 06 near the OHT (Overhead Tank) area would be suitable for the contractor's camp and worker shelters.
- The participants reiterated that the Environmental and Social Management Plan is accessible through the rural municipality office, and further discussions were held regarding potential environmental and social issues during construction and their solutions.
- A detailed discussion was held regarding giving first priority for employment, based on capability, to local residents during the construction of the Matgaura Water Supply and Sanitation Sub-Project.
- It was decided to request for subsidies for the installation of household taps and toilet construction for ultra-poor households during the implementation of the Matgaura Water Supply and Sanitation Sub-Project.

- A decision was made to conduct orientation programs for the targeted groups/communities of the Matgaura Water Supply Project on income-generating training and empowerment.

For instance, the group of directly beneficial people is those living nearby WSS project area. The aim was to identify possible environmental and social impacts that might arise from the proposed project activities. Moreover, the applicable suggestions and recommendations have been incorporated in the proposed project design/ESMP preparation. According to the site survey during the ESMP, within the directly impacted area of Bardagoriya Rural Municipality ward no.6, people expressed their concerns about various kinds of environmental impacts caused by the project. People around the selected site of Bardagoriya expressed some comments on construction at that site, citing noise and other impacts to the surrounding communities. Public concerns and corresponding mitigation measures are summarized in table;

Table 12: Public concern and Mitigation Measures

Public concerns	Mitigate measures
Dust during construction	Regular water sprinkling and speed limits
Noise during construction	Prepare reasonable construction program; Avoid night construction as much as possible;
Wastewater and solid waste from construction camps	Use existing living facilities as much as possible; Build septic tanks on Public Toilet construction sites; Transport solid waste to location or landfills designated by local environmental and sanitary authorities;
Noise generated during trench excavation work and other construction activities	Select low-noise equipment; Deploy acoustic barriers
Accident may occur during trench excavation	Immediately backfilling and placed the caution board at both side of excavated trench. Pre-inform to the

5.2 Stakeholder Consultations Plan for Implementation Phase

Consultations during the implementation phase will include direct interactions with the Project Impacted Persons. PIU, MST and the contractor will conduct regular consultations with PAPs as well as local user’s committees, local unit of electricity office, and other stakeholders. All consultations on social and environmental issues carried out during implementation of subprojects will be held in an inclusive manner, including vulnerable social groups and women. Public consultation will be taken as a continuous process during the construction phase as well. The stakeholder engagement plan will be as per the Table 13 below.

Table 13: Stakeholder Engagement Plan

During Construction				
Topic	Stakeholders	Engagement Method	Frequency	Responsibility
▪ Disclosure of ESMP (and updated	▪ Bardagoriya Rural Municipality	▪ FGDs and targeted outreach activities with women, IP	Periodically throughout project implementation	PIU/MST Contractors

<p>ESMP), including C-ESMP</p> <ul style="list-style-type: none"> ▪ ESMF, SEP, and LMP ▪ Delineate Labour Influx Management Procedures ▪ Activities planned for SEA/SH and GBV ▪ Awareness of HIV and other communicable diseases ▪ GRM for SEA/SH ▪ Project GRM ▪ Planned construction activities 	<p>and concerned officials of the Municipality and MWASH Units</p> <ul style="list-style-type: none"> ▪ Project affected Ward chairs ▪ Tole Committees ▪ Local Community of the project area ▪ Community Leaders ▪ Local CBOs and NGOs working on WASH and GBV 	<p>organizations, and other vulnerable groups, such as Dalits (Application of audio/visual communication techniques and other accessible formats)</p> <ul style="list-style-type: none"> ▪ Community radio and local media ▪ Notice Boards ▪ Periodic information disclosure activities 	<p>For planned construction activities, the community will be informed a week before the construction work and a day before construction work in the construction-planned areas.</p>	
<ul style="list-style-type: none"> ▪ Beneficiary satisfaction survey 	<ul style="list-style-type: none"> ▪ Target beneficiaries of the project 	<ul style="list-style-type: none"> ▪ Beneficiary satisfaction survey 	<p>The first survey after two years of implementation, and last survey during the final year of operation</p>	<p>PMU/PST/MST</p>

5.3 Information Dissemination

For the success of the project, all information about the proposed activities and their expected results will be publicly shared with the Project area people and interested stakeholders. In collaboration with the relevant local authorities and other community groups, the project will disclose all the relevant information in the various stages of project cycle. Agencies working for environmental and social aspects will also be informed about the on-going and planned activities, to identify jointly appropriate protective or corrective measures. All the relevant E&S documents will also be published in the PMU website. The following approaches will be adopted to make information accessible to all the concerned stakeholders throughout the project cycle;

- Mass Media: Use local media like newspapers, radio and TV.
- Meeting/Workshops, Targeted FGDs, Notice Boards, social media, consultations
- Distribution of project documents, information leaflets and brochures: Certain project documents will be disclosed in Nepali (if necessary in other relevant local language). Project-related information materials will be distributed prior to each construction work

to local officials, local people, stakeholders, and other concerned offices like municipality, ward, and community leaders, Tole Committee, relevant CBOs and NGOs.

The municipality office will serve as the project-level information sharing point during implementation and will disseminate all the documents related to the project activities. Based on the public information disclosure policy, the municipality will unveil the information through its website. The information disclosure activities are as per the table below.

Table 14: Proposed Strategy for Information Disclosure

Target stakeholders	List of information to be disclosed	Methods and timing proposed activities
Project implementation phase		
<ul style="list-style-type: none"> Government officials (Federal, provincial, and Municipality officials including the wards) District line agencies 	<ul style="list-style-type: none"> Planned and ongoing activities Regular updates on project status, including the implementation of ESMP, C-ESMP, ESMF, LMP, SEP GRM SEA/SH and GBV activities 	<ul style="list-style-type: none"> Sharing project update and reports through meetings Consultation and face-to-face meetings Information boards, leaflets, and brochures PMU/PIU websites
<ul style="list-style-type: none"> CBOs and NGOs working on WASH Local NGOs and CBOs working on GBV Community leaders National & local Media Local Community 	<ul style="list-style-type: none"> Project concept and planned activities ESMF, IEE, SEP, Labour Influx management procedures SEA/SH Activities and GRM procedures for SEA/SH GRM procedure Planned construction activities 	<ul style="list-style-type: none"> Information boards, leaflets, and brochures PMU/PIU websites Meetings and workshops
<ul style="list-style-type: none"> Individuals and communities with a focus on vulnerable groups, including IPs, women, and Dalits Local NGOs and CSOs working on WASH and GBV 	<ul style="list-style-type: none"> Project concept and activities E&S procedures and management plans (ESMP, C-ESMP) GRM procedures, ESMF and Labour Influx management procedures, SEP and Planned construction activities SEA/SH activities and GRM procedure for SEA/SH 	<ul style="list-style-type: none"> Regular release of public notices through mass media, community radio, television, and social media Regular updates of information on the PMU/PIU website Distribute information leaflets and brochures to public Air project information/ messages through community radio Periodic small group meetings with vulnerable and IP groups Regular contacts with the representatives of IP and

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	<ul style="list-style-type: none">• Revised project information if any	vulnerable groups through phone calls, emails, text messages (Application of audio/visual communication techniques, and other accessible formats)
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6. CONCLUSION AND RECOMMENDATION

Matgaura Water Supply Project in Bardagoriya Rural Municipality aims to enhance water supply infrastructure while minimizing environmental and social impacts. The major construction work of this Water Supply Project has already completed. So, the construction work of additional 230 cum Reservoir Tank, and proposed of 55.029 Km pipe laying work and HH connection work and other minor repair and maintenance work for this sub-project. The most important part of this sub-project is laying 55.029 km of pipe which lies along the existing public road and does not transverse any protected areas and private land so there will be likely impact in this area.

The Environmental and Social Management Plan (ESMP) outlines measures for obtaining necessary consents, and mitigating potential E&S risks during construction and operation. Overall, the project exemplifies responsible development practices, ensuring community well-being and environmental protection. The plan includes impact and compliance monitoring across various environmental and social aspects, reflecting a holistic approach. Additionally, the ESMP outlines the roles of stakeholders and emphasizes social accountability via a Grievance Redress Mechanism (GRM) at project and central levels. The ESMP underscores the project's commitment to sustainable development and minimizing adverse environmental and social impacts.

A total of NRs 10,49,000.00 (In words: Ten Lakhs and Forty Nine Thousand Rupees Only) is allocated for mitigating impacts during the construction and operation phases. These costs have been carefully considered to ensure financial feasibility and comprehensive coverage of environmental and social management responsibilities and legal liabilities.

Annex- I: Environmental and Social Screening Checklist

I- Sub-project Background

1	Name of the Sub Project	Matgaura Water Supply and Sanitation Project
2	Location	Municipality/ Rural Municipality: Bardagoriya R.M. Ward No: 06 District: Kailali Province: Sudurpaschim Altitude: 145 m
3	Co-ordinate (GPS)	Latitude: N 28°37'41.17368" Longitude: E 81°0'49.71672"
	Project's boundaries in four directions and the area of influence	East: Jagatpur to Rajipur Unpaved road West: Plot 532 & 533 Private land North: Jagatpur to Rajipur Unpaved road South: Plot No:471 & 611 Private Land
4	Type of Sub-project	Water Supply
5	Proponent	Rural Municipality

II- Environmental and Social Screening

S.N.	Screening Checklist	Response (Yes/No)	Remarks/Comments (Provide information/ justification either for "Yes" or "No" if applicable)
A	Environmental Screening		
1	Is the sub-project site located within any National parks/ protected areas or any critical aquatic and terrestrial habitat area?	No	Infrastructure has already constructed. It is located at Jagatpur. Due to the rehabilitation existing infrastructure and minor construction works there is no any impact on nearby area and far from Bardiya National Park.
2	Is the sub-project site located in the surrounding national parks or protected areas including buffer zone?	No	Sub-project is located at Bardagoriya RM-06 which is far from Bardiya National Park.
3	Will the sub-project be located in areas surrounding forest or wildlife areas other than national parks and protected areas?	No	Propose site is located at Bardagoriya RM-06 and it does not transverse in any protected area.

4	Will the sub-project be implemented in the areas surrounding water bodies, lakes and ponds and intend to use or depend on them for the Implementation?	No	Far from water bodies which is around 1 km far from sub-project area.
5	Will the sub-project be implemented in Areas located in high risk zone such as landslide prone area, steep slopes, highly degraded land in hills, riverine area susceptible to annually flooding, or in areas causing large-scale soil erosion?	No	Proposed site is flat land of Terai region. So, there is no risk of landslide, soil erosion prone area.
6	Will the sub-project involve land Clearance on very steep slopes?	No	The sub-project area is flat and barren land. So, no need of land clearance.
7	Will the proposed sub-project involve logging?	No	There is no history of water logging, hence the proposed sub-project does not involve logging. Some days with heavy rainfall rainwater takes 2 to 3 hours to drain out of the catchment.
8	Will the proposed sub-project endanger indigenous Plant species of ecological significance?	No	There is no any impact on plant species because major structure has already constructed. The sub-project area don't bear flora/fauna species with ecological importance.
9	Is there any public infrastructure (School, hospital, health post) in the surrounding area of the project site? If yes, provide brief descriptions.	No	There is no any public infrastructure in the surrounding area of the project site.
10	Will the construction activities cause any damage to the existing local roads and other infrastructures/Utilities?	Yes	The construction activities will cause minimal damage to the sides of existing local roads during trench excavation for pipe laying works.
B	Social Screening		
	Land acquisition		
1	Does the sub-project require land acquisition?	No	There is enough land to construct additional infrastructure belonging to Rural Municipality (RM). Similarly, land acquisition is not required for pipe laying. Access will be temporarily restricted during the process but the trench will be covered

			once the pipes are laid.
2	If Yes, please provide information about the types of land that will be acquired. Private land Government/Public land Forest land (specify ownership i.e. private, Government)		The land acquired by WSS sub-project belonging to Rural Municipality and the existing road is public land. So, the private land acquisition is not required.
3	Has sub-project managed enough land for Construction? If Yes, how? explain briefly	Yes	There is enough land to construct additional infrastructure at OHT premises and the land belonging to the Bardagoriya RM. The land for the pipe-laying work is along the road, which is public land. So, the private land acquisition is not required.
4	If the sub-project is planning to acquire private land, please provide information about the process of acquisition Voluntary donation Involuntary acquisition Negotiation	No	Private land acquisition is not required for the sub-project because the proposed land is public land.
5	If private land acquisition is required, will there be a loss of productive land?	No	Private land acquisition is not required.
6	If private land acquisition is required, will there be any physical/economic displacement and impact on livelihoods?	No	Proposed land is public land, private land acquisition is not required. So that there is no any physical and economical displacement.
7	Will there be a temporary land acquisition for the sub-project?	No	Temporary land acquisition is not needed as there is enough land of RM for sub-project.
8	If "Yes", please provide information about the types of land that will be temporarily acquired.	No	N/A
9	Will there be any adverse impact on non-titleholders including loss of shelter and livelihood due to land acquisition?	No	The land is free of encroachers or non-titleholders/ illegal users, hence such impacts were not observed during field visit.
10	Will land acquisition result in loss of income loss of access to common property resources?	No	Since the proposed land is public land, no such impacts are anticipated.
	Cultural Heritage		

11	Will the proposed sub-project be implemented in or surrounding heritage site, religious temple and other religious site?	No	The proposed site is located at barren land. There is no any heritage site around it.
12	Will the sub-project cause encroachment on historical/cultural/religious areas?	No	No any impact on historical/cultural/religious areas.
13	Will there be any adverse impacts on cultural heritage due to sub-project activities? If "Yes", please explain briefly	No	There will be not any adverse impacts on cultural heritage due to sub-project activities.
	vulnerable People		
14	Will the sub-project involve activities that are likely to make irreversible adverse impact on indigenous communities, women and vulnerable Groups?	No	Does not impact on women and vulnerable Groups.
15	Will the proposed sub-project include any activity that promotes or involves incidence of child labor?	No	Child labor is strictly prohibited.
16	Will the proposed sub-project benefit ethnic groups living in the service area?	Yes	The proposed sub-project will benefit all the local people irrespective of their caste and ethnicity and will be given priority to backward/ ethnic groups in construction activities.

SN	Screening checklist	Yes	No	<p align="center">Comments</p> <p align="center">Provide information/justification eitherfor “Yes” or “No” if applicable</p>
Labor and working conditions				
1.	How many workers are likely to be hiredfor the proposed works? How many workers are estimated to be women?	Total 35 numbers of workers are estimated for the proposed works 10 numbers of female workers are estimated		
2.	Will the project draw on migrant workers?	Yes		Some of the skilled manpower will be hired from outside the Bardagoriya Rural Municipality
3.	How many workers are estimated to behired directly from the project area?			
4.	Of the total workers, how many are estimated to be	Skilled:10 Semiskilled: 10 Unskilled: 15 Engineers: 3 Technician/overseer:3 Security guards: 2 Others: 10		
	In terms of the categorization of the sub- project workers as the World Bank’s ESF, how many of them will be	Direct workers:10 Contracted workers: 25 Primary suppliers’ workers: 10 Community workers: 15		
6.	Will there be a labor camp? Or any form of accommodation for workers	On their own (In the host community): In a labor camp to be managed/constructed by project: Will be constructed at OHT premises.		
7.	If the sub-project is planning to manage/construct a labor camp, provide the information on	Probable location (s) of labor camp: within OHT premises Drinking water, Electricity, LPG Gas for cooking. Status of basic facilities (power, water etc.):		
8.	Does the sub-project plan to maintain andregularly update a labor registry throughout the project lifecycle?	Yes		Attendance register will be kept at construction site and daily attendance will be done.
9.	Is there a policy that ensures nondiscrimination in wages and otherfacilities?	Yes		There is Labour Act 2017 for nondiscrimination in wages and other facilities.

10.	Does the Project ensure that all persons working for the project are above minimum age as per national laws?	Yes		Child Labour will be strictly prohibited.
11.	Does the Project ensure it will abide by the national standards working hour rules and overtime?	Yes		As National Standards worker will work for 8 hours per day.
12.	Does the sub-project have plans to provide orientation to migrant workers about National labor laws, local tradition, culture, costumes, norms, and values?	Yes		One-day orientation to migrant workers about National labor laws, local tradition, culture, costumes, norms, and values has been scheduled prior to construction.
13.	Will heavy machinery (e.g. excavators, cranes, trucks, jack-hammers) be used for construction activities?	Yes		Excavators, truck and Jack Hammers will be used during construction period.
14.	Will the Project activities involve the handling of hazardous Materials/contaminants?		No	There is no any hazardous material required.
15.	Will the Project activities involve the handling of risky electrical equipment?	Yes		The 11 kV three-phase line is already installed in the project area, but the remaining electrical works will be in risk. Precaution will be applied.
16.	Is there any safety concern to women once the migrant workers arrive in sub-project site?	Yes		The arrival of migrant workers at a sub-project site can raise concerns about the safety of women in the area. It is essential to address these concerns through a combination of policies, preventive measures, and community engagement.
17.	Does the sub-project plan to provide orientation to workers about the national laws and project policies on GBV & SEA/SH?	Yes		One day orientation to workers about the national laws and project policies on GBV & SEA/SH is planned.
18.	Does the sub-project plan to provide orientation to workers about the risks of communicable diseases such as STDs?	Yes		One day orientation to workers about the risks of communicable diseases such as STDs is planned.
10.	Does the sub-project plan to provide orientation to workers about COVID-19 related national and WHO protocols?	Yes		One day orientation to workers about communicable diseases is planned in which one class will be of COVID-19.
20.	Is there any history of conflict between the migrant workers and the local in any infrastructure projects in the local area?		No	There is no history of conflict between the migrant workers and the local during OHT construction in sub-project area and other projects in the local area.

21.	Is there any possibility of conflicts between migrant workers and the local community?		No	There is no possibility of conflict as the community of Bardagoriya are peaceful.
Resource Efficiency and Pollution Prevention and Management				
1.	Will construction activities result in production of waste that needs special treatment or disposal measures? If "Yes", describe types and expected amount of waste, if known at the time of screening?			Waste produced from construction site are most of cement bags so there is no production of waste that needs special treatment or disposal measures
2.	Will the sub-project generate substantial amount of wastewater (liquid waste) during construction and operation?		No	There is no generation of waste water during construction.
3.	Will it create dust pollution around the sites?	Yes		Due to transportation dust pollution will create in sites & will be minimize by water sprinkling.
4.	Will be the subproject generate substantial amount of air emission during construction and operation?	Yes		During construction period there will be air emission from concrete mixture, generator.
5.	Will the sub-project create noise/vibration beyond the level permitted by the law?	Yes		Not regularly but while using generator, concrete mixture, metal cutter.
6.	If the sub-project plans to transport, storage, and use and/or disposal of materials that may create physical, chemical, and biological hazards? If "Yes", please mention		No	Such hazardous creating material will not be used.
7.	Will it temporarily stop or impact/pollute the water supply and sanitation system in and around the site?		No	No water supply will not be affected.
8.	Will there be any solid waste generated by sub-project that needs to be transported off-site for reuse, recycle or disposal of?	Yes		Some amount of solid waste will be generated. Metal waste, cement sacs etc., will be reused.
9.	Will any liquid waste, or an item containing liquids (including oils), needs to be transported off-site for reuse, recycle or disposal of?		No	Not any liquid waste, or an item containing liquids (including oils), needs to be transported off-site for reuse, recycle or disposal is needed.

10.	Will any explosive and hazardous chemicals be used within the project?		No	Not any explosive and hazardous chemicals be used.
11.	Will building materials containing asbestos be removed/disposed of?		No	Such asbestos containing materials are not disposed.
12.	Will any building materials be removed/disposed of that are coated with lead-based paint?		No	Old building will be removed but not any material are coated with lead-based paint.
13.	Will mercury-containing devices (switches, gauges, thermostats) be removed/disposed?		No	Such devices are not used.
14.	Will any building materials be removed/disposed of that contain lead, silver or chrome?		No	Old building will not be removed.
15.	Will the sub-project use batteries (lead-acid or nickel-cadmium) as its components?		No	No use of batteries.
17.	If "Yes", please briefly explain how the Project plans safe transportation, storage and use and disposal of hazardous materials.			
18.	Will sub-project activities involve GHG emissions?	Yes		
19.	If "Yes", please provide description of the activities that will contribute to the GHG emission.	During construction activities such as using of generator, concrete mixture etc.		
Potential Community and Occupational Health and Safety Impacts				
1.	Are there any community health and safety risks due to the use of equipment, machinery, or the activities at the sub-project?	Yes		To use such equipment Skilled manpower should be mobilized.
2.	Will the construction works disturb the normal functioning of other commercial/community/residential activities? If "Yes", please mention the activities and period of disturbance.		No	There will not disturb due to construction works on commercial/community/residential activities.

3.	Are there any potential impacts to public health and safety due to changes in the landscape for sub-project?		No	Sub-project site is already finalized and some infrastructures are already constructed.
4.	Are there any risks to community safety due to accidental and natural hazards during sub-project construction and operation?		No	Sub-project site is already surrounded by a boundary wall. But during pipe laying there may be any risk.
5.	Is there any possibility of traffic congestion or rise in road accident in the project area due to project activities?	Yes		There may be possibility of traffic congestion and road accidents due to transport used in project.
6.	Is there any provision to control possible trespassing of non-project staff on the project site during construction and operation?	No		Such provision is not envisaged.
7.	Does the sub-project plan to provide orientation to surrounding communities about the risks of communicable diseases and COVID-19?	Yes		One day orientation for community level on STDs has been planned prior to construction.
Stakeholder Engagement				
8.	Have the stakeholders of the sub-project been identified?	Yes		Stake holder are already identified during survey
9.	If "Yes", please name them along with their level of influence and interest in the sub-project	WB, RM, PIU, MWASH unit, Local people of Bardagoriya RM		
10.	Have the stakeholders been categorized in terms of gender, age, and ethnicity?	No		
11.	Major issues raised by the stakeholders during the initial consultation?	-Job opportunity for local people -Delivery quality water as soon as possible		
12.	What are the main sources of information for the stakeholders? [Hint: radio, TV, newspapers]	Radio and social media and the social leader in community they share information in society).		
13.	Is there is social institution/practice for community consultation on common issues in the area?			Not a social institution but there are Bhalmansa and Tole Chairman in all community to solve common issues.

14.	Is there any social/religious/cultural institution or practices for local dispute settlements?			Tole Development committee is religious /cultural institution or practices for local dispute settlements.
15.	Are there any youth clubs, women groups or NGOs active in the project area and in the district? If "Yes" please provide top five such clubs/groups/			NGOs youth clubs, women groups and contact number 1.Jaceeys 2.Mahila Samuha
Contextual risk				
1.	Is there any history of community conflict in the sub-project area?		No	There is no history of community conflict in the sub-project area.
2.	Provide a brief description about nature of crimes, if any, observed in the project area in last two years. [Hint: Source of information local police station]			Stolen, Household debate,
3.	Which political parties won the last local election? [Municipal and the ward of the project site]			Both RM and Ward – Nepal Communist Party
4.	Which political parties won the last last parliamentary election from the Constituency of the project site?			Nepal Communist Party
5.	What are the major economic activities in the municipality? [Hint: Occupation, local exports, etc.]			Agriculture, vegetable, daily wages base labour, foreign employment
6.	Please name the major industries/institutions located in the municipality.			Brick industry, Rice mill
7.	Which are the major market centers in this sub-project area and how far are they?			Prithivipur Bazar, 500m North
8.	Is there a board community support for the sub-project? [Hint: Community perception based on stakeholder consultation]			All the community not only support they are excited for treated drinking water.

9.	Is there support from the local municipality for the project?	Yes		Sub-Project is under Bardagoriya Rural Municipality.
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Checklist for ESS7 and particularly to FPIC

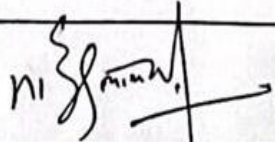
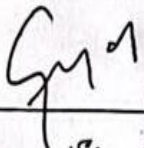
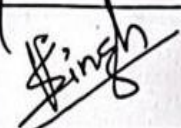

ESS7: Indigenous Peoples	Yes	No	No Impact	Positive Impact	Negative Impact	Remarks
Does the project footprints lie in areas where indigenous people is present including (area of influence)	Yes		No impact			Matgaura Sub-Project is located at Bardagoriya Rural Municipality ward no-06 The surrounding community is mixed from Janajati/Indigenous Peoples like Tharu, Chaudhary, Magar, Gurung etc. and other ethnic and social groups such as Dalit, Brahmin/Chhetri. Tharu Chaudhary are the original inhabitants of the area.
Will the project lead to full or partial physical displacement of IPs (regardless of whether the IPs are recognized as IPs by the country’s law)?		No	No Impact			The proposed site is public land belonging to Bardagoriya RM. and the distribution pipeline network will be laid along the existing public road, which is public land. As such, the laying of water pipelines will not result in physical displacement or restrict access to private or community land.
Will the project lead to full or partial economic (loss of assets/access to resources due to land acquisition and also access restriction—whether or not these affected are physically displaced or not) Displacement of IPs?		No	No Impact			The ownership of land is with the Bardagoriya Rural Municipality and the distribution pipeline network will be laid along the existing public road, which is public land. Private land or community land is not required for sub-project. Proposed interventions will not result in loss of assets or access restriction to communal resources nor any full or partial economic loss.
Will the project impact land/restriction access to land subject to traditional use or under customary use or occupation (regardless of whether IPs possess legal titles to such areas, whether the project is located within or outside of the land and territories inhabited by IPs, or whether the IPs are recognized as IPs by the country’s law)?		No	No Impact			All construction works will be carried out within the premises of the existing water supply project and the existing road width, which is in public use. Therefore, the sub-project will not impact any community land nor restrict access to land traditionally used or occupied under customary practices..

Environmental & Social Management Plan (ESMP) Report for Matgaura Water Supply Project

<p>Will the project impact natural resources (timber and non-timber forest products, other forest product, medicinal plants /grazing or pasture lands/forest/cropping areas)/loss of access to such assets and resources subject to traditional use or under customary use or occupation (regardless of whether IPs possess legal titles to such areas, whether the project is located within or outside of the land and territories inhabited by IPs, or whether the IPs are recognized as IPs by the country's law)?</p>		No	No Impact			<p>The major infrastructure of the Matgaura water supply Sub-Project has already been constructed. All construction works will be carried out within the premises of the existing water supply project. Pipe laying work will be limited within the existing road width that is in public use. So, impact on natural resources or loss of access to such resources is not expected.</p>
<p>Will the project lead to the utilization or commercial development of natural resources on lands and territories claimed by IPs?</p>		No	No Impact			<p>This is a community water supply project directly benefiting the community. Thus the sub-project will not lead to the utilization or commercial development of natural resources on lands.</p>
<p>Will the project have significant impact on tangible cultural heritage that is material to the identity and/or cultural, ceremonial, or spiritual aspects of the affected community? <i>(Tangible heritage may include movable or immovable objects, sites, structures, group of structures, and natural features and landscape that have cultural significance like burial grounds/ritual spaces/stupas/shrines/places of worship)</i></p>		No	No Impact			<p>There is no any impact on tangible cultural heritage.</p>
<p>Will the project have significant impact on intangible cultural heritage that is material to the identity and/or cultural, ceremonial, or spiritual aspects of the affected community? <i>(Intangible cultural heritage may include practices, representations, expressions, knowledge, and skills, as well as associated instruments, objects, artifacts, cultural spaces that IP communities recognize as</i></p>		No	No impact			<p>IP community groups have their own set of intangible heritages such as scared spaces, belief systems, knowledge and practices. But, during consultation with the IP community, it was reported that project footprints is unlikely to have a bearing on any intangible heritages.</p>

Environmental & Social Management Plan (ESMP) Report for Matgaura Water Supply Project

<i>part of their heritage like traditional handicrafts such as Bamboo weaving, oral traditions, performing arts and so on)</i>					
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Screening Team			Screening Date :23rd September 2024
Designation	Name	Contact Number	Signature
Team Leader/Team Coordinator	Mohan Lal Jaishi Regmi	9851175788	
Water Sanitation & Design Engineer	Sanjaya Chalise	9851171297	
Environmental Expert	Umesh Pratap Singh	9843581535	
Social Expert	Hikmat Bahadur Rokaya	9851140869	

Annex II: Minute of meeting / Consultation Meeting

1. Public Consultation meeting

आज मिति २०८० साल चैत्र ०९ गतेका दिन यस बर्दगीरिया गाउँपालिका अर्न्तगत
 कलेपानी क्षेत्रगत शुभ्रासत तथा पूर्वाधार संरचना आशुजना अर्न्तगत यस
 बर्दगीरिया गाउँपालिका वडा नं. ६ का अध्यक्ष श्री रामकृष्ण डंगौरा अध्यक्ष
 अध्यक्षतामा बैठक बसि तयारिन्छ। प्रस्तावहरू उपलब्ध फल गति निर्वापनका।

उपस्थिति :-

क्र.स.	नाम, थर	पद	हस्ताक्षर
१)	श्री रामकृष्ण डंगौरा (आरु)	वडा नं. ६ अध्यक्ष	
२)	श्री अमित कुमार डंगौरा	मडगाँवा वडा नं. ३.स. उ.स. अध्यक्ष	
३)	श्री प्रेम, कुमारी चौधरी	मडगाँवा वडा नं. ३.स. उ.स. सचिव	
४)	श्री हिममत रौन्या	MST (SDS)	
५)	श्री दिलिप हुडगाना	M-WASH-unit (com. operator)	
६)	श्री अजयराज विनाडी	संरचना आलेन्द्र उ.स. अध्यक्ष	
७)	श्री कृष्ण कुमारी कठरिया	श्री पारल अ.वि. उ.स. सचिव	
८)	श्री उषादेवी अरुने	संरचना आलेन्द्र उ.स. सचिव	
९)	श्री अनवर सिंह डंगौरा	वडा नं. ६ वडा सचिव	
१०)	श्री गंगाराम बोहरा	मडगाँवा वडा नं. ३.स. उ.स. सचिव	
११)	श्री बहादुर झाडा	मडगाँवा वडा नं. ३.स. उ.स. सचिव	
१२)	श्री राम बहादुर डंगौरा	मडगाँवा वडा नं. ३.स. उ.स. सचिव	
१३)	श्री अमृत डंगौरा	मडगाँवा वडा नं. ३.स. उ.स. सचिव	
१४)	श्री नेहा कुमारी चौधरी	वडा नं. ६ वडा सचिव	
१५)	श्री कृष्णदेव अरुने	स्वास्थ्य सचिव उ.स.	
१६)	राजमति डंगौरा	का.स.	
१७)	रित चौधरी	का.स.	
१८)	राजेश डंगौरा	का.स.	
१९)	प्रमत्त प्रसाद चौधरी	"	
२०)	शुभराज कठरिया	नी.प.से.प्रा.	
२१)	केलाका चौधरी	कोलाहाल चौधरी का.स.	
२२)	मित क थानी	प्रिजेन्ट आमेर	
२३)	प्रमत्त न. सिंह	प्रिजेन्ट	
२४)	सुमिता रावत	म.न.मी	
२५)	अजय चौधरी	ह.अ.	
२६)	श्याम सुब्बा चौधरी	स.उ.	
२७)	शिव चौधरी	अ.स.स.	

प्रस्तावहरू :-

- १) सार्वजनिक परामर्श (Public Consultation)
- २) एमि मडगाँव खानेपानी सुरक्षा योजना अनुगमन टोली ^{गठन} सम्बन्धमा ।
- ३) गुताली निवारण समिति (GRL) गठन सम्बन्धमा ।

निर्णयहरू

१) निर्णय नं १: प्रस्ताव नं १ माथी हलफ लगाई यस मडगाँव खानेपानी तथा सुरक्षा आयाोजना सम्बन्धी सार्वजनिक परामर्श तथा हलफल गरियो।

२) निर्णय नं २: प्रस्ताव नं २ माथी हलफल गरी थप मडगाँव खानेपानी सुरक्षा योजना अनुगमन टोली तयछिल समोजिम गठन गरि सर्वसम्मत रूपमा कारित गरियो।

तयछिल

१) एमि अमर सिंह इगाँव (का.प्र)	संयोजक	सिंह ९८००६८२०५
२) एमि कृष्ण कुमार इगाँव (विगा.प्र)	सदस्य	९८११६९६०८७
३) एमि कृष्ण देव ओशी (हवा.प्र)	सदस्य	९८५४२८५९५
४) एमि अमित कुमार इगाँव (का.वा.प्र)	सदस्य	९८६५४४५६८१
५) एमि अशोक कुँवर (प्र.प्र)	सदस्य	
६) एमि प्रेम कुमार चौधरी	सदस्य	९८०४६२९४२२

३) निर्णय नं ३: प्रस्ताव नं ३ माथी हलफल गरी थप मडगाँव खानेपानी तथा सुरक्षा आयाोजना सम्बन्धी गुताली निवारण उप-समिति तयछिल समोजिम गठन गरि सर्वसम्मत रूपमा कारित गरियो।

तयछिल

१) एमि नेहा कुमार चौधरी	संयोजक	नेहा ९८००६८५१५४
२) एमि गंगा राम चौधरी	सदस्य	९८१५६३६६१५
३) एमि तिबा कुमारी इगाँव (MST)	सदस्य	

(Handwritten signature)

28	रमा डंगोप	जदगोरिया, ६	रमा
29	लक्ष्मी देवी डंगोप	"	लक्ष्मी
30	बिक्रती देवी डंगोप	"	बेफुनी
31	ललिता देवी डंगोप	"	ललिता
32	जानकी " डंगोप	"	जानकी
33	सावती देवी डंगोप	"	राजि
34	सुमिली देवी डंगोप	"	सुमिली
35	रमा डंगोप	"	रमा
36	पुष्पमाया डंगोप	"	पुष्पमाया
37	लता देवी डंगोप	"	लता
38	बेनु नेपाली	"	बेनु
39	मनका भुल	"	मनका
40	लता नेपाली	"	लता
41	निर्मला कुंठ	"	निर्मला
42	किष्का चौहान	"	किष्का
43	रामकुमारी डंगोप	"	रामकुमारी
44	राम बहादुर चौधरी	"	राम बहादुर
45	मनिष कुंठ	"	मनिष
46	सिर्वन्द का	"	सिर्वन्द
47	सिर्पिता डंगोप	"	सिर्पिता
48	दुर्गा डंगोप	"	दुर्गा
49	डनमपु बिनाडि	"	डनमपु
50	राजमाल डंगोप	"	राजमाल
51	प्रहला ज्योशी	"	प्रहला
52	सुमित्रा रावत	"	सुमित्रा
53	पवित्रा देवी कठार	"	पवित्रा
54	लक्ष्मीकुंठडंगोप	"	लक्ष्मीकुंठ
55	चुपराज कठार	"	चुपराज
56	राममल प्रसाद खड्का ज्योशी	"	राममल
57	बनबहादुर डंगोप	"	बनबहादुर
58	शिर कुमाल डंगोप	"	शिर कुमाल
59	राजकुमाल डंगोप	"	राजकुमाल
60	बिबु बहादुर चौधरी	"	बिबु बहादुर
61	शिव प्रसाद थापा	"	शिव प्रसाद
62	बल बहादुर चौधरी	"	बल बहादुर
63	रमा डंगोप	"	रमा

- निर्वाचक
- १) यह वर्गोपस्थापना वडा नं. ६ मा पर्ने प्रस्तावित मतगौरा खोलेपानी आयोजना हतारो लाग्ने सम्बन्धमा सम्बन्धित स्थल उपलब्धताको जानकारी लिनका लागि र कुल आयोजना यन्त्रसिक्का निर्माण र गुरुनक्षत्रीय स्थल पर्ने सम्बन्धमा खिलेपत हलकल गरियो साथै निर्माण साथ गार्दिअपनाने विधि र प्रकृयाका बारेमा जानकारी दिन कार्य समत गरियो।
 - २) आयोजना निर्माण गर्दा सौच्यगारीको पहिलो प्राथमिकता स्थानीय निकायलाई दिनु पर्ने सम्बन्धमा खिलेपत हलकल गरियो।
 - ३) हाल यस प्रस्तावित आयोजना क्षेत्र भित्र हिँडा खाल अम लोडिङ विमोह र बालबिवाह जस्ता खलाहक खलेपत प्रथमा धरको देखिने तथ्यापी भविष्यमा यस्ता खलेपत खिलेपत खलाहक हुन नछिन र यदि केही केत भएमा अपनानुपूर्वमा समाधानको विषयमा जानकारी दिई हलकल गरियो।
 - ४) यस प्रस्तावित आयोजना क्षेत्रमा धोला हिँडा तथा लोडिङ विमोह सम्बन्धि समस्या नदेखिए पनि विद्विषवासीपी कामका र स्थानीय समुदाय विच हो लगेत भ्रमगडा वा अवाञ्छित गतिविधिका सम्बन्धमा सम्बन्धमा पालन। गर्नुपर्ने आचार बहिर्ताको बारेमा जानकारी दिई खिलेपत हलकल गरियो साथै वातावरण सामाजिक व्यवस्थापन ढाँचा (एडमप) मा समेत खलेपत गरिएका महिले हिँडा लोडिङ विमोह अपादि विषयका बारेमा हलकल गरियो।
 - ५) वातावरणीय एवं सामाजिक व्यवस्थापन योजना बारे यस गाउँपालिकाको कार्यलयमा सम्बन्ध गरि जानकारी लिन सुकिते लगायत आयोजना निर्माणका क्रममा आइपर्ने विविध वातावरणीय एवं सामाजिक समस्या र तिनका समाधानका उपायहरू माथि खिलेपत हलकल गरियो।

④ आयोजना निर्माणका क्रममा हुने लुकेको धान्य प्रदूषण
प्रति वातावरणीय सम्पत्तिको र न्यसको निपकठा सम्बन्धमा
वित्कृत छलकल गरियो।

⑤ निर्माण व्यवसायीको कर्मचारी र कुमवालाको लागि
शिक्षा आयोजना क्षेत्र नभिकेको वडा न ६ को खास
ह्यान उपभुक्त हुने सम्बन्धमा छलकल गरियो।

⑥ वातावरणीय एवं सामाजिक व्यवस्थापन योजना बाटै
यस गाउँपालिकाको कार्यलयमा सम्पक गरि जागकारी
लेन सकिने लुगायत निर्माणका क्रममा आइपर्ने विविध
वातावरणीय र सामाजिक सम्पत्ती र सिन्का सम्बन्धमा
का उपायहक भाषि वित्कृत छलकल गरियो।

Signature

3. Public consultation with women's and marginalized groups at Bardagoriya RM-06

Date _____
Page _____

आज मिति २०८२/०१/२८ गतेका दिन यस मतगौरा खानेपानी सरसफाई उपभोक्ता समितिका अध्यक्ष श्री अम्मीत डुंगौरा न्यू को संयोजनमा यस मतगौरा खानेपानी उप-आयोजनामा लाभान्वित, हनित, जनजाती तथा लक्षित समुहहरु सँग मतगौरा खानेपानी उप-आयोजना बाट छलफल तथा अन्तरक्रिया कार्यक्रम सम्पन्न गरियो साथै तपस्विनका बुधाहरुमा छलफल गरियो।

क्र.सं	नाम, थर	पद	हस्ताक्षर
१	अम्मीत डुंगौरा	अध्यक्ष (खा.उ.स)	अम्मीत
२	रामकृष्ण	सदस्य (खा.उ.स)	रामकृष्ण
३	त्रमफा	सदस्य (खा.उ.स)	त्रमफा
४	त्रिना चौधरी	सचिव (खा.उ.स)	त्रिना
५	शान्ती		शान्ती
६	समिष्ठा		समिष्ठा
७	जाबकी डुंगौरा		जाबकी
८	छुहमापा डुंगौरा		छुहमापा
९	रीना डुंगौरा		रीना
१०	सुदिला केकी चौधरी		सुदिला
११	शमिला चौधरी		शमिला
१२	अन्तरा चौधरी		अन्तरा
१३	अनुपमा चौधरी		अनुपमा
१४	फरसेदा डुंगौरा		फरसेदा
१५	रमा डुंगौरा		रमा
१६	बिकनी डुंगौरा		बिकनी
१७	सहमा डुंगौरा		सहमा
१८	रेनु चौधरी		रेनु
१९	बिपती डुंगौरा		बिपती
२०	रेनु नेपाली		रेनु
२१	सुनू सुनू		सुनू
२२	लठरी डुंगौरा		लठरी
२३	रामकुमारी चौधरी		रामकुमारी
२४	किष्ठा		किष्ठा

२३) सानु नेपाली	. सानु
२४) मइसरा बुन	मइसरा
२५) निर्मला विक	निर्मला
२६) वसन्ती डंगौरा	. वसन्ती
२७) शाबती कठरीया	. शाबती
२८) सन्जु कठरीया	. सानु
२९) ललिता देवी डंगौरा	. ललिता
३०) इन्द्र बखडुर डंगौरा	इन्द्र
३१) शिनेन्द्र झा	शिनेन्द्र
३२) प्रविष डकाल	प्रविष
३३) हित्त बोकथा	हित्त
३४) सुलना कुमारी डंगौरा	सुलना
३५) दुर्गा डंगौरा	दुर्गा
३६) इमरा बिनाडी	इमरा

तपश्चिन्तन

१) मतगौरा खानेपानी सरसफाई उप-आयोजना निर्माण गर्दा रोजगारी को पहिलो प्रथामिकता क्षमता अनुसार कम स्थानिय बासिन्दाहरुलाई दिनुपर्ने सम्बन्धी विस्तृत छलफल गरियो ।

२) मतगौरा खानेपानी सरसफाई उप-आयोजनाको कार्यन्वयन गर्दा अति विपन्न घरधुरीलाई धारान्डा र शौचालय निर्माण सम्बन्धी सहुनियत दिने अनुरोध गर्ने निर्णय गरियो ।

३) यस मतगौरा खानेपानी आयोजनाका नक्षित समुह/समुदायहरुलाई आय अर्जन सम्बन्धि तालिम तथा क्षमतिकरणको लागि अभिमुखीकरण गराउने निर्णय गरियो ।

(Handwritten signatures)

4. Rural Municipality Level Grievance Redress Committee (GRC) Formation

Page No.

Date

आज मिति २०८१/०१/१३ गतेका दिन खनिपानी क्षेत्रगत सुरासन तथा पूर्वाधार सहयोग आयोजना (NASSAP) अन्तर्गत गुनस्यो सम्बन्धी व्यवस्थापन गर्ने यस वडेगोरिया गा.पा अध्यक्ष श्री कृष्ण बहादुर कुँवर ज्युको अध्यक्षतामा आयोजना कार्यान्वयन इकाई (PIU) मा स्थापना हुने गुनस्यो व्यवस्थापन समिति गठन गर्न दृढफल सहित निर्णय गरियो।

उपस्थिति

- | | | |
|-----------------------------|-----------------------------------|--|
| १) श्री कृष्ण बहादुर कुँवर | वडेगोरिया गा.पा अध्यक्ष | |
| २) श्री गणेश राज ठोरी | वडेगोरिया गा.पा उपाध्यक्ष | |
| ३) श्री प्रकाश कुँजाना | वडेगोरिया गा.पा प्र.प्र.अ | |
| ४) श्री टंक प्रसाद ओझा | वडेगोरिया गा.पा इन्जिनियर | |
| ५) श्री लक्ष्मी राज जोशी | PIU Manager | |
| ६) श्री हृषी राज ओझा | अधिकृत | |
| ७) श्री मोहन सिंह मंडेल | MWASH Focal Person | |
| ८) श्री अस्मित खार | PIU Sub-Engineer | |
| ९) श्री हिममत बहादुर रोकाया | Social Management Specialist | |
| १०) श्री रेखरी प्रसाद मडु | Governance & Institutional spc | |
| ११) श्री उमेश प्रताप सिंह | Environmental Mgmt. Specialist | |
| १२) श्री सस्वती वि.क | वडेगोरिया गा.पा कार्यपालिका सदस्य | |

प्रस्ताव

१. गुनस्यो व्यवस्थापन समिति गठन सम्बन्धमा

२. बडा स्वस्थ गुनस्यो व्यवस्थापन सम्बन्धमा

निर्णय

१. प्रस्ताव नं १ माथि दृढफल गर्दा खनिपानी क्षेत्रगत सुरासन तथा पूर्वाधार सहयोग आयोजनामा आयोजना कार्यान्वयन गर्दा आई पर्ने सम्बन्धलाई समाधान गर्न पालिका स्तरीय आयोजना कार्यान्वयन इकाई (PIU) मा रहने गरी आयोजना गुनस्यो व्यवस्थापन समिति तल उल्लेखित पद्याधिकारी रहेर गरी गठन गरियो।

- | | | |
|---------------------|--------|-----------------------|
| १) लक्ष्मी राज जोशी | संयोजक | PIU |
| २) टंक प्रसाद ओझा | सदस्य | MWASH इकाई प्रमुख |
| ३) हृषी राज ओझा | सदस्य | सामाजिक विकास अधिकृत। |

Page No. _____

Date _____

सल्लाहाकार

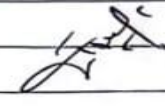
श्री गणेश राज गिरी वर्देगोरिया गा.पा उपाध्यक्ष

निर्णय नं२

प्रस्ताव नं३ माथि दलफत गर्दा असा वर्देगोरिया गा.पा मा संचालित स्वामिनी तथा बससफाई समन्धीत आरका गुनासहरको व्यवस्थापन गरी गुनासो व्यवस्थापन समितिने समाधान गर्ने निर्णय गरियो।

ESMP





5. Meeting regarding the Nomination of Focal Person For Overall GRM, Workers' GRM & SEASH/GBV

Page No. _____

Date: _____

आज मिति २०८१/०८/३१ गतेका दिन खानेपानी क्षेत्रगत सुशासन तथा पूर्वाधार सहयोग आयोजना (WasGISP) अन्तर्गत, यस वडैगोरिया गाउँपालिका अध्यक्ष ज्यू श्री कर्ण बहादुर कुँवर ज्यूको संयोजकत्वमा बैठक बसी फलफल सहित निर्णय गरियो।

- उपस्थिति
- १) श्री कर्ण बहादुर कुँवर वडैगोरिया गा.पा अध्यक्ष
 - २) श्री गणेश राज गिरी वडैगोरिया गा.पा उपाध्यक्ष
 - ३) श्री प्रकाश डुङ्गाना वडैगोरिया गा.पा प्र.प्र.अ.
 - ४) श्री लक्ष्मी राज जोशी PIU Manager
 - ५) श्री मोहनलाल जैशी रेजिमी Team Leader (WasGISP)
 - ६) श्री पद्म राज जोशी MNASM (Engineer)
 - ७) श्री झपी राज ओझा अधिकृत
 - ८) श्री पान्मती राना महिला विकास शाखा प्रमुख
 - ९) श्री संतोष पाण्डे (Technical Manager) WasGISP
 - १०) श्री मोहन मंडे MNASM Unit Focal Person
 - ११) श्री रंजन चालिसे Design Engineer WasGISP
 - १२) श्री हिक्मत बहादुर शिमाया Social Dev. Sps.
 - १३) श्री दिलिप डुङ्गाना Computer Operator PIU
 - १४) श्री श्वेसरी प्रसाद अट्ट Governance & Im. Sps.
 - १५) श्री उमेश प्रताप सिंह Environmental Mgmt. Sps.
- १६) २मी प्रस्ताव नं-१

Focal Person सम्बन्धमा निर्णय व.

प्रस्ताव नं १ माथि फलफल गर्दा यस खानेपानी क्षेत्रगत सुशासन तथा पूर्वाधार सहयोग आयोजना कार्यन्वयन गर्न तपशील बमोजिम Focal Person हरू तोकने निर्णय गरियो।

- i) Overall GRM Focal Person: झपी राज ओझा (सा/सु.अ)
- ii) Worker GRM Focal Person: दिलिप डुङ्गाना (PIU-Computer Operator)
- iii) SEASH/GBV Focal Person: पान्मती राना (म.वि.शा प्रमुख)

(Handwritten signatures and initials)

6. Gender Based Violence (GBV) Focal person appointed by Bardagoriya Rural Municipality



स्थानीय सरकार
बर्दगोरिया गाउँपालिका
गाउँ कार्यपालिकाको कार्यालय
मुडा, कैलाली
सुदूरपश्चिम प्रदेश, नेपाल

01C

प.सं.: २०८१/०८२

चलानी नं.: १४११



मिति: २०८१/१०/२५

श्री आयोजना प्रमुख ज्यु,
खानेपानी क्षेत्रगत सुशासन पूर्वाधार सहयोग आयोजना,
पानीपोखरी, काठमाण्डौ ।

विषय: : यौन शोषण, दुर्व्यवहार र यौन उत्पीडन सम्पर्क ब्यक्ति तोकेको सम्बन्धमा ।

उपरोक्त सम्बन्धमा खानेपानी क्षेत्रगत सुशासन पूर्वाधार सहयोग आयोजना कार्यान्वयनका क्रममा महिला बालबालिका तथा पिछडिएका परिवार प्रति हुने हिंसा तथा भेदभावलाई सुनुवाई गरी त्यस्ता भेदभावलाई न्यूनीकरण तथा अन्त्य गर्नको लागि बर्दगोरिया गाउँपालिकाले महिला बालबालिका तथा जेष्ठनागरिक शाखाको सहायक महिला विकास निरीक्षक श्री पानमती कुमारी रानालाई खानेपानी क्षेत्रगत सुशासन तथा पूर्वाधार सहयोग आयोजनाको मिति २०८१/०३/३१ गतेको बैठकको निर्णयानुसार यौन शोषण, दुर्व्यवहार र यौन उत्पीडन सम्पर्क ब्यक्ति (SEASH/GBV, Focal Person) तोकेको जानकारी सहित अनुरोध छ।

M-WASH & D.

बोधार्थ:

श्री खानेपानी क्षेत्रगत सुशासन पूर्वाधार सहयोग आयोजना,
आयोजना कार्यान्वयन इकाई बर्दगोरिया, कैलाली ।
सहायक महिला विकास निरीक्षक श्री पानमती कुमारी राना
जानकारी सम्बन्धमा ।

नन्दा कुमारी भट्ट
प्रमुख प्रशासकीय अधिकृत
नन्दा कुमारी भट्ट
प्रमुख प्रशासकीय अधिकृत



Scanned with CamScanner

वेबसाइट: bardgoryiamun.gov.np, ईमेल: bardgoryiyagaupalika2017@gmail.com

7. Handover of Matgaura WSP to Bardagoriya RM by DWSSM Dhangadhi; Kailali on 22nd April 2024

आज मिति २०८१/०१/१० गते आयोजना हस्तान्तरण गर्न खानेपानी तथा सरसफाई डिभिजन कार्यालय कैलालीका नि. डिभिजन प्रमुख श्री गणेश प्रसाद उपाध्यायज्यूको संयोजकत्वमा, बर्दगोरिया गा.पा.का अध्यक्ष श्री कर्ण बहादुर कुँवरज्यू लगायत निम्न पदाधिकारीहरुको उपस्थितिमा बैठक बसी तपसिल अनुसार निर्णय गरियो

		उपस्थिति
गणेश प्रसाद उपाध्याय		संयोजक खा.पा.स.स.डि.का.कैलाली
गोविन्द भाट		सदस्य खा.पा.स.स.डि.का.कैलाली
उमेश प्रताप सिंह		सदस्य एम.एस.टि. बर्दगोरिया गा.पा.
जयन्द्र कुँवर		सदस्य सब-इन्जिनियर बर्दगोरिया गा.पा.
लक्ष्मी राज जोशी		सदस्य- सचिव आयोजना व्यवस्थापक
<u>आमन्त्रीत सदस्य:</u>		
श्री कर्ण बहादुर कुँवर	अध्यक्ष	बर्दगोरिया गाउँपालिका, कैलाली

प्रस्तावहरु:

१. प्रस्ताव: आयोजना हस्तान्तरण सम्बन्धमा:

निर्णय नं.१ - प्रस्ताव नं. १ माथि छलफल गर्दा बर्दगोरिया गा.पा. अन्तर्गत प्रदेश सरकार खानेपानी तथा सरसफाई डिभिजन कार्यालय, धनगढी, कैलालीबाट बर्दगोरिया गा.पा. मा खानेपानी आयोजनाहरु खानेपानी क्षेत्रगत सुशासन तथा पूर्वाधार सहयोग आयोजनाबाट कार्यान्वयन हुने गरी तपसिल बमोजिमका आयोजनाहरु आजको मितिबाट बर्दगोरिया गा.पा.लाई हस्तान्तरण गरियो ।

तपसिल

क्र.सं.	आयोजनाको नाम	कामको विवरण	हाल कार्य संचालन रहेको/नरहेको	कैफियत
१	मट्गौरा ताल खा पा आ	चेक लिष्ट अनुसार	रहेको	आयोजना उपभोक्ता समितिबाट कार्य भैरहेको अवस्थामा २०८० अषाढ मसान्त पश्चात र ठेका मार्फत कार्य भैरहेको अवस्थामा ठेका सम्झौताको म्याद समाप्त भए पश्चात स्वतः बर्दगोरिया गा.पा.मा हस्तान्तरण हुने
२	नैरीगाउँ खा पा आ	चेक लिष्ट अनुसार	रहेको	

(Handwritten signatures and initials)

Annex III: Consent letter from Bardagoriya RM-06

1. Land ownership certificate from Bardagoriya Rural Municipality Ward No-06 Office



बर्दगोरिया गाउँपालिका
Bardagoriya Rural Municipality
६ नं. वडा कार्यालय (6 No. Ward Office, Kailali)
पृथ्वीपुर कैलाली
सुदूर पश्चिम प्रदेश, नेपाल



पत्र संख्या ०८१/०८२
चलानी नं. ८४५

मिति : २०८१/११/१२ गते
ने.सं.११४५

श्री जो जस संग सम्बन्ध राख्दछ ।

विषय : सिफारिस सम्बन्धमा ।

उपरोक्त विषय सम्बन्धमा यस बर्दगोरिया गाउँपालिका वडा नं. ६ जगतपुर स्थित श्री मतगौरा खानेपानी उपभोक्ता तथा सरसफाई समिती बर्दगोरिया ६ को प्राप्त पत्रअनुसार पुर्व तर्फ ग्रावेल बाटो पश्चिम तर्फ कि.नं. ५३२,५३३ उत्तरतर्फ ग्रावेल बाटो दक्षिण तर्फ कि.नं. ४७१,६११ यति चारकिल्ला भित्र पर्ने ५ कठामा २ लाख २५ हजार लिटर क्षमता बराबरको खानेपानी टंकी तथा भौतिक संरचना निर्माण भई केही टोलमा पाइप लाईन समेत विस्तार भईसकेको हुंदा उक्त जग्गा मतगौरा खानेपानी उपभोक्ता तथा सरसफाई समिती कै रहेको र खानेपानी क्षेत्रगत सुशासन तथा पूर्वाधार सहयोग आयोजनाबाट कार्यन्वयन हुने गरी बर्दगोरिया गाउँपालिका द्वारा संचालन हुने व्यहोरा सिफारिस साथ अनुरोध गरिन्छ ।

रामकृष्ण डंगौरा थारु
वडा अध्यक्ष
रामकृष्ण डंगौरा थारु
वडा अध्यक्ष

Annex IV: Four Forts Proved by Rural Municipality Ward No.06 Office



बर्दगोरिया गाउँपालिका
६ नं. वडा कार्यालय
पृथ्वीपुर, कैलाली
सुदूर पश्चिम प्रदेश, नेपाल

पत्रसंख्या : ०८१/०८२
चलानी नं. : ७३४

मिति २०८१ / १० / १५



विषय : भोगचलन/आवाद कमोत तथा चार किल्ला प्रमाणित गरिएको बारे ।

उपरोक्त विषय सम्बन्धमा जि.कै. बर्दगोरिया गा.पा. वडा नं. ६ टोल जोगतपुर मा स्थायी बसोबास भएको श्री भद्रा देवी शर्मा पत्नी उ. सुले यस वडा कार्यालयमा पेश गर्नुभएको निवेदन बमोजिम निज व्यक्ति यसै बर्दगोरिया गा.पा. वडा नं. ६ मा विगत मिति २०.७.६९ देखि भोगचलन/आवाद, कमोत गर्दै आएको तपसिल अनुसारको ऐलानी/प्रती जग्गाको भोगचलन/आवाद, कमोत गरेको व्यहोरा तथा चारकिल्ला प्रमाणित गरिन्छ ।

तपसिल

१. जग्गाको ठेगाना : बर्दगोरिया गा.पा वडा नं. ६ टोल : जोगतपुर

२. जग्गाको जम्मा क्षेत्रफल : ०-५-०-०

जग्गाको प्रयोजन : आवासीय

३. बाटो संग जोडिएको भए : बाटोको प्रकार : भद्रा देवी शर्मा पत्नी उ. सुले जोगतपुर देखि राजीपुर जाने गावेले बाटो

४. जग्गाको चार किल्ला :

सि.नं.	जग्गाको ठेगाना	जम्मा क्षेत्रफल	पूर्व	पश्चिम	उत्तर	दक्षिण	जग्गाको प्रयोजन	बाटो भए बाटोको प्रकार
१.	बर्दगोरिया गा.पा. ६ जोगतपुर	०-५-०-०	गावेले बाटो	किता नं. ५२३, ५३३ की जग्गा	गावेले बाटो	किता नं. ४८१, ६११ की जग्गा	आवासीय	गावेले बाटो


रामकृष्ण डंगौरा थारु
वडा अध्यक्ष

रामकृष्ण डंगौरा थारु
वडा अध्यक्ष

Annex V: Water Quality Test Report for Matgaura WSS Sub-project

1. Water Quality Lab Test Report of Deep Tube Well (DTW)

Matgaura WSP



SWAT/F/C/04
Version no: 01
Issue no: 02
Revision no: 04
Effective date: 2024/01/20

Soil Water and Air Testing Laboratory
VAT No: 605928743
Tel: +977-01 5349480
Email: swatlab2017@gmail.com
PO Box: 25752, Kathmandu, Nepal
Bulbule Marga 10, Thapagaun, Kat

WATER ANALYSIS REPORT

Name and Address of Client:	AARVEE-FBC Paragon JV, Kailali	Lab Code:	24/12-1751
Sample collection in Lab:	Manak Chaudhary	Location:	Kailali, Janaki, R.M
Source:	Boring Water	Sampled By:	Client
Sampling Date:	2024/12/25	Test Performance Date:	2024/12/31-2025/01/03
Receipt Date:	2024/12/31	Issued Date:	2025/01/03

Parameters	Results	Unit	NDWQS	Method
Physicals				
Conductivity	708	µS/cm	1500	Laboratory Method, 2510 B, APHA-AWWA-WEF, 24 th Edition, 2023
pH at 20°C	7.0	-	6.5-8.5	Electrometric method, 4500 H+ B, APHA-AWWA-WEF, 24 th Edition, 2023
Turbidity	1.75	NTU	5	Nephelometric method, 2130 B, APHA-AWWA-WEF, 24 th Edition, 2023
Chemicals				
Ammonia	0.18	mg/L	1.50	Phenate method, 4500 NH ₃ F, APHA-AWWA-WEF, 24 th Edition, 2023
Iron	0.21	mg/L	0.30	Direct Air Acetylene (AAS) Method. 3111 B APHA-AWWA-WEF, 24 th Edition
Manganese	0.22	mg/L	0.20	Direct Air Acetylene (AAS) Method. 3111 B APHA-AWWA-WEF, 24 th Edition
Arsenic	<0.001	mg/L	0.05	Hydride Generator, SDDC, MCAWW, EPA/600/4-79/020.
Biological				
<i>E. coli</i>	0	CFU/100mL	0	Thermo tolerant membrane filtration procedure at 45.5°C±0.2, 9222 E APHA-AWWA-WEF, 24 th Edition, 2023

NDWQS=National Drinking Water Quality Standard (2079), APHA=American Public Health Association, AWWA=American Water Works Association, WEF=Water Environment Federation
 AAS= Atomic Absorption Spectrophotometer

Note:

1. This report is based on the sample submitted to this laboratory by the client.
2. The integrity of the sample and results are dependent on the quality of sampling. The results refer to the parameters tested of the samples provided/collected for analysis.
3. Statements of conformity have been made without taking Measurement Uncertainty into account except when specifically requested by the customer.

Remarks: Except for Manganese, all the observed value of other tested parameters are within the limit of NDWQS, 2079.

Analized By
Aalekh Bhattarai

Checked By
Prabina Shrestha

Authorized By
Er. Lokesh Sapkota

The report shall not be reproduced except in full, without approval of the laboratory.

Annex VI: Code of Conduct (CoC) for Matgaura WSS Sub-project

Water Sector Governance And Infrastructure Support Project (WaSGISP)

Matgaura Water Supply Project

Bardagoriya Rural Municipality-04

कार्य सथलमा हुने यौनजन्य तथा महिला हिंसा सम्बन्धी आचार सहिता

व्यक्तिगत आचार सहिता

म यो आचार सहिता पालना गर्नु मेरो दायित्व हो भनी स्वीकार गर्दछु । म कुनै पनि यौनजन्य तथा महिला हिंसा जस्ता कार्यमा संलग्न हुने छैन । आयोजनाको कामको शिलसिलामा यो आचार सहिता पालना गर्न सहमत छु ।

१ म जातजाति, धर्म, भाषा, लिङ्ग, उमेर, राजनितिक वा सामाजिक हैसियत, भौगोलिकता पहुच, बैवाहिक स्थिति वा अन्य कुनैपनि आधारमा भेदभाव नगरी सबैलाई सम्मान जनक र समान रूपमा व्यवहार गर्नेछु ।

२ सामाजिक सन्जालको प्रयोग गरी अश्लील शब्द दृश्य सामग्री वा कार्यालय समय अघिपछी बार्तालाप मार्फत सहकर्मी कामदार लाई यौन दुर्व्यवहार गर्ने छैन ।

३ कार्यस्थलमा सिट्टि बजाउने चुम्बन गर्ने व्यक्तिगत उपहार दिने आदि जस्ता कार्य गरी कर्मचारी सहकर्मी कामदारलाई यौन दुर्व्यवहार गर्ने छैन ।

४ कुनै पनि प्रलोभन, धम्की देखाई जस्तै पदोन्नति लाभ देखाएर ,जागिर नदिने धम्की दिएर, शोषण गरेर आदि यौन दुर्व्यवहार पक्षमा संलग्न हुने छैन ।

५ कार्य समयावधि भित्र कुनैपनि मदिराजन्य तथा लागुपदार्थको सेवन गर्ने छैन ।

६ आयोजनाका सरोकारवाला वा वरपरका समुदायका सदस्यहरुलाई कुनै पनि लैङ्गिक हिंसा तथा यौनजन्य दुर्व्यवहार गर्ने छैन ।

७ कुनैपनि कर्मचारी श्रमिक विरुद्ध हिंसा गरिएको दावी ठहरिएमा प्रचलित संघिय प्रादेशिक स्थानिय सरकार विश्व बैङ्क को कानून निति नियमअनुसार सजाय दण्डित जरिवाना तिर्न तयार हुनेछु ।

८ कार्य गर्ने शिलशिलामा सम्मानजनक निर्देशनहरुको पालना गर्दछु । (वातावरणीय र सामाजिक)

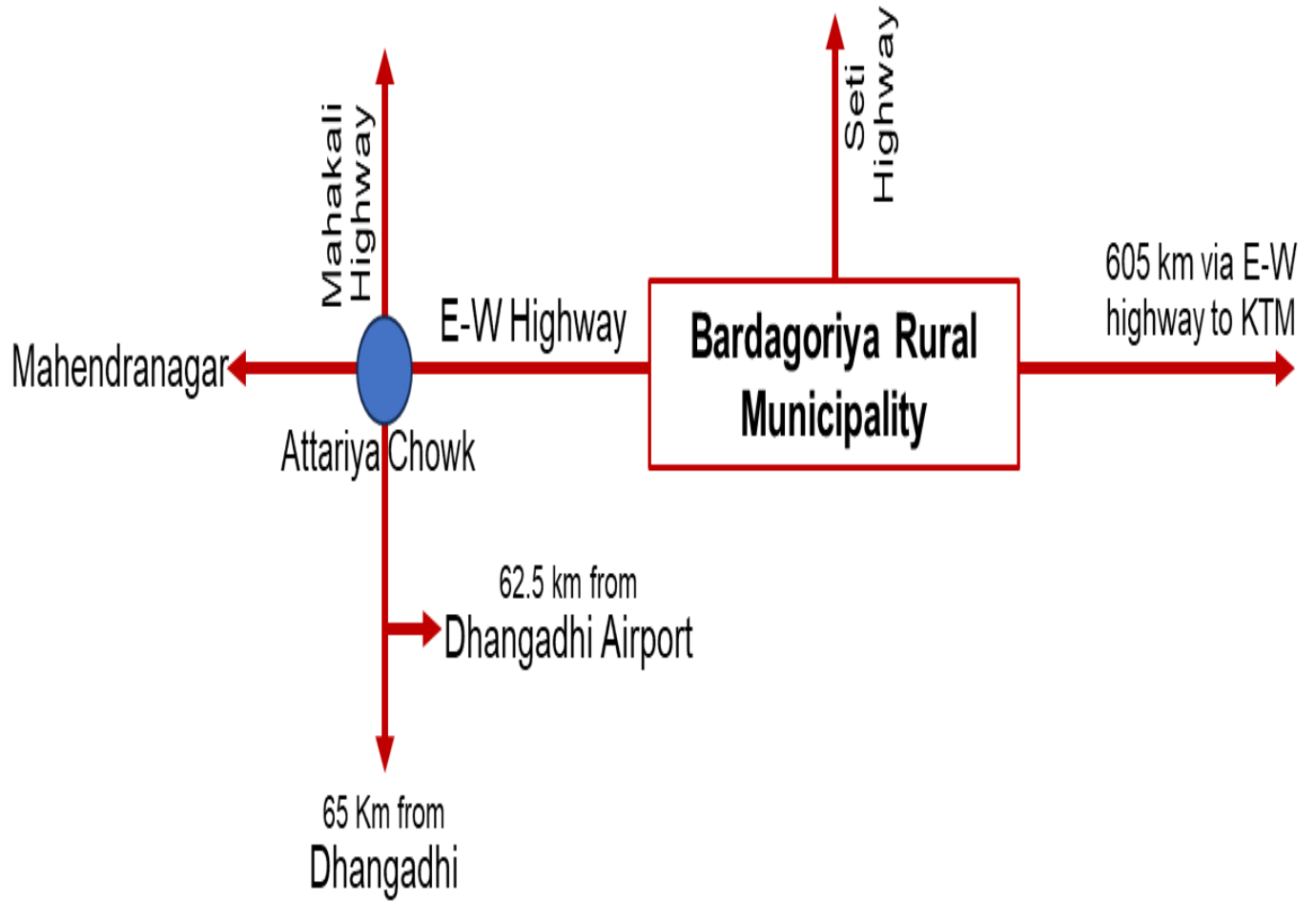
९ मेरो जिम्मेवारी कुशलता र लगनशिलता पूर्वक पुरा गर्नेछु ।

- १० सम्बन्धित कार्यालय कम्पनिले संचालन गरेको विभिन्न प्रशिक्षण कार्यक्रममा सक्रिय रूपमा भाग लिनेछु ।
- ११ आयोजनाका प्रत्यक्ष लाभदायक सदस्य समुदायमा यौन दुर्व्यवहार शोषण गर्ने छैन ।
- १२ विश्वसनीयता नैतिक उल्लघनको रिपोर्ट गरेमा कुनै कामदार विरुद्ध बदला लिने छैन ।
- १३ कार्य स्थलमा लैङ्गिक संवेदनशील भाषाको प्रयोग गर्ने छैन ।
- १४ कार्यस्थलमा महिला हिंसा तथा यौनजन्य क्रियाकलापलाई प्रोत्साहन गर्ने खालका गतिविधी गर्न दिने छैन ।
- १५ कार्यस्थलमा महिला हिंसा तथा यौन हिंसा गतिविधीहरूलाई प्रोत्साहन गर्ने छैन ।
- १६ १८ वर्षभन्दा मुनिका बालिकाहरूमा कुनै डिजिटल मिडिया मार्फत वा कुनै माध्यमबाट स्वीकृती लिई वा नलिई यौनजन्य क्रियाकलापमा सहभागी हुने छैन यदि नाबालिका स्वीकृती लिई यौनजन्य क्रियाकलाप गरेमा क्षमा हुदैन ।
- १७ आयोजना कार्यान्वयनको बेलामा यौनजन्य दुर्व्यवहार यौन शोषण भएमा वा आचार सहिता उल्लघन गरेमा वडा नगरपालिका स्तरमा रहेको गुनासो सुनवाइ संयन्त्रमा तुरुन्त निवेदन जानकारी दिनेछु ।
- १८ कार्यस्थलमा कसैले यौनजन्य दुर्व्यवहार सम्बन्धि संकास्पद कार्य गरेमा तुरुन्त टोली प्रमुख प्रबन्धकलाई जानकारी निवेदन दिनेछु ।
- माथि उल्लेखित आचार संहिता राम्ररी पढे र बुझेको छु र कार्यस्थलमा कडाईका साथ पालना गर्दछु भनी हस्ताक्षर गर्दछु ।

.....
व्यवस्थापक टोली प्रमुख

.....
कर्मचारी कामदार

Annex VII: Project Location



Annex VIII: Photographs



1. Existing office building of Matgaura WSP



2. Existing structure at the Matgaura Water Supply Project, OHT premises



3. During Focus Group Discussion (FGD) with women & marginalized (Dalit) group at Prithvipur



4. During Focus Group Discussion (FGD) with women & marginalized (Dalit) group at Prithvipur

Annex IX: Monitoring format

**मतगौरा खानेपानी आयोजनाको
वातावरणीय प्रभाव अनुगमन फारम (निर्माण चरण)**

अनुगमन गरेको मिति		समय	
अनुगमनको स्थान			
अनुगमन गर्ने व्यक्तिको नाम			
अनुगमन गर्ने व्यक्तिको पद			

तलको तालिकामा उल्लेख गरिएका सूचकहरूलाई दिइएको विधि प्रयोग गरी अनुगमन गर्ने परिणाममा छ छैन वा निश्चित संख्या (परिमाण) आउने भए सो उल्लेख गर्ने

सूचक	विधि	परिणाम वा परिमाण		प्रतिकार्य वा सुधारात्मक कार्य (सल्लाह सुझव निर्देशन केहि दिएको भए सो उल्लेख गर्ने)
		छ	छैन	
धुवाँ धुलो उत्सर्जन	बाटो र कार्यस्थल अवलोकन गर्ने	छ	छैन	
ध्वनी प्रदुषण	बाटो र कार्यस्थल अवलोकन गर्ने	छ	छैन	
व्यक्तिगत सुरक्षा उपकरणहरू लगाईएको	कार्यस्थल अवलोकन गर्ने	छ	छैन	
खुला रुपमा दिशा पिसाब गरेको	कार्यस्थल अवलोकन गर्ने	छ	छैन	
फोहरमैला जथाभावी फालेको	कार्यस्थल अवलोकन गर्ने	छ	छैन	
काटिएको रुखको संख्या	ठुटाको संख्या गन्ने र अभिलेख हेर्ने			
सडकमा नयाँ खाल्टो परेको र हिलो भएको	बाटो अवलोकन गर्ने	छ	छैन	
कामदारका अभद्र व्यवहारका घटना	स्थानीयलाई सोध्ने	छ	छैन	
कार्य क्षेत्रमा दुर्घटना र क्षतिको विवरण (संख्या र किसिम)	ठेकेदारलाई सोध्ने र अभिलेख हेर्ने			
निर्माणमा स्थानीय व्यक्तिको सभागिता (संख्या)	अवलोकन गर्ने, सोध्ने र हाजिरी हेर्ने			
निर्माणमा महिला सहभागिता (संख्या)	अवलोकन गर्ने, सोध्ने र हाजिरी हेर्ने			
निर्माणमा जनजातिको सहभागिता (संख्या)	अवलोकन गर्ने, सोध्ने र हाजिरी हेर्ने			

Environmental & Social Management Plan (ESMP) Report for Matgaura Water Supply Project

निर्माणमा दलितको सहभागिता (संख्या)	अवलोकन गर्ने, सोधने र हाजिरी हेर्ने		
निर्माणमा बालबालिकाको (१४ र १६ वर्ष मुनिको) सहभागिता (संख्या)	अवलोकन गर्ने, सोधने र हाजिरी हेर्ने		

अनुगमनको गर्ने व्यक्तिको समग्र क्रियाकलापको बारेमा थप र व्यक्तिगत टिप्पणी	
अनुगमनकर्ताको सुझाव	

जाँच/रुजु गर्ने अधिकारीको नाम र सही	
-------------------------------------	--

मतगौरा खानेपानी आयोजनाको

वातावरणीय प्रभाव अनुगमन फारम (संचालन चरण)

यस किसिमको अनुगमनलाई नियमित क्रियाकलापमा समावेश गर्ने, अवस्था हेरी मासिक, अर्धवार्षिक वा वार्षिक रूपमा अनुगमन गरी अभिलेख सुरक्षित राख्ने

अनुगमन गरेको मिति		समय	
अनुगमनको स्थान			
अनुगमन गर्ने व्यक्तिको नाम			
अनुगमन गर्ने व्यक्तिको पद			

तलको तालिकामा उल्लेख गरिएका सूचकहरूलाई दिइएको विधि प्रयोग गरी अनुगमन गर्ने परिणाममा छ छैन वा निश्चित संख्या (परिमाण) आउने भए सो उल्लेख गर्ने

सूचक	विधि	परिणाम वा परिमाण		सल्लाह सुझाव वा निर्देशन केहि भए सो उल्लेख गर्ने
धुवाँ धुलो उत्सर्जन	बाटो र सार्वजनिक शौचालय क्षेत्र अवलोकन गर्ने	छ	छैन	
ध्वनी प्रदुषण	बाटो र सार्वजनिक शौचालय क्षेत्र अवलोकन गर्ने	छ	छैन	
खुला रूपमा दिशा पिसाब गरेको	सार्वजनिक शौचालय क्षेत्र वरपर अवलोकन गर्ने	छ	छैन	
फोहरमैला जथाभावी फालेको	सार्वजनिक शौचालय क्षेत्र वरपर अवलोकन गर्ने	छ	छैन	
नियमित सरसफाई गरिएको		छ	छैन	
वृक्षारोपण गरिएको बिरुवा जागेको हुर्केको	संख्या गन्ने र रोपेको संख्यासँग दाँज्ने			
सडकमा नयाँ खाल्टो परेको र हिलो भएको	बाटो अवलोकन गर्ने	छ	छैन	
स्थानीय व्यक्तिद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने			
स्थानीय महिलाद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने			
स्थानीय जनजातीद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने			
स्थानीय दलितद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने			

Environmental & Social Management Plan (ESMP) Report for Matgaura Water Supply Project

अनुगमनको गर्ने व्यक्तिको समग्र क्रियाकलापको बारेमा थप र व्यक्तिगत	
जाँच/रुजु गर्ने अधिकारीको नाम र सही	

मतगौरा खानेपानी आयोजनाको

नियमपालन अनुगमन फारमको ढाँचा (निर्माणपूर्व वा निर्माण चरण)

अनुगमन गरेको मिति		समय	
अनुगमनको स्थान			
अनुगमन गर्ने व्यक्तिको नाम			
अनुगमन गर्ने व्यक्तिको पद			

सूचक	विधि	परिणाम वा परिमाण		कैफियत वा केहि थप टिप्पणी
		छ	छैन	
प्रस्तावित विकासलाई समावेश गरी सामूदायिक वनको कार्ययोजना स्वीकृतिको पत्र	कार्ययोजना र स्वीकृतिको पत्र अध्ययन	छ	छैन	
ठेक्का सम्झौतामा वातावरण व्यवस्थापन सम्बन्धी बुँदा संलग्न	स्वीकृत प्रस्ताव वा ठेक्का सम्झौता अध्ययन	छ	छैन	
वातावरण व्यवस्थापनको लागि बजेट विनियोजन	बजेट दस्तावेज अध्ययन	छ	छैन	
प्रभाव अनुगमन गरे नगरेको	अनुगमन बजेट वा अनुगमन प्रतिवेदन अध्ययन र सुधारात्मक कार्यको प्रगति	छ	छैन	

स्थलगत अवलोकनको आधारमा न्यूनीकरणका क्रियाकलापको कार्यान्वयनको अवस्था

सूचक	परिणाम वा परिमाण		कैफियत वा केहि थप टिप्पणी (उपाय आवश्यक भए नभएको बारेमा समेत)
	छ	छैन	
थोत्रा सवारीसाधनको प्रयोग	छ	छैन	
बाटो र कार्यस्थलमा पानी छर्केको	छ	छैन	
निर्माण सामग्री ढुवानीको क्रममा छोपेको	छ	छैन	
.....	छ	छैन	
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