



Government of Nepal
Ministry of Water Supply
Department of Water Supply and Sewerage Management
Water Sector Governance and Infrastructure Support Project
Project Implementation Unit
Sharada Municipality, Salyan

Detailed Project Report of Thulapatal Nipane Water Supply Project

Sharada Municipality, Salyan

Draft Report

Volume I: Main Report

Volume II: Cost Estimate and Appendix

Volume III: Drawings

Volume IV: Bidding Document with Specification

Volume V: Environmental & Social Screening Report

Volume VI: Environmental and Social Management Plan

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LIST OF ACRONYMS & ABBREVIATIONS

AMSL	Above Mean Sea Level
BES	Brief Environmental Study
CBS	Central Bureau of Statistics
DLP	Defects Liability Period
DMA	District Metering Area
DWSSM	Department of Water Supply and Sewerage Management
DR	Dosing Unit
DoR	Department of Road
ESSR	Environmental and Social Screening
ESF	Environmental and Social Framework
EPR	Environment Protection Rule
ERVt	Existing RVT
ESRI	Environmental Systems Research Institute, Inc.
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GESI	Gender Equality & Social Inclusion
GH	Guard House
GI	Galvanized Iron
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GoN	Government of Nepal
HDPE	High-Density Polyethylene Pipe
HH	Household
HP	Horse Power
HIV	Human Immunodeficiency Virus
ICIMOD	International Centre for Integrated Mountain Development
IDA	International Development Association
TPSP	Thulapatal Nipane Water Supply Project
KM	Kilometre
Kph	Kilometre per Hour

kVA	kilo Volt Amperes
LMP	Labour Management Plan
MLD	Millions of Liters per Day
MoFE	Ministry of Forests and Environment
MoWS	Ministry of Water Supply
MST	Municipal Support Team
MWASH	Municipal Water, Sanitation and Hygiene
NOC	No Objection Certificate
NRs	Nepalese Rupees
NDWQS	National Drinking Water Quality Standard
ODF	Open Defecation Free
PAP	Project Affected Person
PCP	Pump Control Panel
PIC	Project Implementation Committee
PIU	Project Implementation Unit
PMU	Project Management Unit
PPE	Personal Protective Equipment
PR	Primary Reservoir
PRVT	Proposed RVT
PST	Project Support Team
PST	Pumping Station
PH	Pump House
RAP	Resettlement Action Plan
RVT	Reservoir Tank
STD	Sexually transmitted Diseases
STO	Store
TL	Transmission Line
TPWSP	Thulapatal Nipane Water Supply Project
TRVT	Transmission Reservoir Tank
USD	United States Dollar
VDC	Village Development Committee
Vs.	Versus

WaSGISP	Water Sector Governance and Infrastructure Support Project
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WSP	Water Supply Plan
WSUC	Water Supply & Sanitation Users Committee
WTP	Water Treatment Plant

Executive Summary

The Thulapatal Nipane Water Supply Project (TNWSP) is a gravity-based water supply scheme designed at a detailed study level to improve access to safe and reliable drinking water for the residents of Wards No. 9 and 10 of Sharada Municipality, Salyan District, Karnali Pradesh. The project area is well connected by the Rapti Highway and the Chinchu-Jararkot-Dunae Highway and is supported by existing facilities such as electricity, communication networks, health services, and banking institutions. At present, the area is served by five existing water supply schemes implemented by DWSSM, WUSCs, and other agencies; however, these systems are inadequate to meet current and future water demand, necessitating the development of a reliable and sustainable water supply system.

The project serves a present population of 1,540 people from 356 households (2025). Based on ward-wise population growth rates of 0% for Ward No. 9 and 0.24% for Ward No. 10, the population in the design year 2047 is projected to be 1,553, with approximately 359 households. Correspondingly, the total water demand is estimated at 129,541 LPD (1.50 LPS) in the present year, 129,546 LPD (1.50 LPS) in the base year 2027, and 130,622 LPD (1.51 LPS) in the design year 2047, ensuring adequate provision of water throughout the project life.

The water sources for the project consist of five perennial springs located at Bagchaur, Banskhola, Nipane, Salchaur, and Thulapatal, with a combined safe yield sufficient to meet the design demand. The individual source yields are 0.3 LPS (Bagchaur), 1.0 LPS (Banskhola), 1.0 LPS (Nipane), 0.5 LPS (Salchaur), and 0.7 LPS (Thulapatal). The project proposes four stream intake structures at Bagchaur, Banskhola, Nipane, and Salchaur, along with five dosing units one at each source location to ensure proper water treatment and compliance with drinking water quality standards.

The storage and distribution system includes a total of five rectangular Reinforced Concrete Reservoir Tanks (RVTs), of which two are existing and three are newly proposed. All RVTs are designated solely for distribution purposes, with capacities of 10 m³ at Bagchaur, 30 m³ at Banskhola (existing), 10 m³ at Nipane, 10 m³ at Salchaur, and 26 m³ at Thulapatal (existing). In addition, the project utilizes an existing functional one-stage pumping system with a 10 HP pump and provides five additional break pressure tanks/intermediate chambers (BPTs/ICs) within the Thulapatal distribution network. A 30 m³ water tank is also proposed at the laboratory premises to support operational and monitoring requirements. The additional transmission and distribution network will comprise approximately 33,677 meters of pipelines, with maintenance of existing pipeline in other places, ensuring efficient conveyance and equitable distribution of water across the service area.

Scope of ESMP: The Environmental and Social Management Framework (ESMF), developed for the WaSGISP project, provides the guiding framework for site-specific environmental and social management plans in conformance with World Bank's Environmental and Social Framework (ESF) and, Government of Nepal's (GoN) Environmental and Social (E&S) acts and regulations. This ESMP has been prepared considering the anticipated impacts of the

proposed sub-project on the existing environmental and social conditions. The ESMP study for this water supply sub-project will guide its implementation, ensuring that adequate measures are taken to minimize and mitigate 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).

A total budget of NRs. 400,000 has been allocated for the implementation of mitigation measures addressing construction-phase impacts. The detailed cost breakdown, along with tentative implementation items categorized under different subject areas, is presented in Table No. 20. These estimated costs exclude mitigation measures that are customarily covered under the Contractor's obligations. Most mitigation measures related to physical environmental impacts have already been incorporated into the overall project cost, while some will be addressed through contract bidding provisions. In addition, certain mitigation measures do not require financial resources. The allocation of funds for mitigation measures has been done adequately.

1. Introduction

1.1 Background

The Government of Nepal, with financial assistance of USD 80 million from the World Bank, is implementing the Water Sector Governance and Infrastructure Support Project (WaSGISP) to improve water supply and sanitation services and strengthen institutional capacity under the federal structure. The project, led by the Ministry of Water Supply (MoWS) and implemented by the Department of Water Supply and Sewerage Management (DWSSM) in coordination with six municipalities across Karnali and Sudurpashchim Provinces, is structured around four key components: institutional strengthening, expansion of climate-resilient services, integrated water resource and watershed management, and emergency response.

1.2 Project Description

Sharada Municipality is located in the Salyan District of Karnali Province of Nepal. The municipality was established in 2014 (2071 BS) as a local government of Nepal by merging Dandagaun, Hiwalcha, Kajeri, Khalanga, Marke, Saijuwal Takura, and Syanikhal Village Development Committees (VDCs) on May 18, 2014.

Geographically, Sharada Municipality is situated in the Siwalik range of the mid-western hilly region of Nepal, along the Sharada River. It lies between latitudes 28°18'51" N to 28°27'44" N and longitudes 82°02'40" E to 82°16'36" E, with an elevation ranging from 1,210 to 1,830 meters above mean sea level. The municipal headquarters is located in Khalanga, Salyan. As part of the Water Sector Governance and Infrastructure Support Project (WaSGISP), the Thulapatal Nipane Water Supply System (TPNWSP) has been duly prioritized as significant sub project which covers wards 9 & 10 of the service area given in map below:

Table 1: Service area of the Thulapatal WS Sub-project System

SN	W. No.	Name of the Covered Settlements
1	9	Salchaur, Nipane, Banskhol, Bagchaur, Jalukebari
2	10	Paiyakharka & Nayabasti

The Thulapatal Nipane Water Supply Project (TNWSP) is a gravity-based water supply scheme to improve access to safe and reliable drinking water for the residents of Wards No. 9 and 10 of Sharada Municipality, Salyan District, Karnali Province. The project area is well connected by the Rapti Highway and the Chinchu-Jararkot-Dunae Highway and is supported by existing facilities such as electricity, communication networks, health services, and banking institutions. At present, the area is served by five existing water supply schemes implemented by DWSSM, WUSCs, and other agencies; however, these systems are inadequate to meet current and future water demand, necessitating the development of a reliable and sustainable water supply system. The project serves a present population of 1,540 people from 356 households (2025). Based on ward-wise population

growth rates of 0% for Ward No. 9 and 0.24% for Ward No. 10, the population in the design year 2047 is projected to be 1,553, with approximately 359 households. Correspondingly, the total water demand is estimated at 129,541 LPD (1.50 LPS) in the present year, 129,546 LPD (1.50 LPS) in the base year 2027, and 130,622 LPD (1.51 LPS) in the design year 2047, ensuring adequate provision of water throughout the project life.

The water sources for the project consist of five perennial springs located at Bagchaur, Banskhol, Nipane, Salchaur, and Thulapatal, with a combined safe yield sufficient to meet the design demand. The individual source yields are 0.3 LPS (Bagchaur), 1.0 LPS (Banskhol), 1.0 LPS (Nipane), 0.5 LPS (Salchaur), and 0.7 LPS (Thulapatal). The project proposes four stream intake structures at Bagchaur, Banskhol, Nipane, and Salchaur, along with five dosing units one at each source location to ensure proper water treatment and compliance with drinking water quality standards.

The storage and distribution system includes a total of five rectangular Reinforced Concrete Reservoir Tanks (RVTs), of which two are existing and three are newly proposed. All RVTs are designated solely for distribution purposes, with capacities of 10 m³ at Bagchaur, 30 m³ at Banskhol (existing), 10 m³ at Nipane, 10 m³ at Salchaur, and 26 m³ at Thulapatal (existing). In addition, the project utilizes an existing functional one-stage pumping system with a 10 HP pump and provides five break pressure tanks/intermediate chambers (BPTs/ICs) within the Thulapatal distribution network. A 30 m³ water tank is also proposed at the laboratory premises to support operational and monitoring requirements.

The transmission and distribution network will comprise approximately 33,677 meters of pipelines new pipeline including the maintenance of existing pipeline, ensuring efficient conveyance and equitable distribution of water across the service area. Overall, the Thulapatal Nipane Water Supply Project is expected to provide a reliable, sustainable, and safe drinking water supply to the project area up to the design year 2047, significantly contributing to improved public health, reduced water scarcity, and enhanced quality of life for the beneficiary communities.

Table 2 : Salient features of the project

SN	Items	Description
1	Name of Project	Thulapatal Nipane Water Supply Project (TNWSP)
2	Type	Gravity
3	Study Level	Detailed
4	Location Area	
	Province	Karnali
	District	Salyan
	Municipality	Sharada
	Ward	Ward No. 9 and 10
5	Available Facilities	
	Road	Link by Rapti Highway and Chinchu-Jararkot-Dunae High Way

SN	Items	Description	
	Water Supply System	5 Schemes (DWSSM//WUSC and Other)	
	Electricity	Available	
	Communication	Available	
	Health Services	Available	
	Banking Facilities	Available	
6	Population Growth Rate and Population		
6.1	Population Growth Rate (Adopted)		
	Ward No. 9	0%	
	Ward No. 10	0.24%	
6.2	Social Status		
	Present HHs Numbers (2025)	356	
	Present Population (2025)	1,540	
	Base Year Population (2027)	1,540	
	Design Year Population (2047)	1,553	
	Weighted Growth Rate % (WGR)	Based on Growth Rate at Each Ward	
	Projected HHs in Design Year (based on WGR)	~ 359	
7	Water Demand		
	Present Year (2025)	129541 LPD (1.50 LPS)	
	Base Year (2027)	129546 LPD (1.50 LPS)	
	Design Year (2047)	130622 LPD (1.51 LPS)	
8	Source Characteristics		
	Source Name and Location	Five Springs at Bagchaur, Banskhola, Nipane, Salchaur, Thulapatal	
	Source Type	Spring	
	Safe Yield		
	Bagchaur	0.3 LPS	
	Banskhola	1 LPS	
	Nipane	1 LPS	
	Salcahur	0.5 LPS	
	Thulapatal	0.7 LPS	
9	Type of Structures		
9.1	Intake Arrangement	Four Stream Intakes, each at Bagchaur, Banskhola, Nipane, Salchaur	
9.2	Treatment Plant	Five Dosing Units, each at Bagchaur, Banskhola, Nipane, Salchaur, Thulapatal	
9.3		Total RVTs	5 Nos

SN	Items	Description		
	Reservoir Details (all Proposed RVT are of Rectangular RVT)	Incorporated Existing RVT		2 Nos
		Proposed New		3 Nos
		RVTs for Soley Distribution (Bagchaur, Banskholra, Nipane, Salchaur, Thulapatal)		5 Nos
9.4	Proposed RVT Location, Capacity and Function	TRVT/RVT	Function of RVT	Size (m³)
		Bagchaur_RVT	(Distribution RVT)	10
		Banskholra_RVT (Existing)	(Distribution RVT)	30
		Nipane_RVT	(Distribution RVT)	10
		Salchaur_RVT	(Distribution RVT)	10
		Thulapatal_RVT (Existing)	(Distribution RVT)	26
9.5	Pump	Existing Functional One Stage Pumping System, Pump of 10 HP		
10	Number of Break Pressure Tanks/Intermediate Chambers (BPTs/ICs)	5 new (At Thulapatal Distribution Network)		
11	Household Connection	356 Nos.		
12	Lab building and Water Tank at Lab Premises	1 No of 30 CUM Capacity		
13	Total Length of Transmission and Service Distribution Pipe	33,677 m		
14	Water Tariff per Household calculated as electricity cost			
	In Base Year, 2027	NRs. 257		
	In Year, 2032	NRs. 284		
	In Year, 2037	NRs. 314		
	In Year, 2042	NRs. 347		
	In Design Year (2047)	NRs. 379		
15	Capital Cost of the Project			
	Base Cost only	NRs. 51,420,839.10		
	Total Cost incl. VAT and Contingencies	NRs. 6,953,916.00		

1.3 Proposed Structures, Location and Land Ownership Status

The details of Proposed Structures, Location and Land Ownership Status is given in Table-3 below:

Table 3: Proposed Structures, Location and Land Ownership Status

S N	Location	Proposed Structure	Size Cubi c Mete r	Land Ownership Status	Existing Site Conditio n	Likely E & S Impact	Remar ks
1	Sharada Municipality -9, Saalchaur	RVT, Conveyance canal, Intake & Dosing House	10	Public Land/Grass Land-with no any informal occupancies	Clear no any disturbances	No Adverse Impact Any	Verifie d by Amin of Napi Office
2	Sharada Municipality -9, Nipane	RVT, Conveyance canal, Intake & Dosing House	10	Kalika Community Forest Area, with no any informal occupancies	Clear no any disturbances	Some minor site clearance required like bush clearance	Verifie d by Amin of Napi Office
3	Sharada Municipality -9, Bagchaur	RVT, Conveyance canal, Intake & Dosing House	10	Salleri Yuwa Community Forest Area, with no any informal occupancies	Clear no any disturbances	No Adverse Impact Any	Verifie d by Amin of Napi Office
4	Sharada Municipality-9, Banskhola	Conveyance canal, Intake & Dosing House	--	Banskhola Community Forest Area, with no any informal occupancies	Clear no any disturbances	No Adverse Impact Any	Pipe line, Intake and yard connect ion
5	Sharada Municipality-10, Thulapatal	Intake, Collection Chamber	--	Chiuri Neta Community Forest Area, with no any informal occupancies	Clear no any disturbances	No Adverse Impact Any	Pipe line, Intake and yard connect ion

6	Municipality office premises	Lab building with water tank	-	Municipal land	Clear no any disturbances	No Any Adverse Impact	
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Source: Field visit, 2025

Table 4: Pipeline Length (Transmission & Distribution)

SN	Pipeline Length	Length (m)	Type of Transmission	Pipe Type
1	Bagchaur	5479	Gravity	PE_PIPE
2	Banskhola	4897	Gravity	PE_PIPE
3	Nipane	5986	Gravity	PE_PIPE
4	Salchaur	5492	Gravity	PE_PIPE
5	Thulapatal	11824	Gravity	PE_PIPE

1.4 Pipe Alignments of Transmission and Distribution Line

The design has been carefully planned to avoid residential structures and other significant buildings, ensuring zero interference with existing infrastructure. To further reduce impacts, the pipeline will be installed along one side of the road, optimizing space and minimizing risks related to vehicular movement, soil erosion, and surface runoff. Transmission line is mostly existing alignment and in public land. But in case of distribution pipelines, it will be aligned through forest area without clearance of trees and disturbance on biodiversity, and through public land, within existing rural roads width, foot trails widths that is already in public use, and precaution have been taken to minimize use of private land. However, some sections of distribution lines must be routed through private land. Thus, before accessing to the private land the project shall;

- document the effort made for avoiding private land stating site-specific situation.
- update data sheets of private land including i) land owner's name, ii) plot no, iii) location/ address, iv) length/size of pipeline v) current use of land etc.
- carry out assessment of impact resulted due to project intervention e.g. impact in land use restriction, crop loss, income loss, structure loss or any other losses.
- conduct consultation and information dissemination with those asset owners/ affected people and let them know about likely land use restriction.
- propose mitigation measure for compensating the loss and ensure budget, if required.

Table 5: Alignment of Transmission Line, Soil Erosion risk and Mitigation Measures

SN	Section of TL		Alignment details /Road etc.	Mitigation Measures to minimize soil loss and environmental degradation
	From	To		
1	Intke of Thulapatal Spring. Paiyakharka ward No-10	Existing (ERV-2)	Chiuri Neta Community Forest Area/ Public Land, may have minor impact on private land, maximum try will be done to avoid the impact on private land before construction.	Work manually and provide protection walls including soil protection related bioengineering structures in place of RCC and PCC saddle erected to support pipe structures
2	Dhungedhara Muhan for Markerani WSS-ward No-9, Baghchaur	RVT-3	Salleri Yuwa Community Forest area, Foot trail may have minor impact on private land, maximum try will be done to avoid the impact on private land before construction.	Work manually and provide protection walls including soil protection related bioengineering structures in place of RCC and PCC saddle erected to support pipe structures
3	Haralekhola Spring for Banskhola WSS-ward No-9, Nepane	ERV-1	Kalika Community Forest area/Public Land, may have minor impact on private land, maximum try will be done to avoid the impact on private land before construction.	Work manually and provide protection walls including soil protection related bioengineering structures in place of RCC and PCC saddle erected to support pipe structures
4	Mulkhola Spring foe Saalchaur WSS-ward No-9, Duberitole	RVT-1	Forest area/Public Land, may have minor impact on private land, maximum try will be done to avoid the impact on private land before construction.	Work manually and provide protection walls including soil protection related bioengineering structures in place of RCC and PCC saddle erected to support pipe structures

5	Hataribans Spring for Banskhola WSS-ward No-9, Banskhola	RVT-2	Rural Road, Banskhola Community Forest Area	Work manually and provide protection walls including soil protection related bioengineering structures in place of RCC and PCC saddle erected to support pipe structures
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Table 6: Alignment of Distribution Line, Soil Erosion risk and Mitigation Measures

S N	Section of DL		Service Area/Settlements	Alignment Details /Road etc.	Mitigation Measures to minimize soil loss
	From	To			
1	Mulkhola Spring foe Saalchaur WSS-ward No-9, DuberiTole	RVT-1	Sal Chaur, Duberi Tole	Rural roads, Foot trails etc and may have minor impact on private land maximum try will be done to avoid before construction.	Provide protection walls including soil protection related bioengineering structures if required
2	Intke of Thulapatal Spring. Paiyakharka ward No-10	ERVT-2	Paiyakharka,Nay abasti	Rural roads, Foot trails etc and may have minor impact on private land maximum try will be done to avoid before construction.	Pipe will be buried properly, required structure will be installed in flat area to minimize soil erosion and land slide & bio-engineering will be applied as per need
3	Dhungedhara Muhan for Markerani WSS-ward No-9, Baghchaur	RVT-3	Bagchaur, Jalukebari	Rural roads, Foot trails etc and may have minor impact on private land maximum try will be done to avoid before construction.	Pipe will be buried properly, required structure will be installed in flat area to minimize soil erosion and land slide & bio-engineering will be applied as per need
4	Haralekhola Spring for Banskhola WSS-ward No-9, Nepane	RVT-2	Nepane tole	Rural roads, Foot trails etc and may have minor impact on private land maximum try will be done	Work manually and provide protection walls including soil protection related bioengineering structures if required

				to avoid before construction.	
5	Hataribans Spring for Banskhol WSS-ward No-9, Banskhol	ERVT -2	Banskhol tole	Rural roads, Foot trails etc and may have minor impact on private land maximum try will be done to avoid before construction.	Work manually and provide protection walls including soil protection related bioengineering structures if required

Table 7: Pipe line of Transmission Lines and Impact on Private Land

S N	From	To	Alignment	Impact on Land	Remarks
1	Mulkhol Spring for Saalchaur WSS-ward No-9,	RVT-1, Duberi tole	Public Land, Forest Area/follow existing pipeline alignment	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
2	Intake of Thulapatal Spring. Paiyakharka ward No-10	ERVT-2	Foot trails, public land and follow existing pipe line	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
3	Dhungedhara Spring for Markerani WSS-ward No-9, Baghchaur	RVT-3	Bagchaur, Jalukebari, public land, foot trail	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
4	Haralekhola Spring for Banskhol WSS-ward No-9, Nepane	RVT-2	Challifaram to Nayabasti Rural Road Alignment	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
5	Hataribans Spring for Banskhol WSS-	ERVT-2	Foot trail and forest area	May have minor impact on	Rehabilitation of existing WSP

	ward No-9, Banskhola			private land, maximum try will be done to avoid before construction.	
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Table 8: Pipe line of Distribution Lines and Impact on Private Land

S N	From	To	Alignment	Impact on Land	Remarks
1	RVT-1, Duberitole	Salchaur Area, Duberi Tole etc	Foot trails, public land &, follow existing pipe line	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
2	ERVT-2, Paiyakharka	Paiyakhar ka, Nayagaun etc	Madana to Paiyakharka Kalimati Road, Foot trails, public land & follow existing pipe line	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
3	RVT-3, Yuba CF Area	Bagchaur, Jalukebari etc	Challi Faram- Bagchaur Rural road, foot trails and follow existing pipe line	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
4	RVT- 1 Banskhola	Banskhola a Tole	Challi Faram- Bagchaur Rural road, foot trails and follow existing pipe line	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP
5	RVT-2 Hataribans Spring for Banskhola WSS- ward No-9, Banskhola		Foot trail and forest area	May have minor impact on private land, maximum try will be done to avoid before construction.	Rehabilitation of existing WSP

Table 9: Details of Pipe Line of Thulapatal Nipane WSP

	<u>PIPE SUMMARY</u>		Actual Pipe Length					
			TOTAL LENGTH PER DIA PER PIPE RATING	DMA1	DMA2	DMA3	DMA4	DMA5
PE_PIPE_	PIPE RATING	Pipe Diameter		BAGCHAUR RVT	BANSKHOLA RVT	NIPANE RVT	SALCHAUR RVT	THULAPATAL RVT
PE PIPE 40 PN 6	PN_6	40	-					
PE PIPE 50 PN 6		50	-					
PE PIPE 63 PN 6		63	-					
PE PIPE 75 PN 6		75	2,324		225		659	1,440
PE PIPE 90 PN 6		90	3					3
PE PIPE 110 PN 6		110	-					
PE PIPE 125 PN 6		125	-					
PE PIPE 140 PN 6		140	-					
PE PIPE 160 PN 6		160	-					
PE PIPE 180 PN 6		180	-					
PE PIPE 200 PN 6		200	-					
		Sub-Total	2,327	-	225	-	659	1,443
PE PIPE 40 PN 10	PN_10	40	-					
PE PIPE 50 PN 10		50	22,115	3,494	4,474	3,751	2,652	7,744
PE PIPE 63 PN 10		63	180	8		98		74
PE PIPE 75 PN 10		75	-					
PE PIPE 90 PN 10		90	-					
PE PIPE 110 PN 10		110	-					
PE PIPE 125 PN 10		125	-					

PE PIPE 140 PN 10		140	-					
PE PIPE 160 PN 10		160	-					
PE PIPE 180 PN 10		180	-					
PE PIPE 200 PN 10		200	-					
		Sub-Total	22,295	3,502	4,474	3,849	2,652	7,818
PE PIPE 40 PN 12.5	PN_12.5	40	-					
PE PIPE 50 PN 12.5		50	5,150	1,172	120	1,662	396	1,800
PE PIPE 63 PN 12.5		63	-					
PE PIPE 75 PN 12.5		75	-					
PE PIPE 90 PN 12.5		90	-					
PE PIPE 110 PN 12.5		110	-					
PE PIPE 125 PN 12.5		125	-					
PE PIPE 140 PN 12.5		140	-					
PE PIPE 160 PN 12.5		160	-					
PE PIPE 180 PN 12.5		180	-					
PE PIPE 200 PN 12.5		200	-					
		Sub-Total	5,150	1,172	120	1,662	396	1,800
PE PIPE 40 PN 16	PN_16	40	-					
PE PIPE 50 PN 16		50	3,905	805	77	475	1,785	763
PE PIPE 63 PN 16		63	-					
PE PIPE 75 PN 16		75	-					
PE PIPE 90 PN 16		90	-					
PE PIPE 110 PN 16		110	-					
PE PIPE 125 PN 16		125	-					
PE PIPE 140 PN 16		140	-					
PE PIPE 160 PN 16		160	-					
PE PIPE 180 PN 16		180	-					
PE PIPE 200 PN 16		200	-					
		Sub-Total	3,905	805	77	475	1,785	763
GI_PIPE_	GI							
GI PIPE 40		40						

GI PIPE 50		50						
GI PIPE 65		65						
GI PIPE 80		80						
GI PIPE 100		100						
		Sub-Total	-	-	-	-	-	-
Seamless_SS_PIPE_								
Seamless SS PIPE 50		50	-					
Seamless SS PIPE 65		65	-					
Seamless SS PIPE 80		80	-					
Seamless SS PIPE 100		100	-					
Seamless SS PIPE 125		125	-					
Seamless SS PIPE 150		150	-					
Seamless SS PIPE 200		200	-					
Seamless SS PIPE 250		250	-					
Seamless SS PIPE 300		300	-					
		Sub-Total	-	-	-	-	-	-
		TOTAL	33,677	5,479	4,897	5,986	5,492	11,824

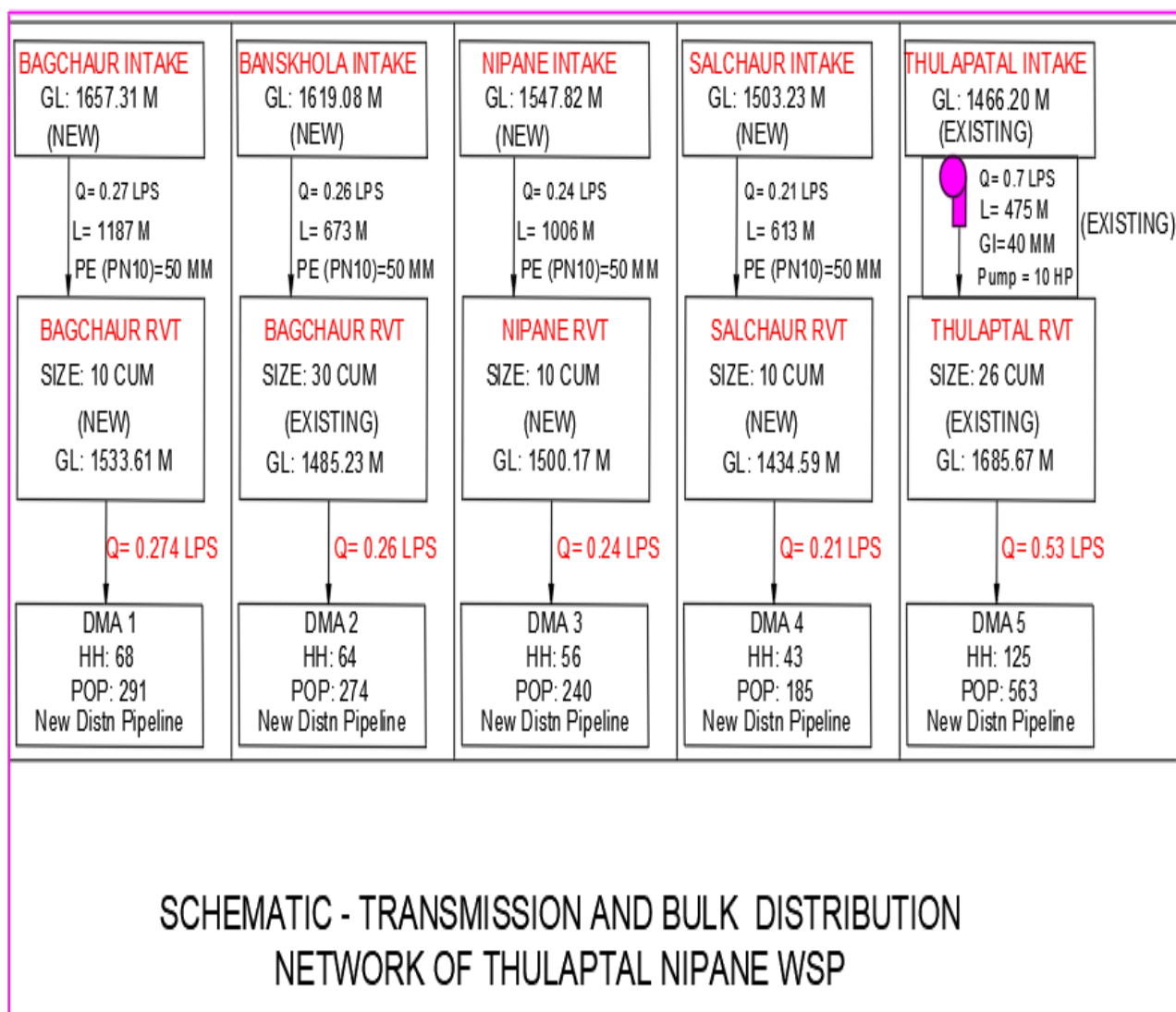


Figure 1: Schematic Diagram of Thulapatal Nipane WSP

1.5 Rationale of Environmental and Social Management Plan (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 sub-project, section 3, subsections 1 & 2 clause (a) & (c) and section 10 of the legal provisions of EPA are compliant to Schedule 1 (a) – (6) & (8) of EPR 2020. The total forest area required for acquisition is only 530.8 sq. m; therefore, a Brief Environmental Study (BES) will be required, as the area occupied by project structures is less than one hectare.

The screening report revealed that the proposed WSP lie in community forests, but there are very minimal environmental/or social impacts and no physical displacement 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. It also includes key elements relevant to delivery of the E&S management measures, such as institutional/ implementation arrangements, plans for capacity building and training and budget. The issues and risks identified in the matrix are based on current detailed design information of the site. 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.

1.6 Scope and Objective of Environmental and Social Management plan (ESMP)

The ESMF developed for the WaSGISP provides the guiding framework for the site specific environmental and social management plan in conformance with World Bank's Environmental and Social Framework (ESF) and national E&S requirements. This ESMP is prepared in line with the requirements of the National Environmental Law and Regulations of Nepal and the World Bank's ESF considering the anticipated environmental social impacts associated with the proposed sub-project. The ESMP will guide the sub-project implementation and ensure that adequate measures are taken to avoid 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 main objective of this Environment and Social Management Plan (ESMP) is to identify and mitigate any social and environment impacts in the sub-project 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 sub-project intervention.
- Avoid, minimize, mitigate and where necessary compensate residual impacts and enhance positive outcomes, consistent with the project's ESMP/ESMF.
- To explore alternatives and suggest practical mitigation measures with sufficient budget to mitigate the adverse environmental and social impacts
- To prepare an environmental and social monitoring plan
- To specify institutional arrangement, and roles and responsibilities for environmental and social risk management, and monitoring of the sub-project

1.7 Legal and Policy Framework

Legal and policy framework briefs legal acts, policies, regulations and guidelines of the GoN and the World Banks Environmental and Social Standards that are relevant and applicable to the Thulapatal Nipane WSP.

The following World Bank Environmental and Social Standards (ESSs) are relevant to this project, namely ESS1 on Environmental and social Assessments, ESS2 on Labour and Working Conditions, ESS3 on Resource Efficiency and Pollution Prevention and Management, ESS4 on Community Health and Safety, ESS6 Biodiversity Conservation and Sustainable Management

of Living Natural Resources, and ESS10 on Stakeholder Engagement and Information Disclosure.

2. DESCRIPTION OF STUDY AREA

2.1 Location and Accessibility

The Thulapatal Nipane WS Project is located in Sharada Municipality which covers ward no. 9 & 10 of Salyan district of Karnali province of Nepal. Geographically the project area lies in between 28°21' 75" N to 28°27'44" N latitude to 82°4'59" E to 82°4'65" E longitude in the Siwalik region of mid-west hill region near the bank of the Sharada River. The altitude ranges from 980 to 1510 meters from the sea level.

The municipality is accessible from Kathmandu by approximately 494 km long road and about 97 km road from Birendranagar, Surkhet. It is connected with the East-West Highway at Lamahi via the 47 km long Lamahi-Tulsipur Road, which extends up to Tulsipur, and by the 64 km Rapti Highway from Tulsipur. Additionally, the municipality is accessible via the Rapti Highway, which begins at Ameliya Chowk on the East-West Highway. The reliable nearest airport to the municipality is Birendranagar Airport.

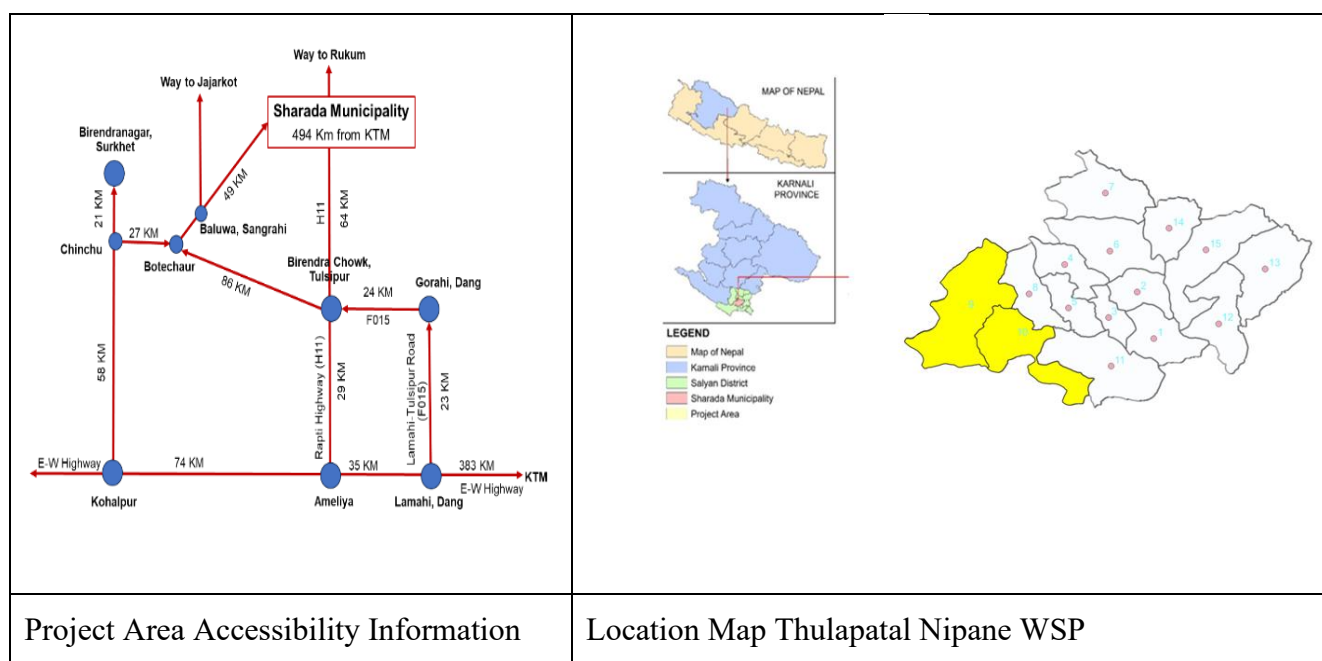


Figure 2: Accessibility Map and Coverage Wards of TPWSP

ESMP Report of Thulapatal Nipane Water Supply Project

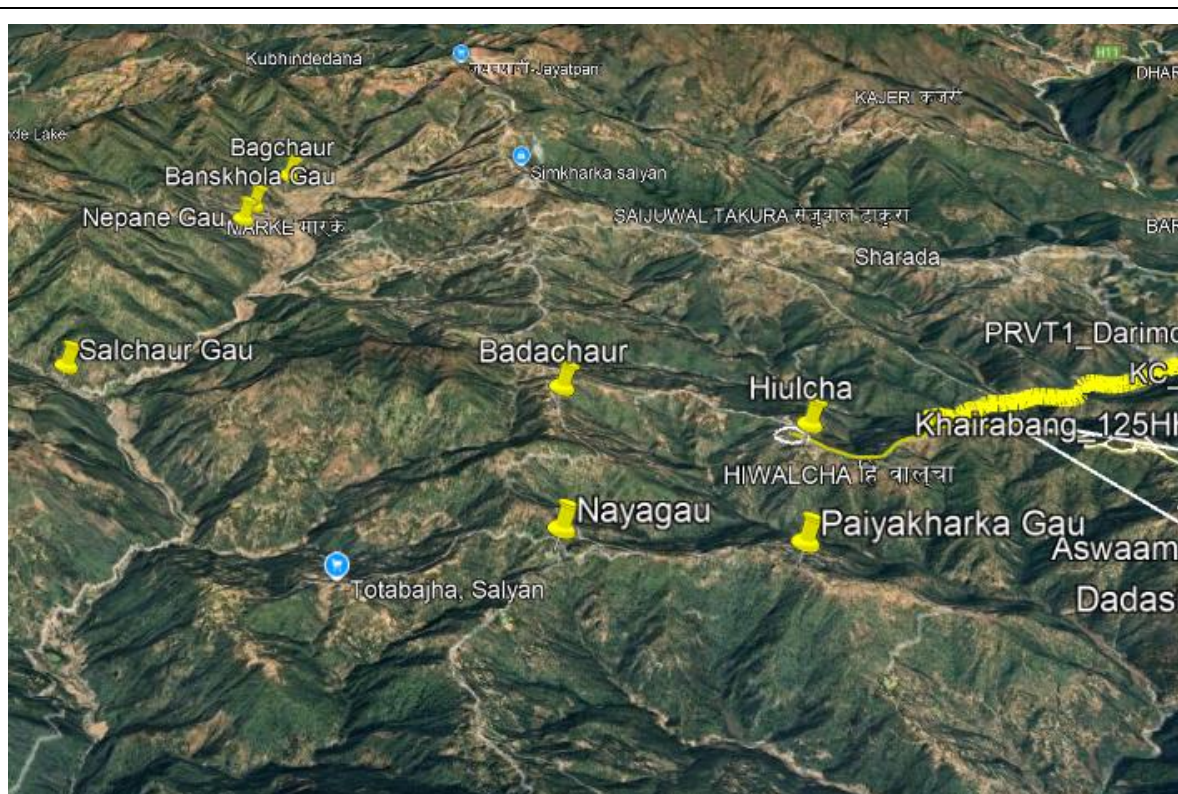


Figure 3: Location of TPWSP in Google Map

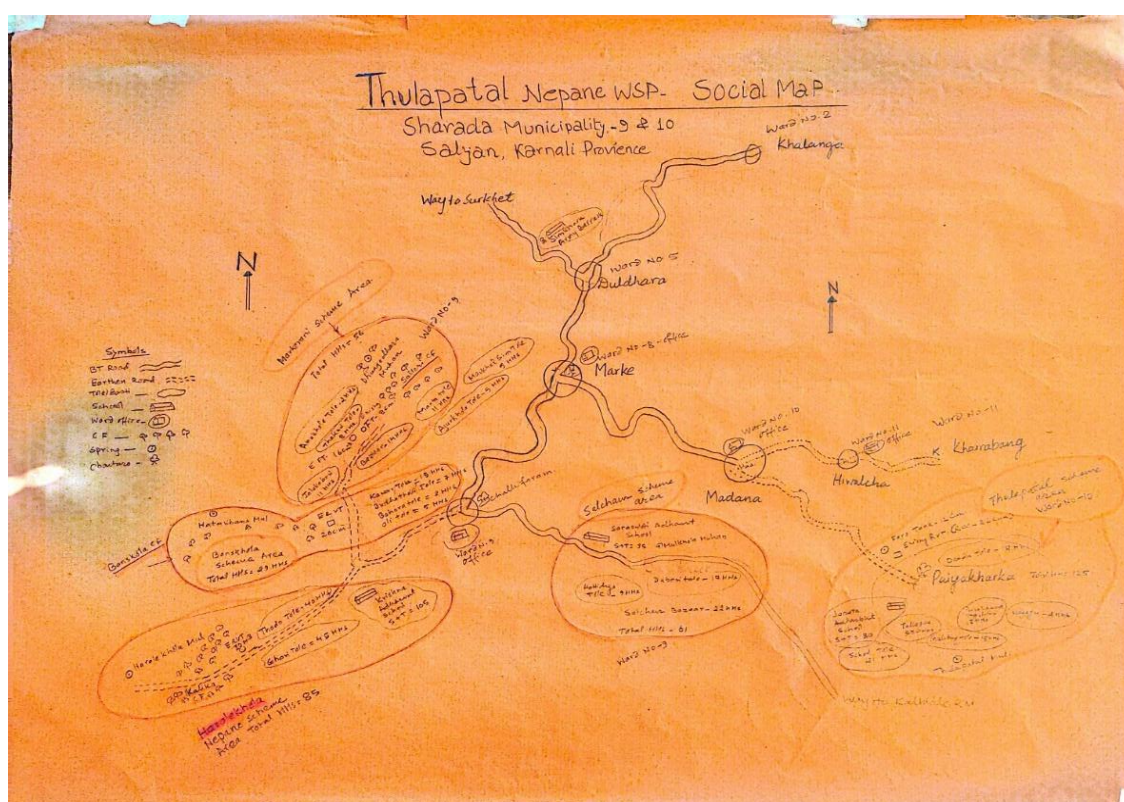


Figure 4: Social Map of Thulapatal Nipane WSP Service Area

2.2 Physical Features

2.2.1 Topography and Land Use

The Sharada Municipality is situated in the Siwalik Region of Nepal in the mid-west hilly area. Topographically the municipality lies between 28°18'51" N to 28°27'44" N latitude and 82°02'40" E to 82°16'36" E longitude. It is at an altitude of 1210-1830 meters from the mean sea level. Sharda River is considered important not only for the Sharada Municipality but also the main river of Salyan district. This river is considered to be economically important as it is irrigating the agricultural fields on the banks of Sharada and providing river bed materials for construction.

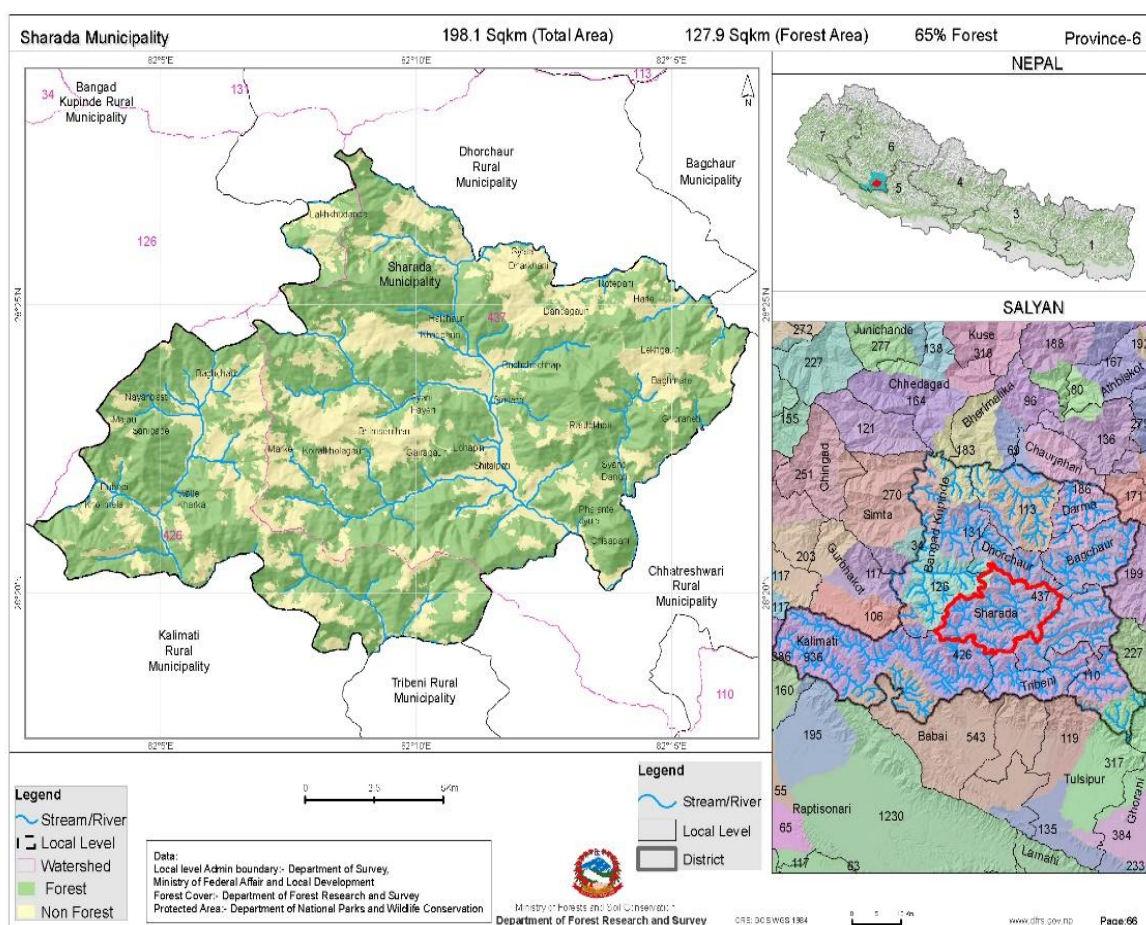


Figure 5: Land use and land cover map of Sharada Municipality

Table 10: Land Use and Land Cover Details of Sharada Municipality

SN	Land Use and Land Cover	Area (Sq. km)	Percentage
1	Water	0.64	0.32
2	Forest	115.32	58.14

3	Cropland	55.03	27.75
4	Settlement	19.93	10.04
5	Bare Ground	0.15	0.08
6	Grass Land	7.27	3.7
Total		198.34	100

(Source: ESRI, 2023)

2.2.2 Geology

Salyan is mostly dominated by clay soil along with boulders. Based on field observations during the field visit study, the project area has flat alluvial land consisting of 1-1.5 m thick topsoil underlain by gravel, cobble, and boulders of about 25.0 to 30.0 m thick in the center and slightly thinning outward to the foothills around the Srinagar valley and followed by bedrock. Highly fractured sufficient joints and faults show highly permeable rocks around the areas.

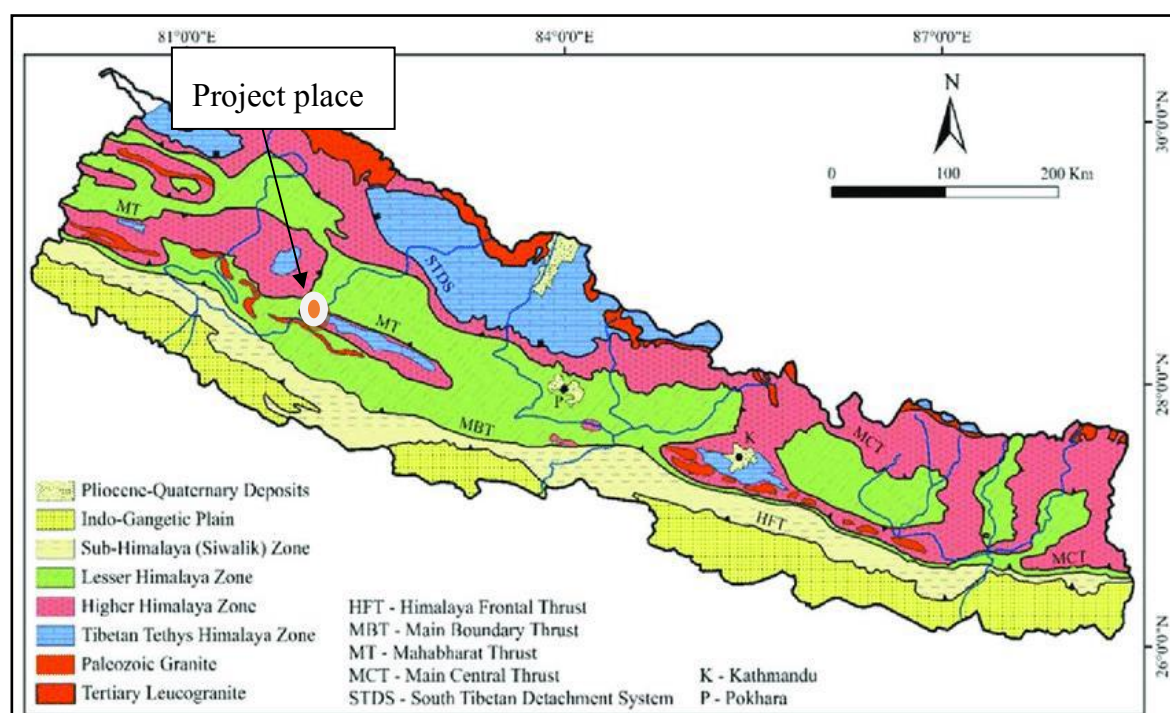


Figure 6: Geological Map of Nepal

(Source: Department of Mines & Geology, 1994)

2.2.3 Climate

Temperature: A mixed type of climate from a humid subtropical to dry winter climate is found in Salyan. Areas located along the Sharada River, have warm and temperate climate. The hot season lasts for 2.5 months, from April 13 to June 30, with an average daily high temperature above 86°F. The hottest month of the year in Salyan is June, with an average high of 89°F and low of 69°F. The district's yearly temperature is 23.53°C and it is 1.53% higher than Nepal's average.

The cool season lasts for 2.8 months, from November 24 to February 18, with an average daily high temperature below 69°F. The coldest month of the year in Salyan is January, with an average low of 42°F and high of 64°F.

Rainfall: The annual rainfall occurs during monsoon between June and September. Average annual rainfall is around 1600 mm and has 149.94 rainy days (41.98% of the time) annually.

Table 11: Climatic Parameters (2010 to 2020 AD) of Salyan District

Annual high temperature	28.49°C
Annual low temperature	14.87°C
Average annual precipitation	1600 mm
Warmest month	May (35.78°C)
Coldest Month	January (5.34°C)
Wettest Month	July (704.14mm)
Driest Month	November (2.05mm)
Number of days with rainfall (≥ 1.0 mm)	149.94 days (41.08%)
Days with no rain	215.06 days (58.92%)
Humidity	55.72%

Source: *Weather and Climate - The Global Historical Weather and Climate Data*
<https://weatherandclimate.com/nepal/rapti/sallyan>

2.2.4 Climate Change and Disaster Vulnerability

According to Climate Change Vulnerability Mapping for Nepal (MoE, 2010) based on indices, Salyan district has moderate overall vulnerability, high landslide vulnerability, very low flood vulnerability and low adaptation capability to the impacts of climate change.

2.2.5 Drainage Facilities

There is no proper drainage system for storm water as well as for the domestic sewage in the Project area. As the service area is predominantly rural and the terrain is mostly steep, people are less concerned about storm water drains.

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 report of the proposed springs (5 springs of existing wss) has been attached in Annex VIII.

Human activities and vehicular movement plying along the Marke-Piyakharka-Kalimati Road and Marke-Salchaur-Kalimati Road section are the major sources of pollution around the construction premises, where significant construction work will take place. Additionally, dust generated by vehicular movement on the unpaved internal roads along the distribution pipeline areas; such as Dovan-Baanskhola(specify the road name) is the main source of air pollution. Similarly, noise pollution in the project area primarily arises from vehicular movement, wind activity, and frequent visitors. The air quality monitoring test and noise level monitoring has been conducted to establish the baseline and the monitoring report data is given in table below.

Table 12: Air Quality Measurement Report

Date	Location	Description		
5/12/2025	Marke-Salchaur-Kalimati Road section	PM 2.5 Microgram/Cubic meter	PM 10 Microgram/Cubic meter	Air Temperature Degree Celsius
		25	34	33
6/12/2025	Nipane Tole Area	26	35	34
7/12/2025	Bagchaur Tole	24	36	32
7/12/2025	Banskhola Tole area	24	36	32
8/12/2025	Paiyakharka Tole area	23	33	29
National Standards of Air Quality, 2069		40 Microgram/Cubic meter	120 Microgram/Cubic meter	Noise level (at site of source) 45 dB

2.2.7 Soil Type and Quality

The soil types typically include sandy loam, clay loam, and silty soil. These soils are influenced by the surrounding Himalayan terrain. Soil quality varies, with some areas suitable for agriculture due to fertile soils, while others may experience degradation and erosion. 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).

2.3 Biological Feature

2.3.1 Flora and fauna

The Thulapatal–Nipane sub-project lies in Sharada Municipality, Ward No. 9 and 10. The main structures (intake, conveyance, canal collection chamber, reservoir tank, dosing house, and pipelines) are proposed within four community forests: Salleri Yuba CF, Banskhola CF, Kalika CF, and Chiuri Neta CF. The total forest area needed is about 530 m². To meet National legal requirement, a Brief Environmental Study (BES) (as required under EPR 2020, Schedule 1) is being prepared alongside this ESMP.

The broader area supports mixed forest vegetation commonly found in Salyan District. Typical plant species recorded include Laligurans (*Rhododendron arboreum*), Banjh (*Quercus leucotrichophora*), Khasru (*Quercus semicarpifolia*), Angeri (*Lyonia ovalifolia*), Kafal (*Myrica esculenta*), Sallo (*Pinus roxburghii*), Tuni (*Toona sinensis*), Uttis (*Alnus nepalensis*), Katus (*Castanopsis indica*), Sal (*Shorea robusta*), Kyamuno (*Cleistocalyx operculatus*), and Amala (*Phyllanthus emblica*).

Common wildlife species reported from the district and surrounding landscape include Kharayo (*Lepus timidus*), Ratuwa Mriga (*Muntiacus muntjak*), Syal (*Canis aureus*), Malsapro (*Martes flavigula*), Nyaurimusa (*Herpestes edwardsii*), Dumsi (*Hystrix indica*), Bhalu (*Ursus thibetanus*), Bandar (*Macaca mulatta*), Ban Biralo (*Felis bengalensis*), Ghoral (*Nemorhaedus goral*), and Chituwa (*Panthera pardus*).

Birds commonly noted include Koili (*Eudynamys scolopaceus*), Fisto (*Phylloscopus fuscatus*), Kaag (*Corvus splendens*), Bhangera (*Passer domesticus*), Kanthe Dhukur (*Streptopelia decaocto*), and Bakulla (*Bulbulcus ibis*).

Fish species reported from the Sharada River within the wider project area include Asala (*Schizothorax richardsonii*), Raj Bam (*Anguilla bengalensis*), Buduna (*Garra gotyla*), Kabre (*Pseudecheneis sulcatus*), Faketa (*Barilius bendelisis*), Lohari (*Garra annandalei*), Gardi (*Labeo dyrocheilus*), Kalacha (*Labeo pangusia*), Katle (*Neolissochilus hexagonolepis*), Sidre (*Puntius ticto*), and Sahar (*Tor tor*).

The species listed above represent the general flora and fauna of Salyan District. In the sub-project area, the alignment mostly passes through human settlements and does not lie inside any designated wildlife habitat. The proposed structures are small in scale and are planned mainly in open/barren areas inside the community forests, so tree felling is not expected. Likely impacts are limited to minor grass cutting and bush clearance, as summarized below.

- Salleri Yuba CF (Bagchaur Ward No. 9, Sharada Municipality): Open area/grassland; likely grass cutting and bush clearance.
- Banskholra CF (Ward No. 9): Bushes; likely grass cutting and bush clearance.
- Kalika CF (Nipane, Ward No. 9, Sharada Municipality): Bushes; likely grass cutting and bush clearance.
- Chiuri Neta CF (Thulapatal, Ward No. 10): Open area; no tree loss anticipated.

This baseline will be used to guide site planning and mitigation so that vegetation disturbance remains minimal and forest use stays within approved legal provisions.

2.4 Socio-economic and Cultural Features

2.4.1 Demographic Characteristics

As the service area lies in the newly formed municipality by merging seven VDCs, the long-term population analysis of the municipality has been carried out with the help of the 2001, 2011, and 2021 censuses. This analysis has been used for population assessment of the concerned ward of the municipality to analyse the trend of the population growth in the proposed service area. The population growth rate of concern wards (WN 9 & 10) for the last two decades is fairly encouraging.

The population of the respective wards was 3142 during 2001 AD which slightly increased to 3687 during 2011 AD with an annual growth of 0.86% whereas the population growth (2001-2021) of the whole municipality was only 0.75%. The trend of population growth rate remained same as the previous censal period. The population of the service area increased by 0.8% annually during 2011-2021 AD. The population density of Sharada Municipality is 174.8 individuals per sq. km.

Table 13: Household and Population of the Project Wards

SN	Ward No.	Total HHs (2021)	Total Population (2021)	Average HH Size	Total HHs in Service Area (2025)	Total Population (2025) in service area
1	10	457	1989	4.35	125	544
2	9	504	2158	4.28	231	996
3	Total	961	4147		356	1540

Source: Census 2021 and Field Survey 2025

Table 14: Beneficiary Households by Settlement under TPWSP

SN	Settlement Name	Ward No.	HHs	Average HH Size	Total Population
1	Paiyakharka & Naya Gau	10	125	4.35	544
2	Salchaur	9	21	4.28	91
3	Duberi	9	18	4.28	78
4	HattiDhunga	9	22	4.28	95
5	Nepane	9	85	4.28	365
6	Banskhola	9	29	4.28	126
7	Bagchaur	9	56	4.28	241
	Total		356		1540

Source: Field Survey, 2025

It has been envisaged that this trend of population growth will be changed slightly in a decade or two. However, the population growth rate is expected to increase to a certain extent with the availability of water facility after the implementation of this project. Based on this, it has been assumed that the population of these wards will increase into satisfactory level. Thus, the annual population growth rate for the next two decades of the project area has been taken as around 0-0.5 %.

Literacy Rate

According to the National Population and Housing Census 2021, the population who can both read and write is 72.6 %. The remaining proportion of the population can't read and write, i.e. illiterate.

Caste and Ethnicity

The population in Sharada Municipality is dominated by Chhetri followed by people of Sanyasi, Brahmin, Thakuri, Newar and Dalit people. The major ethnic group is made up of 63% Brahmin/Chhetri and 23.65% belongs to other caste. The percentages of the Dalit and Janajati population are lower, with 10.35% and 3% respectively. Nepali is the most common language for Khas/Arya population and others. Details of ethnic composition of the service area is presented in the table 16 below:

Table 15: Distribution of Households of the municipality by Ethnic Composition

Ethnicity	Population	Percentage
Chhettri	21007	60.6
Brahmin	831	2.4
Janajati	1040	3
Dalit	3587	10.35
Others	8198	23.65
Total	34663	100

Source: Municipality Profile of Sharada Municipality

Table 16: Distribution of Households by Ethnic Composition of the service area

Ethnicity	Percentage	Population
Janajati	5	77
Brahmin / Chhetri	65	1001
Dalit	12	185
Others	18	277
Total	100	1540

Source: Field Survey, 2025

Language

Language spoken mainly depends on the caste/ethnicity. For the dominancy of people of Chhetri, Sanyasi, Brahmin, Dalit; Nepali is the most common language spoken in Sharada municipality.

2.4.2 Occupation, Source of Livelihood and Food Sufficiency

Agriculture and livestock rearing are the main occupations in the project area and 75.5% of the total population depends on agriculture for livelihood. Likewise, 5% depend on trade/business, 4% are depending on service of different types. The percentage of migrant worker to other country has counted 8.5 % whereas the people who depend on labor work in the same area is around 7%.

Subsistence type of agriculture is commonly found and major crops grown in the project area are cereal crops like maize, paddy 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 major cash crops are Timur, turmeric, ginger and orange, etc. Goat farming is common and one of the major sources of livelihood in this area and most of the people have grown Nepali piper (Timur) plants as source of income. Accordingly, cow/oxen, buffalo, and piggery are also found in some extent. Poultry is also common in this municipality. Data reveals that 20% people have food sufficiency for 12 months from agriculture, 25 % have food sufficiency for 9 months, 30% have for 6 months and 25 % people have only for 3 months.

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 occupation. The business ventures besides commercial agriculture includes labour, business and job sectors. However, international employment stands out indicating significant migration in search of employment possibilities overseas. This emphasizes how different the employment environment is and how crucial it is to comprehend sectorial dynamics to formulate effective policies and build strategies for economic development.

2.4.3 Source of Drinking Water

There are several small scattered and isolated schemes spread over the proposed service area of the Thulapatal Nipane WSP. Out of these only four are in operation for all season but water is just sufficient for drinking and cooking purpose. The rest of the schemes are in operation only in the season when the water is available in spring/s.

Table 17: List of Existing Water Supply Schemes in the TPWSP area

SN	Project Name	Ward	HHs	Pop	Year of Construction	Water Source	Measured Yield/LPS
1	Thulapatal WSP	10	95	434	2071	Thulapatal Spring	0.7
2	Salchaur WSP	9	47	213	2062	Mulkhola Spring	0.5
3	Haralekhola Nepane WSP	9	85	388	2062	Harale Khola Spring	1.0
4	Banskhola WSP	9	29	130	2073	Hatari BansSpring	1.0

5	Markerani Scheme No. -4, Bagchaur	9	44	200	2064	MaiyakholaSpring	0.35
	Total		300	1365			

Source: Field Survey (1st May-15th June) 2025

The source of drinking water for majority of families is unsafe connected by tap/piped water where people are facing scarcity of drinking water for dry season. Average water consumption ratio is 100-175 Litre per day/HH and around 97% of households have toilet facilities (Socio-Economic Survey 2082). The municipality was declared Open Defecation Free (ODF) zone before a decade.

2.4.4 Places of Religious and Cultural Importance

There are not any typical religious and cultural importance places those are transverses by the project structures. However, Dashain, Tihar, Chaite Dashin, Shivaratri are major festivals in this area.

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

As the data of the Demographic Health Survey (DHS) 2022 shows, 23% of women in Nepal aged 15–49 have experienced physical violence since age 15, and 8% have ever experienced sexual violence. Six percent of women who have ever been pregnant have experienced violence during pregnancy.

In the case of the service area, cases of gender-based violence (GBV) including physical assault by husbands under the influence of alcohol and abuse by husbands and mothers-in-law are prevalent. Such incidents have been reported and registered at the Women, Children, and Dalits Help Desk of the District Police Office (DPO), Khalanga. According to the Help Desk, a total of 20 cases were registered and resolved during fiscal year 2081/2082. Furthermore, data from the DPO Case Handling Section (Mudda Phant) indicate that 14 rape cases were filed in Salyan District during the same fiscal year, of which two cases were from Sharada Municipality and one was from the project area. In addition, three cases of polygamy and two cases of attempted rape were registered at the District Police Office in Salyan District during this period.

According to records from the Municipal Judicial Committee, a total of 27 cases were registered in fiscal year 2080/2081, the majority of which were civil in nature, primarily related to land partition, requests for legal services, and petitions seeking the presence of a husband, wife, or other family members. Of these, a few cases were resolved by the Committee. Similarly, in fiscal year 2081/2082, 18 cases were registered, of which only three were settled through mediation.

According to information obtained from the District Administration Office, the District Police Office, and the Municipal Office, the Dalit Development Society (DDS) is working on this thematic area; however, its operational coverage lies outside Sharada Municipality. During document preparation, focus group discussions were conducted with women, Dalits, and local

community members to identify issues related to GBV and SEA/SH in the project area. As a result, some GBV-related issues were identified, as outlined below.

- Most incidents related to GBV and SEA/SH remain unreported to the concerned authorities.
- Awareness and prevention activities on GBV and SEA/SH need to be initiated in the project area.
- Reported GBV-related issues include domestic disputes linked to alcohol consumption, conflicts between spouses over money for drinking, physical abuse of sons, daughters, and wives, and household disagreements such as purchasing selling livestock (goat & hen) without family consent.
- Discrimination based on caste, ethnicity, and gender is minimal within government and non-government organizations, urban centers, and market places; however, it still persists in rural communities and at the household level.
- Most survivors lack knowledge of the legal procedures available for seeking justice or support.
- The nearest complaint mechanism is typically the ward office, where cases such as abuse, alcoholism, and family disputes are often addressed in the presence of female ward representatives.
- No NGOs or INGOs have been reported to be actively working on GBV and SEA/SH issues in the area.

The subproject activities can further trigger the occurrence of such GBV issues in communities, as workers will be mobilized during construction at the subproject sites. Therefore, potential risks of SEA/SH will be assessed, orientation will be provided, and a code of conduct will be adopted by sub-project workers to mitigate the subproject's SEA/SH impacts. Mrs. Bimala Oli Dangi, working as a social mobilizer for the WASH Unit in Sharada Municipality, has been appointed as the focal person for GBV and SEA/SH by the PIU.

3. STUDY METHODS

The methods adopted to achieve the objective consists mainly of map reading to understand the frame of reference and field investigation of the identified Thulapatal Nipane WSP including collection of field-based information and mapping. The methods included:

3.1 Literature Review and Secondary Data Collection

The assignment commenced with the review of 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 based on an actual walkthrough of the Thulapatal Nipane WSP area, mainly focusing on the proposed location, Focused Group Discussions (FGDs), formal consultation meetings, and Key Informant Interviews (KII) with the local stakeholders, including the local government, chamber of commerce and local residents. Separate consultations with women, Dalits, and other disadvantaged groups living in the service area were organized to discuss potential E&S issues related to the proposed water supply sub-project, and feedback and suggestions were collected.

The environmental and social screening checklist was prepared after a desk study, and review of sub-project related documents. Environmental and social scoping included collection of relevant information on existing physical, biological and socio-economic and cultural environmental setting through field walkthrough, survey, measurement, discussion, consultation and interactions and identification of possible issues to be addressed in ESMP.

3.3 Desk Work

Major part of the study was executed through desk work that included engineering design, drawing/mapping, analysis, quantification, planning (including ESMP) and estimation of costs based on the field level information acquired from field study and literature review.

4. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

4.1 Impacts and Mitigation

The proposed Thulapatal WSP is anticipated to have minimal physical, biological, and socioeconomic impacts across different project phases, including preconstruction, construction, and operation. These impacts can be both positive and negative. Environmental management aims to enhance positive effects while minimizing adverse ones through mitigation measures.

During construction, activities such as site clearance, excavation, soil cut and fill, use of heavy machinery, establishment of worker camps, and sourcing materials from quarry and borrow pits are expected. These activities may lead to environmental and social concerns, including:

- Dust and noise at construction sites.
- Vibration from machinery.
- Influx of workers and associated risks, such as SEA/SH (Sexual Exploitation, Abuse, and Harassment)
- Occupational hazards and community health and safety issues.
- Pollution from construction waste and other by products.

The alignment of a water supply pipeline through steep slopes and forested areas of Salleri Yuba CF, Banskholra CF, Kalika CF, and Chiuri Neta Community Forests. The pipe laying through these areas will require careful planning to minimize environmental damage, ensure construction safety, and maintain long-term stability of the infrastructure. In such terrains, the key challenges may include soil erosion, landslide risks, disturbance to forest vegetation and wildlife habitats, and difficulty in access for construction and maintenance. To address these, the alignment will be selected to avoid unstable slopes, landslide prone areas, and ecologically sensitive zones, while following natural contours to reduce excavation impacts. Construction activities will be scheduled outside the monsoon season to lower erosion risks, and manual or light machinery will be used to limit ground disturbance. Trenches will be backfilled and compacted immediately after pipe laying, with slope stabilization techniques like bio-engineering and structural supports (retaining walls, gabions) applied where necessary. In very steep or rocky areas where digging is hard, the pipeline needs extra support and, in such case, RCC anchor support will be provided if necessary.

4.2 Impact on Land

The proposed Thulapatal Nipane Water Supply Project (TNWSP) is a demand-based, second-priority project of Sharada Municipality, to be implemented under WaSGISP. The project is intended to serve a large service area characterized by scattered settlements and inadequate existing water supply. Due to the limited availability of sustainable water sources within the service area, the project includes the development of multiple water supply infrastructures. In total, three Reinforced Valve Tanks (RVTs) are proposed, of which two RVTs are located within community forest areas and one RVT is located on public land. In addition, the project proposes the construction of four intakes along with conveyance canals and collection chambers, and five chlorine dosing houses. Among these structures, one intake, conveyance canal, collection chamber, and chlorine dosing house are located outside community forest areas, while the remaining facilities are located within community forests, as detailed in the table 19 below. The total forest land requirement for the proposed major structures is 1850 sq. m and the consents from respective community forests have been taken. The proposed structures are small in scale and are planned mainly in open/barren areas inside the community forests, so tree felling is not expected. Likely impacts are limited to minor grass cutting and bush clearance, as summarized in table 18 below.

The project is not expected to cause any economic or other adverse impacts on the livelihoods of local people within the service area. Accordingly, no negative impacts are anticipated on irrigation systems or other water-dependent occupations in the downstream basin.

Owing to the large coverage area, remoteness, and complex terrain of the proposed project area, additional time was required to verify the land ownership status. The verification process was carried out in multiple stages. Initially, land ownership was verified by the Municipality Office land surveyor. Subsequently, a joint verification was conducted by a team comprising the PIU, WASH Unit, Design Team, and the Municipality land surveyor.

Table 18: Impact on Land and Mitigation Measures

Name of the Community Forest	Address	Proposed Structures	Size of RVT (m ³)	Land Required Sq.m.	Possibility of Tree Loss	Mitigation Measures
Salleri yuba CF	Bagchaur ward No. 9, Sharada Municipality	Intake, Conveyance Canal Collection Chamber		290 m ²	No	Plantation
Salleri yuba CF	Bagchaur ward No. 9,	RVT, Dosing house	10 m ³	290 m ²	No	Plantation

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	Sharada Municipality					
Banskhola CF	Banskhola, Ward no. 9	Intake, Conveyance Canal Collection Chamber		290 m ²	No	Plantation
Banskhola CF	Banskhola, Ward no. 9	RVT, Pipe line, Dosing house		100 m ²	No	Plantation
Kalika CF	Nipane, ward No. 9, Sharada Municipality	Intake, Conveyance Canal Collection, Chamber	10 m ³	290m ²	No	Plantation
Kalika CF	Nipane, ward No. 9, Sharada Municipality	RVT, Dosing house		100 m ²	No	Plantation
National Forest	Ward No-9, Sharada Municipality, Salchaur	Intake, Conveyance Canal, Collection Chamber	10 m ³	290m ²	No	Plantation
Sundhara CF	Ward No-9, Sharada Municipality, Salchaur	RVT, Dosing house		100 m ²	No	Plantation
Chiuri Neta CF	Ward no. 10, Thulapatal	Intake, Collection Chamber		290m ²	No	
Total Forest Area Required (Sq.m.)				1850m²		

Impact in Indigenous People

The project area has 77 (5%) population of IPs out of total 1540. The study team has consulted with the IP community to understand their issues and perspective toward the

project. During the discussion, tangible and intangible cultural heritage of IP community were discussed and assessed whether there is any likely impact due to project intervention. However, the ESMP confirms that the project neither directly or indirectly will affect their dignity, human rights, livelihood systems, or culture of indigenous peoples. Further, the IP community suggest for sooner implementation of water supply project to solve the problem of safe drinking water.

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Table 19: Environmental and Social Management Plan Matrix

Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
1. Prior to Construction Activities						
Consents, permits, site clearance for construction works, workers camp, materials and equipment yards etc. no objection certificate (NOC), etc.	Failure to obtain necessary consents, permits, no objections (NOs) from GoN etc. for use of land and other property can result to design revisions and /or stoppage of works.	- Obtain all of the necessary consents from ward offices and CFUGs, permits, clearance, No Objections from GoN, WB, etc., including the consent for use of forest land from the GoN, letter for the use of the public land given by the ward offices, decisions of the consultation meeting etc., prior to the start of civil works. - Ensure that workers camp sites with all basic needs (lights, water, sanitation, proper ventilation) at designated area.	PMU/PIU? Municipality	Incorporated in final design and communicated to the Contractors.		Prior to award of the contract
Existing utilities	Disruption of services	Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during construction. The RVT	PST/MST/PIU	List of affected utilities and operators;		During detailed design phase

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		construction sites at Salchaur and Bagchour have no access by road facility, the construction materials at these sites will be carried out through human resources, remaining other are accessible by road, the transportation of construction materials through the foot trail and road may disturb the local community using it. However, this impact is temporary and very nominal. Proper orientation to workers, scheduling of the transportation activities will be fixed in consultation with the community and proper monitoring will be done.				
Drinking Water Supply		The existing WSS may be interruption temporarily during laying of pipe. ex.	PST, MST, PMU/PIU	Make provision of resuming it as soon as possible		Prior to award of contract
Stockpile areas, Storage areas, Disposal areas,	Disruption to traffic flow,	Determine locations prior to award of contracts. The probable site for labor	Sharada Municipality/ Ward	List of selected sites for stockpile	25000.00	During detailed

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
and workers camp (if needed)	stock piling and muck disposal	camp and storage area is near Thulapatal and Banskholra area • The details will be included in C-ESMP (Contractor's Environment and Social Management Plan) of Sub-Project. The Contractor needs to submit the C-ESMP within 60 days after mobilization. • Choose stockpile locations away from water bodies, drainage channels, and sensitive environmental areas to reduce the risk of contamination and erosion. • Develop plans for rehabilitating areas that have been used for stockpiling, ensuring that they are restored to their original condition or better. • Cover stockpiles with tarps, plastic sheeting, or other materials to prevent dust from escaping, particularly for fine or powdery materials. • Erect proper signage and barriers around stockpiles to prevent unauthorized access, reduce the risk of accidents, and ensure worker safety.	Office/Contractor	areas, storage areas, disposal areas and workers camp (if needed)	BoQ item No-3)	design phase

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
Waste Generation	Generation of solid waste, wastewater and other construction waste may cause pollution from work sites and workers camp (if any is established)	• Mechanisms of safe disposal will be developed in the project site before the actual commencement of work, including the provision of waste bins. • Prohibition of unwanted littering and discharge of waste. • Proper management of solid waste will be done using lined pits for waste disposal. • The Contractor shall develop and implement a Waste Management Plan (WMP) as part of the C-ESMP, consistent with the requirements of the project ESMP, ESCP, and applicable national environmental regulations. The plan shall identify all types of wastes expected to be generated during construction activities, including excavated materials, surplus soil, construction debris, packaging waste, hazardous materials (such as used oils, lubricants, paints, and batteries), and domestic waste from labor camps and offices.	PIU/Ward Office/ MST, Contractor	Assure of inclusion of waste management in CESMP		During Planning

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		The Contractor shall ensure that all personnel are trained on waste management procedures and that appropriate signage, containers, and protective equipment are provided at all work and camp sites. Regular inspections will be conducted by the Environmental and Social (E&S) focal person and the Supervision Consultant to verify compliance with the approved Waste Management Plan and overall C-ESMP requirements.				
Private land use/take and impacts on other private assets (structures, crops, trees)	Construction of WSP may require use or acquisition of private land and result in damage of private assets.	If any impact on private land, assets, and livelihood cannot be avoided, prior to taking private land and assets, following steps described in the Resettlement Policy will be followed: - Clarify details of pipe-laying works – pipe size, lengths, locations, etc. - Efforts made to avoid impact on private land and assets (structures, crops, trees, etc.) - Discuss the impact of the proposed construction activity due to land use restrictions.	PIU/MST	List of private land, project affected families and document evidence of compensation payments, meeting minutes, etc.		Prior to taking private land and assets.

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		- Conducting consultations, census surveys, and asset inventory surveys to detail the affected land parcels, land use, ownership details, livelihood loss, etc. - Identifying and implementing mitigation measures, including compensation payments, where necessary. - Documentation of all consultations taken and additional necessary documentation (like compensation payments, signed VLD consent letters)				
2. During Construction Activities						
A. Physical Characteristics						
Community facilities	Damage to existing facilities like foot trails and pavements.	• Prior permission will be obtained from the respective local authority for the use of water for construction. Use of water for construction works will not disturb local water users. • If construction work is expected to disrupt, e.g. Transportation of materials	Sharada Municipality/ Ward Office/PIU/ Contractor	List of any public or private infrastructure disturbed by the		As per need, or field-inspection if any such case

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	Pressure on existing water facilities	in RVT sites and sometimes, use of water for construction activities, users of community shall be informed 7 days in advance and again 1 day prior to start of construction. • The timing of the use of foot trail for carrying materials should be scheduled such that it is of less use at locals at that time. eg. early morning or it may be afternoon. Contractor should manage water and other necessities from outside area required for construction activities. • Ensure any damage to properties and utilities will be restored or compensated to pre-work conditions. • 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. • Avoid natural drainage pathways for pipe-laying works. • Stockpile the excavated material at safe but nearby place to construction site		project works Minutes of meetings with the locals or affected persons.		is foreseen

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		under the satisfaction of Construction Supervision Engineer. Any major damages to such facilities from the negligence of contractor, the restate work shall be contractors' responsibility.				
Ambient air	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	- Confining earthworks according to an Excavation Segmentation Plan as part of the C-ESMP. - Water sprinkling at dry exposed surfaces and stockpiles of aggregates at least twice daily, or as necessary. - Require trucks/trippers 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 20kph. - Ensure use of equipment and fuel complying with applicable emission standards. - Do not allow construction equipment/vehicles that generate	Contractor	Location of stockpiles. Number of complaints from sensitive receptors. Heavy equipment and machinery with air pollution control devices.	65000.00 (BoQ Provisional Sum, Item No-3) for water sprinkling near the construction sites	Daily monitoring (when there are ongoing works) by MST/Contractor. Monthly visual inspection by PIU. Air quality monitoring, if practical

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	oxides, and hydrocarbons) which will affect people who live and work near the sites mainly Chaibang Jyula and Khairabang and to some extent nearby settlements	significant air pollution (above the applicable limit) and those that are poorly maintained on-site. Air Quality Test for dust nuisance (PM 10 and PM 2.5) will be conducted quarterly at key locations such as settlements in ward no. 9 & 10 of Sharada Municipality during the dry working season (January-June). The tests will be carried out by contractor and monitored by PIU/MST and test report will be made available to the local people. The determined pollutants will be compared with the National Ambient Air Quality Standards (NAAQS) of 2012.		Certification that vehicles are compliant with air quality standards.		and reasonable.
Acoustic environment	Temporary increase in noise level and vibrations may be caused by excavation equipment, and	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.	Contractor	Results of monitoring noise levels (Maintain maximum sound levels not	15000.00, BoQ item No-3	Daily monitoring (when there are ongoing works) by the

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	the transportation of equipment materials, and people in the nearby communities (Chaibang Jyula and Khairabang).	• Providing ear muffers to workers operating high dB construction equipment. • Implementing regular inspection & maintenance. • Noise level monitoring two times at each site during construction period • construction/transportation vehicles to ensure compliance with National Noise Standard Guidelines (NVMES, 2069 B.S., 2012). • Horns should not be used unless it is necessary or unavoidable • 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. • Conduct noise level test once a year during the peak construction stage at specified locations near schools and		exceeding 70 decibels when measured at a distance of 10m or more from the construction sites) Number of complaints from sensitive receptors		Contractor/MST. Monthly inspection by PIU. Noise level measurement, on as needed basis and/or if practical and reasonable.

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		hospital/health centres at the concerned wards of the project.				
Waste disposal	Pollution of water and land resources, and cases of vector borne diseases due to haphazard waste disposal. Generation of solid waste and waste water from construction sites and labor camp Impact on existing road and its users during pipe laying	- Waste minimization and waste segregation (organic and inorganic) at source will be carried out using dustbins. - 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. If feasible, compost will be distributed to be used in the nearby agricultural fields. - Hazardous wastes will be segregated from non-hazardous wastes. - Contractors responsible for handling, treating, and disposing of hazardous waste will be reputable, licensed by relevant national regulatory agencies, and follow good international industry practices for the type of waste handled. - Hazardous waste will be stored in sealed containers, kept away from sunlight, wind, and rain. Storage will prevent the	Contractor	On-site situation in campsites (if any), work sites and their vicinities	30,000.00 (BoQ PS, Item No-3)	Monthly monitoring by PIU.

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		commingling or contact between incompatible wastes and allow for inspections to monitor for leaks or spills. • Disposal of hazardous waste will comply with all applicable local and international regulations • 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 where Municipality is also using for the same purpose (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 commence immediately.				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
Land and Soil stability	Soil erosion in steep slope area	Proper compaction after backfilling	Contractor	On-site situation in campsites (if any), work sites and their vicinities	Included in civil works	Monthly monitoring by PIU.
Material storage yards	Impacts due to stockpiling of construction materials	• Stockpiling sites will be properly fenced. Side drains will be managed. Mixing of chemicals to the water body and soil will be prohibited. • The leased land used for stockpiling will be restored into original shape to the extent possible • As far as possible, the stockpiling of construction material will be carried out in barren or treeless area if possible. • Chemical materials like cement should be stored in shade. • The finer construction materials should be well covered to avoid the dust pollution. After the completion of the project, the land will be evacuated and restored to the	Contractor	Site allocation, lease agreement, well fenced sites	Included in civil works	Regular throughout the project construction period

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		previous condition to the exact possible and will be returned.				
	Use of fuel, lubricants, oil, and other chemical and their storage might lead soil contamination, water pollution & fire and explosion hazards	• Vehicles and appliances which use chemical substances like petrol, diesel, grease, lubricating oil etc., will be regularly monitored to detect any leakage; • All spent grease, mobile and unused or date expired chemicals will be collected separately in separate drum/barrel and stored in shaded area. • All empty containers of grease, mobile, and chemicals will be compressed and stored in a safe place under the shade. • The wastes of chemical substances like grease and used lubricating oil will not be disposed into environment. It will be either recycled or sold to license holding contractors who recycle these materials for further use; • Regular monitoring on the use, disposal, and collection of these chemical materials will be done with due consideration. and	Contractor	Safe handling and management	-	Regular throughout the project construction period

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		Strict rules will be implemented to control the haphazard disposal of these materials.				
Road safety & community safety	Risk of accidents; traffic disturbances	‘Drive slow’ messages will be placed along the active sites. Barricades will be placed to avoid any accidental falls. Hard barricades will be provided at temporary deep excavations and trenches for foundation works. Signboards with safety messages and warnings will be placed in local languages all along the alignment at the construction sites and at the trench excavation area. Construction works to consider elderly, women, child & differently able people (EWCD) requirements Trenches will be backfilled with immediate effect. Increase public awareness of safety, health and environmental issues by providing information directly and indirectly through campaign. The contractor will assign a safety supervisor and will monitor daily	Contractor in coordination with PIU	Time schedule of construction work; Information related to construction activity to local residents Number of temporary diversions sign, signboards etc.	40,000.00 (BoQ PS, Item No-3)	Daily (or whenever there are construction activities) by the Contractor /MST Monthly visual inspection by PIU in coordination with MST

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		construction works in terms of health and safety. The Contractor will comply with the requirements of the Environmental, Health, and Safety (EHS) General Guidelines of the World Bank, April, 2007 and the statutory norms of safety during construction Awareness activities (at least two) will be conducted to inform & aware locals regarding potentials risks and proposed safety measures related to the project activities				
B. Biological Characteristics						
Impact on Flora and fauna	The proposed structures are small in scale and are planned mainly in open/barren areas inside the community forests, so tree	• Greenery promotion around the construction sites by planting native species to mitigate bush clearing in community forests • Conduct Awareness program on environment conservation and protection at construction and labor camp site. • Providing alternative fuel to worker for cooking.	Contractor	Number of trees planted for greenery promotion	Greenery promotion 40,000.00 & Orientation Program 20000.00 (BoQ PS,	Monthly monitoring by PIU.

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	felling is not expected. Likely impacts are limited to minor grass cutting and bush clearance, as summarized below. Salleri Yuba CF: Open area/grassland; likely grass cutting and bush clearance. Banskhola CF: Bushes; likely grass cutting and bush clearance. Kalika CF: Bushes; likely grass cutting	• Scheduling work to avoid sensitive periods to reduce disturbance at night • Conduct the awareness on wildlife protection and in forcing monitoring and penalties for violations. • Restrict noise-generating construction activities to established working hours 8 hrs (8 am to 5 pm including 1 hr of lunch and rest time). 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. • 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. • Implement a worker environmental awareness program as part of worker induction to inform personnel about the			Item no.3)	

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	and bush clearance. Chiuri Neta CF: Open area; no tree loss anticipated. No direct impact on terrestrial and avian fauna is anticipated because the sub-project does not lie inside any designated wildlife habitat Increased pressure on the surrounding community forests for their products like firewood,	prohibition of hunting and poaching and the penalties associated therewith. Collection of NTFP will be prohibited during the construction of different infrastructure in the community forest areas.				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	timber and non-timber forest products					
C. Socio-economic Characteristics						
Community activities	The construction-related activities that impede access will disturb the local residents	• To minimize disturbances, construction work will be conducted at the earliest possible. • The local residents will be consulted and informed about the work schedule and possible disturbances preferably a week before the construction starts and one day before the construction starts. • Temporary diversions and signboards will be provided to inform and make the pedestrian aware. • Ramps, where necessary, will be provided to ensure access to houses, businesses and other service areas. Ramps provided will be of sturdy material and of sufficient width. • Traffic management plan, if necessary, will be prepared, approved and	Contractor	Time schedule of construction work; Information related to construction activity to local residents Number of temporary diversions sign, signboards etc.		Daily (or whenever there are construction activities) by contractor Monthly visual inspection by PIU

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		implemented by the Contractor as part of the C-ESMP. Necessary signage's will be used and placed where construction is being undertaken.				
Labor Camp Management and Labor issues	Nearly 80% of the total workers will be hired directly from the project area. It mainly constitutes of unskilled and semi-skilled manpower. Around 40 workers will work in one day, among them around 10 workers will be migrants works. Poor sanitation practices by workforce may cause pollution	• Provide primary 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 and settlement. • The camp is constructed as per the technical specification considering the size, number and location of the camps. • Provide and maintain proper drinking water, sewerage and waste disposal facilities at the camps. • 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 • Proper ventilation will be provided in the labor camp	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	Camp site Management 20000.00 & Water Quality Monitoring 20000.00 (BoQ PS, Item no.3)	Daily by contractor and MST Monthly by PIU

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	of surrounding environment	• Raised bed is the minimum standard of bedding in labor camp. • Separate rooms for men and women workers will be managed • Standard ratio of room size of the camp and number of labors to be accommodated will be maintained • Separate toilets will be established in every campsite for male and female • Worker's Grievance Redress mechanism will be established for labor issues, and every labor will be informed of the GRM. • Install the Grievance box in contractor and labor camp • Minimize contact with people outside the construction area/site or prohibit them from bringing outsiders especially minors to the camp during their contract • Adopt policy of zero tolerance for child labor and forced labor • Implement procedures to confirm workers age before they start work, verify their age through formal				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		identification card. Maintain the register of workers, including their age, sex, caste/ethnicity and name of the contact persons with phone numbers in the case of emergency. • Labour camp management shall be included as part of C-ESMP. • Drinking Water quality monitoring of source and camp site				
Social harmony	Changes in social structure, cultural and traditional practices of the rural people due to exposition to the outside workforce - Conflict between Local and Outside Workers and	• 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.	Contractor	Daily entry-sheet of the workforce in the camp sites (Public land of TRVT-1 site and TRVT-5 site) Number of local people versus outside workers in		Regular monitoring by MST Monthly inspection at campsites (if any) by PIU

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	erosion of law-and-order situation of the project area	• 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 instructed to respect local people, especially the female members and the local culture and tradition. • The project will avoid the private land use to the maximum possibility, if not possible, the edge of the property will be used and the pipeline will be buried under to avoid the impact on regular crop practices. Furthermore, the pipelaying work shall be planned at the end of the crop cycle to avoid the crop loss. Even the informal occupancies in the public land will be compensated if such occupancies are impacted from the project.		the project area Record of CoC signed		

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		A code of conduct will be prepared for the construction workforce and the project staff on how to behave with the local people of the project area, which 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. These CoC will have to be signed by the labor and also make sure the labors understand what the CoC governs.				
Occupational Health & Safety	During the construction work, the labours involved in the construction activities may be exposed to	- Prepare and implement OHS plan as part of the C-ESMP - Mandatory use of safety measures (PPEs) such as mask, helmet, hand gloves and rubber boots, etc. - Arrangement of necessary ramps and railings at workplace. - Safe scaffolding practices shall be done.	Contractor	Availability of personal protective equipment, First-aid facilities, medical insurance	PPE & First aid 75,000.00 & Workers Orientation 15000.00	Daily (or when there is a construction activity) monitoring by

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	different level of health risks and are prone to accidents	• The laborers will be insured for their health and safety. • Provide safe drinking water for labors • Prohibit child labor and forced labour in all construction activities. • Provide comprehensive training to all workers on occupational health and safety practices. This should include proper use of personal protective equipment (PPE), safe work procedures, emergency protocols, and awareness of specific hazards related to the construction site. • 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 contractor should also make provisions for an ambulance to take injured for ill person to the nearest hospital, if needed		coverage for workers, Housekeeping and condition of sleeping and sanitation facilities at campsite (if any), Roster of workers	(BoQ PS, Item No-3)	contractor . Monthly visual and document inspection by PIU

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		• 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. • 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 colour coding in use should be thoroughly reviewed as part of orientation training. • 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. • The contractor's supervisors will be instructed to conduct 'prework instructions' to the workers everyday - explaining them about the nature of works, condition of the site, and				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		associated risks as well as safety measures. • Agreement with nearby health institution will be in place by the contractor. • Contractor will be responsible to maintain the records of each and every accident and incidence.				
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	• Contractor's will maintain adequate space and adequate lighting, temporary fence, barriers and signage at worksites; • Information board and safety signage will be displayed/ established • 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,	Contractor	Number of permanent signs, barricades and flagmen on worksites Number of complaints from sensitive receptors;	40,000.00 (BoQ PS, Item No-3)	Daily monitoring by contractor and MST Monthly visual inspection by PIU

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	diseases like COVID may potentially be brought into the community by construction workers	disseminate through local media and newspaper. • Regularly organize awareness campaigns targeting the affected 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. • 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.				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		Provision of ramps will be made where trenching works are being carried out to provide access to houses and businesses.				
GRM, Risk of GBV, SEA/SH, Human trafficking, HIV AIDS and Communicable diseases & Staking Sign Board	Chances of unequal wages between male and female workers for same nature of works Chances of sexual exploitation and abuse and sexual harassment to female workers in the labour camp and construction sites from the contractor's crew and other male workers. Potential transmission of	(i) Regarding SEA/SH, GBV - Locals will be given due priority for any employment opportunity - An SEA/SH focal person will be nominated at the PIU and project workers will be made aware about the SEA/SH grievances and procedure. - CoC will be signed, a copy of CoC provided and workers oriented on the CoC to ensure it is understood by those signing, and strictly adhered to and monitored for all workers. Signed copies of code of conduct will be maintained. - Separate toilets will be provided for male and female workers - SEA/SH, GBV awareness raising activities, orientation/training and stakeholder engagements such as community-based- awareness program,	PIU/MST	Regular monitoring and supervision of construction site/camp Information related to SEA/SH, Human trafficking, GBV, HIV AIDS and Communicable diseases	35,000.00 (BoQ PS, Item No-4)	Daily (or when there is a construction activity) by contractor. MST/PIU Municipality

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	communicable disease	school-based awareness program will be conducted. • The SEA/SH GRM focal person of Sharada Municipality will be part of trainings, awareness programs regarding SEA/SH. • Awareness program against the gender-based violence will be conducted for the workers as well as the local community including school children 6 orientations/trainings with at least 25 participants in each training; to be conducted during Pre-construction and during Construction period. (ii) HIV AIDS & Communicable diseases • Awareness raising and sensitization to workers and other persons to reduce or eliminate chances of infections of HIV-AIDS and other sexually transmitted diseases • Distribute HIV & AIDS awareness materials in collaboration with local health related agencies				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		• Ensure protective measures for communicable diseases is followed, and SOPs prepared and followed by all workers and staff (hand washing, using sanitizer, masks etc.) 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 labourers involved in the construction activities may be a Children and forced labor Possibility of wage discrimination between male and female	• Ensure at least 33 % of female workers in construction and operation 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. • Child labour & forced labour will be strictly prohibited	Municipality/Contractor	Copies of citizenship card or other valid personal ID card will be seen if any doubt		Daily by contractor and MST Monthly visual inspection by PIU

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		- 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				
3. During Operation and Maintenance Phase						
Exposure to chemicals	Excessive exposure to chlorine, hypochlorous acid, and hypochlorite ion generally results in irritation of the oesophagus, a burning	- Prepare OM manual that will include chemical and hazardous substances handling among other. - Disinfection chemical e.g. chlorine compound for dosing requires proper storage and handling practices - Provide safe storage for chemical for disinfection namely chlorine compound - Ensure that the person is hired, with knowledge of chlorine use for disinfection process during operation - Ensure use of PPE while using chemicals	Contractor/ WSUC (Water supply user committee)	Visual inspection		Daily (or as needed) by the operator.

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
	sensation in the mouth and throat	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: • Storing chemicals in appropriate containers that are compatible with the substances. • Ensuring proper labelling 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."				

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
		Additional measures, as required, will be defined in the O&M manual of the water treatment facility (chlorine dosing) and operation				
Drinking water supply system	Delivery of unsafe water due to source contamination, leakage in pipes	- Local people mostly from the vulnerable community will be given priority for employment during the operation stage. - 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 chemical in compliance with the Material Safety Data Sheet (MSDS) for each substance; (iii) ensure capacity of WUSC to implement quick response to hazardous substance/waste spills; (iv) monitor water quality. All norms and regulation including material safety data sheet will be followed during the handling and storing of chemicals.	Contractor/WSUC	Visual inspection Water Quality reports WTP records in the logbook		Daily or as needed visual inspection by the operator. Quarterly or as needed water quality testing by the operator.

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Field	Impacts	Mitigations Measures	Responsible for Implementation	Monitoring Indicator	Estimated Cost NRs.	Frequency of Monitoring
Grievance Redress Mechanism	Unresolved grievances/complaints on drinking water supply	All grievances related to Thulapatal Nipane Water Supply Project during the operation phase will be addressed through the Grievance Redress Mechanism of Sharda Municipality, Salyan	Sharda Municipality, Salyan	Grievance record logbook		Throughout the operation

4.4 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 20. The Project Management Unit (PMU), Project Support Team (PST), Project Implementation Unit (PIU), and Municipal Support Team (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 20: Details of Proposed Training Program

S. N	Title	Objective	Time of training	Duration/Days	Participants
1	Concept of Environmental & Social Management Framework (ESMF) by PMU/PST to MST/PIU.	• Brief of World Bank ESF and requirements • -Brief of latest environmental legislation • -Implementation, supervision and monitoring mechanism	Before awarding contract	1 Day	PMU/PST/PIU/MST/MWASH unit
2	Environmental and Social Management Plan (ESMP) Implementation Training by PMU/PST	Orientation on ESMP requirements and implementation procedures Roles and responsibilities of MST and MWASH Unit in ESMP implementation, supervision, and reporting Monitoring, documentation, and compliance with World Bank ESF	Before awarding contract	1 day	PMU/PST / MST / MWASH Unit
3	Orientation workshop on ESMF Implementation by PMU/PST to MST/MWASH Unit/Contractor	• ESMF requirements • Roles & responsibilities of contractor & MWASH unit • Identification of environment and social issues	Pre-construction stage (when contractors are substantially mobilized)	1 Day	PIU/MST/ Contractor/ MWASH unit

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		• Addressing environment and social impacts • Preparing mitigation plans			
4	Focused orientation/training on specific issues	• Issues relating to wage disparity, child labour etc.	During construction or when needed	½ Day	PIU/MST/ Contractor/ MWASH unit
5	Orientation on STDs/ HIV AIDS issues	• To increase the level of awareness about prevention and control of STDs/HIV Aids among communities.	During construction	1 Day	PIU/MST/ Contractor/ MWASH unit
6	Training / Orientation on occupational Health GBV, SEA/SH 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
7	Training on O&M of the facilities (O&M Manual)	-To provide the knowledge on different components of system and their function uses, regular maintenance and operation after the system will establish -To train the O&M staff on the implementation of operation phase E&S measures)	After construction as per O and M guideline and manual.	3 Days	Municipality/MWASH
8	Training on WASH	• To raise awareness on WASH	During construction	1 Day	PIU/MST/ Contractor/ MWASH unit

4.5 Cost of Environmental and Social Mitigation

A total budget of NRs. 400,000 has been allocated for the implementation of mitigation measures addressing construction-phase impacts. The detailed cost breakdown, along with tentative implementation items categorized under different subject areas is presented in Table No. 21. These estimated costs exclude mitigation measures that are customarily covered under the contractor's obligations. Most of the mitigation measures related to physical environmental impacts have already been incorporated into the overall project cost, while some will be addressed through contract bidding provisions. In addition, certain mitigation measures do not require financial resources.

Table 21: Mitigation Budget and Implementation Schedule

SN	Cost Bearing Mitigation Activities	Cost (NRs)	Implementation Schedule	Remarks
1	Water Sprinkling near the construction site, settlement, stockpiled area and school area during construction period	50,000.00 (BoQ Provisional Sum, Item No-3)	During construction period (18 months)	Once in a day time and if necessary, twice a day near stockpile area.
2	Management of stockpiles/ construction waste disposal at all RVT sites	25,000.00 (BoQ PS, Item No-3)	During construction period (18 months)	Spoil disposal sites will be finalized from the consultation meeting with local peoples and representatives and the detail will be included in Contractor's ESMP (C-ESMP).
3	Provision of Waste Collection Bins in every construction site and labor camp	30,000.00 (BoQ PS, Item No-3)	During construction period	8 Bins in 8 RVT sites, office and Labour Camp at the rate of Rs. 6000 each.
4	Provision of PPEs to all workers and First Aid Box at construction site and camp	75,000.00 (BoQ PS, Item No-3)	During construction period	Throughout the project period
5	Monitoring of ambient air quality, water quality and noise level at project site	50,000.00 (BoQ PS, Item No-3)	Prior to construction and at the middle of the construction period	Laboratory cost (2 times during the project period)
6	Greenery promotion/ enhancement activities near/around the project sites	40,000.00 (BoQ PS, Item No-3)	During construction and Operation period	Various species of trees will be planted around proposed RVT

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	for compensatory forest land area use			sites. Adequate consultation with Division Forest Office will be done during plantation.
7	Installation of Sign Board/ Information Board, safety signages, code of conduct and raising awareness.	40,000.00 (BoQ PS, Item No-3)	Prior to construction	At the rate of NRs 8,000 each for 5 different places in project area.
8	Information dissemination, stakeholder engagement and GRC meeting/ site observation	20,000.00 (BoQ PS, Item No.-4)	Prior to or during construction or at the starting of the construction activities with the assist of MST/PIU	Participants will be mainly construction workers, contractor's crew, project manager, focal person from municipality and other staffs from MST
9	Training and Orientation on OHS, GBV, SEA/SH, to communities and schools	50,000 (BoQ PS, Item No-3)	During construction	Workers and local community and school student will be participant
10	Labour Camp Management	20,000.00 (BoQ PS, Item No-3)	During Construction	Throughout the construction period (store and dosing house will be used as labour camp after construction).
	Total	4,00,000.00		

Note: The Environment mitigation cost of Rs. 4,00,000 is allocated as Provisional Sum (PS) in General works; Item No. 3. Similarly, Rs. 20,000 is allocated in PS in General Works Item No. 4 for information dissemination programs and institutional strengthening activities as per the Engineer's approval.

4.6 Environmental and Social Monitoring and Reporting

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, 2019 and Environment Protection Rule, 2020 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, 2020 indicates towards self-monitoring of environmental impacts of implementation of the proposal and submit the report to the concerned agency.

Impact Monitoring and Compliance Monitoring

Basically, two types of environmental monitoring will be carried out for this project which are 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 by PIU/MST to monitor the compliance of the proposed mitigation measures and monitoring activities. The compliance monitoring will mainly focus on:

- Compliance of the mitigation measures and specification in accordance with the ESMP;
- 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.

Environmental & Social 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 a semi-annual E&S monitoring report. This semi-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.

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Table 22: Compliance Monitoring Plan

Issues	Indicators	Method	Schedule	Location	Agencies to be consulted	Responsible Agency
Construction Phase						
Approval of operation plan of Sharada Municipality with proposed intervention	Approval letter	Review of approval letter	Prior initiation of work or Prior procurement	Sharada Municipality	Local authority	Municipality
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, Quarry Site Management Plan, Earthwork Segmentation Plan, as applicable).	Review of proposed work plans, waste management plan, CSEMP, Labor Camp Management Plan submitted by contractor or executing authority	During the entire construction period	Sharada Municipality	Local authority	Contractor, PIU, MST

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Mitigation management (Compliance with ESMP)	Budget allocation for mitigation measures and monitoring	Review of project budget document	Daily	Sharada Municipality	Local authority	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	Monthly	Sharada Municipality	Local authority	PIU, MST
Operation Phase						
Operation phase mitigation management	Budget allocation for mitigation measures for operation phase	Review of project budget document	Annual	Sharada Municipality/MWASH Unit	Local authority	Municipality
Implementation of operation phase monitoring	Monitoring report and budget allocation for corrective actions	Review of monitoring report and budget allocation for corrective actions	Annual	Sharada Municipality/MWASH Unit	Local authority	Municipality

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Table 23: Impact Monitoring Plan

Parameter	Indicators	Method	Location	Frequency & Schedule	Agencies to be consulted	Responsible Agency
Construction Phase						
Physical Environment						
Community Infrastructure	Any damage to properties and utilities	Field observation and consultation meeting with local stakeholder	Construction site	Quarterly	Local authority	Contractor, Municipality
Air quality	Dust and smoke	Field observation	Construction site	Quarterly	Local authority	PIU, MST, Contractor
Noise pollution	Noise level	Field observation and discussion	Construction site	Quarterly	Local authority	PIU, MST, Contractor
Land pollution	Open defecation and garbage disposal places	Direct observation	Disposal site	Quarterly	Local authority	PIU, MST, Contractor
Socio-economic and Cultural Environment						
Construction activities	Noise quality, ambient air quality	Site observation and discussion with local people	Construction site	Quarterly	Local authority and local people	PIU, MST
Existing infrastructures	Damages of road and culvert, access to houses	Observation and discussion with local people	Access road	Weekly during construction		Contractor
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	Regular monitoring during	Local Police Office	Municipality, PIU, MST

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Parameter	Indicators	Method	Location	Frequency & Schedule	Agencies to be consulted	Responsible Agency
				construction		
Occupational health and safety / Traffic and road safety	Cases of accidents and injury	Observation and record checking	Active construction sites	Regular	Health institutions	PIU, MST, Contractor
Gender, children and vulnerable group	Number of such people employed	Review of attendance and discussion	Construction site	Weekly	Workers	PIU, MST, Contractor
Labor Camp Management	Maintaining the labor camp with minimum standards like size by number ratio, ventilation, lighting facility, cooking facility, water supply facility, separate toilets and room for males and females, sleeping arrangement, insect and rodent control, and waste management Number and type of grievances related to workers, number of	Visual inspection/monitoring report/photographs, review of workers' grievances register/ GRM committee formed in municipality and sub-committee already formed in ward level to address grievances arisen during implementation of the JWSP	Camp site	Regular	Contractor/ Municipality	PIU/MST/Contractor

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Parameter	Indicators	Method	Location	Frequency & Schedule	Agencies to be consulted	Responsible Agency
	grievances resolved, labor records					
Community Health and Safety	Establishment of warning signs, barricades, and guards to control the trace pass of unauthorized persons from construction sites, awareness campaign for the community and school children, supervision of children during pick up and drop from school, Sequenced and adjusted construction schedule to shorter community exposure to accidents, dissemination of construction work schedule through effective means of communication	Visual inspection/monitoring report/photographs, review of grievance register	Construction site and Camp site	Monthly	Contractor/ Municipality	PIU/MST/Contractor
Awareness/Orientation/Training Program	Training on road safety, GBV/ SEA/SH, HIV/HIDs, Human Trafficking, STIs, Local culture and tradition to labor, community people,	Site visits, visual inspections, training completion reports/records and photographs	Construction site	Monthly	Workers, students and community people	

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Parameter	Indicators	Method	Location	Frequency & Schedule	Agencies to be consulted	Responsible Agency
	adolescent girl and as deemed necessary					
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	Site visits, consultations, records and photographs review of grievance register, meeting minutes, information boards Observation, discussion with the locals, GRM register and other reports/documents	Construction site and project area	Regular	Ward level & Municipality	
Traffic and road safety	Status of road for use; road accidents	Observation and record checking	Construction site and surrounding	Daily	Traffic police/ Municipal Police	Municipality
Operation Phase						
Occupational health and safety	Health status of workers	Field observation and consultation with workers	Project site	Monthly	Workers	Municipality
Water pollution	Water quality of springs	Direct observation and water quality testing	Bagchaur, Banskhol, Nipane, Salchaur, and Thulapatal springs	Quarterly	Sharada Municipality	Sharada Municipality

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Parameter	Indicators	Method	Location	Frequency & Schedule	Agencies to be consulted	Responsible Agency

4.7 Monitoring Cost

Monitoring is an on-going process crucial for enhancing project effectiveness. It ensures timely achievement of objectives and allows for corrective actions to be taken promptly. Therefore, internal monitoring primarily covers reimbursement for monitoring personnel and stationery costs, which are already part of Sharada Municipality's regular management expenses. As a result, no additional funds have been allocated for monitoring in this Environmental and Social Management Plan (ESMP).

4.8 Project Environmental Management Framework and the Key Stakeholders

Overall project environmental management framework is the responsibility of the project proponent, Municipality. The Sharada Municipality 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 Sharada Municipality, to be involved in the project management are discussed below and illustrated in Figure-7:

- 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 Management Unit (PMU):** The PMU 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) Project Support Team (PST):** The PST at federal level provides the support to PMU and MST. The PST supports the Municipal Support Team (MST) by offering guidance on local project execution, capacity building, and community engagement, as well as 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.
- d) 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.
- e) 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.

- f) Municipal Support Team (MST):** MST offers 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.
- g) 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.
- h) 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.
- i) 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.
- j) Affected Wards, Municipality and District Coordination Committee (DCC):** Provide recommendations to the proponent with comments and suggestions and assist proponent in the project implementation.

Organogram of E& S activities

At Federal Level

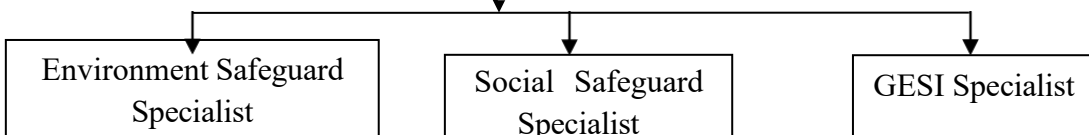
Project Steering Committee (PSC)
Led by Ministry of Water Supply



Project Management Unit
(PMU) at Department of Water
Supply and Sewerage

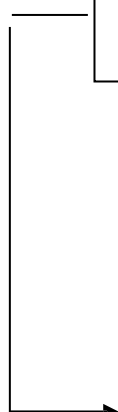


Environment and Social Safeguard Unit



Project Steering committee (PSC)
with representation of federal,
provincial and all participating

At Provincial Level

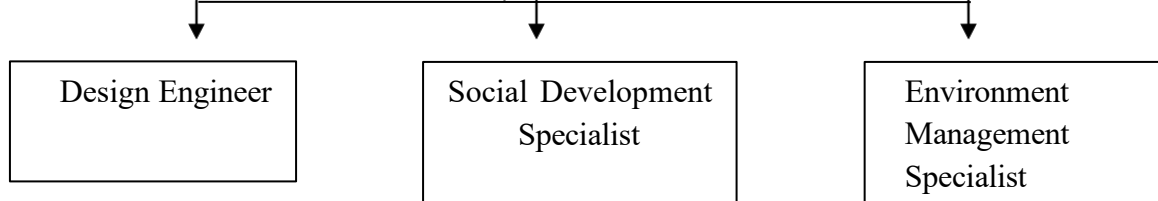


Project Implementation
Unit



Team Leader/ Deputy-Team Leader

At Participating municipalities



4.9 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 complaint. Grievances can be submitted through various means, including in person, in written form to a noted address, direct calls to concerned officials, and emails in all levels of GRC. The complainant/grievant can follow up on the status of complain/grievance they lodged. Process of grievance registration, resolution and reporting back to complainant will be well documented. The social accountability mandate will be strengthened through a strong grievance redress mechanism.

To address the incoming grievances, two-level grievance redresses committee will be formed; one at the project level (Municipality Level) and next at the Central Level in line with the SEP of the project.

The projects Level GRM consists of a Project Level Grievance Redress Committee (GRC). Project level GRCs are formed at two level; i) Ward Level and ii) Municipal Level. The project level GRCs will record all the grievances at the project site, screen and analyse the grievances. The project level GRCs will initiate hearing process to resolve the incoming grievance at the site level and inform the decision accordingly to the complainers. If the grievance fails to settle at project level GRC then the project Level GRM forward the grievance to central level GRM with a recommendation for further action to Central Level Grievances Redress Committee (GRC). This committee will be three membered headed by PMU chief, supported by the Social Development Specialist at PMU and another person assigned by the PMU Chief. The three membered committee can seek support from other experts or institutions in course of investigating and resolving resolutions. The central level GRC will take a decision and inform the complaining party regarding the decision through an appropriate channel. If the complaining party is not satisfied with the decision of GRCs, they can appeal to the courts for the final determination of the case. However, the project GRM process does not obstruct complainants to resort to legal recourse at any time. If the court process is initiated, works shall not proceed on the point of impacts until the case is finally determined.

The functions of the GRC will include:

- (i) Record verbal or written grievances from complainant (stakeholders, water users, affected people etc.).
- (ii) Carry out screening of grievances and organize meeting to resolve the grievances
- (iii) Consult with complainant, project personnel, contractor and PIU for resolving grievances as deemed necessary.
- (iv) Make a verdict on the specific grievance and report back to the complainant in time.
- (v) Escalate to upper level GRCs if the case is not resolved or complainant is not satisfactory with the verdict.
- (vi) oversee the implementation of mitigation measures where complainants are deemed to receive cash or mitigation measures in lieu of complaints;

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The GRC will only deal/hear the issues related to water supply sub-project grievances. The committee will give its decision/verdict within 15 days of receipt after hearing the aggrieved PAPs. The final verdict of the GRC will be given by the Chairman/Head of GRC in consultation with other members of the GRC members.

Project level GRM has been established and the Grievance Redress Committees (GRCs) has been formed on 5th June 2024. The composition of the municipal level GRC is given below in Table 24.

Table 24: Composition of GRC at Municipality level

S. N.		Name	Organization/Position
1	Coordinator	Susmita Sapkota	Deputy Mayor / Chairperson
2	Member	Respective ward chairperson	Ward Chair-Member
3	Member	Kailash Chanara	WASH Focal Person-Member
4	Member	Mukunda Raj Aryal	MST/SDS-Member
5	Member-secretary	Deepak Maharjan	Project Manager/PIU

Ward level Grievance Redress sub-committees have also been formed in project wards as given in Table 25 below.

Table 25: Details of Ward level GRC in Thulapatal Nipane WSP

S.N.	Ward No. 9	Name	Designation
1	Coordinator	Hemendra K Budhathoki	Ward Chairperson
2	Member	Dil Maya BK	Ward Member
3	Member	Bimala Oli Dangi	SM/ Municipality
S.N.	Ward No.10	Name	Designation
1	Coordinator	Krishna B Bohora	Ward Chairperson
2	Member	Gita BK	Ward member
3	Member	Bimala Oli Dangi	SM/ Municipality

The existing GRM put in place for the project will also be utilized to address GBV and SEA/SH issues, and the PMU at the DoWSSM will oversee GBV-related complaints. The project will place its highest priority on handling and managing GBV-related grievances by maintaining the complete confidentiality of the survivor. The PMU will establish necessary mechanisms for confidential reporting, ensuring the safe and ethical documentation of GBV issues at both central and sub-project levels. The first responders for grievances related to GBV will be the E&S staff of the participating municipalities, who will be trained in managing and handling such grievances. For this purpose, Mrs. Bimala Oli Dangi, working as a social mobilizer for the WASH Unit in Sharada Municipality, has been appointed as the focal person for GBV/SEA/SH by the PIU. GBV referral pathway will be established and communicated to

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both PMU at the DoWSSM and sub-project level. Furthermore, the GRM will also establish a system to promptly notify both the PMU and the World Bank of any complaints related to GBV.

5. Stakeholder Engagement and Information Disclosure

5.1 Public Consultations

The public consultation focused primarily on the community of service area. For instance, the group of directly impacted people is those living near the WS project area. The aim was to identify possible environmental and social impacts that might arise from the proposed project activities. According to the site survey during the ESMP within the directly impacted area of Sharada Municipality wards no. 9 & 10, people expressed their concerns about various kinds of environmental and social impacts caused by the project. From the consultation meeting, it was found that most of the people are positive towards the project. The study team concluded that there are no significant negative impacts on the physical, biological, and socio-economic environment. During the course of consultation meeting, issues related with insufficient water supply from existing WSPs, their perpetuity due to climate change and their affirmation to merge with proposed Thulapatal Nipane WSP for 'One house and One Tap' concept was discussed. Experts of MST made clear on necessary documents required for the Detailed Project Report (DPR) of Thulapatal Nipane WSP, with managerial support from local-level representatives and water users, and its sustainability including feasible operation and maintenance cost. Separate consultation meetings were conducted with the people of the Women Group including Dalit community of the Jalukebari tole. The details of consultation meeting are given in Table 26 below.

Table 26: Details of Public Consultation Meetings

SN	Date	Type of Meeting	Venue	No of Participants
1	2080/12/13	Consultation/Validation for WASH data	Ward No 9	28
2	2080/12/6	Consultation/Validation for WASH data	Ward No 10	32
3	2080/10/4	Awareness on WaSGIPSP Activity	Challi Faram, ward No-9	35
4	2081/12/27	Awareness on WaSGIPSP Activity	Baagchaur ward No-9	48
5	2082/2/28	FGD with Dalit People and Women	Jalukebari, Ward No-9	10
6	2080/9/2	Joint Meeting (PD, PIU Chief, MST, WASH Unit)	MST office, Khalanga	11
7	2082/2/13	Environmental & Social Screening Meeting	Ward No -9	20
8	2082/2/9	Environmental & Social Screening Meeting	Ward No -10	24

Some crucial issues regarding the water supply and sanitation raised during FGD by Dalit community people are illustrated below:

- According to the views of women's groups and Dalit communities, there is a severe water shortage during the dry season, forcing households to fetch water from sources

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located 10-15 minutes away for a round trip. As a result, they are willing to pay for water supplied through the proposed project.

- Communities from Paiyakharka, Baghchaur, and Nipane have traditionally practiced seasonal migration due to inadequate availability of water for both human and livestock consumption.
- The proposed Water Supply Project (WSP) is expected to generate employment opportunities during the construction phase, and local people have expressed their willingness to work as laborers under the contractor. They also anticipate that improved water availability will contribute to better livelihoods.
- During the dry season, communities face acute water shortages for up to half a day and are required to travel 15-20 minutes one way to collect water. Implementation of the project is therefore expected to significantly improve access to safe drinking water.

5.2 Stakeholder Consultation Plan for Implementation Phase

Consultations during the implementation phase will involve direct interactions with the people who have been affected by the project. PIU, MST, and the contractor will conduct regular consultations with PAPs, as well as local user committees, local electricity office units, and other stakeholders. All consultations on social and environmental issues conducted during the implementation of subprojects will be inclusive, involving 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 Table 27 below.

Table 27: Stakeholder Engagement Plan

During Construction				
Topic	Stakeholders	Engagement Method	Frequency	Responsibility
▪ Disclosure of ESMP (and updated ESMP), including C-ESMP ▪ ESMF, Project SEP, and LMP ▪ Delineate Labour Influx Management Procedures ▪ Activities planned for SEA/SH and GBV ▪ Awareness of HIV and other communicable diseases	▪ Sharda Municipality and concerned officials of the Municipality and MWASH Units ▪ Project-affected Ward chairs ▪ Tole Committees ▪ Local Community of the project area ▪ Community Leaders	▪ FGDs and targeted outreach activities with women, Dalit and IPs organisations, and other vulnerable groups, such as Dalits (Application of audio/visual communication techniques and other accessible formats) ▪ Community radio and local media	Periodically throughout project implementation For planned construction activities, the community will be informed a week in advance of the construction work and a day before the commencement of construction in the designated areas.	PIU/MST Contractors

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▪ GRM for SEA/SH ▪ Project GRM ▪ Planned construction activities	▪ Local CBOs and NGOs working on WASH and GBV	▪ Notice Boards ▪ Periodic information disclosure activities		
▪ Beneficiary satisfaction survey	▪ Target beneficiaries of the project	▪ Beneficiary satisfaction survey	The first survey will be conducted two years after implementation, and the final survey during the final year of operation.	PMU/PST/MST

5.3 Information Dissemination

For the effective implementation of the project, all information about the proposed activities and their expected outcomes will be publicly shared with the local community and interested stakeholders. In collaboration with relevant local authorities and other community groups, the project will disclose all relevant information at various stages of the project cycle. Relevant organizations working on environmental and social issues will also be informed about ongoing and planned activities, enabling them to identify appropriate preventive or corrective measures in collaboration. The following approaches will be adopted to make information accessible to all the concerned stakeholders throughout the project cycle;

- Mass Media: Utilize local media, such as newspapers, radio, and TV.
- Meeting/Workshops Distribution of project documents: Certain project documents will be disclosed in Nepali (or other relevant local languages).

Project-related information materials will be sent to other relevant offices, such as the municipality, ward, and Tole Committee. 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.

Table 28: Proposed Strategy for Information Disclosure

Target stakeholders	List of information to be disclosed	Methods and timing proposed activities
Project implementation phase		
• Government officials (Federal, provincial, and Municipality officials including the wards) • District line agencies	• Planned and ongoing activities • Regular updates on project status, including the implementation of ESMP, CESMP, ESMF, LMP, SEP • GRM • SEA/SH and GBV activities	• Sharing project update and reports through meetings • Consultation and faceto face meetings • Information boards, leaflets, and brochures • PMU/PIU websites

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• CBOs and NGOs working on WASH • Local NGOs and CBOs working on GBV • Community leaders • National & local Media • Local Community	• 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	• Information boards, leaflets, and brochures • PMU/PIU websites • Meetings and workshops
• Individuals and communities with a focus on vulnerable groups, including IPs, women, and Dalits • Local NGOs and CSOs working on WASH and GBV	• Project concept and activities • E&S procedures and management plans (ESMP, CESMP) • GRM procedures, ESMF and Labour Influx management procedures, SEP and • Planned construction activities • SEA/SH activities and GRM procedure for SEA/SH • Revised project information if any	• 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 • Information to be provided in local language who do not understand Nepali • Regular contacts with the representatives of IP and vulnerable groups through phone calls, emails, text messages(Application of audio/visual communication techniques, and other accessible formats)

6. CONCLUSION AND RECOMMENDATION

The Thulapatal Nipane Water Supply Project, facilitated by WaSGISP will provide drinking water in ward no. 9 &10 of Sharada Municipality. The project prioritizes environmental and social considerations, conducting public consultations to address community concerns.

The Thulapatal Nipane Water Supply Project in Sharada Municipality aims to enhance water supply infrastructure while minimizing environmental and social impacts. Its Environmental and Social Management Plan (ESMP) outlines measures to obtain necessary consents, manage waste, and mitigate disruptions during construction. Social harmony is prioritized through local employment and cultural sensitivity. Occupational health and safety measures include personal protective equipment and first aid provisions. During operation, water quality and infrastructure maintenance will be monitored for long-term sustainability. Overall, the project exemplifies responsible development practices, ensuring community well-being and environmental protection. A total of NRs **4,00,000** is allocated for mitigating construction phase impacts. These costs are meticulously considered, ensuring financial feasibility and comprehensive coverage of environmental management responsibilities and legal liabilities.

In conclusion, the Environmental and Social Monitoring Plan demonstrates the project's dedication to responsible environmental stewardship. Through compliance with environmental legislation and regulations, such as the Environment Protection Act and Environment Protection Rule, the project ensures accountability. The plan includes impact and compliance monitoring across various environmental 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. This comprehensive framework underscores the project's commitment to sustainable development and minimizing adverse environmental and social impacts. Major recommendations of the ESMP includes;

1. Restore any areas affected by construction activities.
2. Provide training and employment opportunities for local residents to promote community involvement and capacity-building.
3. Establish and activate a grievance mechanism to address any concerns or complaints raised by community members during the enhancement works.
4. Monitoring and evaluating the project's social and environmental performance regularly to ensure compliance with relevant regulations and standards.

Annex I: Environmental and Social Screening Checklist

I- Sub-project Background

1.	Name of the Sub Project	Thulapaatal Nipane Water Supply Project
2.	Location	Municipality/ Rural Municipality: Sharada Municipality Ward No: 9 & 10 District: Salyan Province: Karnali Altitude: (3918 – 5762) Ft.
3.	Co-ordinate (GPS) of Intake site	Salchaur WSS:(Latitude: 28°21' 75"N, Longitude: 82° 4' 59"E) Baanskholah WSS:(Latitude: 28°23' 51"N, Longitude: 82° 4' 84"E) Haralekhola WSS:(Latitude: 28°23' 14"N, Longitude: 82° 4' 06"E) Thulapatal WSS:(Latitude: 28°20' 35"N, Longitude: 82° 4' 65"E) Markerani WSS:(Latitude: 28°24' 14"N,Longitude: 82° 5' 24"E)
	Project's boundaries in four directions and the area of influence	East: Sharada Municipality ward No.8 &10 West: Bangaad Kupinde Municipality North: Bangaad Kupinde Municipality South: Kaalimati Municipality
4.	Type of Sub-project	Water Supply & Sanitation
5.	Proponent	Sharada Municipality, Salyan

II- Environmental and Social Screening

SN	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
	Project's site information			
1.	Is the sub-project site adjacent to or within any of the following sensitive receptors?			

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	i. Natural habitats and /or legally protected areas (national park, wetlands, forests, estuary, buffer zones, nature reserves)	Yes		The sub-project requires the use of land from four community forests. The site is located within Salleri, Banskhola, and Kaalika Community Forests in Ward No. 9, and Chiuri Neta Community Forest in Ward No. 10.
	ii. Cultural heritage site (e.g. temples and sacred sites)	No		
	iii. Recreation or public gathering site	No		
	iv. Aesthetically important sites	No		
SN	Screening checklist	Yes	No	Comments Provide information/justification either for “Yes” or “No” if applicable
	v. Located near the main settlement and market places. If “Yes” provide name of the settlement and marketplace, and brief description with estimated number of HHs	Yes		There are several settlements like Paiyakharka, Nipane, Baagchaur, Banskhola, Saalchaur & Challifaram etc.
	vi. Is there any history of flood/river cutting / landslides at the site or surrounding areas?		No	
	vii. Is there any public infrastructure (school, hospital, health post) in the surrounding area of the project site? If yes, provide brief descriptions.	Yes		There are 3 Schools (Krishna Aadharbhut School, Janata Aadharbhut school & Saraswati Aadharbhut School), ward office of ward No 9 & 10 Primary health service facility located in service area.
	viii. Are canals and irrigation systems present in proximity to sub-project site?		No	
	ix. Are there any existing water sources near or within the site that may be impacted by the project?		No	There are not any other water sources which might be impacted by the proposed WSP
	x. Briefly describe the existing use of land in the surrounding area of the proposed site, nature (slope and facing)	Most of the private land is used for agricultural activities. Irrigated land are used for paddy and wheat cultivation and		

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		non-irrigated land used for maize and millet and other cash crops.		
	xi. Is the sub-project site accessible by road through the year? Description of condition of road/track (blacktop, fair weather, etc.) or needs to construct a new road, total length, nearest road head, etc.	Yes		Almost service area has connected by fair weather road
	xii. Is the proposed site is being used by locals to access to other places or public resources such as forests, rivers, water sources, cultural and religious heritages/temples?	Yes		There are other existing water supply source and schemes in function with minimum yield and 3 community forests in the proposed site.
	xiii. Will the construction activities cause any damage to the existing local roads?		No	

SN.	Screening checklist	Yes	No	Comments Provide information/justification either for "Yes" or "No" if applicable
General				
1.	Does the Subproject contravene Nepal's obligations under its international agreements?		No	It follows strict World Bank ESSF, EPA 2019 and EPR 2020.
2.	Impacts on natural resources that constitute livelihoods of the community (e.g., water resources, drinking water supply system, forest resources, fishing, grazing, or hunting grounds)?		No	The forest resources will have minimum adverse impacts and will positively impact existing unmanaged and poorly served drinking water supply system will be augmented or improved.
3.	Are any of the following activities planned within the Project area? • Earthworks, • Excavations/topsoil removal, • Borrow areas, • Stockpiles, • Storage facilities (e.g. tanks,	Yes		The proposed project likely includes earthworks and quantity and extent of work could be scaled based on sub project DPR.

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	silos).			
4.	Will natural resources (e.g. timber; water, sand, quarries) within the sub-project area be used for construction activities in a significant quantity?		No	
5.	Is there potential for landslide and soil erosion impacts during construction or operation of the project?	Yes		There is no any possibility of land slide due to project activities but it may results soil erosion in very nominal scale.
	If yes, please provide the following information: History of natural calamities in or surrounding areas of the proposed site (Dates, level of impacts in terms of loss of lives and property and mitigation measures applied so far and their impacts)	Dipesh KC, Salyan in-charge of the Soil Conservation Office in Surkhet, said that landslides occurred in 90 places in Salyan last year due to soil erosion caused by haphazard construction of roads, and deforestation. As per the data available at the District Administration Office in Salyan, a person died, 96 houses were destroyed, 133 other houses were partially damaged while 604 people were displaced in the district last year. The Dang-Salyan-Surkhet and the Kapurkot-Phalawang roads under the Madan Bhandari Highway have been blocked frequently due to landslides triggered by continuous rainfall. (Source: https://kathmandupost.com/karnali-province/2024/08/22/landslides-block-dang-salyan-surkhet-and-kapurkot-phalawang-roads https://kathmandupost.com/karnali-province/2024/07/06/126-settlements-in-salyan-district-at-risk-of-landslides).		
6.	Changes in drainage patterns and resulting effects due to construction of project components and access roads?		No	

7.	Loss or destruction of unique or aesthetically valuable land or natural resources		No	It won't damage unique or aesthetically valuable land.
Labor and working conditions				
1.	How many workers are likely to be hired for the proposed works? How many workers are estimated to be women?	To be managed by contractor. The total of 1500 man-days will be expected to be required for the proposed WSP. Out of it, approximately 750 md will be of women.		
2.	Will the project draw on migrant workers?	Yes		The skilled manpower for pipe fittings, construction of RVTs, WTP will be hired from

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				outside.
3.	How many workers are estimated to be hired directly from the project area?	Nearly 80% of the total workers will be hired directly from the project area. It mainly constitutes of unskilled and semi-skilled manpower. The total of 1500 Md works will be done by the local workers.		
4.	Of the total workers, how many are estimated to be employed	Based on the total man days of work, it is estimated that approximately 18 workers (skilled, semi-skilled and unskilled) will be employed per day Skilled: 3 Semiskilled: 3 Unskilled: 12 Engineers: 1 Technician/overseer: 3 Security guards: 1 Others: 1		
5.	In terms of the categorization of the sub- project workers as the World Bank's ESF, how many of them will be	Direct workers: 80% Contracted workers: 20% Primary suppliers' workers: 0 Community workers: approx. 80%		
6.	Will there be a labor camp? Or any form of accommodation for workers	Yes, there will be labor camp to be managed/ constructed for the accommodation of workers.		
7.	If the sub-project is planning to manage/construct a labor camp, provide the information on	Probable location (s) of labor camp: Banskholra & Paiyakharka but the finalization of the labor camp site will be done after consultation with the local representatives and community people. Status of basic facilities (power, water etc.): available		
8.	Does the sub-project have policies and provisions in the project for all types of project workers?	Yes		The project will manage the labor camp for its workers with all the facilities like drinking water, toilets complying the standard of Nepal Government's Labor Act and ESMF of the Project.
9.	Does the sub-project plan to maintain and regularly update a labor registry throughout the project lifecycle?	Yes		The sub-project will maintain and regularly update a labor registry throughout the project lifecycle. The record of the workers like name, address, age, education level etc. will be maintained clearly.
10.	Is there a policy that ensures nondiscrimination in wages and other facilities?	Yes		Yes, there is a strict policy that ensures equal wages among the workers irrespective of gender, caste etc. for similar nature of work.
11.	Does the Project ensure that all persons working for the project are above minimum age as per national laws?	Yes		Child labour and bondage labour is strictly prohibited in all construction activities.

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12.	Does the Project ensure it will abide by the national standards working hour rules and overtime?	Yes		The project will strictly ensure it will abide by the national standards working hour rules and overtime rules.
13.	Does the sub-project have plans to provide orientation to migrant workers about national labor laws, local tradition, culture, costumes, norms, and values?	Yes		All the migrant workers in the labor camp will be oriented on national labor laws, local tradition, culture, customs, norms and values at the beginning of the construction work and in the middle of the project.
14.	Will heavy machinery (e.g. excavators, cranes, trucks, jack-hammers) be used for construction activities?		No	.
15.	Will the Project activities involve the handling of hazardous materials/contaminants?		No	
16.	Will the Project activities involve the handling of risky electrical equipment?		No	
17.	Is there any safety concern to women once the migrant workers arrive in sub-project site?	Yes		Adequate orientation to female workers will be done. Similarly, separate living space for female workers and female toilets in the labor camp will make available. Regarding the safety concern of community women from the migrant workers, the frequent to and free movement of the workers from the labor camp will be controlled.
18.	Does the sub-project plan to provide orientation to workers about the national laws and project policies on GBV & SEA/SH?	Yes		The sub-project will ensure such orientation programs to workers to be organized by PIU/MST and such activities will be included in mitigation matrix of ESMP.
19.	Does the sub-project plan to provide orientation to workers about the risks of communicable diseases such as STDs?	Yes		The subproject has planned for such orientation programs to workers. Such orientation programs will be organized at the beginning and middle of the project period.
20.	Does the sub-project plan to provide orientation to workers about COVID-19 related national and WHO protocols?	Yes		The sub-project has planned to provide orientation to workers about COVID-19 related national and WHO protocols

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21.	Is there any history of conflict between the migrant workers and the local in any infrastructure projects in the local area?		No	
22.	Is there any possibility of conflicts between migrant workers and the local community?	Yes		There might be very nominal possibility of conflicts between local and migrated people and to avoid it a set of norms and code of conduct will be introduced and enforced by contractor and monitored by the client/project.
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?		No	
2.	Will the sub-project generate substantial amount of wastewater (liquid waste) during construction and operation?		No	
3.	Will it create dust pollution around the sites?		No	
4.	Will be the subproject generate substantial amount of air emission during construction and operation?		No	
5.	Will the sub-project create noise/vibration beyond the level permitted by the law?		No	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.
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	

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7.	Will it temporarily stop or impact/pollute the water supply and sanitation system in and around the site?	Yes		During laying of new pipe existing pipeline may be disturbed and interruption might happen for few hours in day time
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		Waste minimization and waste segregation will be prioritized, Practices of composting will be promoted; 3R will be practiced. The waste labor camp which will be segregated at source in separate bins. The segregated waste will be transferred to the waste collection system of Municipality.
9.	Will any liquid waste, or an item containing liquids (including oils), need to be transported off-site for reuse, recycle or disposal of?	Yes		Oil spillage of vehicles will be managed by collecting on oil drums and disposing to safe site by Contractor.
10.	Will any explosive and hazardous chemicals be used within the project?		No	No such use of explosive and hazardous chemicals will be used within the project.
11.	Will building materials containing asbestos be removed/disposed of?		yes	During construction period buried old pipes could be exposed and it will be collected and reused or dumped safely as per the pipe condition.
12.	Will any building materials be removed/disposed of that are coated with lead-based paint?		No	Paints are not lead based nowadays.
13.	Will mercury-containing devices (switches, gauges, thermostats) be removed/disposed?		No	Will use electronic digital devices rather than mercury (paro) devices.
14.	Will any building materials be removed/disposed of that contain lead, silver or chrome?		No	
15.	Will the sub-project use batteries (lead- acid or nickel-cadmium) as its components?		No	The sub-project uses direct electricity from transformers of 11KV line and use of dry cells with minimum environmental hazards.
16.	If “Yes”, please briefly explain how the Project plans safe transportation, storage and use and disposal of hazardous materials.	Any hazardous materials will be disposed to safe place and stored by proper treatment following ESMP and World Bank Guidelines.		

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17.	Will sub-project activities involve GHG emissions?		No	
18.	If “Yes”, please provide description of the activities that will contribute to the GHG emission.			
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?		No	
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	
3.	Are there any potential impacts to public health and safety due to changes in the landscape for sub-project?		No	
4.	Are there any risks to community safety due to accidental and natural hazards during sub-project construction and operation?		No	Sub-project construction and operation will not affect the community but workers’ health & safety will be safeguarded on the work activities. Also ward level grievance sub-committee and monitoring committee will look after any unwanted accidents and natural hazards in co-ordination with the Municipality.
5.	Is there any possibility of traffic congestion or rise in road accident in the project area due to project activities?		No	Since the construction activities will go in rural setting so minimum traffic movement observed and any accidents will be taken care by traffic police.
6.	Is there any provision to control possible trespassing of non-project staff on the project site during construction and operation?	Yes		Use of time card system for visitors and provision of supervisors and security guard for surveillance. The construction site will be separated by the Chain linked fencing which will control the possible trespassing of non-project staff on the project site
7.	Does the sub-project plan to provide orientation to surrounding communities about the risks of communicable diseases and COVID-19?	Yes		The project plans to provide orientation on the risk of communicable diseases and COVID-19 to its construction workers and surrounding communities.

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Land Acquisition and involuntary resettlement				
1.	Will there be permanent land acquisition for the sub-project?	Yes		
2.	If “Yes”, please provide information about the types of land that will be acquired. Private land, Forest & Government/Public land	4 Community Forest land and public land in few locations will be used for the construction of RVTs, Dosing House and Intakes etc.		
3.	If the sub-project is planning to acquire private land, please provide information about the process of acquisition Voluntary donation, Involuntary acquisition Negotiation	The sub-project will not acquire any private land. The project use public and community forest land.		
4.	Will there be a temporary land acquisition for the sub-project?		No	
5.	If “Yes”, please provide information about the types of land that will be temporarily acquired.			
6.	Will there be a loss of productive land?		No	Most of the land used will be of community forests and public land and pipe transmission will not cause loss of productive land.
7.	Will there be any physical/economic displacement and impact on livelihoods?		No	The proposed site belongs to four community forests and there is no any claim of IPs on this land. Thus, there will be no any physical displacement of IPs.
8.	Is there any household that needs relocation?		No	

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9.	If there is any physical/economic displacement, please provide information on, How many people/families will be displaced? What will be the scale of economic displacement? What will be the scale of impact on livelihoods of impacted people/families? How the project does plans to help the impacted people/families restore their livelihoods?	No physical and economic displacement occurs.		
10.	Is there any impact on house or structures built on the land to be used for the project?		No	
11.	If yes, please provide details of such structures (floor area, height, materials used in floor, wall and roof).			
12.	Is there any possibility of complaints/lawsuits claiming that land acquisition didn't happen as per law of the country?		No	
13.	Apart from compensation, does the sub- project plans to provide additional supports to impacted person/family?		No	
14.	Will there be any adverse impact on non-titleholders including loss of shelter and livelihood?		No	
15.	Will land acquisition result in loss of income loss of access to common property resources?		No	
Biodiversity Conservation and Sustainable Management of Living Natural Resources				
1.	Is the Subproject going to encroach into national parks of protected area, including their buffer zone?		No	
2.	Is the Subproject going to convert or degrade critical natural habitats?		No	

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3.	Will there be forest loss in terms of area (if yes, type of forest: National Forest, Community Forest, and Private Forest etc.?) Will it lead to loss of forest species (provide details of the loss of listed species according to national and international – specifically IUCN - classifications), if known at the time of screening?	No		Pipe line digging will not produce significant adverse impact.
4.	Will there be a need to remove trees to clear project sites? If “Yes”, please provide brief information, including species and numbers to the extent possible at the time of screening.	Yes		The site traverses four community forests and largely consists of open, flat land with no vegetation loss, although minor bush clearance may be needed in certain sections.
5.	Is the loss of Non-Timber Forest Products (NTFP) possible? If so, provide the details if known at the time of screening.		No	
6.	Is there presence of wildlife around the sub project area?	Yes		Mentioned below.
7.	If yes, provide information of the type of wildlife, if known at the time of screening? (Provide details of listed wild life and avi-faunal species according to national and international – specifically IUCN - classifications, if known at the time of screening).	Yes		Presence of variety of birds such as doves, crow, Koili, Maina, sparrow, parrot, <i>Hodgson's Redstart</i> , etc. Rabbit (<i>Oryctolagus cuniculus</i>), Jackal (<i>Canis aureus</i>), Jungle Cat (<i>Felis bengalensis</i>), Bandar/Monkey(<i>Macaca mulata</i>), Nyauri/Mongoose(<i>Herpestes fuscus</i>), etc.
8.	Will there be any barrier to migratory birds or land animals by the construction of this project?		No	Transmission pipe will run through the ground with minimum impact on birds and land animals' habitat.
9.	Will the sub-project affect the aquatic fauna of river system and/or springs?		No	
10.	If yes, provide the details of the river/spring and existing fauna, if known at the time of screening?		No	

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11.	Will the subproject involve draining or conversion of any wetland?		No	
12.	Other potential biodiversity impacts (specify)?		No	
Indigenous and vulnerable People				
1.	Are there any indigenous people among the identified project-affected people?		No	
2.	If “Yes”, please mention the type of project-related impact to the indigenous people.	As mentioned above project is going to provide water accessibility to the indigenous and poor people with employment opportunities and transfer of technology.		
3.	Are indigenous people losing their land? If “Yes”, please mention how many households.		No	
4.	Are indigenous people being displaced? If “Yes”, please mention how many households.		No	
5.	Are any cultural heritages belonging to the indigenous communities being impacted by the project? If “Yes”, please provide brief information about such impacts.		No	
6.	Is there a need of a FPIC (Free, prior and informed consent)?		No	
7.	Are there any vulnerable people, such as Dalits, religious minorities, landless, people with disabilities/chronic disease, women-headed households and elderly households among project-affected people? If “Yes”, please mention how many such households are among the project-affected people.		No	There are few Dalit HHs in Jalukebari of WN 9.
8.	Are any vulnerable people losing their land?		No	
9.	Are any vulnerable people being physically displacement?		No	
Cultural Heritage				

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1.	Does the proposed site or surrounding area host any cultural and religious heritages/temples/structures?	No		
2.	Will the sub-project cause encroachment on historical/cultural/religious areas?	No		
3.	Will there be any adverse impacts on cultural heritage due to sub-project activities?	No		
4.	If “Yes”, please explain briefly			
5.	Does the proposed site or surrounding area host any cultural or religious event/ gathering?	No		
6.	If “Yes”, please provide a brief description of the event	NA		
7.	Does the proposed site provide access to any cultural/ religious heritages or temples or sites?	No		
Stakeholder Engagement				
8.	Have the stakeholders of the sub-project been identified?	Yes		Existing WSS committees, Ward representatives, local community people etc.
9.	If “Yes”, please name them along with their level of influence and interest in the sub-project	Ward chairperson and ward members are very positive and their role found supportive.		
10.	Have the stakeholders been categorized in terms of gender, age, and ethnicity?	Yes, detail social survey of each ward settlements have been taken.		
11.	Major issues raised by the stakeholders during the initial consultation?	No any issue noticed		
12.	What are the main sources of information for the stakeholders? [Hint: radio, TV, newspapers]	In person meeting with local people and representatives, Mobile and internet, radio, television and others.		
13.	Is there social institution/practice for community consultation on common issues in the area?	Yes		There is practice for community consultation on common issues in the area through ward level meeting by formation of Grievance and Monitoring Unit.
14.	Is there any social/religious/cultural institution or practices for local dispute settlements?	Yes		There is coordination between ward and the municipality at the local level to resolve local dispute and other community organization such as Mother’s group.

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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/	Dalit Development Society is a NGO working in project area		
Contextual risk				
SN	Screening checklist	Yes	No	Comments Provide information/justification either for “Yes” or “No” if applicable
1.	Is there any history of community conflict in the sub-project area?		No	
2.	Is there any history of protests against infrastructure projects in the area?		No	The sub-project has taken permission from required ward offices & CFUG involved in the sub-project for the infrastructure’s construction.
3.	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]	Most of the crimes committed are of drug smuggling and sexual molestation according to Municipality source.		
4.	Which political parties won the last local election? [Municipal and the ward of the project site]			Nepali Congress Party won the last local election. Ward has mix chairperson from NC, United Socialist, Nepal Maoist Party and UML.
5.	Which political parties won the last parliamentary election from the constituency of the project site?			United Socialist Party.
6.	What are the major economic activities in the municipality? [Hint: Occupation, local exports, etc.]	Yes		Livestock (Goat and Poultry rearing) Agriculture (Paddy, Wheat, Maize, ginger, Orange, Nepali pepper livestock, vegetables), Salyani Khukuri, Business, Service, seasonal migration for employment, Foreign Employment and labor work locally.
7.	Please name the major industries/institutions located in the municipality.	Khukuri Manufacturing Industry, Agri product processing mills, hotels, tea shops, restaurants, Municipality Office, District Hospital, Pharmacy, Schools & colleges, DAO, Survey Office, Nepal Telecom, Forest and Agriculture Office, Nepal Red Cross and other NGOs as well as cooperatives of different kinds.		

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8.	Which are the major market centers in the sub-project area and how far are they?	Yes		Khalanga Bazar in WN 2 and Shreenagar Bazaar in WN 1 are the major market centers near from the sub-project area. The market area is around 12-15 km far from the service area
9.	Is there a board community support for the sub-project? [Hint: Community perception based on stakeholder consultation]		No	
10.	Is there support from the local municipality for the project?	Yes		As per the project norms, Office of the municipality will provide matching fund for the sub project.

Checklist for ESS7 and particularly to FPIC

Sharada Municipality

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			Very few people live in the service area of the WSP (77 population out of total 1540)
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			There is no case of such displacement of the indigenous people by the project. Since, the project structures and footprints lie in the community forests and public 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		No	No Impact			The project will not cause any full or partial economic displacement of IPs since the pipe-laying works will not affect community people's access to the forest. Proposed interventions will not result in loss of assets or access restriction to

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displaced or not) displacement of IPs?						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			The project will not have any impact on land/restriction access to land subject to traditional use or under customary use or occupation.
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)?		No	No Impact			The project does not affect natural resources: timber and non-timber forest products, other forest products, medicinal plants, grazing or pasture lands/forest/cropped areas as the project is located outside the lands and areas inhabited by the IPs but in community forests owned by them.
Will the project lead to the utilization or		No	No			

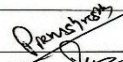
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commercial development of natural resources on lands and territories claimed by IPs?			Impact			
Will the project have significant impact on tangible cultural heritage that is material to the identity and/or cultural, ceremonial, or spiritual aspects 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>		No	No Impact			The project will not have any negative impact on cultural heritage of burial sites/religious places/stupas/pilgrimage s/places of worship.
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</i>		No	No Impact			

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associated instruments, objects, artifacts, cultural spaces that IP communities recognize as part of their heritage like traditional handicrafts such as Bamboo weaving, oral traditions, performing arts and so on)						
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Thulapatal Nipane WSP E&S Screening Team

S.N.	Name	Designation	Phone Number	Signature
1.	Prem Krishna Shrestha	Deputy Team Leader	9851101869	
2.	Mukunda Raj Aryal	Social Development Specialist	9841444933	
3.	Ramchandra Nepal	Environment Management Specialist	9849060597	
4.	Subash Baral	Design Engineer	9843064852	

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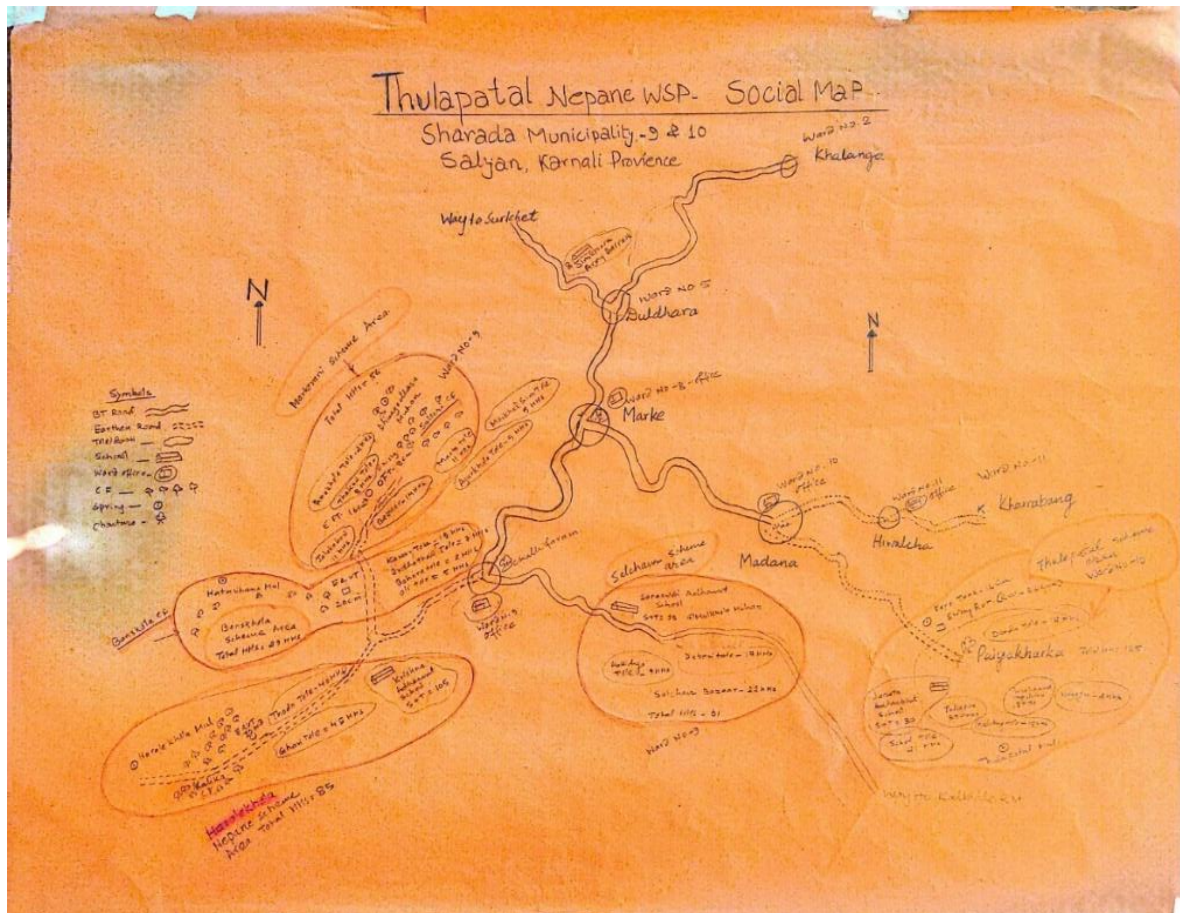
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Annex II: Summary of Consultation Meetings/Recommendation Letters

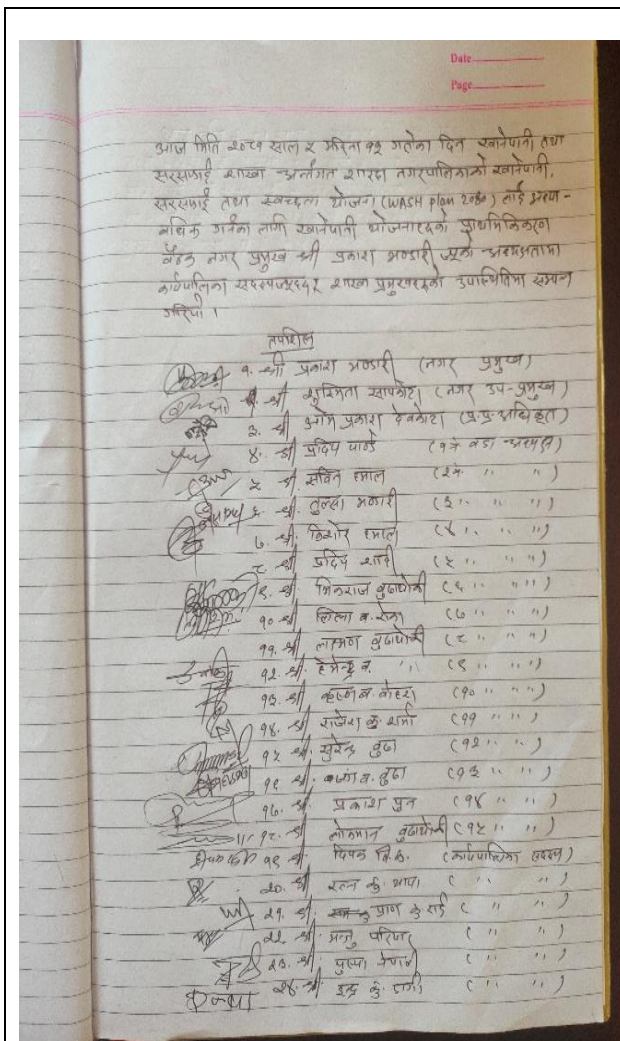
SN	Date	Type of Meeting	Venue	No of Participants	Discussion Topic
1	2080/12/13	Consultation/Validation for WASH data	Ward No 9	28	WASH Data presentation, Validation and Planning
2	2080/12/6	Consultation/Validation for WASH data	Ward No 10	32	WASH Data presentation, Validation and Planning
3	2080/10/4	Awareness on WaSGIPSP Activity	Challi Faram, ward No-9	35	Overview of WaSGISP, stakeholders and modality, Existing WASH facilities
4	2081/12/27	Awareness on WaSGIPSP Activity	Baagchaur ward No-9	48	Overview of WaSGISP, stakeholders and modality, Existing
5	2082/2/28	FGD with Dalit People and Women	Jalukebari, Ward No-9	10	WASH status, Existing Water Services
6	2080/9/2	Joint Meeting (PD, PIU Chief, MST, WASH Unit	MST office, Khalanga	11	Project Planning & Existing Scenario of the municipality
7	2082/2/13	Environmental & Social Screening Meeting	Ward No -9	20	Likely Environmental and Social Impacts by the proposed Project
8	2082/2/9	Environmental & Social Screening Meeting	Ward No - 10	24	Likely Environmental and Social Impacts by the proposed Project

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Annex III: Social Map of Thulapatal Nipane WSP, Sharada MUN 9 & 10



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Annex IV: Municipal Council Meeting Minute



Priotization Workshop minute-WASH Plan

प्रीतिष्ठ व
प्राथमिकता अनुक्रम आयोजनाका सूचि

Water Supply System

• Existing WSS

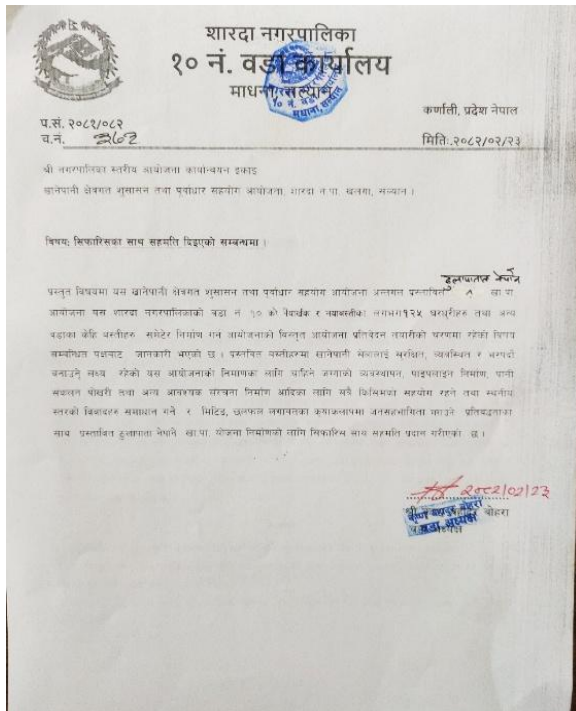
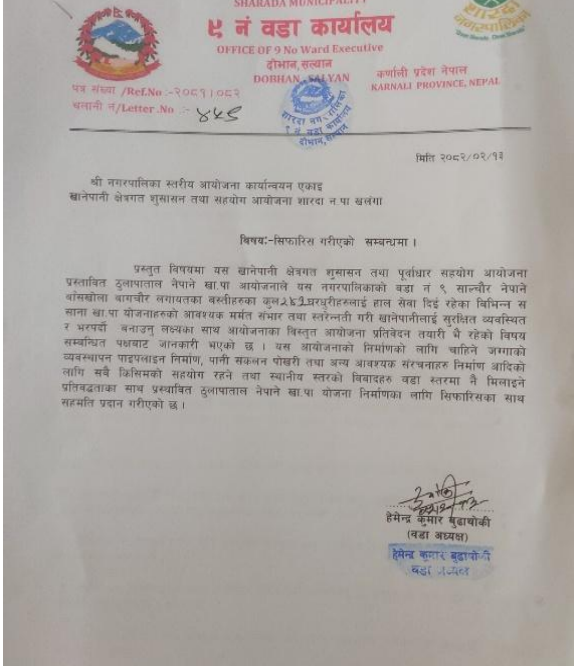
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२	२०१००००१	खानेपानी तथा सरसफाई उ.म. निम्न त. २ प्रीतिष्ठ व	उच्च
३	२०१००००२	खानेपानी तथा सरसफाई उ.म. निम्न त. ३ प्रीतिष्ठ व	उच्च
४	२०१००००३	खानेपानी तथा सरसफाई उ.म. निम्न त. ४ प्रीतिष्ठ व	उच्च
५	२०१००००४	खानेपानी तथा सरसफाई उ.म. निम्न त. ५ प्रीतिष्ठ व	उच्च
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७	२०१००००६	खानेपानी तथा सरसफाई उ.म. निम्न त. ७ प्रीतिष्ठ व	उच्च
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Priotization Workshop minute- WASH Plan

Annex V: Joint Meeting PMU, PIU, WB, WASH Unit, MST in MST office Khalanaga

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ESMP Report of Thulapatal Nipane
Water Supply Project
Annex VI: Recommendation & Consensus Letters from ward office

 शारदा नगरपालिका १० नं. वडा कार्यालय माधनगंगा नदी कर्णाली, प्रदेश नेपाल प.सं. २०८१/०८२ च.नं. २३८२ मिति: २०८१/०२/२३ श्री नगरपालिका स्तरीय आयोजना कार्यान्वयन एकाइ खानेपानी क्षेत्रगत शुभामन तथा पुर्वाधार सहयोग आयोजना, शारदा न.पा. खलगा, सल्यान। विषय: सिफारिसका साथ सहमति दिइएको सम्बन्धमा। हुलपताल नेपान प्रस्तुत विषयमा यस खानेपानी क्षेत्रगत शुभामन तथा पुर्वाधार सहयोग आयोजना अन्तर्गत हुलपताल न.पा. १० को क्षेत्रमा १२५ घनमीटरको तलाश तथा अन्य योजनाहरूको आवश्यकताको बारेमा जानकारी गराइएको छ। प्रस्तावित योजनाहरूको बारेमा जानकारी गराइएको छ। प्रस्तावित योजनाहरूको बारेमा जानकारी गराइएको छ। प्रस्तावित योजनाहरूको बारेमा जानकारी गराइएको छ। २०८१/०२/२३ श्री नगरपालिका	 शारदा नगरपालिका SHARADA MUNICIPALITY ९ नं वडा कार्यालय OFFICE OF 9 No Ward Executive दोभान, सल्यान कर्णाली प्रदेश नेपाल KARNALI PROVINCE, NEPAL पत्र संख्या /Ref.No.: २०८१/०८२ धन्यावी त/Letter No.: ४५५ मिति: २०८१/०२/१३ श्री नगरपालिका स्तरीय आयोजना कार्यान्वयन एकाइ खानेपानी क्षेत्रगत शुभामन तथा सहयोग आयोजना शारदा न.पा. खलगा विषय: सिफारिस गरीएको सम्बन्धमा। प्रस्तुत विषयमा यस खानेपानी क्षेत्रगत शुभामन तथा पुर्वाधार सहयोग आयोजना अन्तर्गत हुलपताल न.पा. ९ को क्षेत्रमा १२५ घनमीटरको तलाश तथा अन्य योजनाहरूको आवश्यकताको बारेमा जानकारी गराइएको छ। प्रस्तावित योजनाहरूको बारेमा जानकारी गराइएको छ। प्रस्तावित योजनाहरूको बारेमा जानकारी गराइएको छ। प्रस्तावित योजनाहरूको बारेमा जानकारी गराइएको छ। २०८१/०२/१३ श्री नगरपालिका
Recommendation for DPR of Thulapatal Nepane WSP-Ward No-10	Recommendation for DPR of Thulapatal Nepane WSP-Ward No-9

A. E & S Recommendation of wards

[illegible][illegible]

Recommendation on E & S Screening of Thulapatal
Nepane WSP/Ward No-10/pg-2



सुदूर पश्चिम प्रदेश
OFFICE OF The World Executive
दोभान नवल
DOBHAN, NEPAL

कर्णाली प्रदेश न्यायालय
KARNALI PROVINCE, NEPAL

पत्र संख्या /Ref.No - २०६९/१०६२

चलानी नं/Letter.No - ४४८

मिति २०६२/०२/१९

श्री नगरपालिका स्तरीय आयोजना कार्यान्वयन एकाई
 खानेपानी क्षेत्रगत शुमान तथा सहयोग आयोजना शारदा नपा खलगा

विषय: बातावरणीय तथा सामाजिक जाँच (स्क्रीनिंग) सम्बन्धमा ।

प्रस्तुत विषयमा यस खानेपानी क्षेत्रगत शुमान तथा पूर्वाधार सहयोग आयोजना अन्तर्गत प्रस्तावित बापा आोजनाले यस नगरपालिकाको वडा नं.९ को सान्थौरी, नेपाल, तामझोला बागकोर स्तरीयहरूका सँग धरपुरीहरमाई सेवा पूर्वायोजना गरी विस्तृत आयोजना प्रतिवेदन तथापि भै रहेको विषय सम्बन्धित पत्रबाट जानकारी भएको छ। यस आयोजनाको निर्माणबाट बातावरण तथा समाजमा के कस्तो र कुन हद सम्मको सहकारणक तथा नकारात्मक अवसर पला भनि स्थानिय उपमोहकहरू सामुदायिक सत समितिका पदाधिकारीहरू, स्थानिय संघ स्याहार संगै राधा हुँकियो। यसै गरी शारदा नगरपालिका प्राधिकरहरू तथा नपा सहयोग टिम (MST) का सम्बन्धित विमहरको स्वतन्त्र समता तथा अवलोकनको निष्काउत तथा राध आदिको आधारमा बातावरणीय तथा सामाजिक प्रभाव सम्बन्धि निम्न बर्णोहितको अवस्था रहेका विषय सम्बन्धित सदै पसको जानकारीका लागि अनुग्री छ।

१. योजनाको निर्माणका लागि उपयोग गरिने सबै मुलहकमा कुनै पनि विषयमको विवाद नरहेको
२. योजनाको लागि निर्माण गरिने इन्टेक, पापी सक्कन प्याम्पर, पापी भण्डारण पोखरीहरू, पापी जलशय संरचनाहरू निर्माण गर्न सार्वजनिक जग्गा उपरचरित रहेको।
३. योजनाको निर्माणको लागि कुनै प्रकारको संरक्षित क्षेत्र, राष्ट्रिय निकुञ्ज जस्ता संरक्षितताल क्षेत्रहरू भित्र प्रवेश गर्न नपर्ने।
४. आयोजना निर्माणको क्रममा कुनैपनि किसिमको वनजन्तु। चरापुइडी तथा जलचर आदिको क्षामस्थानमा गतिरुन अवर पार्ने।
५. यस आयोजनाको सेवा क्षेत्रमा प्रत्यसब्बक आदिवासी जनजाती, सोमाथम जनजाती आदिको वमोलाउन नपस्को।

शारदा नगरपालिका
SHARADA MUNICIPALITY

५ नं वडा कार्यालय
OFFICE OF 5 No Ward Executive



दुर्भाज कल्याण
DOORBAJ KALYAN
कर्णाली प्रदेश नेपाल
KARNALI PROVINCE, NEPAL



पत्र संख्या /Ref.No :- २०८१/०६२

कानूनी ब/ Letter No :- ४८८

६. आयोजना निर्माणको क्रममा कुनैपनि जातजातीको दाहसङ्कर गर्ने स्थान , मठ, मन्दिर , गम्बा,
मौजेबस् तथा चर्च जतिमा प्रतिकूल असर पर्ने ।

७. आयोजना निर्माण तथा संचालनको लागि कोही कसै व्याक्ति तथा संस्थाको निजि जग्गा अधिग्रहण
गर्ने नपर्ने अवधिभित्रक तथा स्वीच्छक पुतरवानको व्यवसा गर्न नपर्ने ।

८. यस आयोजनाको कारणले यस क्षेत्रमा काम गर्ने मजदुर तथा श्रमिकहरूको रोजगारीमा बाँड हुने तर
कुनै पनि किसिमको नकारात्मक असर पर्ने ।

९. आयोजना निर्माणको कारणले कुनै पनि किसिमको जलावन बनाउन पर्ने तथा भय तथा पहिरोको
खोषिम आदि नहुने ।

यो योजनाको कार्यान्वयनको चरणमा सामान्य तथा न्यून किसिमको भूध्न हुन समेत तथा केही स -साना
रुख विनाश कटान हुनसक्ने सम्भावना भएकोले यस प्रकारको प्रभावको गोमिमतत्वको पहिचान गरी
वातावरणीय तथा सामाजिक व्यवस्थापन योजना र अन्य आवश्यक योजना तयारी गरी कार्यन्वयन
गर्ने सम्वन्धित सबै पक्षलाई अनुरोध छ ।


हिमेन कुमार बन्धीको
वि.स.स.स.का.प्र.का.प्र.
 महा.प्र.स.स.

Recommendation on E & S Screening of Thulapatal
Nipane WSP/Ward No-9/pg-1

*ESMP Report of Thulapatal Nipane
Water Supply Project*

Annex VII: Social and Environmental Screening Minutes

[illegible]

१०	पर्वती, खोला	कार्गती
१८	डिप्ली सुलाको	डिप्ली
१९	देवी, सुलाको	देवी
२०		
२१	जय शंकर मा	MS, DTL 9841360343
२२	मुकुन्द (ज) देवी	MS, SDS 9841444933
२३	अर्जुन सुलाको	MS, EMS 9849482169
२४	जङ्गी जेता - द्वाचिब	खानेपानी 8565365662

सुलाकोको विवरणहरू

१ प्रस्तावित सुलाकोको जेता खानेपानी योजनाको निर्माणबाट हुने सक्ने तत्कालीन प्रभाव सम्बन्धमा

२ प्रस्तावित सुलाकोको जेता खानेपानी योजनाको निर्माणबाट हुने सक्ने सामाजिक तथा सांस्कृतिक प्रभाव सम्बन्धमा।

३ प्रस्तावित सुलाकोको जेता खानेपानी योजनाको निर्माणबाट हुने सक्ने वातावरणीय प्रभाव र सम्बन्धित।

- यस खानेपानी योजनाको निर्माण गर्दा कुनै प्रकारको ग्रीडवर्क, मरिजिन क्षेत्र, बचनको आवश्यकता नहुने।
- यस खानेपानी योजनाको निर्माण तथा सञ्चालनको कारणले कुनै पनि विवादको सम्बन्धमा नहुने।
- प्रस्तावित खानेपानी योजनाको निर्माण तथा सञ्चालनको कारणले कुनै पनि विवादको सम्बन्धमा नहुने।






Environmental & Social Screening Meeting ward No-
10/pg-1

[illegible]

Environmental & Social Screening Meeting ward No-
10/pg-3

Environmental & Social Screening Meeting ward No-
10/pg-2

*ESMP Report of Thulapatal Nipane
Water Supply Project*

बातावरणीय तथा समाजिक स्वीतिग सम्बन्ध बैठक

आज मिति २०७८/०१/१२ का दिन यस शाखा नगरपालिका वडा नं ८ का अध्यक्ष श्री हेमन्त कुमारी राई वडा वी अध्यक्षतामा सहितको बैठक सम्पन्न भयो। बैठकमा वासुदेव शर्मा (वासुदेव) शाखा अध्यक्षको अध्यक्षतामा बैठक सम्पन्न भयो। बैठकमा वासुदेव शर्मा (वासुदेव) शाखा अध्यक्षको अध्यक्षतामा बैठक सम्पन्न भयो। बैठकमा वासुदेव शर्मा (वासुदेव) शाखा अध्यक्षको अध्यक्षतामा बैठक सम्पन्न भयो।

बैठकमा सहभागि हुनेहरूको उपस्थिति तथा हस्ताक्षर यस प्रकार छ।

क्र.सं.	नाम तथा पद	पद	फोटो नं.	हस्ताक्षर
१	श्री हेमन्त कुमारी राई	अध्यक्ष		
२	श्री शशिधर बुढाथोडी			
३	श्री गिरीधर बुढाथोडी			
४	श्री लता बुढाथोडी			
५	श्री डिल्लीमान बुढाथोडी			
६	श्री लता बुढाथोडी			
७	श्री लता बुढाथोडी			
८	श्री लता बुढाथोडी			
९	श्री लता बुढाथोडी			
१०	श्री लता बुढाथोडी			
११	श्री लता बुढाथोडी			
१२	श्री लता बुढाथोडी			
१३	श्री लता बुढाथोडी			
१४	श्री लता बुढाथोडी			
१५	श्री लता बुढाथोडी			
१६	श्री लता बुढाथोडी			
१७	श्री लता बुढाथोडी			
१८	श्री लता बुढाथोडी			
१९	श्री लता बुढाथोडी			
२०	श्री लता बुढाथोडी			
२१	श्री लता बुढाथोडी			
२२	श्री लता बुढाथोडी			

Environmental & Social Screening Meeting ward No-
9/pg-1/Salchaur

9. राजाजना निमाणाका लीगम उपरांत लीगम फाटीका सवे मावजमा कने पाने क्रिमिकका पकाड लवका ।
 2. राजाजना लीगम निमाणा सोनेन हुटके वाती सकलन पकाडकर फाती मावजमा पोखरिपर फाती उपरांत सवपावड
 निमाणा तान मावजनीन जगमा उपलब्ध लवका ।
 2. राजाजना निमाणाका लीगम कने पकाडका मारीलन लव सोपुटप निमाणा जगमा मवडलनीन लवकर निम पकाड लान
 पावने ।
 8. राजाजना निमाणाका कयमा कौपाने क्रिमिकका वनजल्लु, पंगपुच्छी तथा लवकर ब्रिटिक कायमालमा फुलकने
 उमर लवने ।
 2. यम राजाजनाका मका श्रवमा कयमालनक ब्रिटिकमा जनजाती लोपासुन जनजाती ब्रिटिक बमालमा लवका ।
 8. राजाजना निमाणाका कयमा कौपाने जानजातीका शासक्यार तने स्थान मड मीनर मयका मीनर लव लव
 ब्रिटिक फुलकन उमर लवने ।
 6. राजाजना निमाणा लवमा मवचालनका लीगम कडी कने आत्म तथा मवका निम जगमा सोपुटप लव लव
 कडीपुछ तथा मीपुछ पनरायकाका व्यवस्था लव लवने ।
 8. यम राजाजनाका कोणाले यम श्रवमा काम तने मजड तथा धीमकरका मेजपारिमा बंदि हुने तर कने पाने
 क्रिमिकका लकरालनक उमर लवने ।
 8. राजाजना निमाणाका निमाणाका कोणाले कने पाने क्रिमिकका लवामप वनाउन लवने तथा मरील तथा पोरकका
 सोमम ब्रिट नवने ।
 90. राजाजना कोशियनका कयमा सामान्य तथा लुन क्रिमिकमा मरील हुन सके तथा तथा कडी म साना मरि लवका
 कडाने हुन सकेन मयकाका माकायले यम पोरका पनाकर गोमियालाका पोथ्यान मरी वानावगीय तथा सामान्य
 पनरायने पाने 2 यम श्रवकर राजना लगर मरी कायलनन तन मयोजन सवे पनराय पनराय 8 ।
 लीगमी मरीला कयली खली डोकी
 10/10/19

Environmental & Social Screening Meeting ward No-
9/pg-2/ Salchaur

[illegible]

Environmental & Social Screening Meeting ward No-9/pg-1/Baghchaur,Banskhola & Nepane

[illegible]

Environmental & Social Screening Meeting ward No-9/pg-2/Baghchaur,Banskhola & Nepane

*ESMP Report of Thulapatal Nipane
Water Supply Project*

[illegible]

Focus Group Discussion with Dalit People in Jalukebari ward No-9.

[illegible]

WSUC Meeting of Markerani WSP-Baghchaur /ward
No-9/pg-1

[illegible]

WSUC Meeting of Nepane WSP-Nepane /ward No-9/pg-1

[illegible]

WSUC Meeting of Markerani WSP-Baghchaur /ward
No-9/pg-2

*ESMP Report of Thulapatal Nipane
Water Supply Project*

[illegible]

WSUC Meeting of Nepane WSP-Nepane /ward No-9/pg-
2

[illegible]

WSUC Meeting of Nepane WSP-Nepane /ward No-
9/pg-3

34 राज निर्णय 2000-2001 का दिन मध्य रात्रि के बाद रात 12 का
 आरंभ करी 'हेमन्त कुमार शुक्ला' को अग्रस्थान पर खींचा
 और अग्रस्थान पर खींचा गया। अग्रस्थान पर खींचा गया।
 लिम (M.S.T) का प्रयोग किया गया। अग्रस्थान पर खींचा गया।
 मध्य रात्रि के बाद रात 12 का आरंभ करी 'हेमन्त कुमार शुक्ला' को
 अग्रस्थान पर खींचा गया। अग्रस्थान पर खींचा गया।
 अग्रस्थान पर खींचा गया। अग्रस्थान पर खींचा गया।

Consultation meeting with ward representatives and tiny
wsps of ward no -9/pg-1

[illegible]

Consultation meeting with ward representatives and tiny
wsps of ward no -9/pg-2

*ESMP Report of Thulapatal Nipane
Water Supply Project*

पाकिता स्त्रीचित्र खा.पा.स.तथा स्वच्छता योजना तयारीसाठी लागू तथ्यांक प्रमाणीकरण गोष्टी
बदा नं. ०६

आज, मासि २०२०/१२/१३ का दिन यम शास्त्रा नगरपालिका बदा नं ०६ का अध्यक्ष श्री. हीमद कुमार बुढाथोकी ज्यू को अध्यक्षतामा यम बदा भित्र संचालित खा.पा. योजनाहरू, निर्माणविध योजनाहरू, प्रस्तावित योजनाहरू तथा विचारण तथा स्वास्थ्य संस्थांना उपनयन खा.पा.स.तथा स्वच्छता सेवा समन्वित तथ्यांकहरू प्रमाणीकरण गर्ने तल उपस्थित विविध संस्थाका प्रतिनिधिहरूको उपस्थितिमा १ दिने गोष्टी आयोजना गरि उल्लेखित विषयमा छलफल गरी तथ्यांकहरू प्रमाणीकरण गरियो।

उपस्थिति तथा हस्ताक्षर

क्र.सं	नाम तथा संस्था	पद	फोन नं	हस्ताक्षर
१	बडा अध्यक्ष श्री. हीमद कुमार बुढाथोकी	अध्यक्ष	९८६३११८२४४	हिमद
२	बडा सदस्य श्री. दानी कुमारी वोहरा	सदस्य	९८६४२६७२८८	दानी
३	बडा सदस्य श्री. जेष्ठार बुढा	सदस्य	९८४०६७७०९६६	जेष्ठार
४	बडा सदस्य श्री.			
५	श्री. ज्ञान बहादुर शाह	शिक्षक	९८६६२३४६७७	ज्ञान
६	श्री. रविना श्रेष्ठ	सहकर्मि (बि.स.स.स.)	९८६४८९०३०४	रविना
७	श्री. गोपाल सिंह वोहरा	सी.एम.सी.सी.	९८६४८६०४३	गोपाल
८	श्री. जिना रेडुल	सुनिबन्धक (स.स.)	९८७४२९६०४४	जिना
९	श्री. चम्पा रेडुल	सुनिबन्धक (स.स.)	९८६६८७९७३७	चम्पा
१०	श्री. दान बहादुर राणा	सदस्य (स.स.)	९८६९३९३४४	दान
११	श्री. नन्द लाल पुनःधारी	सहसंयोजक (स.स.स.स.)	९८४२४९७१३३	नन्द
१२	श्री. रेवती थापा	सहसंयोजक (स.स.स.स.)	९८०९७१२०३८	रेवती
१३	श्री. सुरे सिंह बि.क.	सहसंयोजक (स.स.स.स.)	९८२२९८७०८०	सुरे
१४	श्री. भिषा बहादुर खेर	सहसंयोजक (स.स.स.स.)	९८७६८३७०८६४	भिषा
१५	श्री. युद्ध बहादुर शर्मा			युद्ध
१६	श्री. पौडरज केसर			पौडरज
१७	रमेश बहादुर बि.क.			रमेश
१८	सुरेश कुमार राता	सहसंयोजक (स.स.स.स.)	९८६६२३३०४४	सुरेश
१९	केनका बुढा			केनका
२०	रिष्म देव काल	सहसंयोजक (स.स.स.स.)	९८४८४२०९३९	रिष्म
२१	केशी देव बुढा	सहसंयोजक (स.स.स.स.)	९८४८४२०९३९	केशी
२२	सुकल एम. अग्रवाल	सहसंयोजक (स.स.स.स.)	९८४८४२०९३९	सुकल
२३	जुन			जुन
२४	कुमारी चनन	सहसंयोजक (स.स.स.स.)	९८४८४२०९३९	कुमारी
२५	विमला कुमारी कौन			विमला
२६	पुष्पा देवी चनन			पुष्पा
२७	प्रमिता देवी			प्रमिता
२८	मेलिना कन			मेलिना

ID NO.	Name of the WSP	Served HHs	Population	M.Yield/L PS	Cons Yr	No of RVT	Taps	Source	Est. Year	Remarks
60907093	Salchaur	65	390	2.8	2062	3	79	Mulkhola	Yes	मेरी
60907094	Gogapani Naukbase	50	300	0.26	2039	1	8	Gogapani	Yes	मेरी
60907099	Marke Rani Scheme-3	95	546	0.18	2064	1	11	Marke Rani kholi	Yes	मेरी
60907100	Marke Rani Scheme-4	53	318	0.13	2064	1	60	Phunge dhara	Yes	मेरी
60907102	Nepane	105	604	1.8	2062	1	14	Hrale khola	Yes	मेरी
60907103	Banskhola	46	246	0.54	2062	1	74	Madribas	Yes	मेरी
60907122	Bhadyangkhol a(Tallo Slure)	8	48	0.13	2072	1	2	Bhadyangk hola	Yes	मेरी
60907123	Sunchaur Basg hari	71	356	0.13	2062	1	1	Salluri Hansthalu	Yes	मेरी
60907124	Dhanchare	14	84	0.18	2057	1	1	Budgare	Yes	मेरी
60907125	M.Ma.Bi sunchaur		150	0.2	2072	1	4	Tallo Bas ghari	Yes	मेरी
60907176	Naya Basti Sanigare Lift	60	278	0.7	2080	4	60	Harle khola	Yes	मेरी

WASH Data Validation Workshop Ward No 9/pg-1

WASH Data Validation Workshop Ward No 9/pg-2

Name of the School	Level	Number of Students		Teacher s and Staffs	Number of Toilets		Water Facility		MHM Facility	
		Boys	Girls		Boys	Girls	Limited	Sufficient	Yes	No
गुरुदेवी का वि. कला आदि.	90	80	90	90	7	7				
हिमालय प्रवि गुरुदेवी	C	60	60	90	-	-	✓		-	✓
सरस्वती प्रतिष्ठानिका	X	20	25	2	-	-	✓		-	✓
बेनास प्रा वि समीक्षा	X	90	90	8	7	7	✓		-	✓
मुक्तिदाता प्रा वि नौका	B	99	99	9	7	7	✓		-	✓
माधवा प्रा वि बंगल	B	22	2X	3			✓			✓
जिंद गैर बो ह्वन	B	25	25	8			✓			✓

हरे विद्यालयों और मठों की संख्या

Name of the Health Facility	Location	Number of Patient s/Day	Toilet		Water Supply Facility			Inciner ator	Remarks
			M	F	Sufficient	Not Sufficient	No Facility		
आधारभूत स्वास्थ्य केंद्र, सुल्तान पुराणा	सोमान	c-90	-	-	—	●	✓	X	उत्तर प्रदेश सरकार

कुल १०५५ कुं घर

नगरपालिका

[illegible]

WASH Data Validation Workshop Ward No 9/pg-3

WASH Data Validation Workshop Ward No10/pg-1

**ESMP Report of Thulapatal Nipane
Water Supply Project
Annex VIII: Water Quality Test Report of proposed Water Sources**

WATER QUALITY TEST REPORT

Government of Nepal
Ministry of Water Supply
Department of Water Supply and Sewerage Management
Water Quality Testing Laboratory
Birendranagar, Birtukhet

Tel: +977-983-521048
E-mail: wqtlab@wssm.gov.np

Name of Client: Aarvee FBC Paragon JV, Belyan Date of Collection: 2082/03/18
Sampled By: client Date of Analysis: 2082/03/18
Source of Sample: Thulapatal Nipane WSP, Sharda Municipality Date of Completion: 2082/03/20
Sampling point: Mulkhola Mahan
Location: Setahaur ward no-9

S.N.	Category	Parameters	Observed values	NDWQS, 2079 B.S.	Method used
1	Physical	Turbidity (NTU)	0.00	5	2150 B, APHA, 21st EDITION
2		Temperature (°C)	28.8	-	2550 B, APHA, 21st EDITION
3		pH	7.8	6.5-8.5*	4500-H, B, APHA, 21st EDITION
4		Taste and Odour	No obj.	No objectionable	2150 A, APHA, 21st EDITION
5		Electrical Conductivity (µS/cm)	281.0	3500	2510 B, APHA, 21st EDITION
6	Chemical	TDS (mg/L)	188.4	1000	2540 C, APHA, 21st EDITION
7		Total Hardness (mg/L)	140.0	500	2640C, APHA, 21st EDITION
8		Calcium (mg/L)	40.0	200	3800 Ca-B, APHA, 21st EDITION
9		Iron (mg/L)	<0.01	0.3(1)	SPECTROPHOTOMETER
10		Manganese (mg/L)	0.17	0.2	SPECTROPHOTOMETER
11		Ammonia (mg/L)	0.18	1.5	SPECTROPHOTOMETER
12		Fluoride (mg/L)	0.14	0.5-1.5*	SPECTROPHOTOMETER
13		Chloride (mg/L)	7.8	250	4500 Cl-B, APHA, 21st EDITION
14		Arsenic (mg/L)	<0.02	0.05	DIGITAL ARSENATOR
15		Residual Chlorine (mg/L)	-	0.1-0.5*	COLORIMETRY
16	Microbiological	Fecal coliform E.coliform (CFU/100 ml)	>100	0	9222 D, APHA, 21st EDITION
17		Total Coliform (CFU/100ml)	-	0	9221 C, APHA, 21st EDITION

APHA: American Public Health Association, Standard Methods for Examination of Water and Waste Water.
* These values show lower and upper limits.
(1) Values in parentheses refers the acceptable values only when alternative is not available.

Note: The entire test was conducted as per the National Drinking Water Quality Standard Guideline (NDWQS) 2079 B.S.

Analyzed By
Assistant Chemist

WATER QUALITY TEST REPORT

Government of Nepal
Ministry of Water Supply
Department of Water Supply and Sewerage Management
Water Quality Testing Laboratory
Birendranagar, Birtukhet

Tel: +977-983-521048
E-mail: wqtlab@wssm.gov.np

Name of Client: Aarvee FBC Paragon JV, Belyan Date of Collection: 2082/03/18
Sampled By: client Date of Analysis: 2082/03/18
Source of Sample: Thulapatal Nipane WSP, Sharda Municipality Date of Completion: 2082/03/20
Sampling point: Ohungohara Mahan
Location: Bagchaur ward no-9

S.N.	Category	Parameters	Observed values	NDWQS, 2079 B.S.	Method used
1	Physical	Turbidity (NTU)	0.00	5	2150 B, APHA, 21st EDITION
2		Temperature (°C)	28.8	-	2550 B, APHA, 21st EDITION
3		pH	7.4	6.5-8.5*	4500-H, B, APHA, 21st EDITION
4		Taste and Odour	No obj.	No objectionable	2150 A, APHA, 21st EDITION
5		Electrical Conductivity (µS/cm)	24.4	3500	2510 B, APHA, 21st EDITION
6	Chemical	TDS (mg/L)	38.2	1000	2540 C, APHA, 21st EDITION
7		Total Hardness (mg/L)	70.0	500	2640C, APHA, 21st EDITION
8		Calcium (mg/L)	2.0	200	3800 Ca-B, APHA, 21st EDITION
9		Iron (mg/L)	<0.01	0.3(1)	SPECTROPHOTOMETER
10		Manganese (mg/L)	0.14	0.2	SPECTROPHOTOMETER
11		Ammonia (mg/L)	0.19	1.5	SPECTROPHOTOMETER
12		Fluoride (mg/L)	0.11	0.5-1.5*	SPECTROPHOTOMETER
13		Chloride (mg/L)	5.0	250	4500 Cl-B, APHA, 21st EDITION
14		Arsenic (mg/L)	<0.02	0.05	DIGITAL ARSENATOR
15		Residual Chlorine (mg/L)	-	0.1-0.5*	COLORIMETRY
16	Microbiological	Fecal coliform E.coliform (CFU/100 ml)	>100	0	9222 D, APHA, 21st EDITION
17		Total Coliform (CFU/100ml)	-	0	9221 C, APHA, 21st EDITION

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* These values show lower and upper limits.
(1) Values in parentheses refers the acceptable values only when alternative is not available.

Note: The entire test was conducted as per the National Drinking Water Quality Standard Guideline (NDWQS) 2079 B.S.

Analyzed By
Assistant Chemist

ESMP Report of Thulapatal Nipane Water Supply Project

Government of Nepal
Ministry of Water Supply
Department of Water Supply and Sewerage Management
Federal Water Supply and Sewerage Management Project
Water Quality Testing Laboratory
Bhadrabazar, Kathmandu

Tel: +977-01-52248
E-mail: wqtl@wssm.gov.np

WATER QUALITY TEST REPORT

Name of Client: Aarvee FBC Paragon JV, Deyan
Sampled By: client
Source of Sample: Thulapatal Nipane WSP, Bhadrabazar Municipality
Sampling point: Bhadrabazar WSP
Location: Bhadrabazar ward no-9

Date of Collection: 2082/03/18
Date of Analysis: 2082/03/18
Date of Completion: 2082/03/20

S.N.	Category	Parameters	Observed values	NDWSQ 2079 BS	Method used
1	Physical	Turbidity (NTU)	0.00	5	4500-H, APHA, 21st EDITION
2		Temperature (°C)	28.8	-	2540-A, APHA, 21st EDITION
3		pH	7.2	6.5-8.5*	4500-H, APHA, 21st EDITION
4		Taste and Odour	No odour	No objectionable	2150-A, APHA, 21st EDITION
5		Electrical Conductivity (µS/cm)	42.1	≤500	2540-A, APHA, 21st EDITION
6	Chemical	TDS (mg/L)	20.5	1000	2540-C, APHA, 21st EDITION
7		Total Hardness (mg/L)	11.0	500	2340-C, APHA, 21st EDITION
8		Calcium (mg/L)	3.0	200	4500-Ca B, APHA, 21st EDITION
9		Iron (mg/L)	<0.05	0.30	SPECTROPHOTOMETER
10		Manganese (mg/L)	0.04	0.1	SPECTROPHOTOMETER
11		Ammonia (mg/L)	0.00	1.5	SPECTROPHOTOMETER
12		Fluoride (mg/L)	0.17	0.5-1.5*	SPECTROPHOTOMETER
13		Chloride (mg/L)	24.8	250	4500-Cl B, APHA, 21st EDITION
14		Arsenic (mg/L)	<0.01	0.05	DIGITAL ARSENATOR
15		Residual Chlorine (mg/L)	-	0.1-0.5*	COLORIMETRY
16	Microbiological	Fecal coliforms (CFU/100 ml)	33	0	9222 D, APHA, 21st EDITION
17		Total Coliform (CFU/100 ml)	-	0	9221 C, APHA, 21st EDITION

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* These values show lower and upper limits.
() Values in parentheses refers the acceptable values only when alternative is not available.

Note - The entire test was conducted as per the National Drinking Water Quality Standard Guideline (NDWSQ) 2079 B.S.

Analysed By: Assistant Chemist

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Federal Water Supply and Sewerage Management Project
Water Quality Testing Laboratory
Bhadrabazar, Kathmandu

Tel: +977-01-52248
E-mail: wqtl@wssm.gov.np

WATER QUALITY TEST REPORT

Name of Client: Aarvee FBC Paragon JV, Deyan
Sampled By: client
Source of Sample: Thulapatal Nipane WSP, Bhadrabazar Municipality
Sampling point: Bhadrabazar WSP
Location: Bhadrabazar ward no-10

Date of Collection: 2082/03/18
Date of Analysis: 2082/03/18
Date of Completion: 2082/03/20

S.N.	Category	Parameters	Observed values	NDWSQ 2079 BS	Method used
1	Physical	Turbidity (NTU)	0.00	5	4500-H, APHA, 21st EDITION
2		Temperature (°C)	28.3	-	2540-A, APHA, 21st EDITION
3		pH	7.2	6.5-8.5*	4500-H, APHA, 21st EDITION
4		Taste and Odour	No odour	No objectionable	2150-A, APHA, 21st EDITION
5		Electrical Conductivity (µS/cm)	25.0	≤500	2540-A, APHA, 21st EDITION
6	Chemical	TDS (mg/L)	12.1	1000	2540-C, APHA, 21st EDITION
7		Total Hardness (mg/L)	11.0	500	2340-C, APHA, 21st EDITION
8		Calcium (mg/L)	3.0	200	4500-Ca B, APHA, 21st EDITION
9		Iron (mg/L)	0.06	0.30	SPECTROPHOTOMETER
10		Manganese (mg/L)	0.04	0.2	SPECTROPHOTOMETER
11		Ammonia (mg/L)	0.15	1.5	SPECTROPHOTOMETER
12		Fluoride (mg/L)	0.25	0.5-1.5*	SPECTROPHOTOMETER
13		Chloride (mg/L)	12.1	250	4500-Cl B, APHA, 21st EDITION
14		Arsenic (mg/L)	<0.01	0.05	DIGITAL ARSENATOR
15		Residual Chlorine (mg/L)	-	0.1-0.5*	COLORIMETRY
16	Microbiological	Fecal coliforms (CFU/100 ml)	>100	0	9222 D, APHA, 21st EDITION
17		Total Coliform (CFU/100 ml)	-	0	9221 C, APHA, 21st EDITION

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Note - The entire test was conducted as per the National Drinking Water Quality Standard Guideline (NDWSQ) 2079 B.S.

Analysed By: Assistant Chemist

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Bhadrabazar, Kathmandu

Tel: +977-01-52248
E-mail: wqtl@wssm.gov.np

WATER QUALITY TEST REPORT

Name of Client: Aarvee FBC Paragon JV, Deyan
Sampled By: client
Source of Sample: Thulapatal Nipane WSP, Bhadrabazar Municipality
Sampling point: Bhadrabazar WSP
Location: Nipane ward no-9

Date of Collection: 2082/03/18
Date of Analysis: 2082/03/18
Date of Completion: 2082/03/20

S.N.	Category	Parameters	Observed values	NDWSQ 2079 BS	Method used
1	Physical	Turbidity (NTU)	0.00	5	2150-D, APHA, 21st EDITION
2		Temperature (°C)	28.3	-	2540-A, APHA, 21st EDITION
3		pH	7.3	6.5-8.5*	4500-H, APHA, 21st EDITION
4		Taste and Odour	No odour	No objectionable	2150-A, APHA, 21st EDITION
5		Electrical Conductivity (µS/cm)	42.1	≤500	2540-A, APHA, 21st EDITION
6	Chemical	TDS (mg/L)	20.7	1000	2540-C, APHA, 21st EDITION
7		Total Hardness (mg/L)	24.0	500	2340-C, APHA, 21st EDITION
8		Calcium (mg/L)	7.5	200	4500-Ca B, APHA, 21st EDITION
9		Iron (mg/L)	<0.05	0.30	SPECTROPHOTOMETER
10		Manganese (mg/L)	0.03	0.2	SPECTROPHOTOMETER
11		Ammonia (mg/L)	0.07	1.5	SPECTROPHOTOMETER
12		Fluoride (mg/L)	0.31	0.5-1.5*	SPECTROPHOTOMETER
13		Chloride (mg/L)	0.2	250	4500-Cl B, APHA, 21st EDITION
14		Arsenic (mg/L)	<0.01	0.05	DIGITAL ARSENATOR
15		Residual Chlorine (mg/L)	-	0.1-0.5*	COLORIMETRY
16	Microbiological	Fecal coliforms (CFU/100 ml)	33	0	9222 D, APHA, 21st EDITION
17		Total Coliform (CFU/100 ml)	-	0	9221 C, APHA, 21st EDITION

APHA: American Public Health Association, Standard Methods for Examination of Water and Waste Water.
* These values show lower and upper limits.
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Note - The entire test was conducted as per the National Drinking Water Quality Standard Guideline (NDWSQ) 2079 B.S.

Analysed By: Assistant Chemist

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ESMP Report of Thulapatal Nipane
Water Supply Project
PHOTOGRAPHS

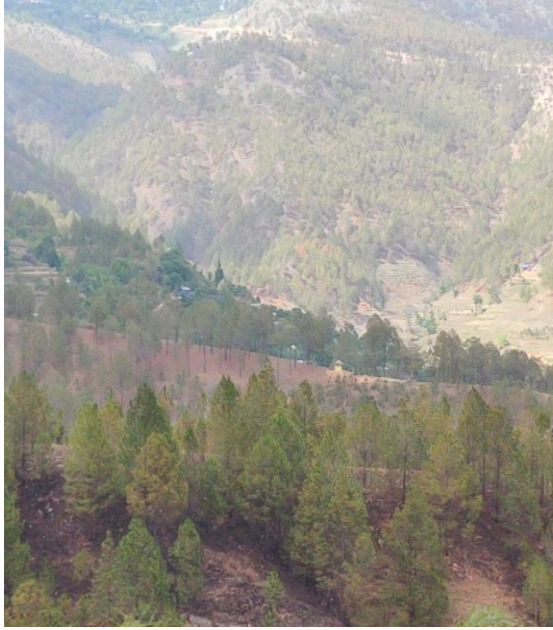
Consultation Meetings, site visit and FGD

	
MPIC Meeting –Sharada Municipality,Salyan	FGD in Jaluke Bari Ward No 9 with Dalit people on WASH Services and problem of drinking water
	
WASH Data Validation Workshop Ward No-10	Consultation Meeting with local People Ward No-9

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Meeting with Baaghchaur WSP , ward No - 9	Meeting with Markerani Scheme-4 Ward No-9
	
Meeting Banskhola WSP,Ward No-9	Meeting with Harale Nepane WSP , ward No-9

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Inception Visit Bagchaur Village Ward No-9	Existing Old RVT of Banskhola WSP, Ward No-9
	
Nepne Tole of ward No-9/Sharada Municipality	Consultation Meeting with Ward Rep & WSP members, ward No-9 Challi faram

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Consultation meeting with local people of Bagchaur Ward No-9	RVT Site of Existing Thulapatal WSP, Ward no-10

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Annex XII: Monitoring Format

ठुलापातल निपाने सामुदायिक 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 परिमाण	वा प्रतिकार्य वा सुधारात्मक कार्य (सल्लाह सुझाव निर्देशन केहि दिएको भए सो उल्लेख गर्ने)
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 सहभागिता (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		

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निर्माणमा दलितको सहभागिता
(संख्या)

अवलोकन गर्ने, सोध्ने र
हाजिरी हेर्ने

निर्माणमा बालबालिकाको (१४ र १६ वर्ष मुनिको)
सहभागिता
(संख्या)

अवलोकन गर्ने, सोध्ने र
हाजिरी हेर्ने

अनुगमनको गर्ने व्यक्तिको समग्र क्रियाकलापको बारेमा थप र
व्यक्तिगत टिप्पणी

अनुगमनकर्ताको सुझाव

जाँच/रजु गर्ने अधिकारीको नाम र सही

ठुलापातल निपाने खानेपानी आयोजनाको

वातावरणीय प्रभाव अनुगमन फारम (संचालन चरण)

यस किसिमको अनुगमनलाई नियमित क्रियाकलापमा समावेश गर्ने, अवस्था हेरी मासिक, अर्धवार्षिक वा वार्षिक रुपमा 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 परिमाण	वा 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 रुपमा दिशा पिसाब गरेको	सार्वजनिक शौचालय क्षेत्र वरपर अवलोकन गर्ने	छ	छैन

*ESMP Report of Thulapatal Nipane
Water Supply Project*

फोहरमैला जथाभावी फालेको	सार्वजनिक शौचालय क्षेत्र वरपर अवलोकन गर्ने	छ	छैन
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नियमित सरसफाई गरिएको		छ	छैन
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वृक्षारोपण गरिएको बिरुवा जागेको हुर्केको	संख्या गन्ने र रोपेको संख्यासँग दाँज्ने		
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सडकमा नयाँ खाल्टो परेको र हिलो भएको	बाटो अबलोकन गर्ने	छ	छैन
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स्थानीय व्यक्तिद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने		
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स्थानीय महिलाद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने		
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स्थानीय जनजातीद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने		
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स्थानीय दलितद्वारा संचालित व्यवसाय	अवलोकन गर्ने र सोध्ने		
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अनुगमनको गर्ने व्यक्तिको समग्र क्रियाकलापको बारेमा थप र व्यक्तिगत