Land Acquisition, Involuntary Resettlement and Indigenous Peoples Due Diligence Report

Document stage: Draft for consultation
Project Number: 35173-015
June 2020

NEP: Urban Water Supply and Sanitation (Sector) Project – Tikapur Storm Water Drainage and Fecal Sludge Management Project

Package No: W-18

Prepared by the Urban Water Supply and Sanitation (Sector) Project, Ministry of Water Supply, Government of Nepal for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of March 2020)

Currency Unit	=	NPR
$1.00	=	NRs118.01
NPR 1.00	=	$0.0084

WEIGHTS AND MEASURES

km	–	kilometer
sq. m	–	square meter
mm	–	millimeter
mg	–	milligram
m^3	–	micrograms per cubic meter

ABBREVIATIONS

ADB	–	Asian Development Bank
ABR	–	Anaerobic Baffle Reactors
BOD	–	Biochemical Oxygen Demand
COD	–	Chemical Oxygen Demand
DMS	–	Detail Measurement Survey
DSC	–	Design and Supervision Consultants
DWSSM	–	Department of Water Supply and Sewerage Management
DDR	–	Due Diligence Report
FSM	–	Faecal Sludge Management
FSTP	–	Faecal Sludge Treatment Plant
FGD	–	Focus Group Discussion
HFCW	–	Horizontal Flow Constructed Wetlands
HRT	–	Hydraulic Retention Time
MOWS	–	Ministry of Water Supply
PMO	–	Project Management Office
PPTA	–	Project Preparatory Technical Assistance
PPE	–	Personal Protective Equipment
RPMO	–	Regional Project Management Office
RDSMC	–	Regional Design Supervision and Management Consultant
RCC	–	Reinforced Cement Concrete
SWD	–	Storm Water Drainage
SDB	–	Sludge Drying Bed
SDG	–	Sustainable Development Goal
TDF	–	Town Development Fund
TSS	–	Total Suspended Solids
TSTWSSP	–	Third Small Town Water Supply and Sanitation Project
UWSSSP	–	Urban Water Supply and Sanitation Sector Project
WTP	–	Water Treatment Plant
WUSC	–	Water Users and Sanitation Committee
WSS	–	Water Supply and Sanitation
WUA		Water User Association

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Appendix:

I. INTRODUCTION

A. Project Background

1. The Urban Water Supply and Sanitation (Sector) Project (UWSSP) will support the Government of Nepal in expanding access to community managed water supply and sanitation (WSS) in 20 project municipalities by drawing on experiences and lessons from three earlier projects funded by the Asian Development Bank (ADB).[1] The project will fund climate-resilient and inclusive WSS infrastructure in project municipalities and strengthen institutional and community capacity, sustainable service delivery, and project development. Subprojects will be demand driven by Water Users Associations (WUAs) and project municipalities and selected based on transparent criteria[2] including population growth, poverty index, existing WSS infrastructure, community willingness for cost sharing, and long-term operation and maintenance (O&M) contract.[3]

2. The project will build upon the on-going efforts of the Government of Nepal in providing water supply and sanitation (WSS) services in urban areas of Nepal. It will help the country to meet Sustainable Development Goal (SDG)-6 to ensure availability and sustainable management of water and sanitation for all by 2030 and it is aligned with sector objectives laid out by the government's Fourteenth Plan, National Urban Development Strategy, and updated 15-year Development Plan for WSS in Small Towns, which is to improve water supply and sanitation service delivery in urban areas across Nepal.

3. The project will have the following impact: quality of life for urban population, including the poor and marginalized, through provision of improved sustainable WSS services.[4] The project will have the following outcome: Inclusive and sustainable access to water supply and sanitation services in project municipalities improved. The project will have two outputs: (i) water supply and sanitation infrastructure in project municipalities improved (within this output, construction of 30 km of storm water drainage also included); and (ii) institutional and community capacities strengthened.

4. The Ministry of Water Supply (MOWS) is responsible for planning, implementation, regulation, and monitoring of WSS. The Department of Water Supply and Sewerage Management (DWSSM) under the MOWS supports the provision of WSS facilities in municipalities where large utilities do not exist, and these are operated by WUSCs[5] or

1. ADB. Nepal: Small Towns Water Supply and Sanitation Sector Project (2000); Nepal: Second Small Towns Water Supply and Sanitation Sector Project (2009); and Nepal: Third Small Towns Water Supply and Sanitation Sector Project (2014).
2. Subproject selection criteria are detailed in the PAM . Selection of future investments to be designed under the project will follow same criteria, with preference for investments located in Kathmandu Valley, provincial headquarters, and strategic border municipalities.
3. Procurement can only commence after DWSSM and municipality sign management agreement with WUSC for 20 years O&M service. The municipality will own the system and the WUSC will be the operator.
4.Government of Nepal. 2009. Urban Water Supply and Sanitation Policy. Kathmandu
5.The DWSSM assists in preparation of investment plans, project design, and establishing sustainable service delivery

municipalities. Shortage of investment funds, skilled personnel, and inadequate O&M budgets, hinders municipalities from providing adequate, cost-effective services. The Local Governance Operation Act, 2017, established municipalities as autonomous government institution with responsibility for WSS services. While municipalities' capacity is being built, the government and residents have been receptive to the decentralized, participatory, and cost-sharing service provision model by Water Users Associations (WUAs). Development support for municipal WSS has been channeled through a combination of (i) government grants through DWSSM, (ii) loans by the Town Development Fund (TDF),[6] and (iii) contributions from municipalities and beneficiaries.[7] The TDF also supports WUAs in institutional and financial management including the introduction of tariffs.

5. The project will be implemented over a five-year period (indicative implementation period is 2018 to 2023) and will be supported through ADB financing using a sector lending approach. The MOWS is the executing agency and DWSSM the implementing agency. The project management office (PMO) established Urban Water Supply and Sanitation Sector Project will be responsible for the overall management, implementation and monitoring of the project. There will be regional PMOs (RPMOs) to manage day-to-day project implementation at the subproject/municipality level. After construction of water supply and sanitation subprojects which includes a one-year O&M period by the contractor, subprojects will be operated by the WUSC or municipality. However, after construction, the storm water drainage component will be operated by the municipality and Faecal Sludge Management (FSM) component includes two-year O&M period by the contractor, will be operated by the WUSC or municipality.

6. In terms of financing, for storm water drainage and/or Faecal sludge management subproject, 85 percent cost will be borne by Government of Nepal and 15 percent of the cost is contributed by local government i.e., Municipality. There is no provision of cash contribution from WUA in the drainage and Faecal sludge management subproject. The project ensures full participation of Municipality with due coordination to Water Supply and Sanitation Committee in the formulation, implementation and operation and maintenance of the system.

7. The proposed UWSSP is not anticipated to involve any significant resettlement impacts and is classified as Category B. The Resettlement Framework provides guidance for the assessment of involuntary resettlement impacts and for the preparation of resettlement plans/land acquisition and involuntary resettlement due diligence reports for components that are identified or subprojects that is assessed or any changes in design after Board approval. Any proposed future subproject involving significant impacts will not be allowed.

6.The TDF is a government-owned entity established under the Town Development Fund Act, 1997. Loans from the government to WUAs or municipalities are generally on-lent by TDF under a subproject financing agreement.

7. WUAs contribute 30% of project costs for water supply subprojects (25% from TDF loan and 5% from users' upfront cash contribution) and 15% for sanitation subprojects (subsidy from municipalities).

B. Scope of the Report

8. This due diligence report (DDR) is prepared for the proposed Tikapur Storm Water Drainage and Faecal Sludge Management Project under the UWSSP based on final detail engineering design report. It will be implemented by the project management office (PMO). A due diligence report (DDR) is prepared for such works because no involuntary resettlement impacts are anticipated for the proposed subproject works. Potential disturbances can be avoided through careful management of civil construction work, ensuring access to businesses and provision of assistance to mobile vendors to shift to the other side of the road or nearby places, such that they are able to continue with their economic activities, thus avoiding any temporary economic impact.

9. Nearly 5680 sq. m land is required for the site of faecal sludge treatment plant at ward number 1, Banagaun of Tikapur Municipality. The proposed land is vacant public/government land. There are no land acquisitions or compensation activities associated with proposed storm drainage and feacal sludge treatment plant construction works. Field visit by the design team has confirmed there will be no disturbances to adjacent private land and property. Extensive field visits and formal/ informal consultations were held to understand people's views on the proposed project construction activities.

10. The storm water drainage will be constructed on public roads within its clear width right of way (ROW). Similarly, the storm water drainage will also be constructed at the sides of public roads. For the efficient work progress and people's support in project activities, the Regional Project Management Office (RPMO) along with the Regional Design Supervision and Management Consultant (RDSMC) and the Contractor must disseminate information on commencement of works. The full road closure is not anticipated. Good construction practices and traffic management measures, including night works, will ensure continued access to businesses and limited disruption to business activity. Provision for night works will be included on narrow, high crowd and business roads. If needed the temporary shifting of mobile vendors will be assessed prior to the commencement of works and managed as per the assessment through provision of prior notice and assistance to shift during project construction period.

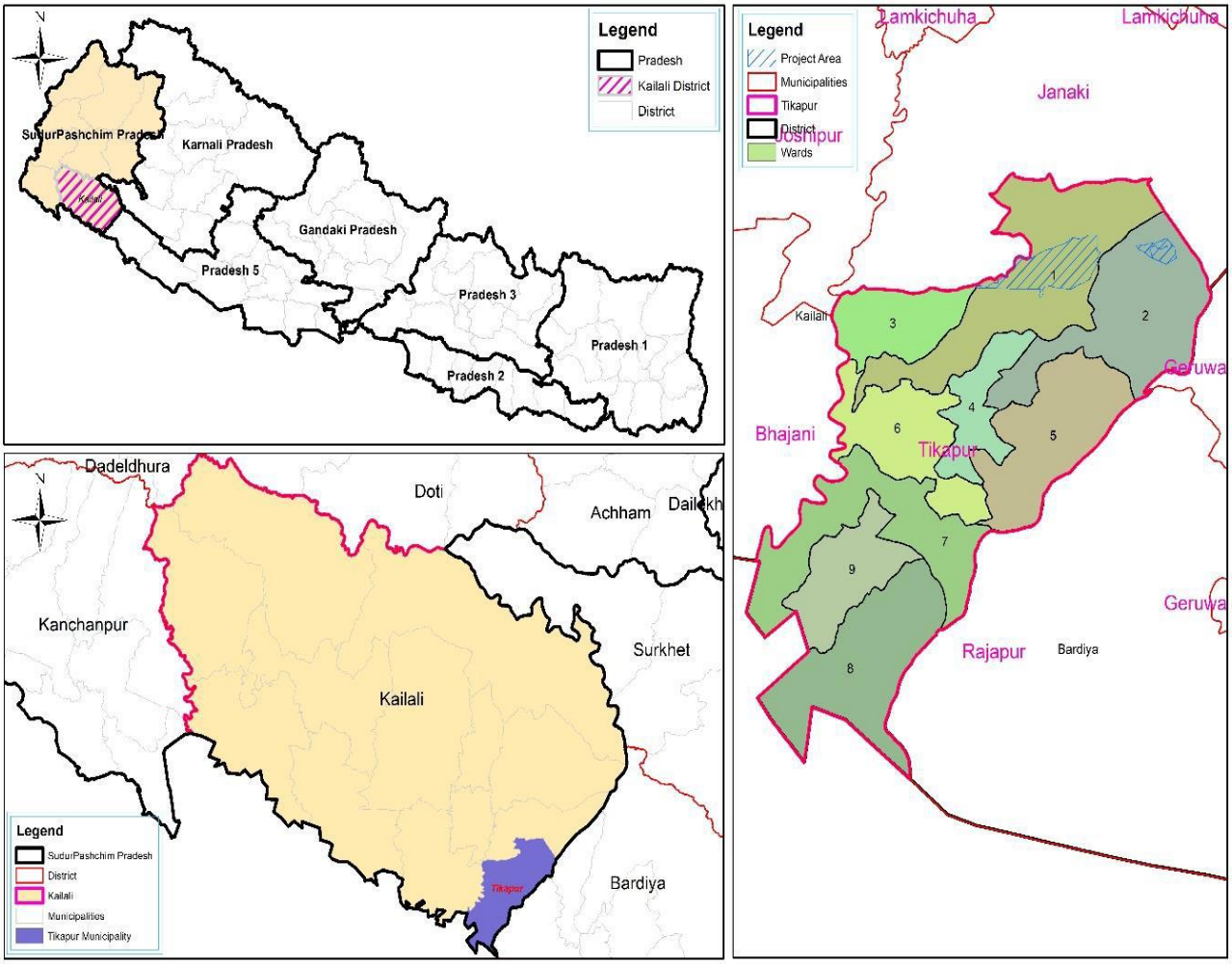
11. Prior to project implementation, the Social Safeguards Officer at the PMO will be required to undertake a review of this due diligence, prepare a confirmation letter or report documenting any modifications for the subproject and submit to ADB; and receive a 'no objection' confirmation from ADB prior to start of construction in the subproject.

II. SUBPROJECT DESCRIPTION

A. Location and Accessibility

12. Tikapur Municipality lies in Kailali district of Sudurpaschim Province. It situated at 14 km from South Mahendra Highway at Lamki (Figure 1). On 2053 B.S Magh 17, Tikapur municipality was formed. 2073 Falgun 27, Ministry of Federal Affairs and Local Development decided to join Narayanpur and Dhansinpur VDC under the jurisdiction of Tikapur municipality. This Municipality consists of 9 wards and its boundary is surrounded by Karnali River/Bardiya district in east, Mohana River in South, Janaki Rural Municipality in North and Bhajani Municipality in West. It lies between 28°27'30" N to 28°33'30" N latitude and 81°02'30"E to 81°10'5"E longitude and covers 122.12 sq. km. It is at an altitude of 145-161 meter from the mean sea level. Tikapur Municipality is 95 km east of kailali district headquarter ie Dhangadhi sub-metropolitan city. The nearest airports are Nepalgunj in Banke district and Dhangadhi in Kailali district. Tikapur is in the Terai region and its climate is essentially warm temperate or lower tropical. As in other Terai towns, it is very cold in winter and very hot in summer days.

Fig-1: Project Location Map



B. Socioeconomic profile of Project Area

i) Demography:

13. Service area of the project has been established to cover ward 1 of Tikapur Municipality for drainage component, and FSTP unit also lies in ward number 1 but it is designed to serve the whole municipality as needed. The project municipality has average household size of 4.33 and male to female ratio of 0.84. The ward-wise households and population is given in Table-1:

Table-1: Ward-wise Households

SN	Features	Ward No.									Total
		1	2	3	4	5	6	7	8	9	
1	Households	9823	1651	983	995	1049	1067	1315	994	743	18,620
2	Population	39778	7,408	4615	4509	4845	5001	5995	4849	3690	80,690

Source: Municipality profile of Tikapur Municipality, 2075 BS

ii) Caste / Ethnicity:

14. There are six major ethnic and caste groups in the subproject area. The most dominant ethnic groups are Tharu (41.14%), followed by Chhetri (26.76%), Brahman (9.55%), Kami (5.85%), Damai (3.25%), Magar (3.15%), Thakuri (2.8%) and other castes (7.5%) of the population. However, in ward number-1 chhetri is (33.23 %) are populated more than Tharus (26.59%). Ward-wise population of caste/ethnicity is shown in table-2. The project area has indigenous 44.29% (tharu and Magar), Brahmin/ Chhetri 39.11%, Dalits 9.1% and Others 7.5%.

Table-2: Caste/ ethnicity in wards

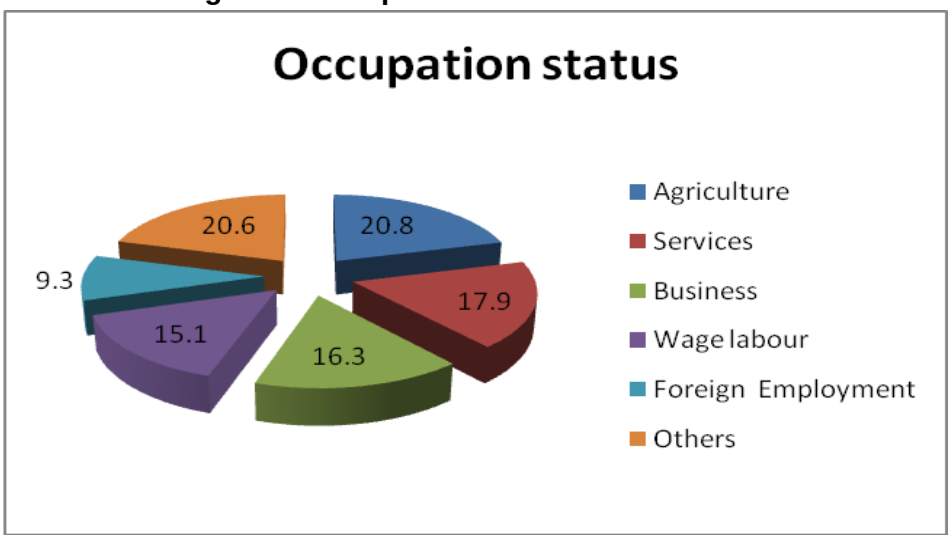
SN	Caste/Ethnicity	Population by Ward No.									Total	Percentage%
		1	2	3	4	5	6	7	8	9		
1	Tharu	10580	3624	2860	3373	2782	3102	3214	1370	2294	33199	41.14
2	Chhetri	13221	1452	382	572	1090	767	1329	1883	898	21594	26.76
3	Brahman	6180	293	168	226	119	99	545	33	39	7720	9.55
4	Kami	2311	359	827	52	169	78	73	686	165	4720	5.85
5	Damai	1733	143	81	58	51	61	84	339	70	2620	3.25
6	Magar	1599	125	11	17	284	182	271	1	49	2539	3.15
7	Thakuri	1619	247	56	105	35	111	28	0	62	2263	2.8
8	Others	2535	1165	230	106	315	601	451	537	113	6053	7.5
	Total	39778	7408	4615	4509	4845	5001	5995	4849	3690	80690	100.00

Source: Municipality profile of Tikapur Municipality, 2075 BS

iii) Occupation:

15. Although, the economy of the area is gradually shifting from rural agricultural economy to trade/ business and service based, majority of the households are still dependent on agriculture. As the socio-economic data shows, nearly 20.8% of the households have agriculture as main occupation. Service is another main occupation (17.9%) followed by business (16.3%). The occupation status of households are presented in figure-2:

Figure-2: occupation status of households



Source: Municipality profile of Tikapur Municipality, 2075 BS

iv) Land use pattern

16. Previously the area that is now Tikapur used to be a dense forest. Tikapur Development Master Plan was prepared in 2028 BS (1972 AD) and the development of area took place following the plan. It is said to be one planned city of the country. During the planning time, the municipality covered 8276 Bigha (1Bigha = approximately 0.65 hectare) of land. Out of that, 1000 Bigha of land was to be retained as forest land, next 1000 Bigha was to be developed as modern techno-farm land and the remaining land was proposed as well-planned urbanized area along with the provision of infrastructure like roads, drinking water, transportation, health, education, electricity etc. Tikapur became a popular place to migrate from different parts of Nepal especially from Achham and rapid urbanization has been thus taking place here.

17. The town planning consisted of 32 Blocks covering approximately 700 Bigha of land. The developed land is allocated to various individuals and institutions such as government employees who were allocated between 15 Katha to 4 Bigha of land as a part of their pensions, educational institutions, hospitals and others. Reportedly 6388 residential plots have been sold for residential purpose.

v) Education

18. Tikapur is termed as an "educational city" as there are several educational institutes like schools and colleges in the Municipality. The socio economic survey, commissioned by the Project Preparatory Technical Assistance (PPTA) in 2014 shows that the overall literacy rate is

78.3%. About 21.7% are still illiterate and only 12.2% have graduated or above graduate level. The Planning Handbook published by the Office of Tikapur Municipality in 2013 provides the information that some 82 educational institutions exist in the municipality, the details have been presented below:

Table 3: Existing Educational institutions

SN	Educational Institution	Primary School	Lower Secondary School	Secondary School	Higher Secondary School	Campus	Training Centre	Child Development Centre	Total
1	Private	11	2	3	5	4	1	-	26
2	Community	11	5	5	-	-	-	10	31
3	Government	5	5	7	5	3	-	-	5
Total		27	12	15	10	7	1	10	82

Source: Planning Handbook, Tikapur Municipality, 2013

19. The socio-economic survey 2014 shows that there are 82 educational institutions in the project area. The total number of students enrolled in these schools is 29,338. The number of teachers is 841 with the total people in educational establishments to be 30,179. The largest institutions are Tikapur Multiple Campus (8,200 students and 60 teachers); Birendra Bidya Mandir (2,200 students & 69 teachers); R.M.E. English Boarding School (1,600 students & 60 teachers); United Higher Secondary School (1,000 students & 30 teachers); Shree Khadga Smriti Higher Secondary School (1,000 students & 30 teachers) and Ganesh Baba English Boarding School (1,000 students & 45 teachers).

vi) Health

20. There is one hospital, 21 various health facility centers and 37 pharmacies such as ayurvedic hospital, dental clinics, service centers and private clinics in the project town which provide health services, the details have been presented below:

Table 4: Status of health facilities

SN	Health Facilities	No.	Bed	Remarks
1	Tikapur Hospital	1	25	
2	Private Clinics	16	-	
3	Eye Treatment Centers	1	15	
4	Dental Clinics	3	-	
5	Ayurvedic Hospitals	1	-	
6	Pharmacies	37	-	
Total		**59**	**40**	

Source: Planning Handbook of Tikapur Municipality, 2013

21. The Tikapur Town Development Committee allocated 12 bigha of land in the master plan, where Tikapur Hospital is now operated with 3 blocks and 25 beds. It started providing

health services from 2034 BS as a Health Post. It is considered one of the major hospitals in the far-western region of the Nepal. This hospital provides medical services to the people covering Kailali, Bardiya, and Surkhet District.

vii) Economic Activities

22. The economy of the municipality is extensively agrarian although most of the households in the project area depend on more than one occupation. The socio-economic survey shows that main occupation of the people is agriculture which accounts for 20.8% of total households. Service is the second largest occupation (17.9%) followed by trade and business (16.3%). A substantial number of people (15.1%) are involved in wage labor. Similarly, about 9.3% people are engaged in foreign employment working mostly in India, Malaysia and the Gulf countries.

23. There are 12 hotels/lodges in the project area. At the moment, there are not many industries and business in Tikapur. The survey shows that there are 20 industries operating in the project area almost all in the ward no. 1. The type of industries operating in the municipality is rice mills, furniture, loaf, herbal, food industries, garment, cement etc. However, many rice mills and industries are currently not in operation due to air pollution problems and lack of support from local people. Many industries do not consider industrial pollution as problem and there is lack of government mechanism to control it. Besides this, the absence of high voltage electricity supply line has also hindered operation of large industries.

24. There are three public banks, five private banks and four commercial banks providing services. The government offices are Ilaka Administrative office, Ilaka Police Post, Land revenue office, Survey office, Rani Jamra Kulariya Irrigation Project office, Nepal Telecom, Nepal Electricity Authority etc. Similarly, there are some NGOs like Nepal Red Cross Society, Nepal Jaycees, Nepal Scout, Intellectual Society, Tikapur Academic Society, Chamber of Commerce and Industry etc.

viii) Poverty Conditions

25. The 2014 socio-economic survey shows that the most of the sampled households (27.8 %) in the town have an income less than NPR 8,250 per month. Only 11.3% of the sampled households earn more than NPR 29,667 month. The same survey shows that 0.1% of total population live below poverty level. It is also to be noted that more than 46.5% of the total sampled houses are semi-pakki construction (made with stone/brick with mud mortar) in project area and about 16.6% are pakki (made with brick walls, cement floor, RBC/RCC roof). Kachchi house (rural hut made of wood, bamboo, or stone with mud mortar and thatched roof) constitutes about 36.9%. There are 126 (0.67%) very poor households out of total households (18,620) in the project area.

ix) Drainage Facilities

26. There is no proper drainage system for storm water as well as for the domestic sewage. The core area in ward no. 1 has about 4 km of open channel drains with slab covers. These drains get choked frequently due to lack of maintenance and improper outfall design. There is frequent problem of water logging during monsoon and generally takes few days for cleaning of

storm water. It is due to lack of proper outfall with enough drain. Since the project area is situated at flat terrain chance of water logging is high in these conditions. The core area of project (Bazaar) lies in north-south direction along the main feeder road and does need surface drains.

x) Wastewater Management Practices

27. There is no sewerage system in the project area. Wastewater from individuals is managed inside the house except for a few households that discharge excess water to the adjacent roadside drains. In the wet season, wastewater overflows in these roads and drains to the Rani Canal (Rani-Jamara Kulo) that passes through the Municipality. Most of households do have septic tanks but the outlets are connected to the roadside storm water drains. The socio-economic survey conducted the Project Preparatory Technical Assistance (PPTA) team in 2014 shows that 98.4% households have their own toilet. Some of them have constructed septic tanks and some have directly connected with surface drains. There is no wastewater treatment plant in the Municipality to treat domestic sewage. The septage is either dumped into nearby water courses or discharged into surface drains. However, the survey shows that only 51.7% of the sampled households showed an interest in improving the septage management system and are interested to pay for it.

xi) Solid Waste

28. The major sources of waste generation in Tikapur Municipality are households, hotels, hospitals, vegetable and fruits market, meat stores, groceries, clothing/ fancy stores/tailors etc. The average per capita household waste generation rate in Tikapur Municipality was 0.19 kg/person/day according to the report “Strategic Plan and Action Plan for Solid Waste Management in Tikapur Municipality, 2013”. It is estimated that the waste generation is about 11.0 tons per day. The municipal waste from household level comprised of organic waste 39.0%, plastic waste 17 %, paper waste 12 %, Glass 7 %, Metal 3%, Inert 4%, Medical 2%, Sand/ Dust 10%, Wood 1 % and others 5 % .

29. Tikapur municipality is the only service provider in waste collection within the municipality. It collects waste from city core area, ward 1, every day. This ward is the only area to benefit from the collection service of the municipality. Other areas are partially serviced or not served at all with collection of solid waste. The house owners take out waste from the houses and municipal collectors empty into the tractor. These collectors sweep the city streets and the waste is collected in rickshaws using shovels and unloaded into the tractor to bring to the dumping site. It is estimated that the waste collection is about 0.75 Ton/day.

30. The Municipality does not have any land for solid waste disposal, and they are trying to find an appropriate disposal site. Currently, it is dumped in an open low-lying area of Block 5 near Khadga’s School and block 29 near Mentha of the Municipality. From time to time mud is spread over the waste materials as instructed by the municipality personnel. The Municipality has assigned 8 personnel (1 supervisor, 1 driver and 6 sweepers) for solid waste management activities. It has a tractor and 3 rickshaws (0.6 m^3 capacity) to collect and transport all municipal waste to dumping site.

C. Design Concept and Project Components

i) Proposed components of storm water drainage

31. The main feature of the proposed subproject is the construction of storm water drainage. The storm water drainage component includes bricks and reinforced cement concrete (RCC) drains, box culverts, canal crossing, and outfalls. The proposed service area comprises wards no.1 of Tikapur Municipality.

32. Two types of RCC outfall have been proposed. Near our project area, there is no natural water body where the storm water drain can be drained out but there are number of main canal (Jamara) and secondary canal (Gyani) which passes around and within the Bazaar area. So, after series of discussion with irrigation department, all the parties including municipality officials agreed to use those canals as outlet of storm water drain. Altogether there are 31 numbers of outfalls. Among them 6 outfall are located on the bank of Jamara Canal, 6 on North Gyani kulo which is quite shallow and runs through the middle of the bazaar area while remaining 19 outfall including 2 numbers of outfall from Shaktinagar area are located in South Gyani kulo.

33. Under the present project, there are two prioritized area Tikapur Bazaar area and Shaktinagar area where drains have to be designed. For the drains that are proposed on Tikapur Bazaar area, each drain is named like **"T1L1 Section 1". T** in the name stands for **Tikapur Bazar**, **1** refers to the **outfall**, **L** refers to the **left section** and is according to the flow direction of drain. If the drain has got more than one section, the notation **"section 1 or 2"** is provided. Similarly, for the drains that are proposed on Shaktinagar area, each drain is named like **"SL1". S** in the name stands for **Shaktinagar**, **L1** refers to the **Line 1.**

34. The total length of RCC storm water drain proposed for Tikapur Municipality is **49011 m**. Among the total length of RCC storm water drain **39915.5 m** is proposed for Tikapur Bazaar Area and remaining **9096 m** is proposed for Shaktinagar Area. The minimum width of proposed drain is 500 mm while the maximum width proposed is 1500 mm. Out of the total proposed drain, 45% drain has height less than 1 meter, about 53% drain has height between 1 to 2 m, and only about 2.23% drain has height between above 2 m.

a) Drain line in Tikapur Bazar Area

35. The total length of drain in Tikapur is 39915.51 m. The total catchment area of this drain is 248.61 Ha. The number of drain section in this area is 116 while the number of outfalls is just 29. Intensity duration frequency analysis is used to capture the essential characteristics of point rainfall for shorter duration. Intensity duration frequency analysis provides a convenient tool to summarize regional rainfall information. According to the study conducted by department of hydrology and methodology about the climate trend analysis of Nepal within 1971 to 2014 A.D. There is insignificant positive precipitation trend in the southern districts of far western development region in the three seasons (winter, pre-monsoon and monsoon). Based on this report, it shows that the increment of rainfall intensity due to climate change in 20 years design period will also be insignificant. The rainwater will not be overflowing from drainage in monsoon season due to the top level of drainage is higher than the outfall level in every drain line. Each drain is discussed separately in the following section.

Line T1: The total length of drain in this line is 2128 m. The total catchment area of this drain is 24.771 Ha. Line T1 drain has 3 different sections with single outfall. The runoff from surrounding area enters into this drain and finally discharged into Jamara Canal. The invert level of drain at outfall is 156.15m which is about 1.348 m above the bed of canal. Storm water drain is proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.5 m and depth of drain varies from 0.697 m to 2.434 m. The total number of road crossing structure of different types is 23 and total length is 251 m.

Line T2: The total length of drain in this line is 5484.5 m. The total catchment area of this drain is 41.627 Ha. Line T2 drain has 14 different sections with single outfall. The runoff from surrounding area enters into this drain and finally discharged into Jamara Canal. The invert level of drain at outfall is 154.95 which is just 0.896 m above the bed of canal. This scenario shows that there is a chance of back flow of water in the drain when the canal is running full. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.5 m and depth of drain varies from 0.688 m to 1.714 m. The total number of road crossing structure of different types is 39 and total length is 463 m.

Line T3: The total length of drain in this line is 9219 m. The total catchment area of this drain is 53.826 Ha. Line T3 drain has 30 different sections with 2 number of outfall. The runoff from surrounding area enters into this drain and finally discharged into Jamara Canal. The lowest invert level of drain at outfall is 153.6 which are just below the high flood level of the canal. This shows that there is minimum chance of back flow of water in the drain from canal.

Line T4: The total length of drain in this line is 479 m. The total catchment area of this drain is 5.74 Ha. Line T4 drain has 2 different sections with 2 number of outfall. The flow from this drain line is discharged to Gyani North Canal. The invert level of drain at outfall is 157.35 m which is just around 10 cm above the bed level of canal. This scenario shows that the invert of drain at outfall and the canal bed is at almost same level which indicates that there is high chance of back flow of water in the drain when the canal is running full in dry season. Storm water drain is proposed on the both sides of the road. The width of drain varies from 0.6 m to 1.0 m and depth of drain varies from 0.701 m to 1.435 m. The total number of road crossing structure of different types is 5 and total length is 35 m.

Line T5: The total length of drain in this line is 2015 m. The total catchment area of this drain is 12.029 Ha. Line T5 drain has 4 different sections with 2 number of outfall. The runoff from surrounding area enters into this drain and finally discharged into North Gyani Canal. The lowest invert level of drain at outfall is 157.35 m which is just around 10 cm above the bed level of canal. This scenario shows that the invert of drain at outfall and the canal bed is at almost same level which indicates that there is high chance of back flow of water in the drain when the canal is running full. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.0 m and depth of drain varies from 0.652 m to 1.893 m. The total number of road crossing structure of different types is 18 and total length is 199 m.

Line T6: The total length of drain in this line is 4071 m. The total catchment area of this drain is 17.063 Ha. Line T6 drain has 19 different sections with 2 number of outfall. The runoff from surrounding area enters into this drain, which crosses the North Gyani Canal and finally discharged into South Gyani Canal. The lowest invert level of drain at outfall is 154.6 m which is around 30 cm above the bed level of canal. This scenario shows that there is chance of back flow of water in the drain when the canal is running full. Storm water drain are proposed on the both sides of the road in most of the section except in gully drain which are laid on gully in between the houses. RCC box drain is proposed on one side of the road after North Gyani canal. The width of drain in this line varies from 0.6 m to 1.0 m and depth of drain varies from 0.684 m to 1.909 m. The total number of road crossing structure of different types is 22 and total length is 511 m including box drain.

Line T13: The total length of drain in this line is 609 m. The total catchment area of this drain is 5.343 Ha. Line T13 drain has 2 different sections with single outfall. The flow from this drain line is discharged to South Gyani Canal. The invert level of drain at outfall is 157.6 m which is about 0.7 m above the bed level of canal. This scenario shows that there is less chance of back flow of water in the drain when the canal is running full. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.0 m and depth of drain varies from 0.702 m to 1.394 m. The total number of road crossing structure of different types is 6 and total length is 54 m.

Line T14: The total length of drain in this line is 470 m. The total catchment area of this drain is 5.108 Ha. Line T14 drain has 2 different sections with 2 number of outfalls. The flow from this drain line is discharged to North Gyani Kulo. The lowest invert level of drain at outfall is 157 which are around 10cm above the bed level of canal. This scenario shows that there is high chance of back flow of water in the drain when the canal is running full in dry season. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 0.8 m and depth of drain varies from 0.668 m to 1.333 m. The total number of road crossing structure of different types is 4 and total length is 40 m.

Line T15: The total length of drain in this line is 1632 m. The total catchment area of this drain is 5.996 Ha. Line T15 drain has 4 different sections with 5 number of outfall. The flow from this drain line is discharged to South Gyani Canal. The lowest invert level of drain at outfall is 156.9 which is just 0.5 m above the bed level of canal. This shows that there is still chance of back flow of water in the drain when the canal is running full in dry season. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.0 m and depth of drain varies from 0.727 m to 1.359 m. The total number of road crossing structure of different types is 10 and total length is 83 m.

Line T16: The total length of drain in this line is 1074 m. The total catchment area of this drain is 11.095 Ha. Line T16 drain has 2 different sections with 2 number of outfall. The flow from this drain line is discharged to South Gyani Canal. The lowest invert level of drain at outfall is 156.1 m which is just 0.6 m above the bed level of canal. This shows that there is chance of back flow of water in the drain when the canal is running full in dry season. Storm water drains are

proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.2 m and depth of drain varies from 0.748 m to 1.409 m. The total number of road crossing structure of different types is 5 and total length is 37 m.

Line T17: The total length of drain in this line is 1369 m. The total catchment area of this drain is 8.662 Ha. Line T17 drain has 2 different sections with 2 number of outfall. The flow from this drain line is discharged to South Gyani Canal. The lowest invert level of drain at outfall is 156 m which is just 0.75 m above the bed level of canal. This shows that there is little chance of back flow of water in the drain when the canal is running full in dry season. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.6 m to 1.0 m and depth of drain varies from 0.754 m to 1.521 m. The total number of road crossing structure of different types is 6 and total length is 60 m.

Line T18: The total length of drain in this line is 674 m. The total catchment area of this drain is 5.711 Ha. Line T18 drain has 2 different sections with 2 number of outfall. The flow from this drain line is discharged to South Gyani Canal. The lowest invert level of drain at outfall is 156.1 m which is about 1 m above the bed level of canal. This shows that there is less chance of back flow of water in the drain when the canal is running full in dry season. Storm water drains are proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.0 m and depth of drain varies from 0.73 m to 1.303 m. The total number of road crossing structure of different types is 3 and total length is 24 m.

Line T20: The total length of drain in this line is 1397 m. The total catchment area of this drain is 5.118 Ha. Line T20 drain has 6 different sections with 2 number of outfall. The runoff from surrounding area enters into this drain and finally discharged into South Gyani Canal. The lowest invert level of drain at outfall is 155.3 m which is about 90 cm above from the bed of the canal. This indicates that there is minimum chance of back flow of water in the drain from canal. Storm water drain are proposed on the both sides of the road in most of the section except in gully drain which are laid on gully in between the houses. The width of drain in this line varies from 0.5 m to 0.8 m and depth of drain varies from 0.686 m to 1.711 m. The total number of road crossing structure of different types is 11 and total length is 88 m.

Line T21: The total length of drain in this line is 1293 m. The total catchment area of this drain is 6.556 Ha. Line T21 drain has 6 different sections with 2 number of outfall. The runoff from surrounding area enters into this drain and finally discharged into South Gyani Canal. The lowest invert level of drain at outfall is 154.7 m which is about 90 cm above from the bed of the canal. This indicates that there is minimum chance of back flow of water in the drain from canal. Storm water drain are proposed on the both sides of the road in most of the section except in gully drain which are laid on gully in between the houses. The width of drain in this line varies from 0.5 m to 1.0 m and depth of drain varies from 0.702 m to 1.771 m. The total number of road crossing structure of different types is 11 and total length is 88 m.

Line T22: The total length of drain in this line is 3797 m. The total catchment area of this drain is 15.731 Ha. Line T22 drain has 16 different sections with 2 number of outfall. The runoff from

surrounding area enters into this drain and finally discharged into South Gyani Canal. The lowest invert level of drain at outfall is 155.9 m which is about 1 m above from the bed of the canal. This indicates that there is minimum chance of back flow of water in the drain from canal. Storm water drain are proposed on the both sides of the road in most of the section except in gully drain which are laid on gully in between the houses.. The width of drain in this line varies from 0.5 m to 1.2 m and depth of drain varies from 0.741 m to 1.861 m. The total number of road crossing structure of different types is 22 and total length is 169 m.

Line T23: The total length of drain in this line is 4204 m. The total catchment area of this drain is 23.685 Ha. Line T23 drain has 2 different sections with 2 number of outfall. The flow from this drain line is discharged to Zamara Canal. The invert level of drain at outfall is 151.75 which is about 0.6 m above the bed level of canal. This scenario shows that there is high chance of back flow of water in the drain when the canal is running full in dry season. Storm water drain is proposed on the both sides of the road. The width of drain in this line varies from 0.5 m to 1.4 m and depth of drain varies from 0.787 m to 2.186 m. The total number of road crossing structure of different types is 21 and total length is 186 m.

b) Drain line in Shaktinagar Area

36. The total length of drain in Shaktinagar is 9096 m. The total catchment area of this drain is 54.608 Ha. The number of drain section in this area is 26 while the number of outfalls is just 2. The type of road in this area is all earthen road so the finish level of the drain is kept at least 40cm above the existing road level. The flow from this area is discharged to Gyani Kulo. The invert level of drain of outfall is 160 m and 160.6 m which are just about 0.2 m above the bed level of canal. This scenario shows that there is high chance of back flow of water in the drain when the canal is running full in dry season. Storm water drains are proposed on the both sides of the road in most of the section. The width of drain in this area varies from 0.5 m to 1.5 m and depth of drain varies from 0.679 m to 1.667 m. The total number of road crossing structure of different types is 27 and total length is 181 m.

37. The most prioritized storm water drains lines and FSTP that will go under construction. The total storm water drain has been divided into two phase, phase –I and phase-II. Drain under phase-I (Line T1,T2,T3,T4,T5,T6,T18,T20,T21,T22, and Line SL) and FSTP will go into immediate construction. The drain under phase-II (Line T13, T14, T15, T16, T17 and T23) will be constructed after managing the budget by Municipality. Tikapur Municipality will be sharing the 15% cost for the phase-I and total cost of phase-II will be invested by Municipality and implement itself. The minute of meeting of cost sharing is attached in **appendix-2g.** The summarizes the details of drain section is given in table-5 below:

Table-5: Summary of proposed drain section

SN	Drain	Location	Total Length (M)	Catchment area (ha)	Drain Size (m)	Depth (m)	Right of way of Road	Width of existing road	Total numbers of section	Total number of outfall	Construction phase I or II	Outfalls location
1	Line T1	Tikapur Bazar area	2128	24.771	0.5-1.5	0.697-2.434	Right of way of existing municipal road	Minimum 20 ft	3	1	I	3 section with single outfall into Jamara canal
2	Line T2	Tikapur Bazar area	5484.5	41.627	0.5-1.5	0.668-1.714	Right of way of existing municipal road	Minimum 20 ft	14	1	I	14 section with single outfall into Jamara canal
3	Line T3	Tikapur Bazar area	9219	53.826	0.5-1.5	0.692-2.459	Right of way of existing municipal road	Minimum 20 ft	30	2	I	30 section with 2 numbers of outfall into Jamara canal
4	Line T4	Tikapur Bazar area	479	5.74	0.6-1.0	0.701-1.435	Right of way of existing municipal road	Minimum 20 ft	2	2	I	2 section with 2 numbers of outfall into North Gyani kulo (canal)
5	Line T5	Tikapur Bazar area	2015	12.029	0.5-1.0	0.652-1.893	Right of way of existing municipal road	Minimum 20 ft	4	2	I	4 section with 2 numbers of outfall into North Gyani kulo (canal)
6	Line T6	Tikapur Bazar area	4071	17.063	0.6-1.0	0.684-1.909	Right of way of existing municipal road	Minimum 20 ft	19	2	I	19 section with 2 numbers of outfall into North Gyani kulo (canal)
7	Line T13	Tikapur Bazar area	609	5.343	0.5-1.0	0.702-1.394	Right of way of existing municipal road	Minimum 20 ft	2	1	II	2 section with single outfall into South Gyani kulo (canal)
8	Line T14	Tikapur Bazar area	470	5.108	0.5-0.8	0.668-1.333	Right of way of existing municipal road	Minimum 20 ft	2	2	II	2 section with 2 numbers of outfall into North Gyani kulo (canal)

SN	Drain	Location	Total Length (M)	Catchment area (ha)	Drain Size (m)	Depth (m)	Right of way of Road	Width of existing road	Total numbers of section	Total number of outfall	Construction phase I or II	Outfalls location
9	Line T15	Tikapur Bazar area	1632	5.996	0.5-1.0	0.727-1.359	Right of way of existing municipal road	Minimum 20 ft	4	2	II	4 section with 2 numbers of outfall into South Gyani kulo (canal)
10	Line T16	Tikapur Bazar area	1074	11.095	0.5-1.2	0.748-1.409	Right of way of existing municipal road	Minimum 20 ft	2	2	II	2 section with 2 numbers of outfall into South Gyani kulo (canal)
11	Line T17	Tikapur Bazar area	1369	8.662	0.6-1.0	0.754-1.521	Right of way of existing municipal road	Minimum 20 ft	2	2	II	2 section with 2 numbers of outfall into South Gyani kulo (canal)
12	Line T18	Tikapur Bazar area	674	5.711	0.5-1.0	0.73-1.303	Right of way of existing municipal road	Minimum 20 ft	2	2	I	2 section with 2 numbers of outfall into South Gyani kulo (canal)
13	Line T20	Tikapur Bazar area	1397	5.118	0.5-0.8	0.686-1.711	Right of way of existing municipal road	Minimum 20 ft	6	2	I	6 section with 2 numbers of outfall into South Gyani kulo (canal)
14	Line T21	Tikapur Bazar area	1293	6.556	0.5-1.0	0.702-1.771	Right of way of existing municipal road	Minimum 20 ft	6	2	I	6 section with 2 numbers of outfall into South Gyani kulo (canal)
15	Line T22	Tikapur Bazar area	3797	15.731	0.5-1.2	0.741-1.861	Right of way of existing municipal road	Minimum 20 ft	16	2	I	16 section with 2 numbers of outfall into South Gyani kulo (canal)
16	Line	Tikapur	4204	23.685	0.5-1.4	0.787-	Right of way of	Minimum	2	2	II	2 section with 2

SN	Drain	Location	Total Length (M)	Catchment area (ha)	Drain Size (m)	Depth (m)	Right of way of Road	Width of existing road	Total numbers of section	Total number of outfall	Construction phase I or II	Outfalls location
	T23	Bazar area				2.186	existing municipal road	20 ft				numbers of outfall into Jamara canal
17	Line SL	Shaktinagar area	9096	54.608	0.5-1.5	0.679-1.667	Right of way of existing municipal road	Minimum 20 ft	26	2	I	26 section with 2 numbers of outfall into South Gyani kulo (canal)
Total			49011.5	302.669					142	31		

Source: final details engineering design report, January 2020

c) Drain Outfall Structure

38. An outfall of drain is a structure that receives water from a drainage system to a final or ultimate point of discharge into a body of water. The point, location, or structure where drainage discharges from a sewer, drain, or another conduit is known as outfall. The width of drain just in front of outfall structure is increased slightly to minimize the depth of water so as the velocity. Two types of RCC outfall are proposed. Near Tikapur Bazaar area, there is no natural water body where the storm water drain can be drained out but there are number of main canal (Jamara) and secondary canal (Gyani) which pass around and within the Bazaar area. After a series of discussion with irrigation department, all the parties including municipality officials agreed to use those canals as outlet of storm water drain. Altogether 31 numbers of outfalls. Among them six outfall are located on the bank of Jamara Canal, six outfalls on North Gyani kulo (canal) which is quite shallow and runs through the middle of the bazaar area and 19 outfall including two outfalls from Shaktinagar area are located in South Gyani kulo (canal).

d) Box Culvert and Chamber

39. Drain under the road, especially where the drain crosses the road is designed for catering heavy traffic load. These drains are designed as box culvert with connection chamber on each side of the road. The size of the connection chamber is varying as it depends on the width and height of drain. For future connection the side of chamber facing parallel to the drain, construction material used is brick which can be easily dismantled as compared to RCC, while remaining part is made of RCC. The total length of road crossing structure through the length is 3087 m. Altogether there are 299 number of crossing with around 598 numbers of chambers.

Table - 6: Proposed component of storm water drainage

SN	Components	Location	Drain line/Structure	Capacity Length	Remarks
1	Storm water drainage at Tikapur System	Tikapur Municipality ward no. 1	16 line with 116 Sections (TL1,2,3,4,5,6, 13,14,15,16,17 ,18,20,21,22,2 3)	39915.5 m	The total length of RCC storm water drain proposed for Tikapur Municipality is **49011 m**. Among the total length of RCC storm water drain **39915.5 m** is proposed for Tikapur Bazaar Area and remaining **9096 m** is proposed for Shaktinagar Area. The minimum width of proposed drain is 500 mm while the maximum width proposed is 1500 mm.
2	Storm water drainage at Shaktinagar System	Tikapur Municipality ward no. 1	2 line with 26 Sections	9096 m	
3	Drain outfall structure	Tikapur Municipality ward no. 1	31	-	Among them 6 outfall are located on the bank of Jamara Canal, 6 on North Gyani kulo which is quite shallow and runs through the middle of the

					bazaar area while remaining 19 outfall including 2 numbers of outfall from Shaktinagar area are located in South Gyani kulo.
4	Box culvert and Chamber	Tikapur Municipality ward no. 1	299 Box culverts and 598 Chambers	3087 m.	The total numbers of 299 Box culvert structures are proposed for road crossing and 598 numbers of chambers are also proposed to connect the drain within the project area. .

Source: final details engineering design report, January 2020

ii. Faecal Sludge Treatment Plant

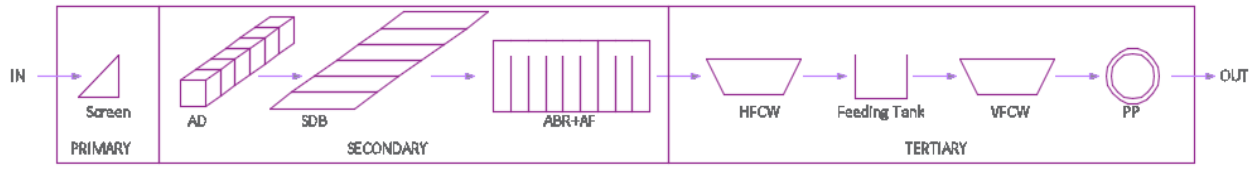
40. Faecal sludge management component is aimed for providing service to the whole municipality. However, the physical construction of FST Plant will be at an open land of Bangaun of ward number 1 of the municipality. The Faecal sludge treatment plant will consist of primary, secondary and tertiary treatment units. The design is based on the qualitative analysis of the Faecal sludge samples from the project area. The treatment system will consist of Anaerobic Digester (AD), Sludge Drying Bed (SDB), Anaerobic Baffle Reactor (ABR), Anaerobic Filter (AF), Horizontal Flow Constructed Wetlands (HFCW), Polishing Pond (PP), and Compost Yard (CY). The proposed site is at a good distance from the main settlement (2.6 km West of the local airport that is currently non-functional), and has a good road access for FS transportation trucks to the plant.

41. **Primary Treatment Units:** Primary treatment units are the components that remove larger floating and suspended solids from the incoming Faecal Sludge. These are also referred as primary operation unit. The unit operation used in the current design is Screening Chamber for removing floating papers, rags, clothes, plastics, wrappers, labels, etc. Primary treatment units can reduce BOD by 20 to 30 percent and suspended solids by 60 percent. The primary treatment phase retains all settleable solids larger than 20mm and allows only fine or dissolved solids to discharge to next treatment phase.

42. **Secondary Treatment Units:** Secondary treatment uses biological processes to separate the dissolved organic matter passing through the primary treatment. Microbes are allowed to consume the dissolved organic matter as food, converting it to carbon dioxide, methane, water, energy and cell tissue, before settling at the bottom. While secondary treatment technologies vary, from the conventional treatment units to constructed wetland systems, the final phase of each involves an additional settling process to remove the remaining suspended solids further. The primary objective of the Secondary Treatment Units is to convert the dissolved and colloidal organic matter present in sewage to biological cell tissues and to end products.

43. **Tertiary Treatment Units:** Tertiary treatment is employed when specific wastewater constituents that cannot be removed by secondary treatment, need to be removed. Tertiary treatment processes are necessary to remove pollutants such as nitrogen, phosphorus, additional suspended solids, refractory organics, and heavy metals and dissolved solids. The main purpose of the tertiary treatment is to ensure that the treated water which is to be released on to the environment is biologically accepted by all other freshwater organisms such as weeds and algae. Normally, a Horizontal Flow Constructed Wetlands and Polishing Ponds are used as tertiary treatment units in FSTP. A system of treatment of FSTP is shown in figure-2 and each component of Faecal sludge treatment plant is describe below:

Figure-3: PShematic Diagram of proposed FSTP system in Tikapur Municipality



a) Screen Chamber

44. This is the first module of the proposed FSTP in Tikapur municipality. Bar screens that retain objects larger than 20 mm is used so that anaerobic digester is free from foreign materials that may affect the treatment process and may also block the pipelines. Further, to minimize the spread of foul smell during discharge procedures, Screens are provided with covers which contains the smell. Conventional design of bar screen is different to situations normally found in an FSTP. It assumes a reasonably steady flow upstream of the screen whereas in case of an FSTP, the flow is intermittent and highly variable within an operation with relatively small discharges.

b) Anaerobic Digester (AD)

45. Anaerobic digester, which is used as a batch reactor in this case, allows for anaerobic digestion of organic matter in Faecal sludge. This biological process results in the formation of stabilized sludge along with biogas as a bi product. The biogas produced is mainly a mixture of carbon dioxide and methane which can be trapped to be used as an energy source. Arrangement has been provided to collect the gas produced across all the anaerobic digester chambers and is terminated towards the end at a height of 1.8 m above the cover slab level. The produced biogas can be used as cooking fuel. Anaerobic digestion reduces the BOD of the effluent liquid thereby undergoing partial treatment of Faecal sludge. Faecal sludge is responsible for production of foul smell which is reduced in the digester. The anaerobic degradation is also capable of reducing bacteria and viruses provided long enough HRT is chosen. The anaerobic digester in the proposed system is designed to remove around 50 percent of BOD and 47percent of COD. This results in an anaerobic digester effluent water quality having 427 mg/l BOD value. The minimum cell residence time is calculated to be 24 days.

Table 1: Parameters for design of Anaerobic Digester

Parameters	Values
Daily FS flow (m^3/d)	9
Temperature (°C)	20
Mean cell residence time (d)	24
HRT (days)	24
Total nos. of digesters	26
Volume of each digester (m^3)	9.22

Source: Final details engineering design report of FSTP, June 2020

c) Sludge Drying Bed (SDB)

46. SDB's are typically used for Primary Treatment in solid liquid separation of Faecal sludge, it has been used as a pseudo-Secondary Treatment in the current design. It is used to retain the high total solids content that would have been carried over to the ABR. The SDB also screens other pollutants like BOD, COD and helminths significantly by retaining the majority of the solids in the Faecal sludge. Bad smell may arise in SDB during the splashing while loading the bed. For this reason, role of anaerobic digester is important also to remove much of the component that produces the smell. However, it is highly imperative that the SDB is not overloaded and that a single batch is emptied on the bed in each cycle to allow sludge to dry and be removed before next load is received.

d) Anaerobic baffle Reactor (ABR)

47. An anaerobic baffled reactor is a part of secondary treatment unit designed to remove the organic matter content anaerobically in the influent by using microbial activities. Dissolved organic matters are metabolized by the anaerobic bacteria whereas settleable suspended solids are removed by sedimentation process at the bottom of the chambers. This component is used in the treatment process as it reduces the BOD and COD along with total solids.

e) Anaerobic Filter (AF)

48. Anaerobic Filters are used to further trap the solids and also degrade the organics resulting in reduced BOD, COD and TSS. This component is also reported to reduce the Total Nitrogen but by a sight margin (less than 15%). 50 mm Pall rings are to be used as filter media which provides an increased surface area for bacterial growth.

f) Horizontal Flow Constructed Wetlands (HFCW)

49. Horizontal Flow Constructed Wetland has been designed as tertiary treatment unit to remove total nitrogen and total phosphorous from the influent by plant uptake. In the HFCW, the liquid after the anaerobic filter is let to percolate through graded size of aggregate in series. The liquid flows in the horizontal direction through the pores of the gravel media preventing the undesirable odor to spread into the ambient environment. The nutrients in the liquid are taken by the plants for its growth. Bacterial population living on the surface of gravel media also uses the nutrients for their metabolism and cell growth.

g) Polishing Pond (PP)

50. Polishing Pond has been made to improve the quality of effluent from Horizontal Flow Constructed Wetland. It is also a part of tertiary treatment unit focused to kill the pathogens by utilizing ultraviolet rays from the sunlight thus raising the hygienic quality of the effluent.

h) Outfall

51. The final effluent of water is discharged to the nearby canal. The water leaving the PP is the final effluent of the plant and is discharged via an RCC outfall structure.

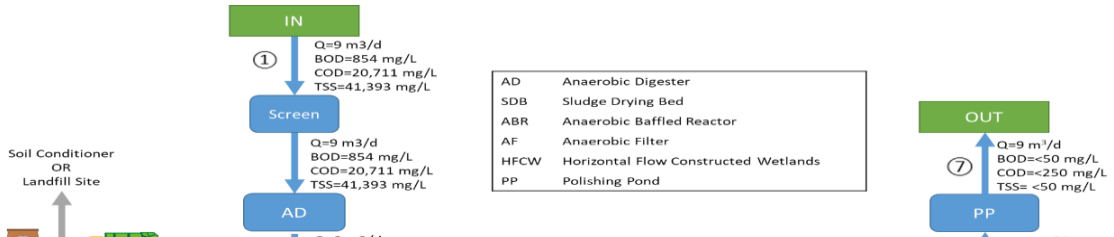
Table-8: Proposed components of Faecal sludge treatment plant

S.N.	Components	Key Function	Footprint (m^2)
1	Screen Chamber	Physical retention of large particles	0.00
2	Anaerobic Digester (AD)	(anaerobic) Biological degradation of organic matters	204.858
3	Sludge Drying Bed (SDB)	Sludge Dewatering and Drying	916.926
4	Anaerobic Baffle Reactor (ABR)	(anaerobic) Biological degradation of organic matters	34.93
5	Anaerobic Filter (AF)	Filtration, biomass absorption	
6	Horizontal Flow Constructed Wetlands (HFCW)	Biological degradation and nutrient removal	133.240
7	Polishing Pond (PP)	Tertiary treatment – Oxidation Disinfection	15.55
8	Compost Yard (CY)	Further drying of FS from SDB	103.24
		Total	**1,408.74**
		Gross area required	**5,680.35**

Source: Final detail engineering design report of FSTP, June 2020

52. The components have been designed on the basis of BOD, COD and TSS values that can be reduced to comply with the national standards at the final outlet. The removal along each component has been presented in the following Process flow diagram.

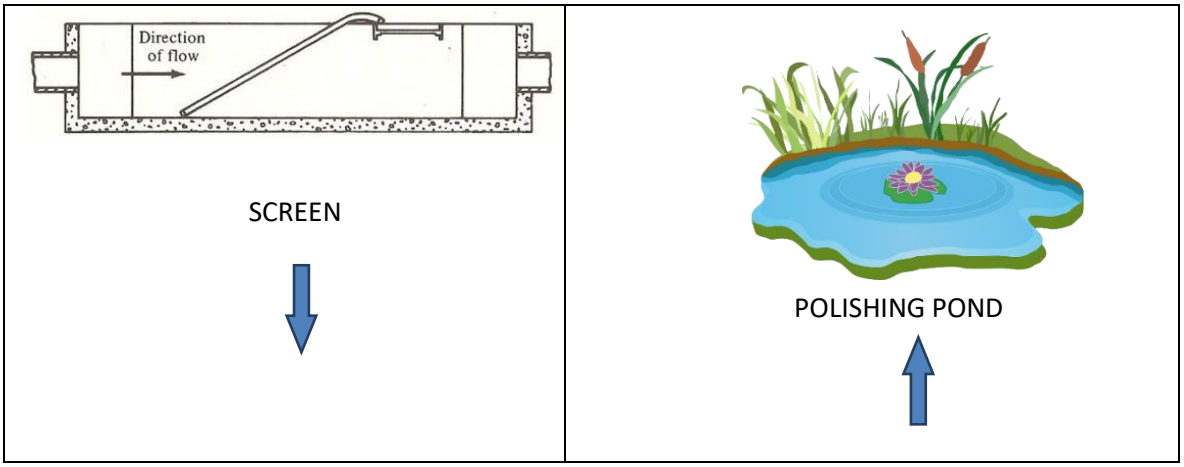
Figure- 4: Process flow diagram

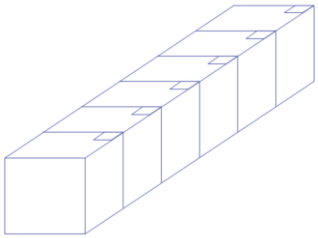


Source: Final detail engineering design report of FSTP, June 2020

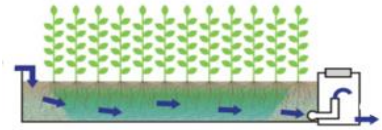
53. FSTP is modular treatment systems, configured from several possible treatment modules according to the Faecal sludge characteristics, treatment requirements and local conditions. The configuration starts from the bar screen which consists of vertical bars at 20 mm spacing and inclined to the ground level (60°). The screen retains floating objects and large materials in Faecal sludge that requires to be removed periodically. The liquid flows through the screen towards the anaerobic digester. Each digester receives one batch at a time and with a given Hydraulic Retention Time (HRT), the sludge undergoes anaerobic degradation, thus significantly stabilizing the Faecal sludge. After the necessary retention time, the mixed liquor (settled sludge and supernatant) is transferred to SDB. Here, the dewatering of the liquid takes place where the sludge is retained mostly on the top layer and the filtered leachate percolates towards the bottom. The leachate is collected and channeled through perforated pipes towards ABR where further anaerobic digestion takes place. This further reduces the BOD and TSS of the leachate thus improving the quality of water. The system configuration for the proposed FSTP is as shown in figure- 5 below.

Figure-5: System configuration of FSTP

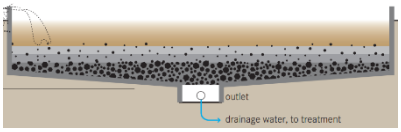




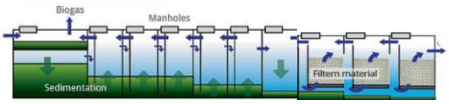
ANAEROBIC DIGESTER



HORIZONTAL FLOW
CONSTRUCTED WETLANDS



SLUDGE DRYING BED



ANAEROBIC BAFFLE REACTOR +
ANAEROBIC FILTER

Source: Final detail engineering design report of FSTP, June 2020

54. FSTP will require continuous and appropriate operation and maintenance activities in order to ensure long term functionality. “Operation” refers to all the activities that are required to ensure that a FSTP delivers treatment services as designed, and “maintenance” refers to all the activities that ensure long-term operation of equipment and infrastructure. Operation and maintenance must be considered as an integral component of the FSTP. With the passage of time, sludge accumulates at various components of the plant. These need to be removed so that the treatment processes carry out efficiently. Similarly, the bar screens need to be cleaned and sludge removed from the SDB on a daily basis so that the plant is ready for the next load of Faecal sludge. After handed over the FSTP to Municipality on the behalf of WUA, the municipality will be managed operation and maintenance itself.

Figure-6 Base map of Tikapur Area

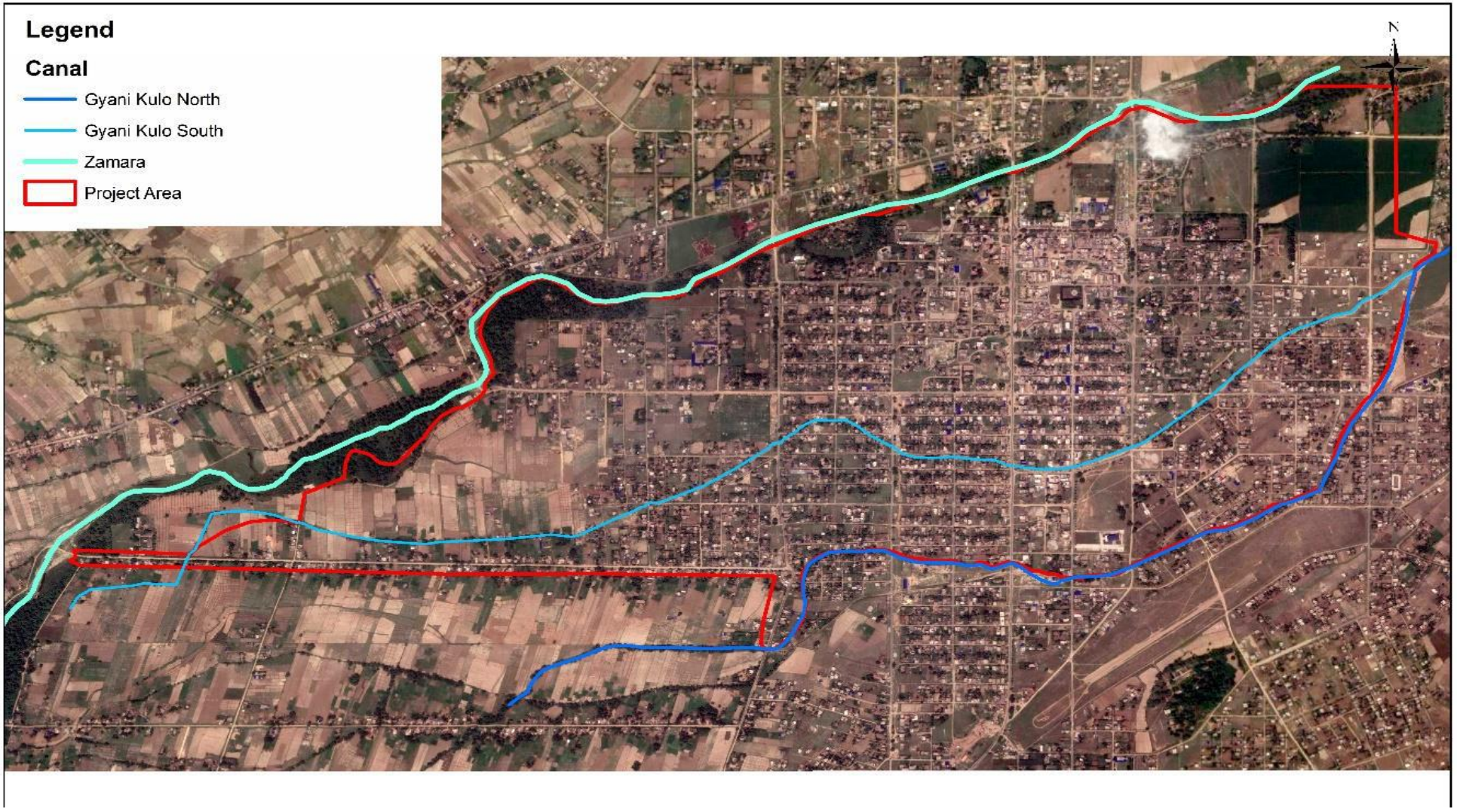


Figure-7 Base map of Shaktinagar Area

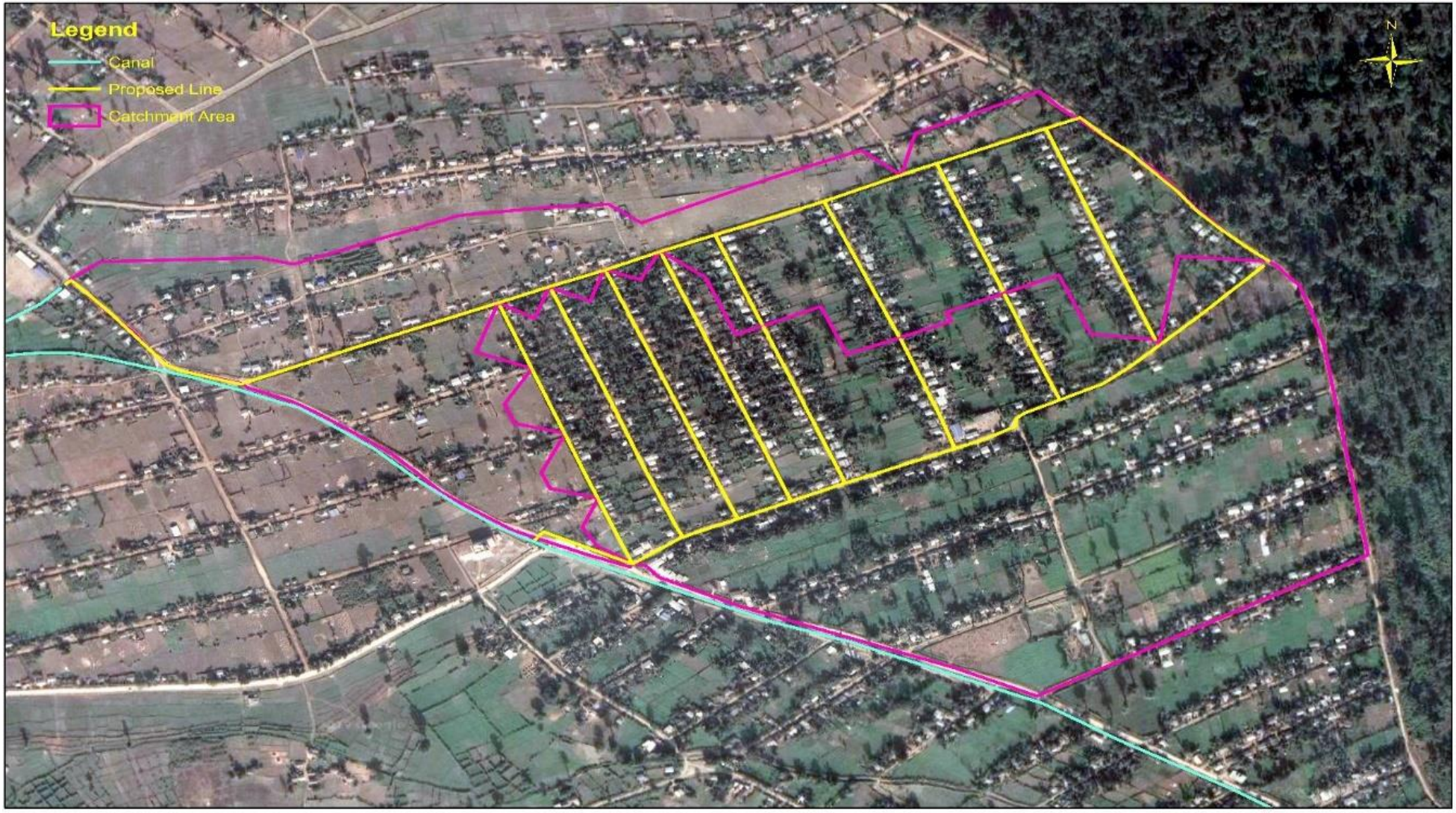


Figure- 8: Overall Catchment area of proposed drain of Tikapur Bazar Area

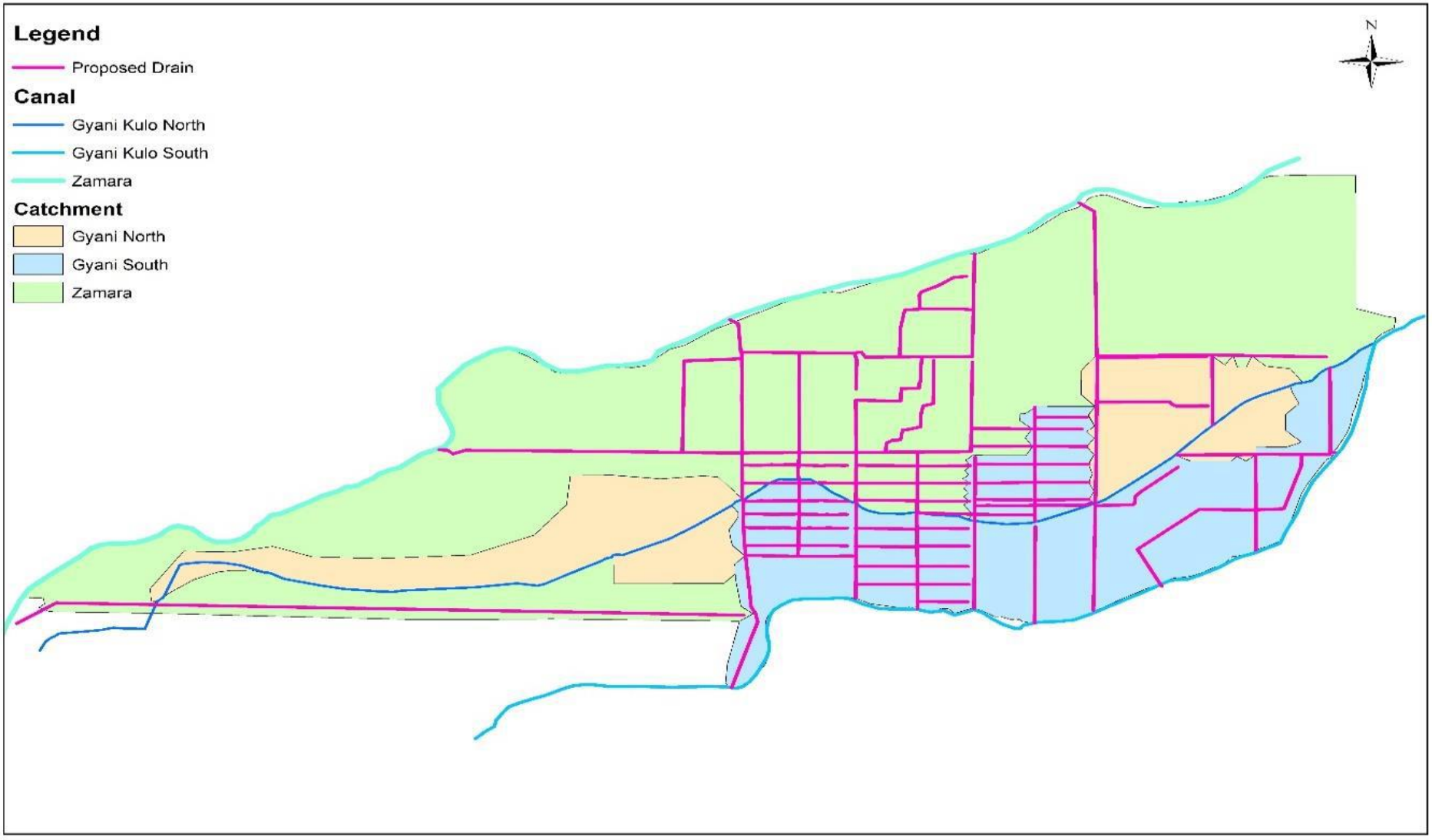


Figure- 9: Overall Catchment area of proposed drain of Shaktinagar Area

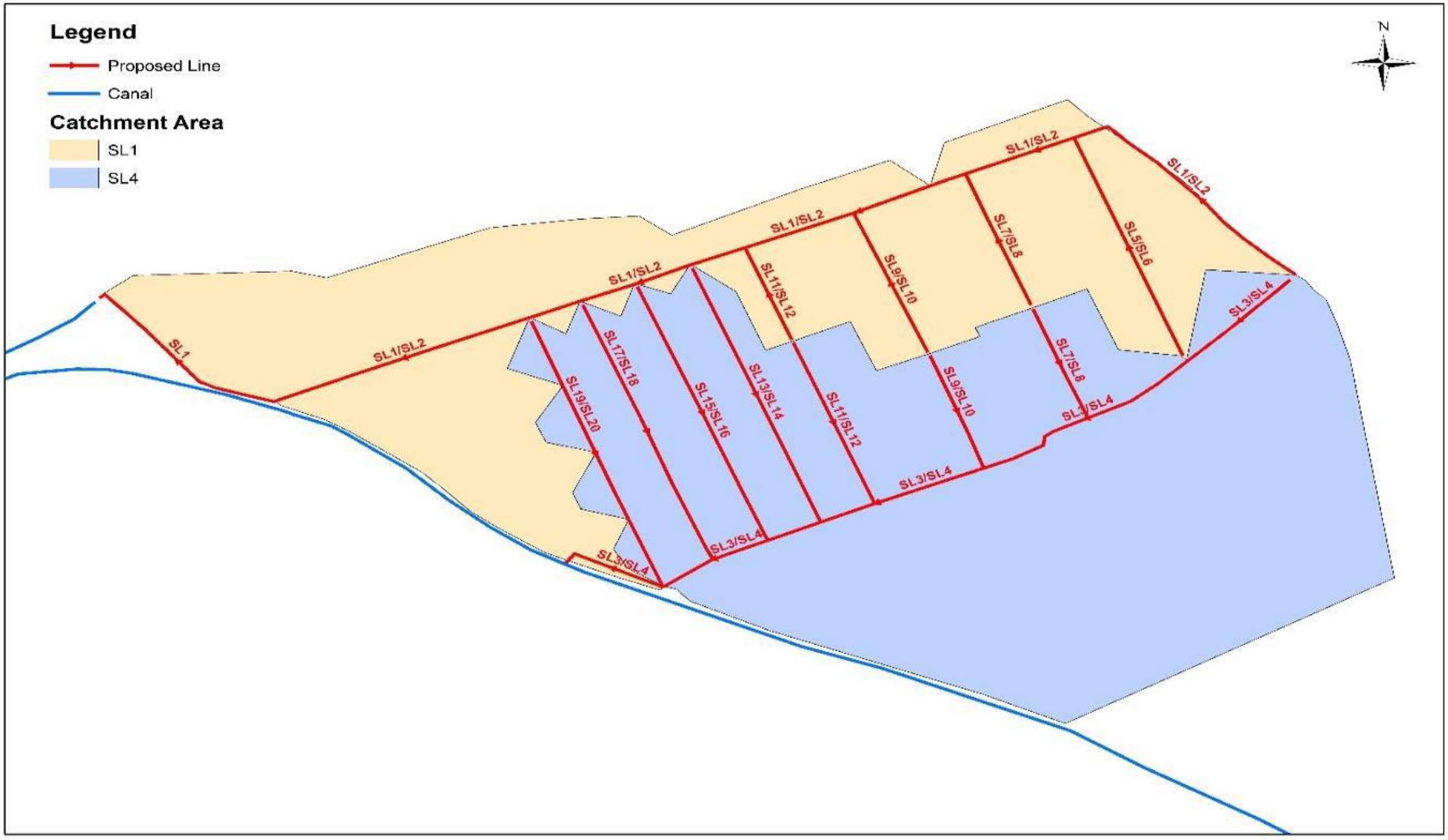
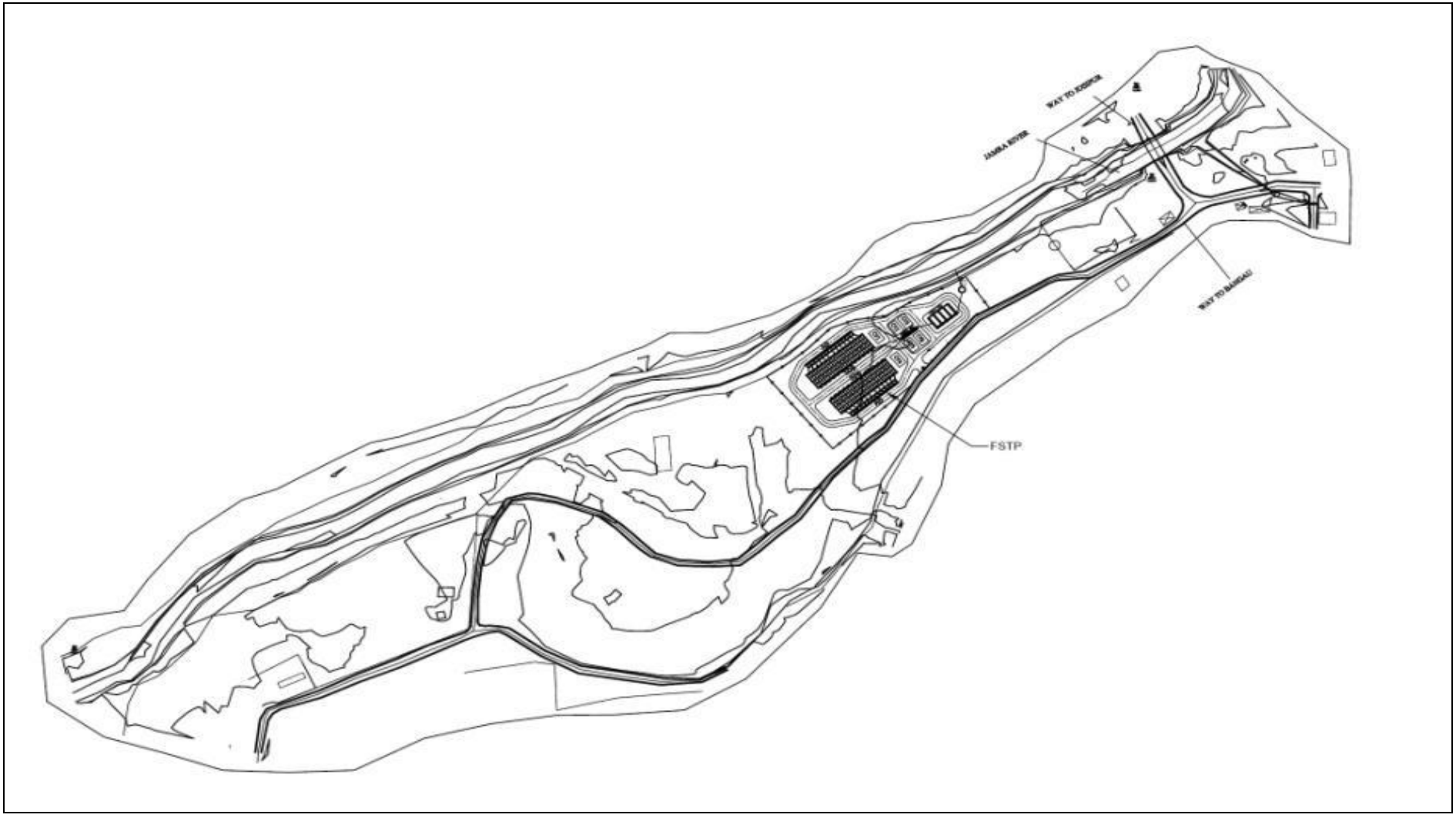


Fig-10: Site Layout of Faecal Sludge Treatment Plant



III. FIELD WORK: SURVEYS AND PUBLIC CONSULTATIONS

A. Outline of Field Work

55. Field visit were conducted to the proposed sites where the storm water drainage and FSTP will be constructed as per final detailed engineering design report. Consultations were conducted with local people and concerned stakeholders to get their views about the proposed storm water drainage and FSTP. During the field visit a “no objection” letter from the Municipality and documents related to identified components were also collected.

i. **Approach and Methodology:** The following steps and methodology were adopted for undertaking the Resettlement Due Diligence.

ii. **Desk review:** Desk review was the main step adopted for the study. Relevant reports and documents available at PMO/DWSSM, WRPMO, WUSC office and reports prepared by WRDSMC were reviewed in order to assess the land acquisition requirement and level of likely impact. The following are the main reports and documents reviewed for the study.

- Detailed Engineering Design Report,
- WUSC minutes and documents
- ADB Safeguard Policy

iii. **Field Visit:** Field visit to the project site and major settlements / clusters in the service area was another step for the study. Many field visits were made after negotiations were carried on in between PMO and the Regional Design, Supervision, and Management Consultants.

iv. **Observation and Interaction:** Direct observation and interaction with local people likely to be affected by project construction activities was carried out during field visit. The details of field visit and interaction are presented below in Table-7.

B. Public Consultation

56. Consultations were undertaken with key stakeholders in line with ADB’s requirements pertaining to social safeguard considerations. Tools used for consultation were stakeholder meetings and focus group discussions (FGD). Key concerns of the people related to the project, including, (i) people’s participation in project implementation, and (ii) need to implement the drainage works and Faecal sludge treatment plant soon.

57. During field visits to all proposed sites, drainage alignments, outfalls location and FSTP, potential impacts and mitigation measures were assessed and discussed with stakeholders. The consultations helped in identifying the needs/concerns and priorities of the stakeholders.

Table 9: Summary of Public Consultations

S. N.	Meeting Date	Facilitator/ Stakeholders	Venue	Participants			Topic of Discussion
				Male	Female	Total	
1	23 June 2020 (2077/03/09)	Municipality WUSC, Community and stakeholders	Saraswoti Secondary School Bangaun	26	7	33	Discussion and decision about the construction of Faecal sludge treatment plant. Minutes of meeting are attached in **Appendix-2a**
2	31 January 2020 (2076/10/17)	RDSMC, WUSC, Community	WUSC Office, Tikapur	14	5	19	Discussion and decision about initial environment examination and Socio-economic impact on storm water drainage and Faecal sludge treatment plant. Minutes of meeting are attached in **Appendix-2b**
3	18 January 2020 (2076-10-04)	RDSMC, WUSC	WUSC Office, Tikapur	8	3	11	Discussion about Details Engineering Design of storm water drainage, Faecal sludge management and Socio-economic Impact. Minutes of meeting are attached in **Appendix-2c**
4	20 December 2019	PMO, RPMO, Local Government representative RDSMC, WUSC and Concern Stakeholder	Project Office	18	0	18	Discussion and Decision on Detail Engineering Design Report. Minutes of meeting are attached in **Appendix-2d**
5	9 August 2019	PMO, RPMO, Municipality, WUSC, RDSMC and stakeholders	Project Office	23	0	23	Presentation and discussion on SWD and FSTP. Minutes of meeting are attached in **Appendix-2e**
6	27 June 2019	PMO, RPMO, WUSC, RDSMC and stakeholders	Project Office	15	0	15	Presentation and discussion on design of FSTP. Minutes of meeting are attached in **Appendix-2f**
7	21 December 2018	PMO, RPMO, Municipality, WUSC, RDSMC and stakeholders	Project Office	16	0	16	Discussion and decision on scope of Tikapur storm water drainage and cost sharing mechanism. Minutes of meeting are attached in **Appendix-2g**
8	19 July 2017 (2074/04/04)	RPMO, RDSMC, WUSC, Elected Local Body and Concern	Tikapur Kailali	71	27	98	Discussion and Decision about the need and Demand of Storm Water Drainage in Tikapur Bazar and

		Stakeholders					Shaktinagar Area. Minutes of meeting are attached in **Appendix-2h**

IV. LAND AVAILABILITY, INVOLUNTARY RESETTLEMENT AND INDIGENOUS PEOPLE IMPACTS

A. Findings

58. The proposed Tikapur Storm Drainage and FSM sub project under UWSSP will be constructed within encumbrance free right of way (ROW) of the public (government or municipal) road. There is no requirement of acquisition of private land. The proposed area is a core bazaar of the municipality which is divided into 32 plots (Block) and with 20 feet wide road.

59. No involuntary resettlement impacts are identified for the proposed subproject components. Temporary impacts will be avoided during project construction work. Local Municipality/ WUSC and local people have expressed their happiness and cooperation for construction of storm water drainage.

60. No relocation impacts or impacts on structures are anticipated at any of the identified sites or alignments for storm water drainage construction works proposed in Tikapur Municipality Project. According to Detail Engineering Design Report, proposed storm water drainage is about 49.011 km long and will be constructed along public/government road edge within ROW; thus, no road closures will be required during construction. The contractor will undertake construction on one side of the road first and on completion of the same, start work on the other side to minimize impact on traffic. The contractor will be required to provide signage at appropriate locations indicating available alternate access routes to minimize traffic disruptions. The contractor will have to ensure access to shops and residences using simple wooden walkways where required and limit the excavation to a length of 50 m at a time to minimize disruption. Construction contracts will include the above provisions.

61. All land required for construction of new components of the proposed drainage system is vacant government-owned land or right-of-way of the road; thus, the project does not require additional land. No livelihood and income related impacts are anticipated on storm water drainage construction works. Relocation or structure or livelihood loss is not anticipated.

62. Tikapur storm water drainage project is conceptualized as a drainage system using the drain in both side of road in Tikapur and Shaktinagar area. 16 drain line with 116 sections in Tikapur area and 2 drain line with 26 Sections in Shaktinagar area are proposed. Altogether there are 31 numbers of outfalls. Among them 6 outfalls are located on the bank of Jamara Canal, 6 on North Gyani Kulo which is quite shallow and runs through the middle of the bazaar area while remaining 19 outfalls including 2 numbers of outfall from Shaktinagar area are located in South Gyani Kulo. For the use of public/government land as an outfall point to the irrigation canal, the concerned office has provided written consent for the project (Appendix 1d).

63. For the site of faecal sludge treatment plant, nearly 5680.35 sq. m land is required. The fecal sludge treatment plant will consist of primary, secondary and tertiary treatment units. The construction site of FST Plant is located at ward no. 1 Bangaun, of Tikapur municipality. Faecal sludge treatment plant is aimed for providing service to the whole municipality. Tikapur Municipality has given consent to use 6772.63 sq. m government land for construction of faecal sludge treatment plant. Consent letter of Municipality is attached in appendix-1a. The proposed site is vacant public/government land without any public or private structures and with some bushes. The community of periphery of construction site has consensus to construct FSTP (Minutes of meeting of community consultation is included in appendix-2a). No settlement will be adversely affected and no need of physical displacement or relocation. No need of compensation. No involuntary resettlement impacts are identified in the proposed faecal sludge treatment plant site.

64. Jamara Branch Irrigation Canal User Committee has given consent letter to discharge effluent of FSTP downstream of Ghiya, Rampur and Katanpur dam, into Jamara Branch Canal**.** The consent letter is attached in **Appendix 1e.**

B. Mitigation Measures

65. Impacts on structures are not anticipated at any of the identified sites or alignments for Storm Water Drainage and FSTP proposed Project in Tikapur. Temporary impacts of drainage construction along rights of way of government road are limited to potential access disruptions for shops and residence, limited vehicular movement will be ensured and disturbances to pedestrians during construction period will be avoided through good engineering practices. The contractor will be accountable to provide signage at appropriate locations indicating road closure to minimize traffic disruptions. The contractor will undertake construction on one side of the road first and upon completion of the same, start work on the other side to minimize the impact on traffic. The contractor will have to ensure access to shops and residences using simple wooden walkways/planks where necessary and limit the excavation. Planks with handrails will be provided where width and depth of the excavation is >1m. Hence, loss of livelihood due to temporary loss of access is not envisaged.

66. The contractor will ensure to avoid the temporary impacts such as noise pollution, water pollution and dust during construction activities of FSTP. The impacts of construction activities will be mitigated during the construction period by effectively implementing mitigation measures as recommended in Environmental Management Plan (EMP). Contractors are responsible for providing Personal Protective Equipment (PPE) to workers and respective consultant will monitor the proper use of it in the site.

67. There will be loss of around 20 to 25 trees in the proposed faecal sludge treatment plant site at Banagaun Uttar Puruwa, ward number 1 of Tikapur municipality. The site is government land. Around 12 trees of Sissau (Dalbergia sissoo), and other few trees of Bayar (Ziziphus mauritiana), Simal (Bombax ceiba) and Bamboo (Bambus spp) are anticipated to be felled. Compensatory plantation will be carried out at the ratio of 1:10 for every tree felled. However, the project will avoid tree cut as far as possible to maintain greenery around the FSTP. The

compensatory greenery management/promotion/compensatory plantation budget is allocated in IEE (EMP Table VIII-7). Proper operation of the FSTP will be ensured by WUSC, so that there is no odor menace.

68. The FSTP will treat fecal sludge and the effluent will be within permissible limit as per government standards. Proper operation of the treatment plant will be ensured to avoid risk of pollution of water bodies. Slight odor will be there while fetching sludge drying bed from sludge carrier. Barn lime will be sprayed to suppress the foul odor. Plantation of aromatic plants (e.g. Murraya paniculata, Magnolia champaca) around the FSTP as green belt will be done for beautification and to minimize odour. The dried sludge from the FSTP will be converted to briquette that will used as cooking fuels and/or powder of dried sludge will used as organic fertilizer. Byproduct of FSTP will be managed by municipality along with its marketing which is not part of this project. Revenue can be collected by selling reeds and dried sludge. After the takeover of the project by the Municipality, the operation and maintenance of it will be done by the operator as per service level agreement which will be prepared before second stage.

69. Assessment of involuntary resettlement and indigenous people impact of proposed components are given in table-10 below:

Table 10: Land Requirement and Summary of Involuntary Resettlement and Indigenous Peoples Impacts

SN	Components	Location	Structure	Land Required	Involuntary Resettlement Impact	Indigenous Peoples Impact	Mitigation Measure
1	Storm water drainage at Tikapur System	Tikapur Municipality ward no. 1 Bazar area	Drains 39915.5 m length	Government/Public road Row	The Proposed drains will be constructed on both side of the road alignment of public road at project area; There is no any private structure, house, shops and cottage. Hence, no involuntary resettlement impacts are anticipated.	None	Temporary impacts of drainage along the public road within rights of way of government road are limited to potential access disruptions for shops and residences during construction, which will be avoided through good engineering practices. The contractor will undertake construction on one side of the road first and upon completion of the same, start work on the other side to minimize the impact on traffic. Tikapur Municipality has given a consent letter for construction. Consent letter is attached in **Appendix-1b and 1c**
2	Storm water drainage at Shaktinagar System	Tikapur Municipality ward no. 1, Shaktinagar area	9096 m length	Government/Public road Row	The Proposed drains will be constructed on both side of the road alignment of public road at Shaktinagar area. There is no any private structure, house, shops and cottage. Hence, no involuntary resettlement impacts are anticipated.	None	
3	Drain outfall structure	Tikapur Municipality ward no. 1	31 nos of outfall	Government/Public road Row	The proposed outfall is located on Jamara canal, North Gyani Kulo and south Gyani Kulo. Hence, no involuntary resettlement impacts are anticipated.	None	Rani Jamara Kulariya Irrigation Project office has given a consent letter for construction of outfall in Jamara Canal. North and south Gyani Kulo are the branch canals of Jamara Canal. Consent letter is attached in **Appendix-1d**
4	Box culvert and Chamber	Tikapur Municipality ward no. 1	Box Culvert-299 and Chamber-598	Government/Public road Row	These drains are designed as box culvert with connection chamber on each side of the road. The size of the connection chamber is varying as it depends on the width and height of drain. Hence, no involuntary resettlement impacts	None	The contractor will ensure access to shops and cottages using simple wooden walkways/planks where necessary and limit the excavation. Planks with handrails

					are anticipated.		will be provided where depth or width of excavation is >1m. Consent letter is attached in **Appendix-1b and 1c**
5	Faecal Sludge Treatment Plant	Tikapur Municipality ward no. 1	Screening chamber, Anaerobic digester, Sludge drying bed, Anaerobic baffle reactor, Anaerobic filter, Horizontal Flow Constructed Wetlands, Polishing pond, compos yard	Land required: 5680.35 sq. Available land: 6772.63 sq. m, Plot number 8, Bangaun	The proposed land is government/public under Tikapur Municipality. The land is located at the ward no. 1 Bangaun area of Tikapur Municipality. 5587 sq. m of land is required for the construction of FSTP. Municipality has provided 6772.63 sq. m land for the construction of FSTP. The proposed land is vacant with some bushes/trees. There is no any private or public structures. No involuntary resettlement impacts are anticipated. No settlement will be adversely affected and no need of physical displacement.	None	Contractor will avoid/mitigate environmental impacts by implementing EMP effectively with the coordination of WUSC and Municipality. Contractors are responsible for providing Personal Protective Equipment (PPE) to workers and monitor the proper use of it in the site. Tikapur Municipality has given consent letter to use land. Consent letter is attached in **Appendix-1a.** The Jamara Branch Irrigation Canal User Committee has given consent letter to discharge effluent of FSTP downstream of Ghiya, Rampur and Katanpur dam, into Jamara Branch Canal**.** The consent letter is attached in **Appendix 1e.**

C. Involuntary Resettlement

70. As mentioned in ADB's Safeguard Policy, the involuntary resettlement safeguards basically covers physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas.

71. Nearly 5680.35 sq. m of land for construction of faecal sludge treatment plant. The municipality has provided consent to use required land at ward no. 1 Bangaun for construction of FSTP. No private land needs to be acquired as available government land is sufficient. Municipality has given consent for the public land use. No settlement will be adversely affected and no need of physical displacement is envisaged. The impact of construction activities will be mitigated during the construction period following the mitigations measures as recommended in Environmental Management Plan (EMP).

D. Indigenous Peoples

72. According to the ADB's Safeguard policy the Indigenous Peoples safeguards are activated if a project directly or indirectly affects the dignity, human rights, livelihood systems, or culture of Indigenous Peoples or affects the territories or natural or cultural resources that Indigenous Peoples own, use, occupy, or claim as an ancestral domain or asset. The term Indigenous Peoples is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the characteristics such as self-identification as members of a distinct indigenous cultural group; geographically distinct habitats or ancestral territories; distinct customary cultural, economic, social, or political institutions; and a distinct language.

73. The field observation revealed that all the settlements / clusters in the service area are heterogeneous in terms of caste/ethnicity and no specific territory of indigenous people has been observed. The project area has 44.29% indigenous people (41.14% Tharu and 3.15% Magar). Furthermore, in the context of service area, belonging to the indigenous group does not necessarily mean that they are underprivileged. The Municipality policy and rules reflect that all are treated equally and there is no discrimination on receiving the services provided by storm water drainage and faecal sludge treatment plant.

74. The impacts on indigenous people will be positive in terms of the access to sanitation facilities i.e. storm water drainage and faecal sludge treatment plant. No physical and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) of indigenous peoples are anticipated. Therefore, Indigenous People Plan is not required for this subproject.

V. CONCLUSIONS

A. Summary and Conclusions

75. The storm water drainage and faecal sludge treatment plant for Tikapur is very essential to improve the environmental conditions of the municipality. The need for the scheme was keenly expressed by stakeholders.

76. This DDR is based on desk review of the Final Detailed Engineering Design Report and other relevant documents as well as field assessment. The status of major resettlement due diligence activities and findings are summarized as follows:

i) No physical displacement (relocation, loss of residential land, or loss of shelter) or economic displacement (loss of assets, access to assets, income sources, or means of livelihoods – temporary or permanent) is identified as a result of proposed subproject components. No additional land to dispose storm water is needed for the system. For the use of public/government land as an outfall point to the irrigation canal, the Rani Jamara Kulariya Irrigation Project has provided written consent for the project (Appendix 1d). For the land use of construction of FSTP at Bangaun utarpuruwa area, the municipality has provided the written consent to use 6772.63 sq. m of vacant government land for the project which is annexed to this report (Appendix-1a). Private land acquisition is not required. No involuntary resettlement impacts are anticipated.

ii) No specific territory of indigenous people has been reported. All community members are and will be treated equally and there will be no discrimination related to receipt of service based on ethnicity and caste. Therefore, the impact on the entire population including the Janajati population will be positive, with improved access to drainage facilities and feacal sludge treatment plant. No adverse impacts are anticipated.

iii) The Tikapur Storm Water Drainage and FSM project is proposed in Tikapur Municipality. The OBA program was launched in Tikapur Water Supply and Sanitation Project under TSTWSSP. All poor households received the OBA grant through the OBA program. 1234 households were benefitted by the program. 861 households benefitted from both free tap connections and toilet; and 373 households received free tap connection.

iv) Majority of the labor or workforce are from Tharu and Magar community (Indigenous People). Labor from Indigenous People community will be given preference during construction period. Indigenous people will also get priority during recruitment of personnel required in O&M period. The allocation of budget and required manpower of O&M period is mentioned in final DEDR (Section 14.3).

v) Some site-specific disturbances during drainage construction may be anticipated in terms of limited access and disturbance to the people for a short duration. The environmental impacts of project construction activities will be minimal. Such impacts will mitigated by effective implementation of EMP. No income loss is anticipated as the drainage works will

be carried out by providing temporary access as necessary. The length of excavation/construction will not be more than 50 meters at a time. Caution will be taken to ensure that the Grievance Redress Mechanism is effectively implemented. Emphasis will be placed on information dissemination and frequent interaction with local people as well as dealing with local issues in a participatory approach.

B. Next Steps

i. Ensure to conduct continuous meaningful consultations with all stakeholders of the FSTP, particularly the nearest residential areas. Ensure to present the final detailed design of the FSTP, including the measures that will be implemented to mitigate all impacts including odor and community health and safety concerns during operation phase of the FSTP. Obtain acceptability of the project to avoid potential complaints in the future.

ii. The DDR will be updated based on Detailed Measurement Surveys (DMS) in sections and sites ready for implementation. The updated document will be submitted to ADB for No Objection prior to start of construction.

iii. Any resettlement issues identified through the RDSMC/DMS will be included in the updated social safeguards document and reported in semiannual social safeguards monitoring reports as required along with adequate site photographs and consultations.

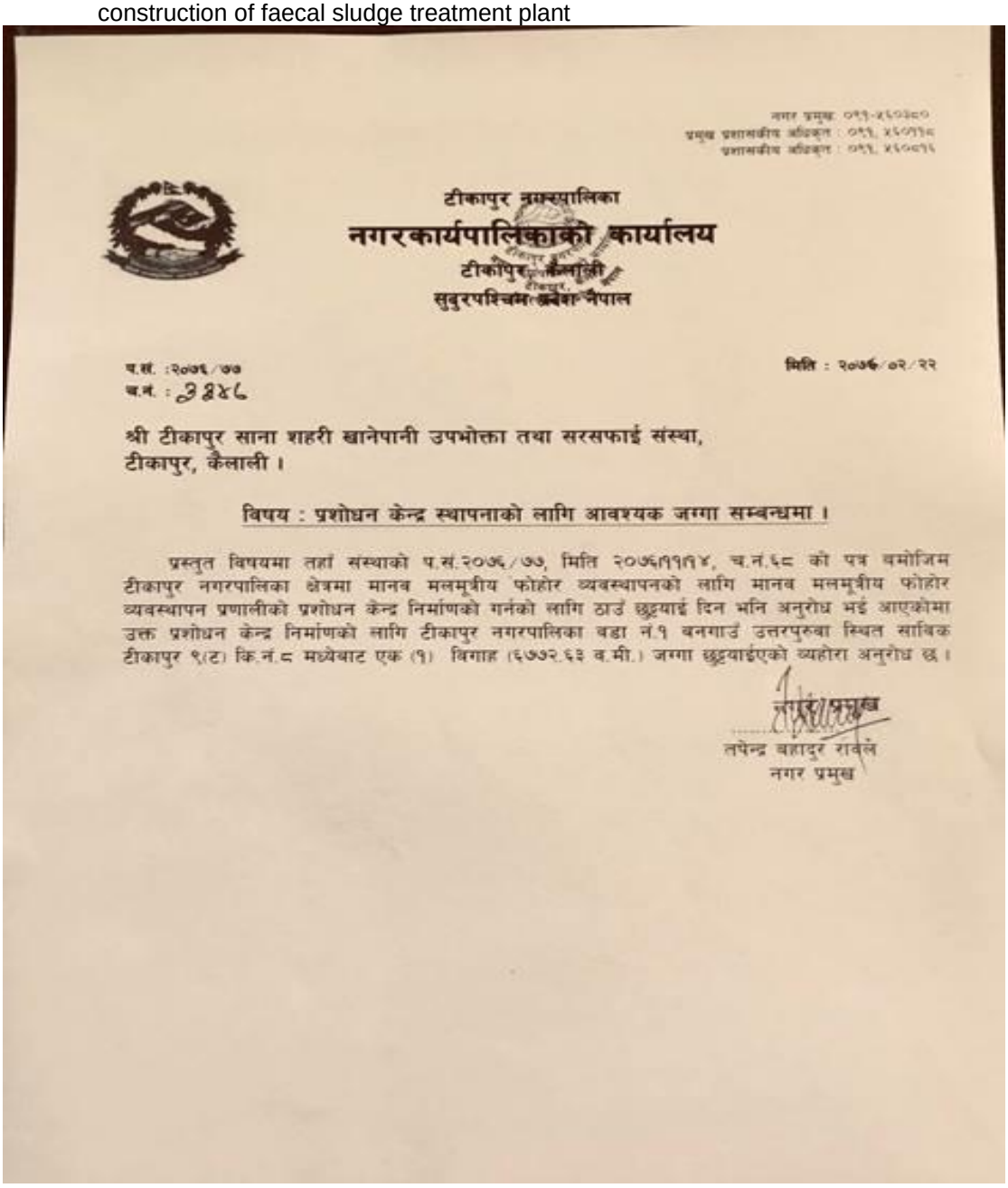
iv. Prior to project implementation, the Social Safeguards Officer at the PMO will be required to undertake a review of this due diligence report, prepare a confirmation letter or report documenting any modifications for the subproject and submit to ADB; and receive a ‘no objection’ confirmation from ADB prior to start of construction in the subproject.

Appendixes

Appendix-1

Consent letters for construction of proposed components and discharge of effluent

a. Recommendation letter from Tikapur Municipality regarding permission to land use for construction of faecal sludge treatment plant



टीकापुर नगरपालिका
नगरकार्यपालिकाको कार्यालय
टीकापुर, कैलाली
सुदुरपश्चिम प्रदेश, नेपाल

प.सं. :२०७६/७७
च.नं. : ३४४८

मिति : २०७६/०२/२२

श्री टीकापुर साना शहरी खानेपानी उपभोक्ता तथा सरसफाई संस्था,
टीकापुर, कैलाली ।

विषय : प्रशोधन केन्द्र स्थापनाको लागि आवश्यक जग्गा सम्बन्धमा ।

प्रस्तुत विषयमा तहां संस्थाको प.सं.२०७६/७७, मिति २०७६/११/१४, च.नं.६८ को पत्र बमोजिम टीकापुर नगरपालिका क्षेत्रमा मानव मलमूत्रीय फोहोर व्यवस्थापनको लागि मानव मलमूत्रीय फोहोर व्यवस्थापन प्रणालीको प्रशोधन केन्द्र निर्माणको गर्नको लागि ठाउं छुट्टयाई दिन भनि अनुरोध भई आएकोमा उक्त प्रशोधन केन्द्र निर्माणको लागि टीकापुर नगरपालिका वडा नं.१ बनगाउं उत्तरपुरुवा स्थित साबिक टीकापुर ९(ट) कि.नं.८ मध्येबाट एक (१) बिगाह (६७७२.६३ व.मी.) जग्गा छुट्टयाईएको व्यहोरा अनुरोध छ ।

नगर प्रमुख
तपेन्द्र बहादुर रावल
नगर प्रमुख

English Translation

Tikapur Municipality
Office of the Municipal Council
Tikapur, Kailali
Sudur Paschim Province, Nepal

Letter No. 2076/077
Letter Dispatch no. 3347 Date: 4 June 2020 (2077/02/22)

Subject: Regarding the land required for Treatment Plant

Tikapur Small Town Water Supply and Sanitation Committee,

Tikapur, Kailali.

With reference to the above subject matter, according to the received letter dated 16 February, 2020 (2076/11/14) of Tikapur Small Town Water Supply and Sanitation Committee with request to avail land for treatment plant for Faecal Sludge Treatment Plant, we inform that the municipality has allocated required land (6772.63 sq. m) under plot number 8 - of Trace Map 9 (Ta). The land is located at Banagaun Uttar Puruwa, ward number 1 of Tikapur municipality.

Tapendra Bahadur Rawal
The Mayor
(Signed and Stamp)

b. Letter from Tikapur Municipality regarding permission to construction of drains

नगर प्रमुख: ०९१-५६०३८०
प्रमुख प्रशासकीय अधिकृत : ०९१, ५६०११८
प्रशासकीय अधिकृत : ०९१, ५६०८१६

टीकापुर नगरपालिका

नगरकार्यपालिकाको कार्यालय

टीकापुर, कैलाली

सुदुरपश्चिम प्रदेश नेपाल

प.सं. :२०७६/७७ मिति : २०७६/१०/०६

च.नं. : 9852

श्री टीकापुर साना शहरी खानेपानी उपभोक्ता तथा सरसफाई संस्था,
टीकापुर, कैलाली ।

विषय : सहमती प्रदान सम्बन्धमा ।

प्रस्तुत विषयमा तहाँ संस्थाको मिति २०७६।१०।०६ गतेको पत्र बमोजिम नेपाल सरकार खानेपानी मन्त्रालय, शहरी खानेपानी तथा सरसफाई (क्षेत्र) परियोजना (Urban Water and Sanitation (Sector) Project) अन्तर्गत टीकापुर नगरपालिका वडा नं.१ भित्र पर्ने ब्लक नम्बरहरु ए, बी, सी, डी,, ५, ६, ७, ८, ११, १२, १३, १४, १७, १८, १९, २०, २१, २४, २५ तथा शक्तिनगर र बनगाउँ उत्तरपुरुवामा वर्षातको पानी व्यवस्थापन प्रणाली (Tikapur Storm Water Drainage Management System) निर्माणको लागि नगरपालिकाको तर्फबाट सहमति प्रदान गरिएको व्यहोरा अनुरोध छ ।

केशरी बिष्ट रावल
का.वा. नगर प्रमुख

English Translation

Tikapur Municipality
Office of the Municipality
Tikapur, Kailali
SudurPaschim Province, Nepal

Letter No. 2076/077
Letter Dispatch no. 1492 Date: 2076/10/06

Subject: Letter of Consent

Tikapur small Town Water Supply and Sanitation Committee
Tikapur, Kailali

With reference to the above subject matter, according to the received letter on dated 2076/10/06 of Tikapur small town water supply and sanitation committee, we inform that the Municipality is agree to construction of storm water drainage in the block no. A,B,C,D, 5,6,7,8,11,12,13,14,17,18,19,20,21,24,25, Bangaun Utarpuruwa and Shaktinagar area of Tikapur Municipality ward no. 1 to be implementing under the government of Nepal, Ministry of water supply and Urban water supply and sanitation (sector) project.

(Sign)

(Keshari Bista Rawal)
Deputy Mayor
(Stamp)

c. Letter from ward Number-1 regarding permission to construction of drain

१ नं. वडा कार्यालय ०९१-५६०८१

टीकापुर नगरपालिका
१ नं. वडा कार्यालय
टीकापुर, कैलाली
सुदरपश्चिम प्रदेश, नेपाल

पत्रसं खमा: २०७६/०७७
चलानी नम्बर: ४९०८

मिति : २०७६/१०/०६

बिषय : सहमति सम्वन्धमा।

श्री टीकापुर साना सहरी खानेपानी उपभोक्ता तथा सरसफाई संस्था
टीकापुर, कैलाली।

प्रस्तुत बिषयमा नेपाल सरकार खानेपानी तथा सरसफाई मन्त्रालय, श्री खानेपानी तथा सरसफाई (क्षेत्र परियोजना (Urban Water Supply and Sanitation (Sector) Project) अन्तर्गत टीकापुर नगरपालिका वडा नं. १ का ब्लक नं. ए,वि,सी,डी, ५,६,७,८,११,१२,१३,१४,१७,१८,१९,२०,२१,२४,२५,बनगाउँउत्तरपुरुवा र शक्तिनगरमा बर्षातको पानी व्यवस्थापन प्रणाली (Tikapur Storm Water Dranaige Management System) निर्माण हुन लागेकोले सो को सहमति उपलब्ध गराई दिन हुन भनि त्यस संस्थाबाट मिति २०७६/१०/०६ गतेको प्राप्त पत्रबाट अनुरोध भै आएको हुँदा टीकापुर नगरपालिका १ नं. वडा कार्यालयको तर्फबाट आवश्यक सहयोग र समन्वय हुने प्रतिबद्धत सहित सहमति प्रदान गरिएको व्यहोरा जानकारीका लागि अनुरोध छ।

(सिता चौधरी)
का.वा.वडाअध्यक्ष
का.वा. वडा अध्यक्ष

English Translation

Tikapur Municipality
Office of the ward no. 1
Tikapur, Kailali
SudurPaschim Province, Nepal

Letter No. 2076/077
Letter Dispatch no. 4605 Date: 2076/10/06

Subject: Letter of Consent

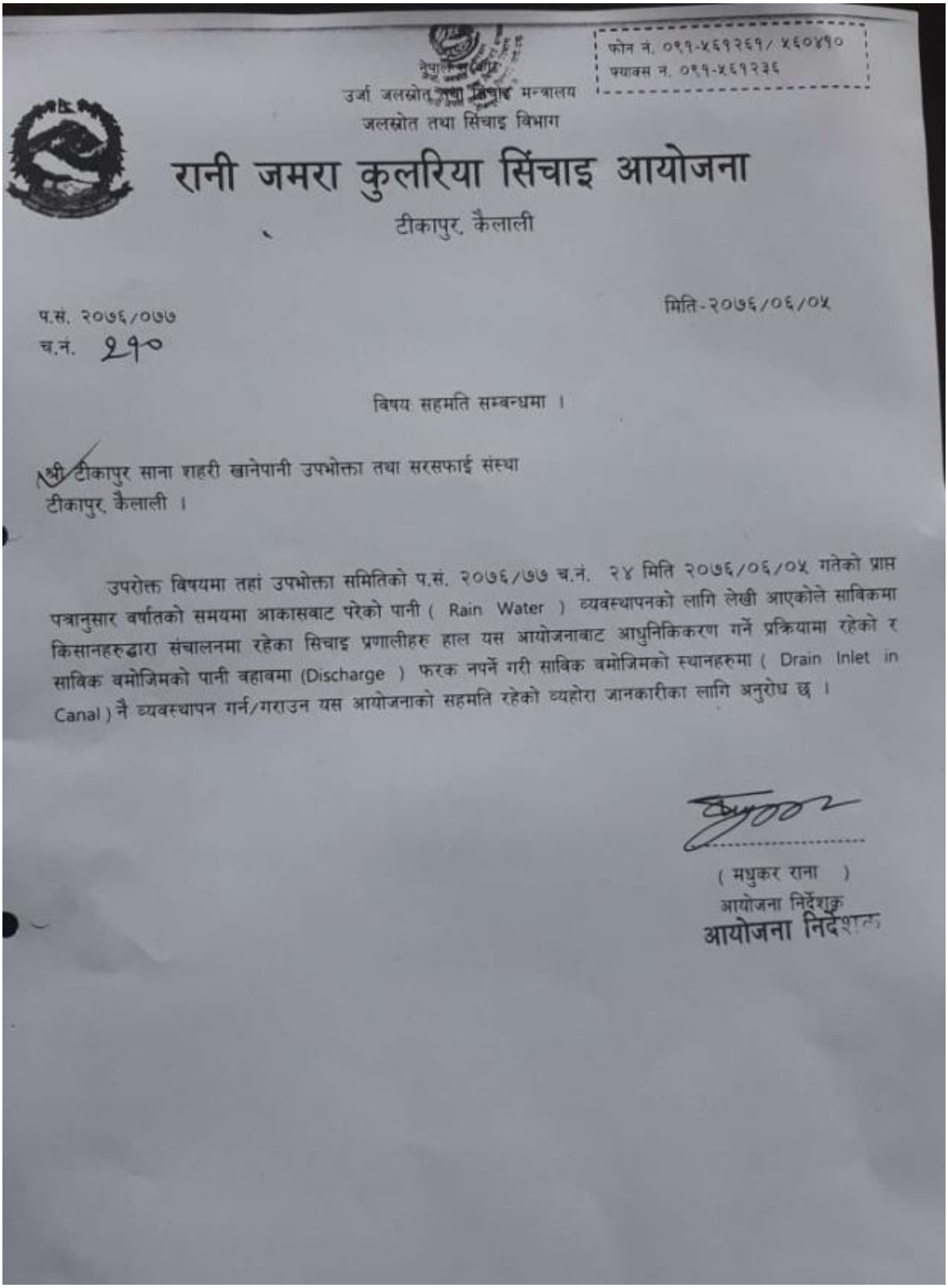
Tikapur Small Town Water Supply and Sanitation Committee
Tikapur, Kailali

With reference to the above subject matter, according to the received letter on dated 2076/10/06 of Tikapur small town water supply and sanitation committee, we inform that the office of the ward no. 1 of Tikapur Municipality is agree with support and coordination to construction of storm water drainage in the block no. A,B,C,D, 5,6,7,8,11,12,13,14,17,18,19,20,21,24,25, Bangaun Utarpuruwa and Shaktinagar area of Tikapur Municipality ward no. 1 to be implementing under the government of Nepal, Ministry of water supply and Urban water supply and sanitation (sector) project.

(Sign)

(Sita Chaudhari)
Acting Chairperson
(Stamp)

d. Letter from Rani Jamara Kulariya Irrigation project regarding permission to construction of drain



फोन नं. ०९१-५६१२६१/ ५६०४१०
फ्याक्स नं. ०९१-५६१२३६

उर्जा जलस्रोत तथा सिंचाई मन्त्रालय
जलस्रोत तथा सिंचाइ विभाग

रानी जमरा कुलरिया सिंचाइ आयोजना

टीकापुर, कैलाली

प.सं. २०७६/०७७
च.नं. २१०

मिति-२०७६/०६/०५

विषय सहमति सम्बन्धमा ।

श्री टीकापुर साना शहरी खानेपानी उपभोक्ता तथा सरसफाई संस्था
टीकापुर, कैलाली ।

उपरोक्त विषयमा तहां उपभोक्ता समितिको प.सं. २०७६/७७ च.नं. २४ मिति २०७६/०६/०५ गतेको प्राप्त पत्रानुसार वर्षातको समयमा आकासबाट परेको पानी (Rain Water) व्यवस्थापनको लागि लेखी आएकोले साबिकमा किसानहरुद्वारा संचालनमा रहेका सिचाइ प्रणालीहरु हाल यस आयोजनाबाट आधुनिकिकरण गर्ने प्रक्रियामा रहेको र साबिक बमोजिमको पानी बहावमा (Discharge) फरक नपर्ने गरी साबिक बमोजिमको स्थानहरुमा (Drain Inlet in Canal) नै व्यवस्थापन गर्न/गराउन यस आयोजनाको सहमति रहेको व्यहोरा जानकारीका लागि अनुरोध छ ।

(मधुकर राना)
आयोजना निर्देशक
आयोजना निर्देशक

English Translation

Government of Nepal
Ministry of Energy, Water Resource and Irrigation
Department of Water Resource and Irrigation

Rani Jamara Kulariya Irrigation Project
Tikapur Kailali

Letter no. 2076/077
Letter Dispatch no. 210 Date: 2076/06/05

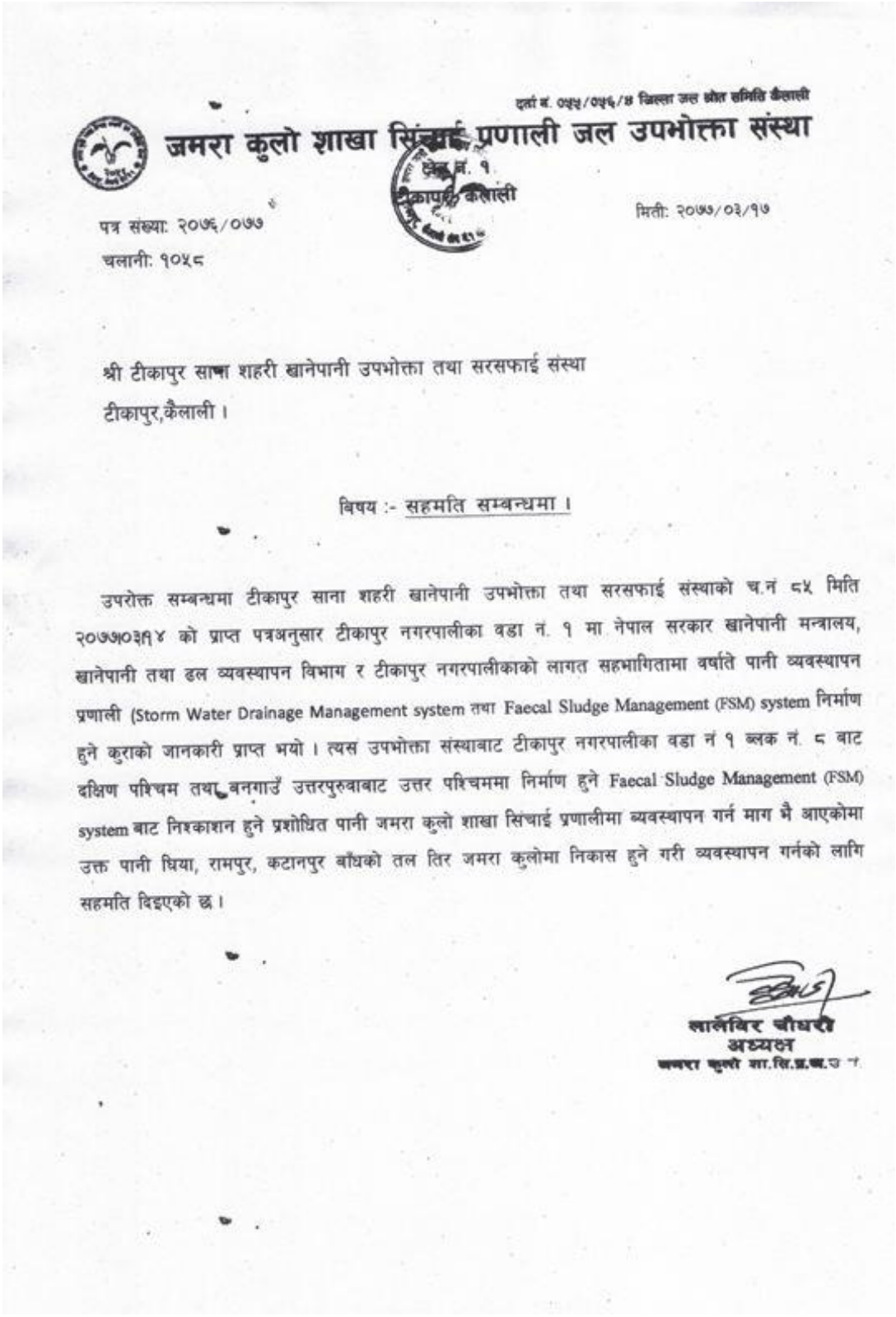
Subject: Letter of Consent

Tikapur Small Town Water Supply and Sanitation Committee
Tikapur, Kailali

With reference to the above subject matter, according to the letter received from Tikapur small town water supply and sanitation committee dated 2076/10/05, it has been written for the management of storm water during the rainy season. We would like to inform that the existing canal operated by farmers is going to the improvement process. Though, this project office has agreed to be managed of drain inlet in the existing canal without any impact on existing water discharge.

(Sign)
(Madhukar Rana)
Project Director
(Stamp)

e. Consent letter from Jamara Branch Canal Irrigation User Committee for discharging treated effluent/outfall.



दर्ता नं. ०४२/०३५/७ जिल्ला जल स्रोत समिति कैलाली

जमरा कुलो शाखा सिंचाई प्रणाली जल उपभोक्ता संस्था

वडा नं. १
टीकापुर, कैलाली

पत्र संख्या: २०७६/०७७
चलानी: १०५८

मिती: २०७७/०३/१७

श्री टीकापुर साना शहरी खानेपानी उपभोक्ता तथा सरसफाई संस्था
टीकापुर,कैलाली ।

विषय :- सहमति सम्बन्धमा ।

उपरोक्त सम्बन्धमा टीकापुर साना शहरी खानेपानी उपभोक्ता तथा सरसफाई संस्थाको च.नं ८५ मिति २०७७।०३।१४ को प्राप्त पत्रअनुसार टीकापुर नगरपालीका वडा नं. १ मा नेपाल सरकार खानेपानी मन्त्रालय, खानेपानी तथा ढल व्यवस्थापन विभाग र टीकापुर नगरपालीकाको लागत सहभागितामा वर्षाते पानी व्यवस्थापन प्रणाली (Storm Water Drainage Management system तथा Faecal Sludge Management (FSM) system निर्माण हुने कुराको जानकारी प्राप्त भयो । त्यस उपभोक्ता संस्थाबाट टीकापुर नगरपालीका वडा नं १ ब्लक नं. ८ बाट दक्षिण पश्चिम तथा बनगाउँ उत्तरपुरुवाबाट उत्तर पश्चिममा निर्माण हुने Faecal Sludge Management (FSM) system बाट निश्काशन हुने प्रशोधित पानी जमरा कुलो शाखा सिंचाई प्रणालीमा व्यवस्थापन गर्न माग भै आएकोमा उक्त पानी धिया, रामपुर, कटानपुर बाँधको तल तिर जमरा कुलोमा निकास हुने गरी व्यवस्थापन गर्नको लागि सहमति दिइएको छ ।

लालबिर चौधरी
अध्यक्ष
जमरा कुलो सा.सि.प्र.उ.सं.

English Translation

Registration no. 055/056/4 District water resource committee, Kailali

Jamara Branch Canal Irrigation User Committee

Date: 01 July 2020

Letter no. 2019/020

Ref. No. 1058

Tikapur Small Town Water Supply and Sanitation Committee

Tikapur, kailali

Subject: Regarding the consent

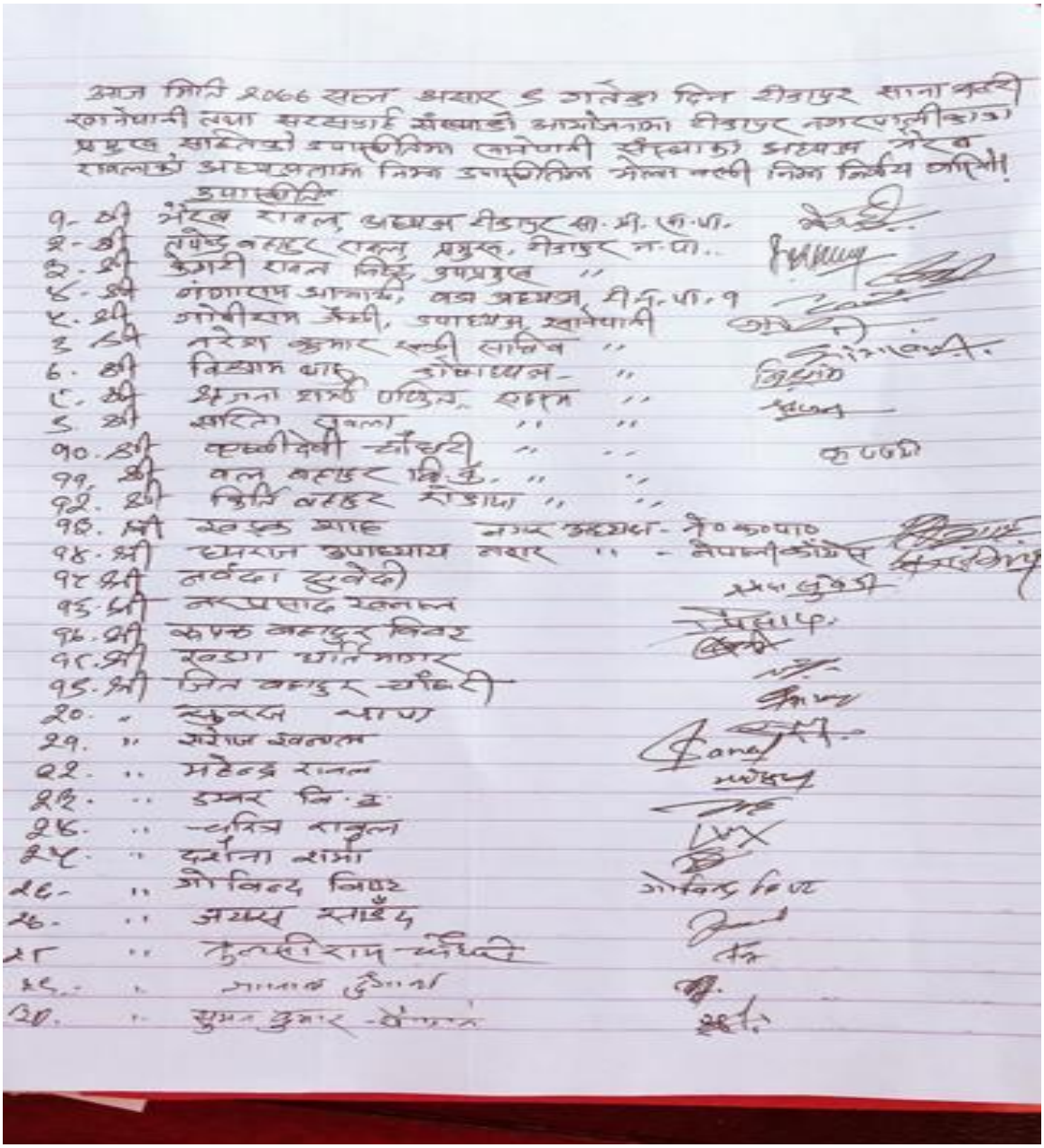
As per the received letter from Tikapur Small Town Water Supply and Sanitation committee (STWSSC) with reference no. 85 dated on 28 June 2020, it is informed that storm water drainage management and faecal sludge management system in Tikapur Municipality ward No. 1 is being constructed through the investment of Ministry of Water Supply, Department of Drinking Water and Sewerage Management and Tikapur Municipality. Following the request by STWSSC to release treated effluent from faecal sludge management system to be constructed at southwest of Tikapur Municipality ward no. 1 block no. 8 and northwest of Bangaun Uttarpuruwa, this consent letter is provided to manage the effluent outlet at the downstream of Ghiya, Rampur and Katanpur dam of Jamara canal.

Lalbir Chaudhari
Chairperson
Jamara Branch Canal Irrigation User Committee

Appendix-2

Related Minutes of Meeting of Consultation and Participation

a. Minute of meeting of stakeholders consultation on faecal sludge treatment plant



३१. श्री बीर बहादुर बहरा
३२. श्री जनक बहादुर रावल
३३. श्री निर्मला चौधरी

प्रस्तावहरु

१. FSM प्रशोधन केन्द्र निर्माण सम्बन्धमा

निर्णयहरु

१. प्रस्ताव नं. १ माथि छलफल गर्दा टीकापुर नगरपालिका वडा नं. १ मा निर्माण हुने Faecal Sludge management (मानव मलमुत्र फोहोर व्यवस्थापन) प्रशोधन केन्द्र का लागि टीकापुर नगरपालिका वडा नं. १ कन्याई कोठि उत्तर-पश्चिम, ब्लक नं. ८ बाट दक्षिण-पश्चिम मा रहेको कित्ता नं. ८ मध्येबाट एक बिगाह (6662.89 व.मि.) जग्गा दिने निर्णय गरियो। यसका लागि टीकापुर न.पा., उपभोक्ता समिति (WUSC) र स्थानीय समुदायको तर्फबाट पूर्ण साथ तथा समर्थन रहने प्रतिबद्धता सहित व्यक्त गर्ने निर्णय गरियो।

English Translation

A consultation meeting was held on 23rd June 2020, on the invitation of Tikapur Small Town Water Supply and Sanitation Committee, the meeting was held under the chairpersonship of the chairperson of WUSC with the participation Mayor of Tikapur Municipality and following discussion and decisions were made in the presence of listed stakeholders;

Presence

1. Mr. Bhairab Sing Rawal , Chairperson, Tikapur WUSC
2. Mr. Tapendra Bahadur Rawal. Mayor, Tikapur Municipality
3. Mrs. Keshari Rawal/Bista, Deputy Mayor, Tikapur Municipality
4. Mr. Gangaram Aacharya, Chairperson, Tikapur Municipality ward no.-1
5. Mr. Gopiram Jaisi, Vice-Chairperson, Tikapur WUSC
6. Mr. Naresh Kumar Khatri, Secretary, Tikapur WUSC
7. Mr. Bishram Tharu, Tresuror, Tikapur WUSC
8. Mrs. Shrijana Sharma/ Pandit, Member, Tikapur WUSC
9. Mrs. Sarita Rawal, Member, Tikapur WUSC
10. Mrs. Krishni Devi Chaudhari, Member, Tikapur WUSC
11. Mr. Bal Bahadur B.K, Member, Tikapur WUSC
12. Mr. Kirti Bahadur Rokaya, Member, Tikapur WUSC
13. Mr. Khadak Shah, Nagar Chairperson, (Nepal Comunist Party)
14. Mr. Dhanaraj Upadhyaya, Nagar Chair person, (Nepali Congress)
15. Mrs. Narbada Subedi, consumer
16. Mr. Nara Prasad Khanal, consumer
17. Mr. Rupak Bahadur Bista, consumer
18. Mr. Khadga Ghartimagar, consumer
19. Mr. Jit Bahadur Chaudhari, consumer
20. Mr. Suraj Thapa, consumer
21. Mr. Saroj Khanal, consumer
22. Mr. Mahendra Rawal, consumer
23. Mr. Damber B.K, consumer
24. Mr. Charitra Rawal, consumer
25. Mrs. Darsana Sharma, consumer
26. Mr. Govinda Bista, consumer
27. Mr. Jayas saud, consumer
28. Mr. Tulsiram Chaudhari,consumer
29. Mr.Jagannath Dhungana,consumer
30. Mr. Suman kumar Neupane,consumer
31. Mr. Bir Bahadur Batala, consumer
32. Mr. Janak Bahadur Rawal, consumer
33. Mrs. Nirmala Chaudhari, consumer

(Signed by all the participants)

Agenda:

Agenda 1: Regarding the construction of Faecal Sludge Management

Decision: 1

Regarding the construction of treatment plant for the Faecal Sludge Management in Tikapur Municipality ward no. 1, the meeting has decided to provide the 6772.63 sq.m land of plot no. 8 for construction of treatment plant at the location of the north-west side of Bangaun. And meeting has decided to the commitment for support and consent to this work by Tikapur Municipality, WUSC and Local Community.

b. Minute of Meeting of Tikapur Storm Water Drainage and Faecal sludge treatment plant

आज मिति २०७३ माघ १६ गतेका दिन यस टीकापुर साना शहरी खानेपानी उपभोक्ता तथा सरसफाई संस्थाको बैठक, संस्थाका अध्यक्ष श्री भैरव सिंह रावलको अध्यक्षतामा निम्न – उपस्थिति मा बसी निम्नलिखित निर्णय हरु गरियो ।

१. अध्यक्ष - श्री भैरव सिंह रावल
२. उपाध्यक्ष - श्री गोपीराज जोशी
३. सचिव - श्री नरेश कुमार खत्री
४. कोषाध्यक्ष - श्री विक्रम थापा
५. सदस्य - श्री किर्ति बहादुर रोकाया
६. " श्री बल बहादुर कामी
७. " श्री - सरिता रावल थापा
८. " श्री - सुजना शर्मा पाण्डेत
९. " श्री - कुमारी चौधरी

आमन्त्रित
१. श्री - केशव ढुंगाना BDA-PEA
२. श्री - योगेश ज्ञवाली " वातावरण विशेषज्ञ
३. श्री - ईश्वर सिंह WUSC लेखा अधिकृत
४. श्री - रुपेन्द्र ब. भण्डारी - उपभोक्ता
५. श्री - रंग प्रसाद अधिकारी "
६. श्री - लक्ष्मी विष्ट "
७. श्री - नृपराज भण्डारी "
८. श्री - हृदय राज रेग्मी "
९. श्री - मोहन सिंह रावल "
१०. श्री - सीता चौधरी 'कार्यपालिका सदस्य' टि. नपा

प्रस्ताव: यस विषयमा तपसील ~~विषय~~ छलफलका बुदाहरुलाई राख्ने निर्णय गरियो।

१. आयोजनाको प्राराम्भिक वातावरणीय परिक्षण
२. आयोजनाको सामाजिक विश्लेषण

निर्णय - १ यस विषयमा व्यापक छलफल गर्दा यस भेलाले आयोजनाको सतही ढल निर्माण र मानव मलमुत्र व्यवस्थापनका लागी निर्माण हुने ढल र विभिन्न संरचनाहरुको वातावरणीय असर तथा प्रभाव सम्बन्धि छलफल गरियो। साथै सूचना प्रकाशित गरेको मितिले

१५ दिन पछि पुन वृहत रूपमा छलफल गर्ने निर्णय गरियो साथै आयोजनाको सामाजिक प्रभाव सम्बन्धमा छलफल गरियो। यो छलफल मा कुनै पनि सामाजिक रूपमा बस्ती समुदायहरूलाई असर पर्ने देखी- एको पाईएन।

टल निर्माणको काम गर्दा स्थानिय बासीन्दा, बजार र सवारी साधनको आवत जावतलाई कमसेकम अवरोध हुने गरी स्थानिय टोल वासी संग समन्वय गरी काम गर्ने छलफल ~~निर्णय~~ गरियो।

FSM-Treatment Plant को site वरिपरि वृक्षारोपणको प्रावधान राख्नु पर्ने विषयमा छलफल गरियो।

बर्षाते टल निर्माणका क्रममा उत्पन्न हुने माटो विसर्जन र व्यवस्थापनका बारेमा छलफल गरियो।

निर्माण व्यवसायीका लागि आवश्यक campsite र सोको व्यवस्थापन का बारेमा छलफल गरियो।

English Translation

Today on 31st January 2020, a consultation was held in the office of Tikapur Water Supply and Sanitation Project's user committee under the chairpersonship of the chairperson of this institution, and following decesion were under presence of the stakeholders as per;

Presence

34. Mr. Bhairab Sing Rawal , Chairperson, Tikapur WUSC
35. Mr. Gopiram Jaisi, Vice-Chairperson, Tikapur WUSC
36. Mr. Naresh Kumar Khatri, Secretary, Tikapur WUSC
37. Mr. Bishram Tharu, Tresuror, Tikapur WUSC
38. Mr. Kriti Bahadur Rokaya, Member, Tikapur WUSC
39. Mr. Balbahadur Kami, Member, Tikapur WUSC
40. Ms. Sarita Rawal Thapa, Member, Tikapur WUSC
41. Ms. Shrijana Sharma Pandit, Member, Tikapur WUSC
42. Ms. Krishni Chaudhari, Member, Tikapur WUSC

(Signed by all the participants)

Invitees

43. Mr. Keshav Dhungana, BDA/PEA
44. Mr. Yogesh Shakya, BDA/PEA - Environemntal Specialist
45. Mr. Dambar Bi.Ka., Account Officer, Tikapur WUSC
46. Mr. Jhapat Bahadur Sodari, Beneficiary, Tikapur
47. Mr. Rang Prasad Adhikari, Beneficiary, Tikapur
48. Ms. Laxmi Bista, Beneficiary, Tikapur
49. Mr. Nripraj Bhandari, Beneficiary, Tikapur
50. Mr. Hridayaraj Regmi, Beneficiary, Tikapur
51. Mr. Mohan Sing Rawal, Beneficiary, Tikapur
52. Ms. Sita Chaudhari, Member of Municipality Council, Tikapur Municipality

(Signed by all the participants)

Agenda: Following aspects were proposed for the agenda of the meeting

Agenda 1: About Initial Environment Examainiation (IEE)

Agenda 2: Social assessment of the project

Decision:

- Regarding the development of storm water drainage and faecal sludge management facilities under the proposed project, it was discussed about its structures and relevant environmental implications of the project. It was also reiterated that there will be an additional meeting entailing the public consultation for IEE after 15 days of the publication of public notice as per EPR of the Government of Nepal. In addition to this, the potential socio-economic impacts of the project were also discussed. It was agreed that the project will not need any relocation or rehabilitation of any settlement or community.

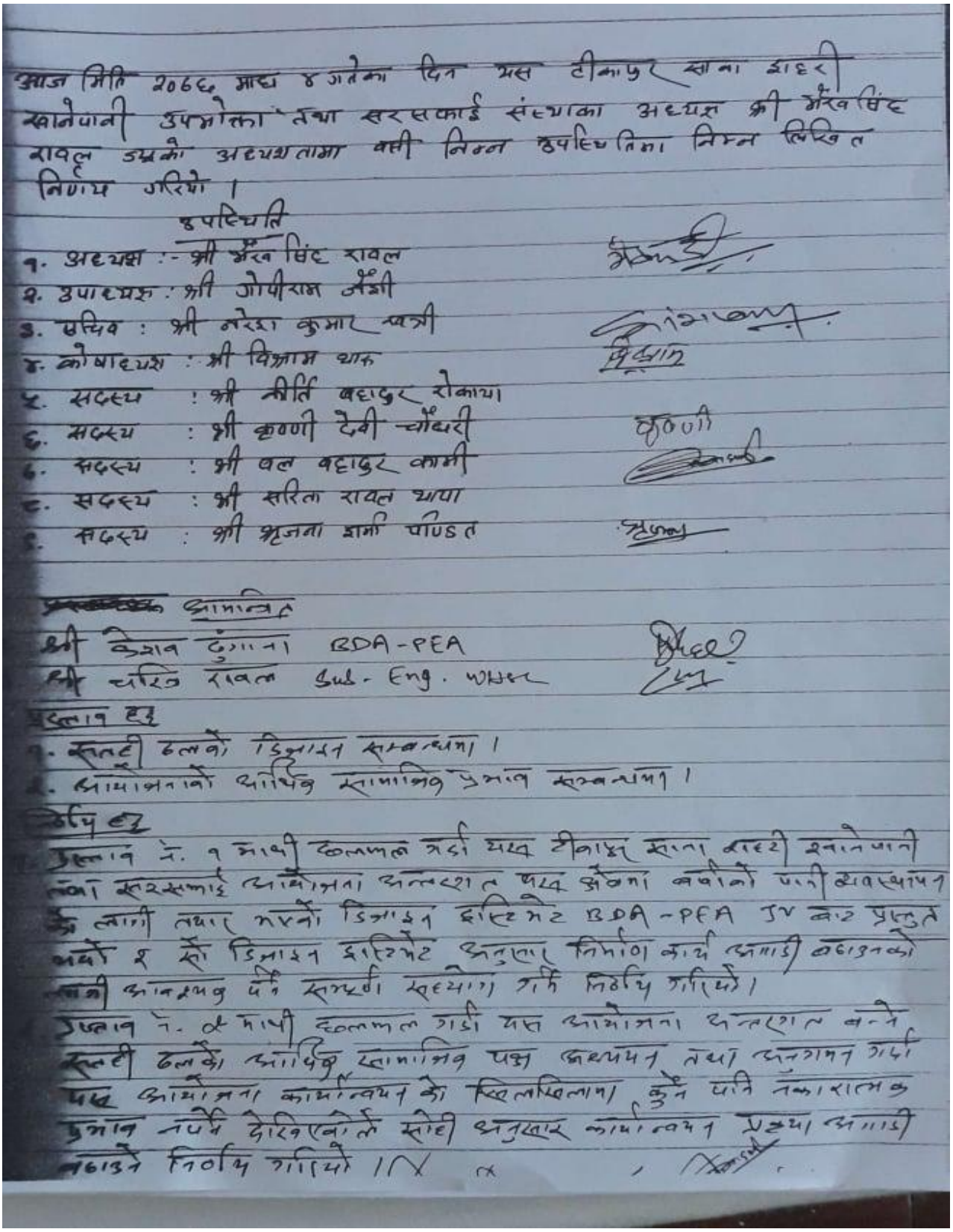
- The participants emphasized and discussed on the adequate/proper coordination with the locals during the time of construction of drainage so as to minimize the disturbance/damage to the local communities, markets and transportation.

- It was dsicussed that it is advisable to prmote green belt around the Faecal Sludge Treatment Plant.

- The meeting also focused on the need of timely and proper management of spoil generated during the construction of storm water drainage.

- The meeting also discussed on the need and requirements for set up of the construction/labor camp/campsite for the project construction phase.

c. Consultation meeting with WUSC discussion on Socio economic impact



आज मिति २०६८ माघ ४ गतेका दिन ग्रस टीकापुर खाना डाइरी खानेपानी उपभोक्ता तथा सरसफाई संस्थाका अध्यक्ष श्री भैरव सिंह रावल ज्यूको अध्यक्षतामा बसी निम्न उपस्थितिमा निम्न लिखित निर्णय गरियो ।

उपस्थिति

१. अध्यक्ष :- श्री भैरव सिंह रावल
२. उपाध्यक्ष : श्री गोपीराम अँजी
३. सचिव : श्री नरेश कुमार खत्री
४. कोषाध्यक्ष : श्री विश्राम थारु
५. सदस्य : श्री कीर्ति बहादुर रोकाया
६. सदस्य : श्री कृष्णी देवी चौधरी
७. सदस्य : श्री बल बहादुर कामी
८. सदस्य : श्री सरिता रावल थापा
९. सदस्य : श्री अञ्जना शर्मा पण्डित

~~प्रस्ताव~~ आमन्त्रित

श्री केशव ढुंगाना BDA-PEA
श्री चरित रावल Sub-Eng. WUSC

प्रस्ताव हरु

१. खत्ती ढलको डिजाइन सम्बन्धमा ।
२. आयोजनाको आर्थिक सामाजिक प्रभाव सम्बन्धमा ।

निर्णय हरु

१. प्रस्ताव नं. १ मा भएको छलफल गर्दा यस टीकापुर खाना डाइरी खानेपानी तथा सरसफाई आयोजना अन्तर्गत यस अघिनो पानी शुद्धीकरण को लागी तथार गरेको डिजाइन ड्राइङ्ग एस्टिमेट BDA-PEA JV बाट प्रस्तुत भएको र सो डिजाइन ड्राइङ्ग अनुसार निर्माण कार्य अगाडी बढाउनको लागी कानूनमा पर्ने सम्पूर्ण सहयोग गर्ने निर्णय गरियो ।
२. प्रस्ताव नं. २ मा भएको छलफल गर्दा यस आयोजना अन्तर्गत बन्ने खत्ती ढलको आर्थिक सामाजिक पक्ष अध्ययन तथा अनुगमन गर्ने यस आयोजना कार्यान्वयन को सिलसिलामा कुनै पनि नकारात्मक प्रभाव नपर्ने देखिएमोर्ले सोही अनुसार कार्यान्वयन प्रक्रिया अगाडी बढाउने निर्णय गरियो ।

English Translation

Meeting has held on today dated 18 January 2020 (2076/10/04) in the chaired of Mr. Bhairab Rawal, Chairperson of Tikapur water users and sanitation committee and discussion and decision has made as following.

Participants:

1. Mr. Bhairab Sing rawal, Chair Person
2. Mr. GopiramJaisi, Vice Chairperson
3. Mr. Naresh Kumar Khatri, Secretary
4. Mr. Bishram Tharu, Treasurer
5. Mr. Kirti Bahadur Rokaya, Member
6. Mrs. Krishnidevi Chaudhari, Member
7. Mr. Bal Bahadur Kami, Member
8. Mrs. Sarita Rawal Thapa, Member
9. Mrs. Srijana Sharma Pandit, Member

Other participants:

1. Mr. Keshav Dhungana, Social Safeguard Specialist
2. Mr. Charitra Rawal, Sub Engineer

Agenda:

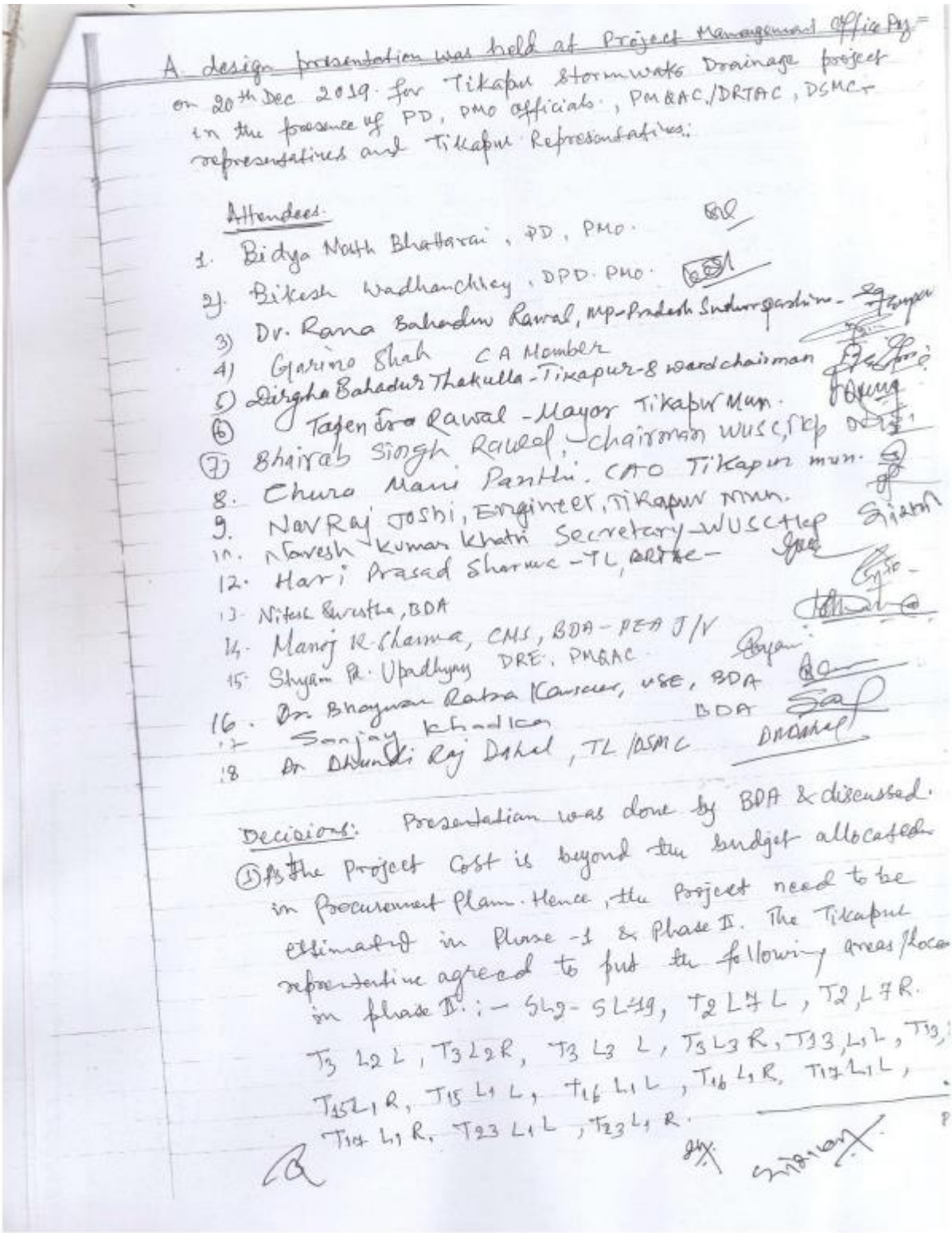
1. Regarding the Design of Storm Water Drain
2. Regarding the Socio-economic Impact on Project

Decisions:

1. Detail design estimate about the storm water Drainage under Tikapur water supply and sanitation project has present by BDA/PEA JV and WUSC has decided that implement to construction of all component as per this design estimate.

2. Discussion has hold in meeting about the study and field monitoring of socioeconomic impact of the project in this project area. According to the monitoring and discussion, there are not seen any probability of negative impact in this project, so meeting has decided to implement the construction work as per this Design.

d. Consultation meeting among stakeholders about SWD



A design presentation was held at Project Management Office Pvt. Ltd on 20th Dec 2019 for Tikapur Stormwater Drainage project in the presence of PD, PMO officials, PMRAC/DRTAC, DSMC representatives and Tikapur Representatives.

Attendees:

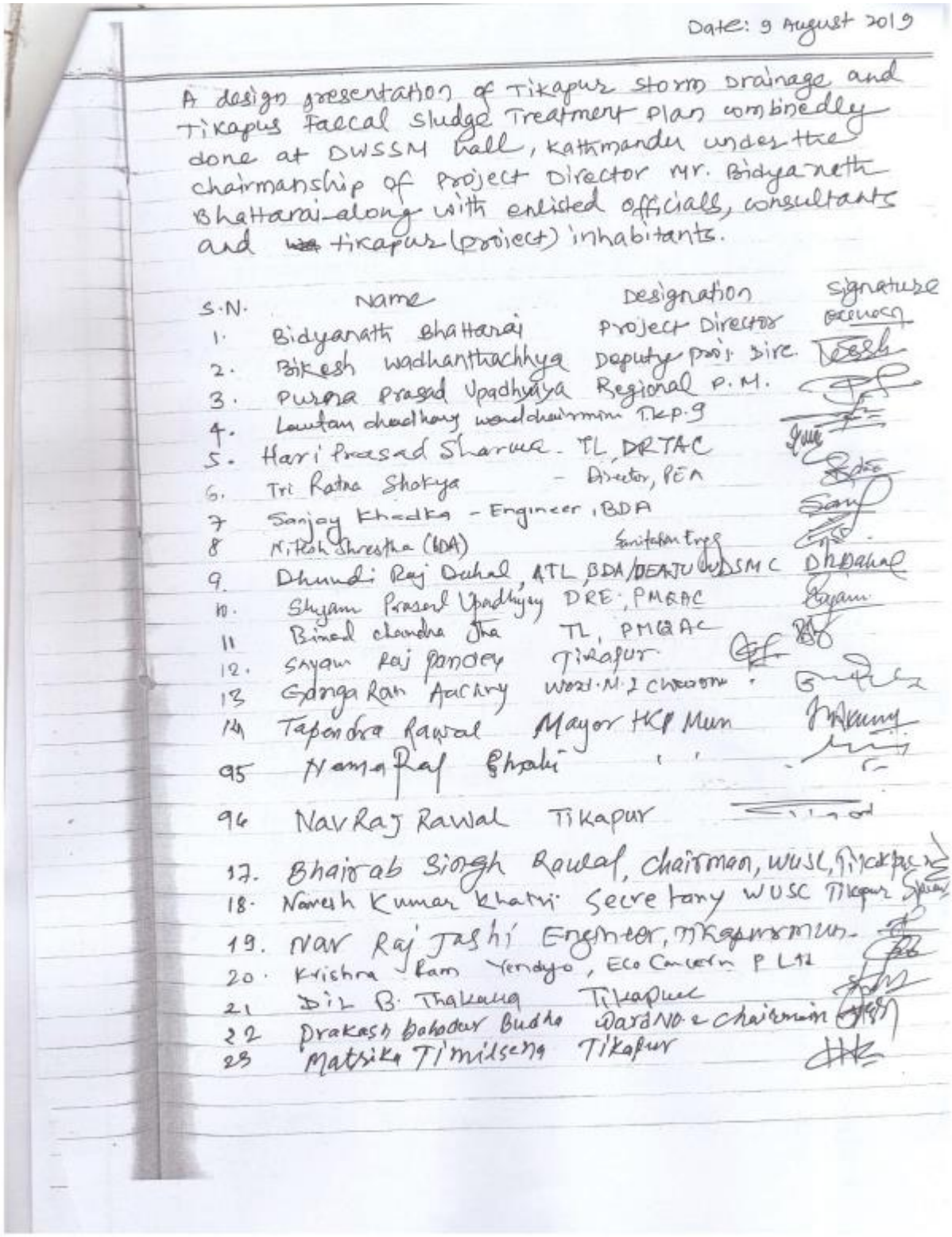
1. Bidya Nath Bhattarai, PD, PMO.
2. Bikesh Wadhanchhey, DPD, PMO.
3. Dr. Rana Bahadur Rawal, MP-Pradesh Sudurpaschim - Kanchanpur
4. Garima Shah CA Member
5. Dirgha Bahadur Thakulla - Tikapur-8 ward chairman
6. Tajendra Rawal - Mayor Tikapur Mun.
7. Bhairab Singh Rawal, Chairman WUSC, TKP
8. Chura Mani Panthi, CAO Tikapur mun.
9. Nav Raj Joshi, Engineer, Tikapur Mun.
10. Nareshkumar Khatri Secretary - WUSC TKP
11. Hari Prasad Sharma - TL, DRTAC -
12. Nitesh Shrestha, BDA
13. Manoj R. Sharma, CMS, BDA - PEA J/V
14. Shyam R. Upadhyay DRE, PMRAC
15. Dr. Bhagwan Ratna Kansakar, HSE, BDA
16. Sanjay Khadka BDA
17. Dr. Dhundi Raj Dahal, TL DSMC

Decisions: Presentation was done by BDA & discussed.

1. As the Project Cost is beyond the budget allocated in Procurement Plan. Hence, the Project need to be estimated in Phase-I & Phase II. The Tikapur representative agreed to put the following areas/locations in phase II:- SL9-SL19, T2 L7 L, T2 L7 R. T3 L2 L, T3 L2 R, T3 L3 L, T3 L3 R, T13 L1 L, T13 L1 R, T15 L1 L, T16 L1 L, T16 L1 R, T17 L1 L, T17 L1 R, T23 L1 L, T23 L1 R.

The final detailed design of storm water drainage need to be finalized in Phase I & Phase II cost in Phase I within the PP will be proceeded short by PMO.

e. Meeting with stakeholders regarding SWD and FSTP

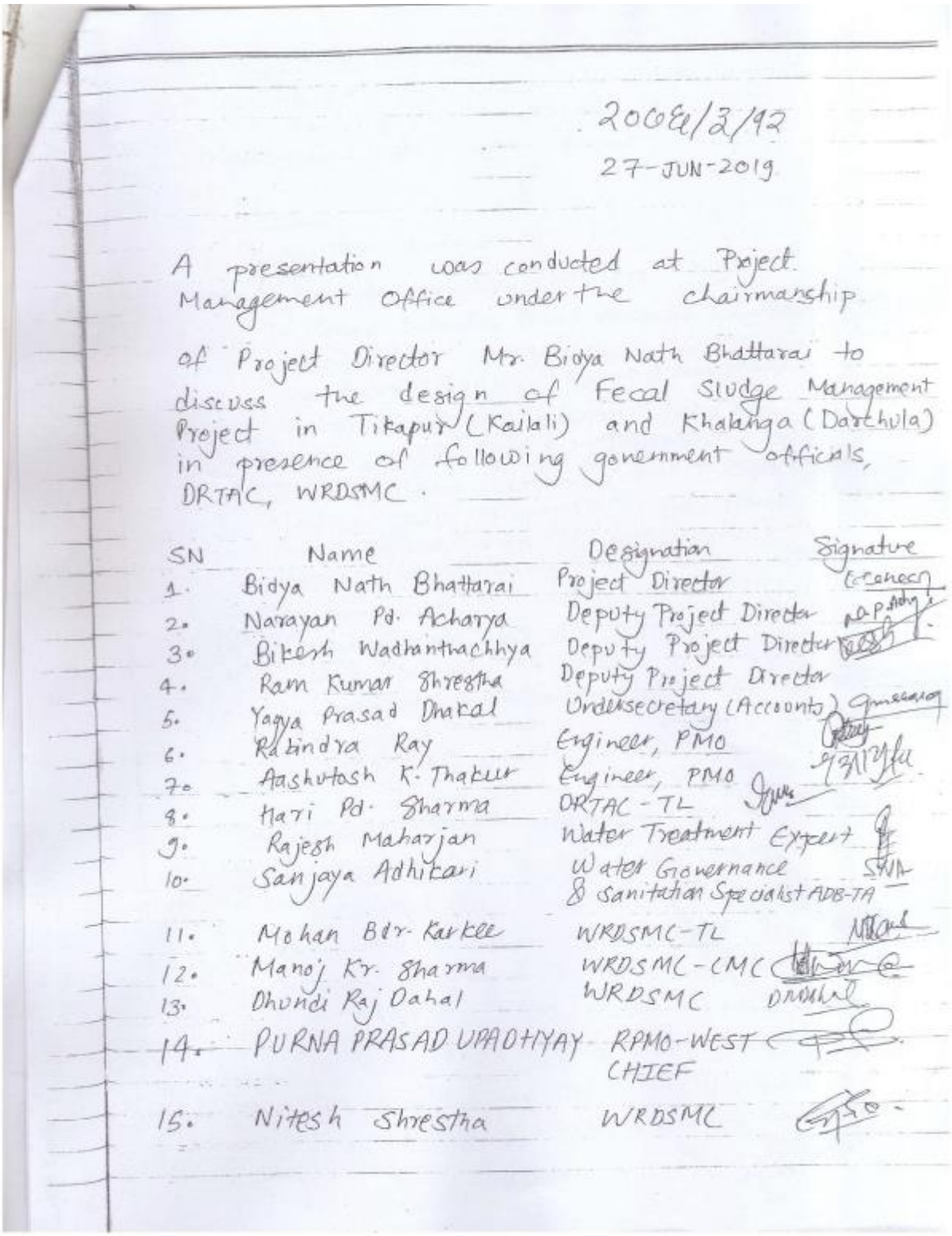


Date: 9 August 2019

A design presentation of Tikapur storm drainage and Tikapur Faecal sludge Treatment Plan combinedly done at DWSSM hall, Kathmandu under the chairmanship of Project Director Mr. Bidya nath Bhattarai along with enlisted officials, consultants and ~~was~~ tikapur (project) inhabitants.

S.N.	Name	Designation	Signature
1.	Bidyanath Bhattarai	Project Director	
2.	Bikesh Wadhanthachhya	Deputy proj. Dirc.	
3.	Purna Prasad Upadhyaya	Regional P.M.	
4.	Lautan chaudhary	ward chairman T.K.P.9	
5.	Hari Prasad Sharma	TL, DRTAC	
6.	Tri Ratna Shakya	- Director, PEA	
7	Sanjay Khadka	- Engineer, BDA	
8	Nitish Shrestha (BDA)	Sanitation Engg	
9.	Dhundi Raj Dahal	ATL, BDA/DEAJU/DWSSM C	
10.	Shyam Prasad Upadhyay	DRE, PMRAC	
11	Binod chandra Jha	TL, PMRAC	
12.	Sayaw Raj Pandey	Tikapur	
13	Ganga Ram Aachary	Ward. N. 2 chairman	
14	Tapendra Rawal	Mayor TKP Mun	
95	Nama Raj Bhaki		
96	Nav Raj Rawal	Tikapur	
17.	Bhairab Singh Rawal	chairman, WUSC, Tikapur	
18.	Naresh Kumar Khatri	Secretary WUSC Tikapur	
19.	Nav Raj Jashi	Engineer, Tikapur mun.	
20.	Krishna Ram Yendyo	Eco Concern P Ltd	
21	Dil B. Thakuna	Tikapur	
22	Prakash Bahadur Budha	Ward No 2 chairman	
23	Matsika Timilsena	Tikapur	

f. Meeting ampng stakeholders about FSTP



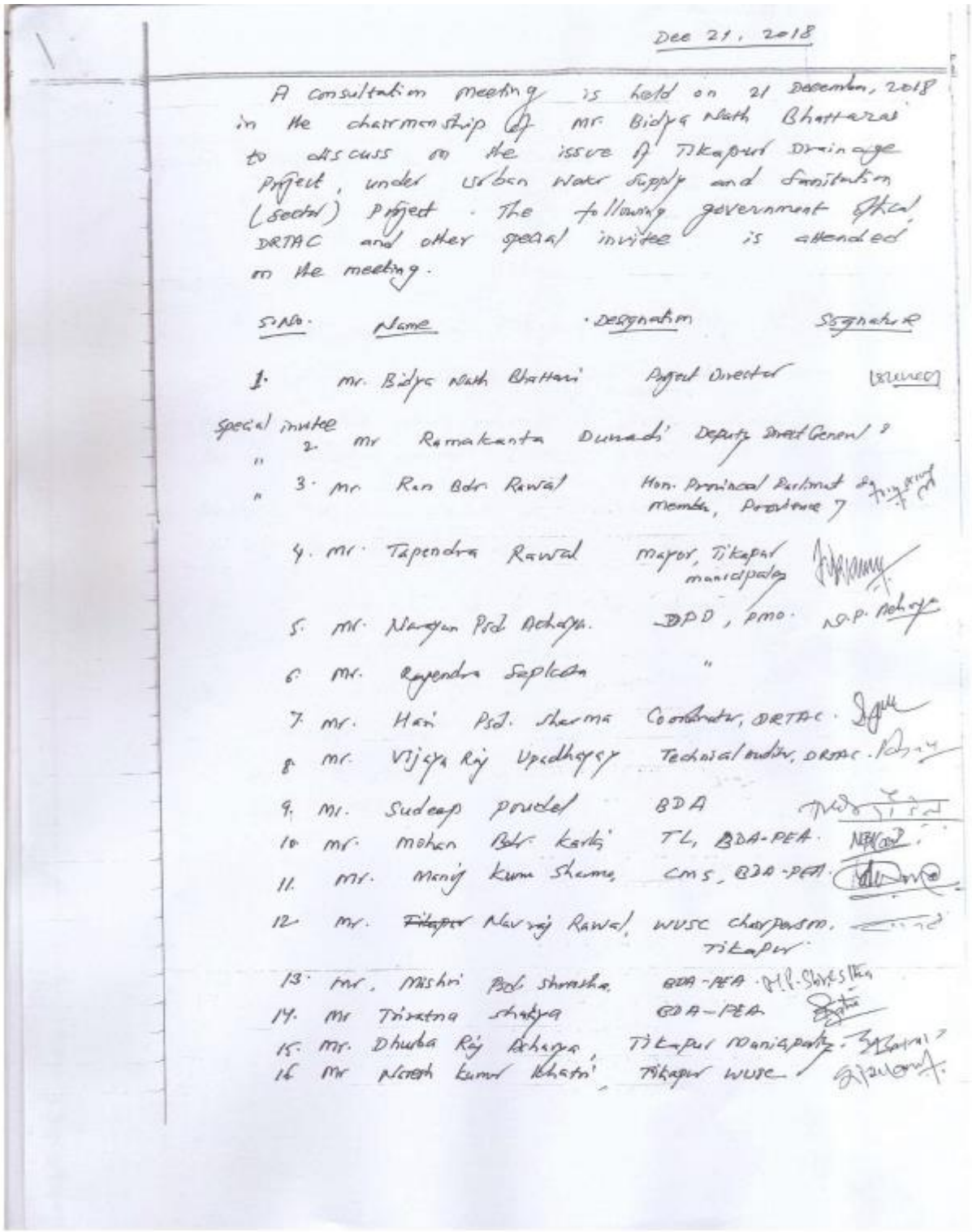
2076/3/12

27-JUN-2019

A presentation was conducted at Project Management Office under the chairmanship of Project Director Mr. Bidya Nath Bhattarai to discuss the design of Fecal Sludge Management Project in Tikapur (Kailali) and Khaptad (Darchula) in presence of following government officials, DRTAC, WRDSMC.

SN	Name	Designation	Signature
1.	Bidya Nath Bhattarai	Project Director	
2.	Narayan Pd. Acharya	Deputy Project Director	
3.	Bikash Wadhanthachhya	Deputy Project Director	
4.	Ram Kumar Shrestha	Deputy Project Director	
5.	Yagya Prasad Dhakal	Undersecretary (Accounts)	
6.	Rabindra Ray	Engineer, PMO	
7.	Aashutosh K. Thakur	Engineer, PMO	
8.	Hari Pd. Sharma	DRTAC - TL	
9.	Rajesh Maharjan	Water Treatment Expert	
10.	Sanjaya Adhikari	Water Governance & Sanitation Specialist ADB-TA	
11.	Mohan Bir Karkee	WRDSMC-TL	
12.	Manoj Kr. Sharma	WRDSMC-CMC	
13.	Dhundi Raj Dahal	WRDSMC	
14.	PURNA PRASAD UPADHYAY	RPMO-WEST CHIEF	
15.	Nitesh Shrestha	WRDSMC	

g. Meeting among stakeholders regarding SWD and FSTP



Dec 21, 2018

A consultation meeting is held on 21 December, 2018 in the chairmanship of Mr. Bidya Nath Bhattarai to discuss on the issue of Tikapur Drainage Project, under Urban Water Supply and Sanitation (Sector) Project. The following government official, DRTAC and other special invitee is attended on the meeting.

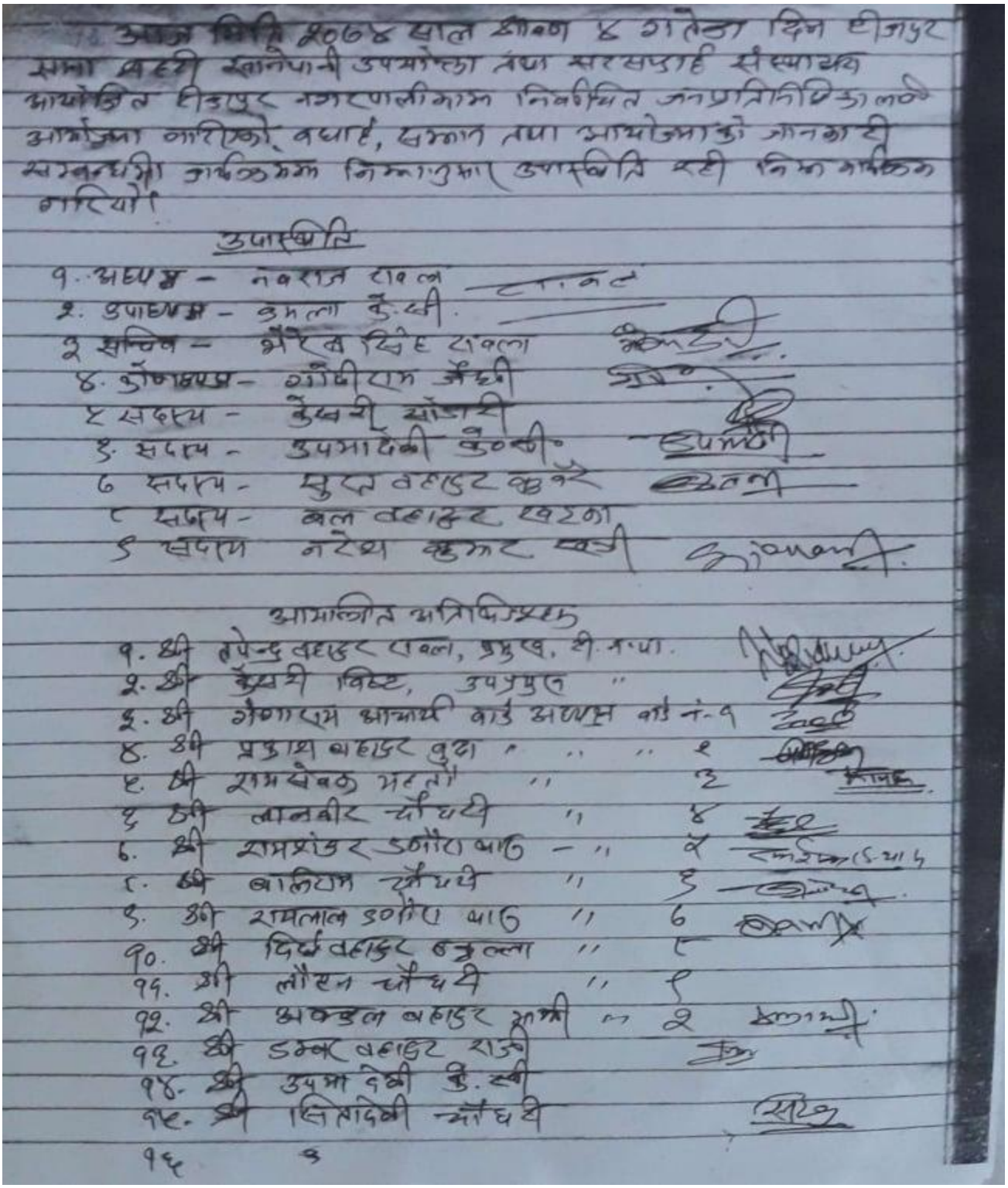
S.No.	Name	Designation	Signature
1.	Mr. Bidya Nath Bhattarai	Project Director	[illegible]
Special invitee 2.	Mr Ramakanta Dumadi	Deputy Director General	
" 3.	Mr Ram Bdr Rawal	Hon. Provincial Parliament Member, Province 7	
4.	Mr. Tapendra Rawal	Mayor, Tikapur municipality	
5.	Mr. Narayan Prd Acharya.	DPD, PMO.	N.P. Acharya
6.	Mr. Rajendra Saplcota	"	
7.	Mr. Hari Psd. Sharma	Coordinator, DRTAC.	
8.	Mr. Vijaya Raj Upadhyay	Technical advisor, DRTAC.	
9.	Mr. Sudeep Poudel	BDA	
10.	Mr. Mohan Bdr. Karki	TL, BDA-PEA.	
11.	Mr. Manoj Kumar Sharma	CMS, BDA-PEA.	
12.	Mr. ~~Tikapur~~ Navraj Rawal	WUSC chairperson. Tikapur	
13.	Mr. Mishri Bdr Shrestha.	BDA-PEA.	P.P. Shrestha
14.	Mr Trivatna Shakya	BDA-PEA	
15.	Mr. Dhruba Raj Acharya,	Tikapur Municipality.	
16.	Mr Naresh Kumar Khatri	Tikapur WUSC	

Agenda: 1. Scope of Tikapur Drainage
2. Project & cost sharing mechanism.
3. AOB.

Decision:

1. The scope of Tikapur Drainage is discussed so that the drainage design shall be done on phasing. The main drainage under phase 1 shall be included under UUSP and the secondary drain under phase 2 shall be constructed by the municipality itself by its own resources later.
2. In phase 1, it is also agreed to include FSM component.
3. The municipality has agreed to provide necessary land for SD & FSM compont and shall contribute 15% of total project cost also.

h. Mass meeting among WUSC, Municipality and Community regarding the SWD



आज मिति २०७४ साल श्रावण ४ गतेका दिन दीनदयाल सभा भवनमा खानेपानी उपभोक्ता तथा सरसफाई संस्थाबाट आयोजित दिउपुर नगरपालिकाका निर्वाचित जनप्रतिनिधिहरुलाई आयोजना बारेको बधाई, सम्मान तथा आयोजनाको जानकारी सम्बन्धमा छलफलका निम्नानुसार उपस्थिति रही निम्न बमोजिका भरियो।

उपस्थिति

१. अध्यक्ष - नवराज दाहाल
२. उपाध्यक्ष - कमला के.सी.
३ सचिव - भैरव बिष्ट दाहाल
४. कोषाध्यक्ष - गोविन्द जैसी
५ सदस्य - केशरी चौधरी
६. सदस्य - उपमादेवी के०सी०
७ सदस्य - सुदन बहादुर कुवर
८ सदस्य - बल बहादुर खड्का
९ सदस्य नरेश कुमार खत्री

आमन्त्रित व्यक्तिहरु

१. श्री नरेन्द्र बहादुर दाहाल, प्रमुख, वी.न.पा.
२. श्री केशरी बिष्ट, उपप्रमुख "
३. श्री गोपाल आचार्य वार्ड अध्यक्ष वार्ड नं.१
४. श्री प्रकाश बहादुर बुढा " " " २
५. श्री रामसेवक मेहतो " ३
६ श्री लालबीर चौधरी " ४
७. श्री रामशंकर डगौरा बाउ - " ५
८. श्री बालिराम चौधरी " ६
९. श्री रामलाल डगौरा बाउ " ६
१०. श्री दिर्घ बहादुर बुढाल्ला " ८
११. श्री लौरन चौधरी " ९
१२. श्री अक्कल बहादुर शाही " २
१३ श्री डम्बर बहादुर राउत
१४. श्री उषा देवी के.सी
१५. श्री सितादेवी चौधरी

१६ ९

१६. श्री [illegible] — [illegible]
१७. श्री [illegible] " [illegible]
१८. श्री रमेश [illegible] " [illegible]
१९. श्री सन्तादेवी [illegible] " सन्ता
२०. श्री इन्द्र प्रसाद शर्मा — १ नं. वडा सदस्य
२१. श्री लालित पाँडे — १ " "
२२. श्री कमला पुनार — २ नं. वडा " कमला
२३. श्री चन्द्र बहादुर चौधरी — २ — " "
२४ श्री — काशिराम डाकुरी — २ " "
२५. श्री जिला थारु — २ " " [illegible]
२६. श्री भागीदेवी कामी — ३ नं. " " भागी
२७. श्री कालिराम थारु — ३ — " "
२८. श्री लहानु थारु — ३ — " " [illegible]
२९ श्री रुपमती डि. थारु [illegible] — " " [illegible]
३० श्री तुलसादेवी वि.क. ४ " " तुलसा —
३१ श्री प्रेमलाल चौधरी — ४ न. वडा सदस्य [illegible]
३२ श्री वेजुवा थारु — ४ "
३३ श्री आशा थारु " आशा
३४ श्री सरिता [illegible] ५ नं. वडा सदस्य [illegible]
३५ श्री कन्हैया चौधरी ६ नं. "
३६ श्री कलकि थारु " "
३७ श्री जमुना देवी चौधरी " "
३८ श्री माया देवी विक ६ नं. वडा सदस्य
३९ श्री लायकराम चौधरी 6 " [illegible]
४० श्री कैलाशपति चौधरी " [illegible]
४१ श्री मोतिराम [illegible] " [illegible]
४२ श्री यमलाल जोशी 6 नं. वडा सदस्य [illegible]
४३. श्री [illegible] देवी [illegible] ८ नं. वडा —
४४ श्री पहेले साउँद " पहेल साउँद
४५ श्री राजु प्र. चौधरी " २१ [illegible]
४६ श्री आशा कुमारी चौधरी वडा नं. ९ [illegible]
४७ श्री दिलु [illegible] ९ नं. वडा सदस्य [illegible]
४८ श्री पूर्ण [illegible] चौधरी "
४९ श्री मति [illegible] "
" [illegible]

५१	गोपाल प्रसाद थापा	पत्रकार	
५२	योगेश चौधरी	,,	
५३	भवानीप्रसाद आचार्य		भवानीप्रसाद
५४	कन्हैया चौधरी		चौधरी
५५	कालीराम पन्त		कालीराम पन्त
५६	नरवीर थारु		
५७	चन्द्र कं. चौधरी		
५८	चुन्नी प्रसाद चौधरी		
५९	खुशीराम चौधरी		खुशीराम
६०	पदम बहादुर रावल	१५/१६ संयोजक	कृष्णापुर
६१	खेम राज चौधरी	वार्ड नं १ ए बनगाउँ	शक्तिगढ़सेना
६२	दिल बहादुर चौधरी		
६०	सीताराम चौधरी	जोगीपुर को संयोजक	सीताराम
६१	रुक्मी राम चौधरी	सीतापुर २ ,, ,,	
६२	वीर बहादुर चौधरी	बनगाउँ बिचपुरुवा संयोजक	
६३.	बलवीर चौधरी	बेदकोट २ संयोजक	
६४.	तेजु चौधरी	बेदीपुर २ सदस्य	तेजु
६५	चित्र बहादुर रानी	दोधारा-१ ज्योतिनगर संयोजक	
६६	चन्द्र प्रसाद मिश्र	सिको-तुँडी जे.भी प्रोजेक्ट म्यानेजर	
६७	रमीता चौधरी	बनगाउँ, दक्षिणपुर	
६८.	मनोज कु पाण्डे		मनोज
६९	प्रद्युम्न चौधरी	BDA PGA JV.	
७०	शिवलाल तिवारी	९८४८ ६८५८५६६२७१	
८१.	कमल राज रेग्मी	९८२८ ६८४६००२०६९	
८२	उदयराम अधिकारी	६८४६००९४६४	
८३	रामशंकर आचार्य		
८४	देवेन्द्र ब. सुनार	दि. न.पा. राजीपुर ९८२५६२४३४६	
८५	राम कृष्ण चौधरी	दि. न. पा. १ बनगाउँ ९८४१८५०७९०	
८६	गंगा ब. बोहरा	दि.न.पा. २ रानीपुर ९८००६२७३५७	
८७.	प्रमोद रावल		
८८	कृष्णराज गिरी	,, बुकी नं. ४०	
८९	नवराज अधिकारी	वडा २४	नवराज
९०	जगदिश्वर पाण्डे	सल्लाहकार	
९१	जगत बहादुर रावल		

[illegible] दि न पा १

९४	कीर्ति निधि बक	सल्लाहकार	
९५	धनराज उपाध्याय	,,	
९६	ओमेश्वर रावत	नागरिक [illegible]	
९७.	सूर्यचन्द्र भट्टराई	सल्लाहकार	
९८	मकर ब० के०सी०	ने०कं० लिम्पियाधुरा	
९९	सुशिला शाह	उप संयोजक	
१००	दर्शना शर्मा	कर्मचारी (टीकापुर सहरी खानेपानी)	
१०१	भावना धमाला	,, ,, ,, ,,	
१०२	जानकी भण्डारी	,, ,, ,, ,,	
१०३.	मोती प्रसाद चौधरी	BDA-PEA JV CSG	
१०४	गङ्गाप्रसाद पोखरेल	CICO Tundi JV	
१०५	मनदीप कु. महतो	BDA-PEA JV	
१०६	शिव प्र० सापकोटा	,,	
१०७	सुरोज रिजाल	Tundi J.V.	

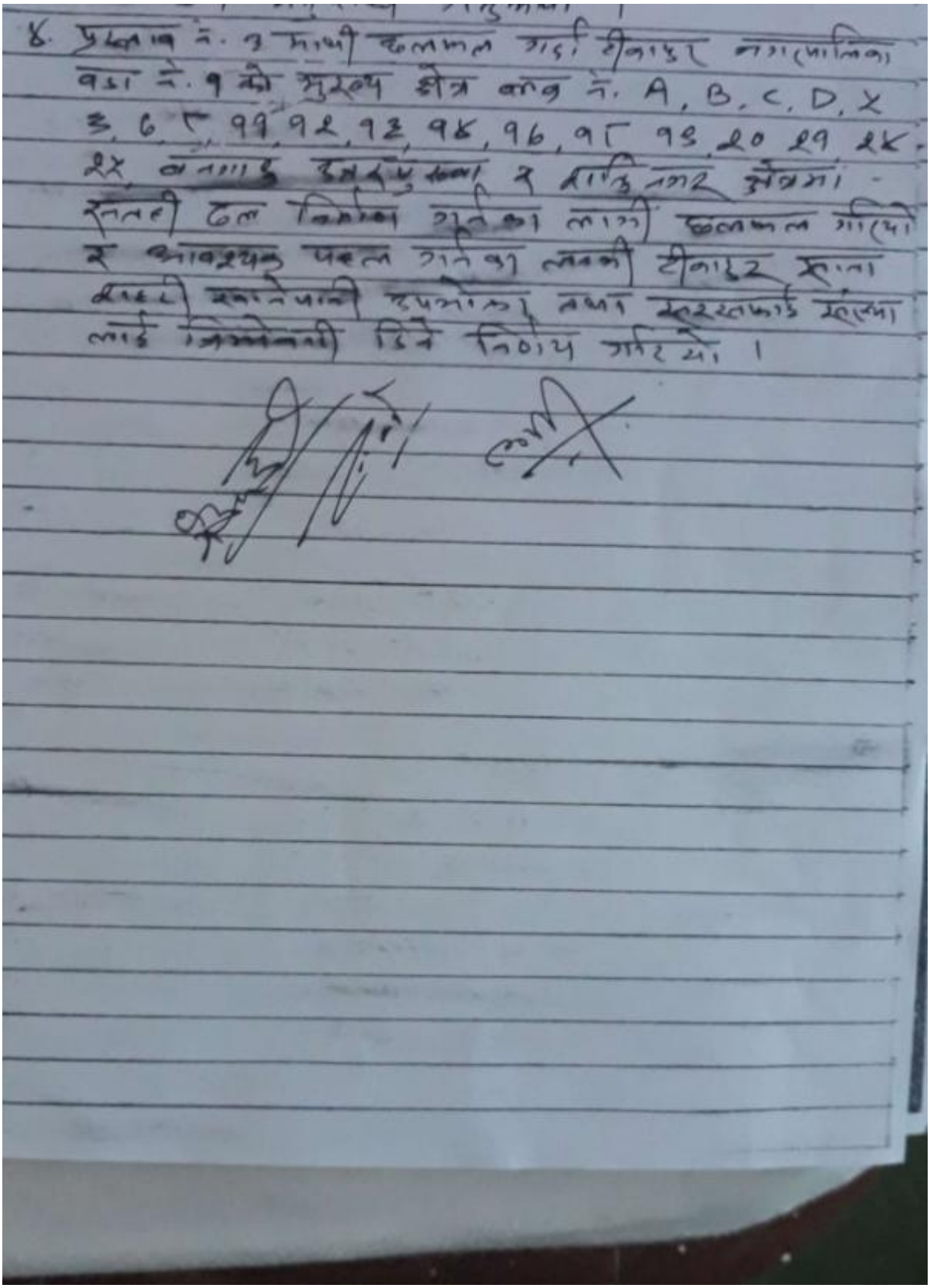
प्रस्तावहरु

१. शुभकामना तथा बधाई सम्बन्धमा ✓
२. आयोजनाको प्रगति र परिचय सम्बन्धमा ✓
३. ~~[illegible]~~ सतही जल सम्बन्धमा

निर्णयहरु

१. टीकापुर नगरपालिकाका नवनिर्वाचित पदाधिकारी हरुलाई टीकापुर सहरी खानेपानी ~~खानेपानी~~ (उपभोक्ता) तथा सरसफाई आयोजनाले हार्दिक बधाई तथा सफल कार्यकालको शुभकामना गर्ने निर्णय गरियो ।

२. टीकापुर सहरी खानेपानी तथा सरसफाई आयोजना कैलालीका निर्माण सुपरिवेक्षक इन्जिनियर श्री मोती प्रसाद चौधरीले आयोजनाको संक्षिप्त परिचय सहित प्रगति बारेमा जानकारी गराउनु भयो । साथै निर्माण कम्पनीको कार्य सन्तोषजनक रुपले अगाडि बढी



English Translation

Mass meeting has organized by Tikapur water supply and sanitation committee today dated on 19 July, 2017 (2074/04/04) with the participation of Local elected body of Tikapur Municipality and discussion and decision has made as following.

Participants:

1. Mr. Nawaraj Rawal, Chair person
2. Mrs. Kamala KC, Vice chair Person
3. Mr. Bhairab sing rawal, Secretary
4. Mr. GopiramJaisi, treasurer
5. Mrs. Kesari Sodari, member
6. Mrs. Upamadevi KC, member
7. Mr. Surat Bahadur Kunwar, Member
8. Mr. Bal Bahadur Khandka, Member
9. Mr. Naresh Kumar Khatri

Others participants:

1. Mr. Tapendra Bahadur Rawal, Mayor, Tikapur Municipality
2. Mrs. Kesari Bista, deputy mayor, Tikapur municipality
3. Mr. Ganga Ram acharya, Chair person, ward no. 1
4. Mr. Prakash Bahadur Budha, Chairperson ward no.2
5. Mr. Ram Sewak Mahato, Chair Person ward no. 3
6. Mr. Lalbir Chaudhari , Chair Person ward no. 4
7. Mr. Ram Sankhar Dagaura Tharu, Chairperson , ward no. 5
8. Mr. Baliramchaudhari, Chair person, ward no. 6
9. Mr. Ram L al Dagauratharu, chair person, ward no. 7
10. Mr. Dirge bahadurthskula, chair person, ward no. 8
11. Mr. Lautan Chaudhari, Chair person, ward no. 9
12. Mr. Akkal Bbahdur Majhi
13. Mr. Damber Bahadur Raji
14. Mrs. Upamadevi KC
15. Mrs. Sita Devi Chaudhri
16. Mrs. Shova Nagarji
17. Mrs. Shanti Devi Dagaura
18. Mr. Ramesh BK
19. Mrs. Sanja Devi Odd
20. Mr. Indra Prasad Sharma
21. Mr. Lalit Saud
22. Mrs. Kamala Sunar
23. Mr. Chakra Bahadur Chaudhari
24. Mr. Kashiram Karki
25. Mrs. Bina Tharu

26. Mrs. Bhagidevi kami
27. Mr. Kali ram Tharu
28. Mrs. Lahanu Tharu
29. Mrs. Rup Mati Dagaura Tharu
30. Mrs. Tulsa Devi BK
31. Mr. Prem Lal Chaudhari
32. Mrs. Bejuwa Tharu
33. Mrs. Asha Tharu
34. Mrs. Sarita Bhul
35. Mr. Kanaiya Chaudhari
36. Mr. BalBir Tharu
37. Mrs. Jamuna Devi Chaudhari
38. Mrs. Maya Devi BK
39. Mr. Layak Ram Chaudhari
40. Mr. Kailashpati Chaudhari
41. Mr. Mosuram Daguratharu
42. Mr. Yamalal Jaisi
43. Mrs. Setu Devi Tamata
44. Mr. Pahele Saud
45. Mr. Raju Presad Chaudhari
46. Mrs. Asha kumara Chaudhari
47. Mrs. Dilu kami
48. Mr. Purna Bahadur Chaudhari
49. Mr. Bharat bahadur Saud
50. Mr. Gopal Jung Thapa
51. Mr. Ganesh Chaudhari
52. Mr. Bhasani Prasad Acharya
53. Mr. Kanaiya Chaudhari
54. Mr. Kaliramtharu
55. Mr. BalBir Tharu
56. Mr. Chakra Bahadur Chaudhari
57. Mr. Guni Prasad Chaudhari
58. Mr. Khusi ram Chaudhari
59. Mr. Padam Bahadurrawal
60. Mr. Khem raj Chaudhari
61. Mr. DilBahadur Chaudhari
62. Mr. Sitaram Chaudhari
63. Mr. Khusiram Chaudhari
64. Mr. Birbahadur Chaudhari
65. Mr. Balbir Chaudhari
66. Mrs. Teju Chaudhari
67. Mr. Chin Bahadur Raji
68. Mr. Chandra Prasad Mishra
69. Mr. Ranjita Chaudhari

70. Mr. Manoj Kumar Pandey
71. Mr. Pradumna Chaudhari
72. Mr. Shivalal Sinjali
73. Mr. Kamal raj Regmi
74. Mr. Udaya Ram Adhikari
75. Mr. Ram Sankar Acharya
76. Mr. Devendra Bahadur Sunar
77. Mr. Ram Krishna Chaudhari
78. Mr. Janga Bahadur Lohar
79. Mr. Shyam Khatri
80. Mr. Kantha Raj Giri
81. Mr. Nawa Raj Acharya
82. Mr. Jagadiswor Pandit
83. Mr. Jagat Bahadur Rawal
84. Mr. Biddha Bhatt
85. Mr. Kirti Sing Bam
86. Mr. Dhanaraj Upadhyaya
87. Mr. Yogeshrawal
88. Mr. Surya Chandra Bhattarai
89. Mr. Makar Bahadur KC
90. Mrs. Shusila Shah
91. Mrs. Darsana Sharma
92. Mrs. Bhawana Dhamala
93. Mrs. Janaki Bhandari
94. Mr. Bhola Prasad Chaudhari
95. Mr. Ram Prasad Pokharel
96. Mr. Mandip Kumar Mahato
97. Mr. Shiva Prasad Sapkota
98. Mr. Saroj Khanal

Agenda:

1. Regarding the best wishes and congrats
2. Regarding the introduction and progress of project
3. Regarding the storm water drainage

Decisions:

1. Tikapur Small Town Water Supply and Sanitation Committee has decided to given a congratulation and best wishes to new elected local body of Tikapur Municipality for the success of their responsibility.
2. About the progress of Tikapur small town water supply and sanitation project has been presented by Construction Supervision Engineer Mr. Bhola Prasad Chaudhari and he informed that the construction work of Construction Company has also being satisfactory.

3. Discussion has been done in meeting about the construction of storm water drainage for block no. A, B, C, D, 5, 6, 7, 8, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24, 25, BangaunUtarpuruwa and Shaktinagar of Tikapur Municipality ward no.1 and Meeting has decided to given a responsibility to Tikapur small town water supply and sanitation committee for further process and essential step to construction of storm water drainage.

Appendix-3

Related Photographs

Core Bazaar area of Tikapur Municipality

Proposed public/government Road ROW for Drain construction at Tikapur Bazaar area

Proposed public/government Road ROW for Drain construction at Tikapur Bazaar area

Proposed public/government Road ROW for Drain construction at Tikapur Bazar area

Division Section of North Gyani kulo and South Gyani kulo in the end point of Jamara Canal

Outfall location at north Gyani kulo of Tikapur municipality ward no.1,

Outfall location at north Gyani Kulo of Tikapur municipality ward no.1,

Outfall location at South Gyani Kulo of Tikapur municipality ward no.1,

Proposed public/government Road ROW for Drain construction at Shaktinagar area, Tikapur municipality ward no.1

Proposed public/government Road ROW for Drain construction at Shaktinagar area, Tikapur municipality ward no.1

Outfall location at South Gyani Kulo of Tikapur municipality ward no.1, Shaktinagar area

Outfall location at South Gyani kulo of Tikapur municipality ward no.1, Shaktinagar area

Proposed site for construction of faecal sludge treatment plant

Proposed site for construction of faecal sludge treatment plant

Consultation and participation meeting with WUSC and stakeholders

Consultation and participation meeting with WUSC and stakeholders

After meeting with WUSC and stakeholders

Consultation and participation meeting with WUSC and stakeholders

Consultation and participation meeting with WUSC and stakeholders

Consultation and participation meeting with Municipality, WUSC and Community

Consultation and participation meeting with Municipality, WUSC and Community

Appendix-4

SOCIAL SAFEGUARDS SCREENING CHECKLISTS

Country	Nepal
Subproject Name	**Tikapur Storm Water Drainage and Faecal Sludge treatment Plant**
Date	17 January 2020 (Updated March 2020)

I. Involuntary Resettlement Impact Screening Checklist

(Note: Involuntary Land Acquisition is not required for the town project)

A. Probable Resettlement Effects	**Yes**	**No**	**Known**	**Remarks**
Acquisition of Land				
1. Will there be land acquisition?		√		Only government land and road ROW will be utilized for the project
2. Is the site for land acquisition known?				Not Applicable
3. Is the ownership status and current usage of land to be acquired known?				Not Applicable
4. Will easement be utilized within an existing Right of Way (ROW)?	√			Drains will be built on road ROW
5. Will there be loss of shelter and residential land due to land acquisition?				Not Applicable
6. Will there be loss of agricultural and other productive assets due				Not Applicable

to land acquisition?				
7. Will there be losses of crops, trees, and fixed assets due to land acquisition?	√			There will be loss of around 20 to 25 trees in the proposed Faecal Sludge Treatment Plant site at Banagaun Uttar Puruwa of ward number 1 of Tikapur municipality. Around 12 trees of Sissau (Dalbergia sissoo), and other few trees like Bayar (Ziziphus mauritiana), Simal (Bombax ceiba) and Bamboo (Bambus spp) are the tree species that is anticipated to be felled. Compensatory plantation will be carried out at the ratio 1:10 for every tree felled. However, the project will avoid tree cutting as far as possible to maintain greenery around FSTP. IEE/EMP table VII-7.
8. Will there be loss of businesses or enterprises due to land acquisition?				Not Applicable
9. Will there be loss of income sources and means of livelihoods due to land acquisition?				Not Applicable
Involuntary restrictions on land use or on access to legally designated parks and protected areas				
10. Will people lose access to natural resources, communal facilities and services?		√		
11. If land use is changed, will it have an adverse impact on social and economic activities?		√		
12. Will access to land and resources owned communally or by the state be restricted?		√		
Information on Displaced Persons:				

Any estimate of the likely number of persons that will be displaced by the Subproject? Not applicable	[ ] No [ ] Yes
If yes, approximately how many? Not Applicable	
Are any of them poor, female-heads of households, or vulnerable to poverty risks? Not applicable	[ ]No [ ] Yes
Are any displaced persons from indigenous or ethnic minority groups? Not applicable	[ ]No [ ] Yes

II. Indigenous Peoples Impact Screening Checklist

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
A. Indigenous Peoples Identification				
1. Are there socio-cultural groups present in or use the project area who may be considered as "tribes" (hill tribes, schedules tribes, tribal peoples), "minorities" (ethnic or national minorities), or "indigenous communities" in the project area?	√			Tikapur Storm Water Drainage and faecal sludge treatment plant project area is dominated by IP community Tharu and Magar. The project area has 44.29% indigenous people (41.14% Tharu and 3.15% Magar).
2. Are there national or local laws or policies as well as anthropological researches/studies that consider these groups present in or using the project area as belonging to "ethnic minorities", scheduled tribes, tribal peoples, national minorities, or cultural communities?	√			
3. Do such groups self-identify as being part of a distinct social and cultural group?	√			

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
4. Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?		√		
5. Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?	√			
6. Do such groups speak a distinct language or dialect?	√			The ethnic groups in the service area speak their own distinct languages among their members, but Nepali is spoken as common language.
7. Has such groups been historically, socially and economically marginalized, disempowered, excluded, and/or discriminated against?		√		The project area is populated by indigenous group (Tharu and Magar). They are economically, socially and politically privileged in the community. Among the 9 wards of the Municipality six wards chairperson are from Tharu community (ward no 3, 4, 5, 6, 7 and 9).
8. Are such groups represented as "Indigenous Peoples" or as "ethnic minorities" or "scheduled tribes" or "tribal populations" in any formal decision-making bodies at the national or local levels?	√			The Janajati (IP) and Dalits are included in WUSC. Most of the community forest user committees and Community Irrigation Committees are led by indigenous people.

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
B. Identification of Potential Impacts				

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
9. Will the project directly or indirectly benefit or target Indigenous Peoples?	√			The Project will directly benefit indigenous peoples because 100% of the population in project coverage areas will receive sanitation services, improvement in environmental sanitation and personal hygiene. FSM services covers 100% indigenous people of Tikapur municipality. The project's framework for social inclusion will ensure coverage and inclusion of indigenous people's households under project benefits. Labor from Indigenous Peoples community will be given preference during construction period. Workforce participation from Tharu and Magar community (Indigenous People) will be given preference, for jobs such as Laboratory technician, operator, driver and helper will be recruited during O&M period. The allocation of budget and required manpower of O&M period is mentioned in final DEDR (Section 14.3).

KEY CONCERNS (Please provide elaborations on the Remarks column)	YES	NO	NOT KNOWN	Remarks
10. Will the project directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices? (e.g. child-rearing, health, education, arts, and governance)		√		
11. Will the project affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status)		√		
12. Will the project be in an area (land or territory) occupied, owned, or used by Indigenous Peoples, and/or claimed as ancestral domain?		√		
C. Identification of Special Requirements *Will the project activities include:*				
13. Commercial development of the cultural resources and knowledge of Indigenous Peoples?		√		
14. Physical displacement from traditional or customary lands?		√		
15. Commercial development of natural resources (such as minerals, hydrocarbons, forests, water, hunting or fishing grounds) within customary lands under use that would impact the livelihoods or the cultural, ceremonial, spiritual uses that define the identity and community of Indigenous Peoples?		√		
16. Establishing legal recognition of rights to lands and territories that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?		√		
17. Acquisition of lands that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?		√		

D. Anticipated project impacts on Indigenous Peoples

Project component/ activity/ output	Anticipated positive effect	Anticipated negative effect
1. Storm water Drainage project and FSTP	Improvement in environmental sanitation and personal hygiene. Employment opportunities. Reduced inundation.	None.