

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

Rani Jamara Kulariya Irrigation Project  
Phase II

**Land Donation Report**

Command Area Protection (CAP) works along the Pathariya River

Pathraya (Lamki Chuwa 09 & 10, Janaki 02, 04 & 07, Joshipur 04 & 05, Tikapur 06 and Bhajani 08)  
River Training Works

**Submitted by**

**Rani Jamara Kulariya Irrigation Project  
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The report is prepared based on the references available at Rani Jamara Kuleria Irrigation Project (RJKIP) and consultation with the Project Affected Households (PAHs). Site re-verification by the consultant, draft reports available at RJKIP, draft land donation report of Dolphin area and Resettlement Planning Framework (RPF) and Vulnerable Community Development Report (VCDP) were also taken into account during the preparation of the report. This report includes land requirement, written land donation consents and relevant meeting minutes along with demographic, social and economic status of the PAHs of Command Area Protection (CAP) area.

## Abbreviations

ACIU	Agriculture Component Implementation Unit
ADB	Asian Development Bank
AoI	Area of Influence
CAP	Command Area Protection
CBOs	Community Based organization
CDO	Chief District Officer
CFG	Community Forest Group
DAG	Disadvantaged Group
DAO	District Agriculture Office
DFO	District Forest Office
DLRO	District Land Revenue Office
DLSO	District Land Survey Office
DoWRI	Department of Water Recourses and Irrigation
EIA	Environment Impact Assessment
EMP	Environmental Management Plan
FGD	Focus Group Discussion
GESI	Gender Equality and Social Inclusion
GoN	Government of Nepal
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HH/s	Household/s
IP	Indigenous People
IR	Involuntary Resettlement
IRP	Involuntary Resettlement Plan
KII	Key Informant Interview
LB	Bank
LCM	Lamki Chuwa Municipality
Mtr	Meter
NGO	Non-Governmental Organizations
PAHs	Project Affected Households
PWDA	Person with Different Ability
RB	Right Bank
RJKIP	Rani Jamara Kulariya Irrigation Project
RM	Rural Municipality
RPF	Resettlement Policy Framework
VCDP	Vulnerable Community Development Plan
WB	World Bank
WUA	Water Users Association
WUGs	Water Users Group

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## Executive Summary

1. This document reports the demographic features of Project Affected Households (PAHs) and the land donation process under the CAP works of RJKIP along the Pathariya River corridor comprising Lamki-Chuwa Ward No. 9 and 10; Janaki Rural Municipality Ward No 2, 4 and 7; Joshipur Rural Municipality Ward No. 4 and 5; Tikapur Municipality Ward No 6 and Bhajani Rural Municipality Ward No 8. Civil construction for river training works under the CAP measures to 14.45 km (30 Chainages) in total starting from downstream of Chuwa bridge of Lamki Chuwa Municipality (LCM) to Bhajani Rural Municipality (RM) Ward No. 8, Bharthapur passing through Janaki and Joshipur Rural Municipalities (RMs).
2. A total of 315 households (HHs) comprising a population of 2,265 are affected by the CAP works. Ethnic composition comprises of 75% Janajati (primarily Tharu), the predominant indigenous people in the area), 4% Dalits and 2% Muslims/Madhese including 19% of Chhetri, Brahmins, and Thakuri (BCT).
3. The total area of land owned by the 315 PAHs is 353,1243.775 square meters. The CAP will require only 273,878.925 square meters of land to be donated from among PAHs which is 7.75% of the total available land.
4. PAHs that will lose their land have alternative sources of livelihoods support. 90% of the PAHs have agriculture and livestock farming as a major source of income. 73% of the HHs are also engaged in daily wages and seasonal labor whereas 12% of them have a regular pension and 20% have remittance and other income sources. Given this, even if they voluntarily donate land, the PAHs can maintain their livelihood as per the pre-project stage.
5. There are 19 different infrastructures that need to be replaced. The consent for the replacement of the private infrastructures has been taken and a tentative cost for the compensation has been allocated according to RPF.
6. Grievance Redress Committees (GRMs) have been formed and are functioning at three tiers. The first tier comprises of a five-member committee at ward level led by the respective ward Chair, the second tier includes seven-member committee led by the Project Director and that of the third is established at Municipality/Rural Municipality level which is led by Deputy Mayor/Vice-Chairperson.

## 1. Background

The Government of Nepal (GoN) has been modernizing the irrigation systems following the changing contexts in terms of technologies, climate change impacts, and requirements of the beneficiaries. Rani Jamara Kulariya Irrigation System (RJKIS), having approximately 14,300 hectares (ha) command area, is one of the largest farmer-managed irrigation systems being modernized by Department of Water Resources and Irrigation (DoWRI) of GoN. Even though, there was sufficient water in the source-Karnali River, the system historically suffered from frequent washouts of temporary diversion works and shifting of river course at its intake. Therefore, DoWRI, through RJKIP has been involved in strengthening the system since FY 2009/10. Similarly, an agreement was signed between GoN and the World Bank (WB) on October 18, 2011, for the development of Phase I which ended in September 2018. Successful completion of Phase 1 led to the structuring of Phase 2 of the project ahead of the planned time frame and another Phase II loan agreement between GoN and WB took place on May 2018 to modernize the system for economic growth and poverty reduction, through a gendered and inclusive comprehensive agricultural program that focuses on increasing production, productivity, diversification and strengthening post-harvest support. The Phase II agreement remains effective till December 31, 2023.

As per the demands from the concerned municipalities and respective communities for the construction of embankments, RJKIP has proposed to construct embankment along the Pathraiya River under Command Area Protection (CAP) works. According to the survey carried out by RJKIP, there is around 90 kilometers (km) (36.5 km in the left and 53 km in the right bank) flood-prone zone from Chure foothill to Pathraiya Mohana confluence. Of the total 90 km, RJKIP has proposed to construct embankments of around 14.45 km in different chainages starting from downstream of Chuwa Bridge of Lamki Chuwa Municipality (LCM) to Bhajani Rural Municipality (RM)-8, Bharthapur passing through Janaki and Joshipur RMs. This report details the social assessment-demographic, social and economic characteristics,-land requirement for the civil construction works and consent received for land donation by the PAHs of Pathraiya Bhajani corridor river training sites.

## 2. Social Assessment and Land Donation Methodology in RJKIP

In order to provide appropriate guidelines to identify impacts, prepare plans, and mitigate adverse impacts likely to arise from the activities financed under RJKIP, the project prepared and implemented the Social Impact Management Framework (SIMF) during the planning and implementation of the Phase-I activities. The SIMF guidelines provides standards for incorporating involuntary resettlement considerations through Resettlement Planning Framework (RPF) and safeguarding the concerns of vulnerable communities residing in project area. The RPF principle, among others, notes that the affected people are fully informed and consulted during project design and implementation, particularly on matters relating to land donation. Likewise, as per the RPF, the key principle of voluntary land donation states that meaningful consultations will be undertaken with affected persons and communities on alignment finalization and appropriate design in order to avoid/minimize additional land take. It

also makes it clear that forced donation of land will not be undertaken and that the affected person will have the right to refuse land donation. The principle further states that if the affected persons are willing to voluntarily donate their land after they are fully informed about their entitlement, the project will assess their socio-economic status and the potential impact of land donation and accept land donation if the amount of land donated will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels. And for such voluntary land donation, the principle also explicitly states that such donations will be confirmed through a written record verified by a witness or an independent third party and such donations would only be limited to land and minor assets.

Taking into account the above principles, the assessment team conducted extensive social assessment to determine the potential area of concern/impact along the Pathariya River corridor. Systematic interviews with the individual HH members, public meetings, FGDs, and KIIs were major tools that were applied during the assessment. Similarly, the team also organized site observation/transect walk along the Pathariya River corridor. The project carried out social screening and collected signed consent letters from the PAHs for voluntarily land donation. Representatives from all the concerned local levels were involved at all stages of the assessment. Thus, the project obtained a comprehensive social and environmental assessment of the project area, including the land donation commitments from the affected households.

### **3. Summary of Land Requirement for CAP**

The social and technical assessment team calculated the land requirement for the embankment together with the concerned PAHs. The total area of land owned by the PAHs is 3,531,243.775 square meters. The CAP will require 273,878.925 square meters of land from among the 315 PAHs which is 7.75% of the total available land. Detail description<sup>1</sup> of the land requirement is as follows:

#### **3.1. Land requirement in Lamki Chuwa (LC) Municipality-10 and 9**

There are 108 HHs that will be affected by the construction works in Lamki Chuwa Municipality. The total area of land of the 108 PAHs according to chainage numbers is 1,003,808.975 square meters, however, only 83,970.005 square meter of land will be required for the construction of embankment. The table provides the land that will be required for embankment according to its chainage and square meter.

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<sup>1</sup> Meeting minutes and consent on land donation as required are annexed



Table 1: Land requirement for embankment-LC Municipality Ward No. 10 & 9

S.n	Chainages	Address	PAHs	Total Land of PAHs (Sq. Meter)	Land Required for embankment Sq. Meter
1	LB 9: 07+750 to 7+900 (150 Meter)	Lamki Chuwa 10	3	53164.91	3005.29
2	LB10: 08+050 to 8+300 (250 Meter)		10	86435.24	5375.55
3	LB 11: 8+450 to 8+750 (300 Meter)		9	116657.99	6306.82
4	LB 12, 13, 14: 9+350 to 9+500 (150 Meter) /9+750 to 9+900 (150 Meter)		13	80255.31	7966.08
5	LB 15: 10+1500 to 10+400 (250 Meter)		5	9828.675	4359.745
6	LB 16: Chainage 11+100 to 11+300 (200 Meter)		9	38806.89	3978.73
7	LB 17: Chainage 12+000 to 12+200 (200 Meter)	Lamki Chuwa 9	4	96509.55	4097.36
8	LB 18: Chainage 15+500 to 16+100 (600 Meter)		13	155668.16	10937.59
9	LB 19: Chainage 16+300 to 17+000 (700 Meter)		19	178915.15	16490.96
10	LB 20: 17+400 to 18+000 (600 Meter)		10	71840.32	11691.04
11	LB 21: 18+900 to 19+200 (300 Meter)		4	19979.17	4816.98
12	LB 22: 19+650 to 19+800 (250 Meter)		9	95747.61	4943.86
	Total LC 9 & 10		108	1003808.975	83970.005

### 3.2. Land requirement in Janaki RM Ward No.2, 4 & 7

There are 67 HHs that will be affected by the construction works in Janaki Rural Municipality. The total area of land of the PAHs according to chainage numbers is 782,999.51 square meters, however, only 54,594.46 square meters of land will be required for the construction of embankment. The table below provides the land that will be required for embankment according to its chainage and square meter.

Table 2: Land requirement for embankment-Janaki RM 2, 4 & 7

S. n	Chainages	Address	PAHs	Total Land of PAHs (Sq. Meter)	Land Required for embankment Sq. Meter
1	LB 23:19+800 to 20+300 (500 Mtr)	Janaki 2	7	98202.7	9185.22
2	LB 25: 23+850 to 24+350 (500 Mtr)	Janaki 4	15	95580.64	8211.5
3	LB 26: 28+150 to 28+650 (500 Mtr)		13	227897.99	10590.41
4	LB 27: 28+850 to 29+350 (500 Mtr)	Janaki 7	9	292830.27	11851.87
5	LB 28: 30+500 to 31+250 (750 Mtr)		23	68487.91	14755.46
	Total		67	782999.51	54594.46

### 3.3. Land requirement in Joshipur RM Ward No. 4 & 5

There are 94 HHs that will be affected by the construction works in Joshipur Rural Municipality. The total area of land of the PAHs according to chainage numbers is 1,204,845 square meters, however, only 90,836.04 square meters of land will be required for the construction of embankment. The table below provides the land that will be required for embankment according to its chainage and square meter.

Table 3: Land requirement for embankment-Joshipur 4 & 5

S. n	Chainages	Address	PAHs	Total Land of PAHs (Sq. Meter)	Land Required for embankment Sq. Meter
1	RB 10: 18+600 to 19 + 900 (1300 Meter)	J 5	26	176070.6	27233.85
2	RB 10: 22+500 to 24 +800 (2300 Meter)	J 4	40	547243	34091.07
3	RB 11: 25+300 to 25 +800 (500 Meter)		10	307001.9	10387.27
4	RB 12: 29+200 to 29 +900 (700 Meter)		15	103620.8	15051.85
5	RB 13: 30+800 to 31+000 (200 Meter)		3	70909.11	4072
	Total		94	1204845	90836.04

### 3.4 Land requirement in Tikapur Municipality-6

There are 20 HHs that will be affected by the construction works in Tikapur Municipality. The total area of land of the PAHs according to chainage numbers is 162,102.13 square meters, however, only 12,368.21 square meters of land will be required for the construction of embankment. The table below provides the land that will be required for embankment according to its chainage and square meter.

Table 4: Land requirement for embankment-Tikapur 6

S. n	Chainages	Address	Affected HHs	Total Land of PAHs (Sq. Meter)	Land Required for embankment Sq. Meter
1	LB 29: 35+000 to 35+700 (700 Meter)	Tikapur 6	20	162102.13	12368.21
	Total		20	162102.13	12368.21

### 3.5 Land requirement in Bhajani Rural Municipality-8

There are 26 HHs going that will be affected by the construction works in Bhajani Rural Municipality. The total area of land of the PAHs according to chainage numbers is 377,487.77 square meters, however, only

32,110.21 square meter of land will be required for the construction of embankment. The table below provides the land that will be required for embankment according to its chainage and square meter.

Table 5: Land requirement for embankment-Bhajani 8

S.n.	Chinages	Address	Affected HHs		
1	RB 14: 32+850 to 33 +150 (300 Meter)	Bhajani 8	1	33863	5993.73
2	RB 15: Chainage 34+700 to 35 +300 (600 Meter)		8	158478.84	11936.61
3	RB 16: Chainage 35+650 to 36 +000 (350 Meter)		8	72043.51	6933.32
4	RB 17: 36+600 to 36 +950 (350 Meter)		9	113102.42	7246.55
	Total		26	377487.77	32110.21

## 4. Demographic, Social and Economic Characteristics

### 4.1 Demographic Features of LC Municipality Ward No. 9 & 10

There are 108 HHs with a population of 791 affected in Lamki Chuwa Municipality. The population comprises 48% females and 52% males. There are four major caste/ethnic groups including 85% Janajati, 7% BCT, 3% Dalits and 5% Muslims/Madhesi. The data shows that Janajati (Tharu) is the largest group followed by BCT (7%), Muslims (5%) and Dalits (3%).

Table 6: Demographic Features of LC Municipality ward No. 9 & 10

S.n	Chainages	Address	PAHs	HH by ethnicity				Total HHs members		Total
				Janajati	Dalit	Muslim/	BCT	Female	Male	
1	LB 9: 07+750 to 7+900 (150 Meter)	Lamki Chuwa 10	3	1	0	0	2	11	13	24
2	LB10: 08+050 to 8+300 (250 Meter)		10	9	0	0	1	35	44	79
3	LB 11: 8+450 to 8+750 (300 Meter)		9	9	0	0	0	25	22	47
4	LB 12, 13, 14: 9+350 to 9+500 (150 Meter) /9+750 to 9+900 (150 Meter)		13	10	0	0	3	43	49	92
5	LB 15: 10+1500 to 10+400 (250 Meter)		5	0	0	5	0	23	14	37
6	LB 16: Chainage 11+100 to 11+300 (200 Meter)		9	9	0	0	0	17	21	38
	LB 17: Chainage 12+000 to 12+200 (200 Meter)	Lamki Chuwa 9	4	0	2	0	2	27	22	49
8	LB 18: Chainage 15+500 to 16+100 (600 Meter)		13	13	0	0	0	50	57	107
9	LB 19: Chainage 16+300 to 17+000 (700 Meter)		19	19	0	0	0	75	90	165
10	LB 20: 17+400 to 18+000 (600 Meter)		10	9	1	0	0	27	30	57
11	LB 21: 18+900 to 19+200 (300 Meter)		4	4	0	0	0	11	13	24
12	LB 22: 19+650 to 19+800 (250 Meter)		9	9	0	0	0	39	33	72

	Total LC 9 & 10		108	92	3	5	8	383	408	791
	Demographic features in percentage			85%	3%	5%	7%	48%	52%	

#### 4.1.1 Population by Age & Literacy Rate in LC Municipality, Ward No. 9 & 10

Of the total 791, a major portion (47%) of the population falls under the active age i.e between 16 to 40 years. 21% of the population stands in between 41 to 60 years. only 5% of the population crosses above 60 years. The average literacy rate of the affected population is 32% comprising of 29% female and 34% male. Refer Annex 8 for details.

#### 4.2 Land Holdings and Food Self-sufficiency of LC Municipality, Ward No. 9 & 10

Of the total affected HHs, 23 HHs have less than 5 *katthas*<sup>2</sup> of land, 16 HHs have land between 5 to 10 *katthas* followed by 23 HHs who have landholdings between 10 to 15 *katthas* each, 46 HHs have 15 or more than 15 *katthas* of land in the affected area.

In terms of food self-sufficiency, 26 HHs are food self-sufficient for less than three months, while 14 HHs are food self-sufficient from four to six months followed by 20 HHs who are food self-sufficient from seven to nine months and 48 HHs who also owns more land are food sufficient for 10 to 12 months or above. The details can be seen in Table 7.

Table 7: Land holding and Food Self-sufficiency in LC Municipality Ward No. 9 & 10

S.n	Chainages	Address	Affected HHs	Land holding				Food Self-sufficiency in month			
				< 5 katta	5-10 Katta	10-15 Katta	> 15 Katta	Below 3	4 to 6	7 to 9	10 to 12
1	07+750 to 7+900 (150 Meter)	Lamki Chuwa 10	3	0	0	0	3	0	0	1	2
2	08+050 to 8+300 (250 Meter)		10	3	2	1	4	3	1	3	3
3	8+450 to 8+750 (300 Meter)		9	7	1	1	0	7	1	0	1
4	9+350 to 9+500 (150 Meter) /9+750 to 9+900 (150 Meter)		13	2	2	6	3	2	1	5	5
5	10+1500 to 10+400 (250 Meter)		5	3	1	1	0	4	1	0	0
6	11+100 to 11+300 (200 Meter)		9	2	4	2	1	2	3	3	1
7	12+000 to 12+200 (200 Meter)	Lamki Chuwa 9	4	0	0	0	4	0	0	0	4
8	15+500 to 16+100 (600 Meter)		13	0	3	1	9	1	4	0	8

<sup>2</sup> 1 Kattha is equivalent to 3645 square feet or 338.63 square meters

9	16+300 to 17+000 (700 Meter)	19	2	1	6	10	2	1	4	12
10	17+400 to 18+000 (600 Meter)	10	2	2	1	5	3	1	1	5
11	18+900 to 19+200 (300 Meter)	4	1	0	2	1	1	1	1	1
12	19+650 to 19+800 (250 Meter)	9	1	0	2	6	1	0	2	6
	Total LC 9 & 10	108	23	16	23	46	26	14	20	48

#### 4.2.1 Major Source of income for Livelihoods

In the project affected communities in Lamki Chuwa Municipality 9 and 10, it was found that all the households are engaged in multiple activities to maintain their livelihood. Specifically, 99 HHs stated agriculture as their major source of income, while 76 HHs stated that they depended on daily wages and 52 HHs stated livestock farming as a major source of income. Similarly, 23 HHs are said to be cultivating their own land, 17 HHs have leased land whereas 6 HHs reported that they were sharecroppers.

#### 4.2.2 Institutional Affiliation

Out of the 108 HHs, 96 HHs are members of Saving and Credit Cooperatives. From among the cooperative members, 12 HHs are also engaged in Community Forestry Group, 39 HHs are engaged in Mothers Group whereas 15 HHs have been enlisted as Leader Farmers followed by 43 female members who are engaged in Women's Group.

### 4.3 Demographic Features of Janaki RM Ward No. 2, 4 & 7

The field survey in the affected area of Janaki Rural Municipality Ward No. 2, 4 and 7 shows that there are 67 HHs with 471 populations, who will be affected by CAP works. Caste/ethnic distribution of the HHs includes two Dalit HHs, 41 Janajati, two Muslims and 22 HHs comprising of BCT groups, which is 3%, 61%, 3% and 33% respectively. The major group in the area is Janajati (Chaudhary) followed by BCTs.

Table 8: Demographic information of Janaki RM Ward No. 2, 4 & 7

S · n	Chainages	Address	Affected HHs	Dalit	Janajati	Madhesi/M uslim	BCT	Total HHs members		Total population
								F	M	
1	LB 23:19+800 to 20+300 (500 Meter)	Janaki 2	7	1	1	0	5	44	36	80
2	LB 25: 23+850 to 24+350 (500 Meter)	Janaki 4	15	0	13	0	2	63	66	129
	LB 26: 28+150 to 28+650 (500 Meter)		13	0	13	0	0	75	65	140

4	LB 27: Chainage 28+850 to 29+350 (500 Meter)	Janaki 7	9	1	4	0	4	57	69	126
5	LB 28: Chainage 30+500 to 31+250 (750 Meter)		23	0	10	2	11	69	67	136
	Total		67	2	41	2	22	233	238	471
	Demographic features in percentage			3%	61%	3%	33%	50%	50%	

The affected area has two females with disabilities.

#### 4.3.1 Population by Age and Literacy in Janaki RM Ward No. 2, 4 & 7

Of the total 471, a major portion (62%) of the population falls under the active age i.e between 16 to 40 years. 25% of the population stands in between 41 to 60 years. The average literacy rate of the affected is population 32%, of which 33% are males while 30% is that of females. Refer Annex 8 for details.

#### 4.4 Land holdings and Food Self-sufficiency of Affected Areas in Janaki Rural Municipality

Of the total affected HHs, 7 HHs has less than 5 *katthas* of land, 18 HHs have land between 5 to 10 *katthas* followed by 6 HHs who have landholding between 10 to 15 *Katthas* while, Likewise, 36 HHs have 15 or more than 15 *katthas* of land,.

In terms of food self-sufficiency, 9 HHs fall under below three months of food self-sufficiency, 18 HHs reported that they were four to six months food self-sufficient, followed by 7 HHs who have food sufficiency from seven to nine months and 33 HHs are food self-sufficient for 10 to 12 months or above. The details are given in the table below:

Table 9: Land holding and food sufficiency in Janaki RM 2, 4 & 7

S.n	Chainages	Address	Affected HHs	Land holding				Food sufficiency in month			
				< 5 katta	5-10 Katta	10-15 Katta	> 15 Katta	Below 3	4 to 6	7 to 9	10 to 12
1	LB 23:19+800 to 20+300 (500 Meter)	Janaki 2	7	0	0	1	6	0	0	1	6
2	LB 25: 23+850 to 24+350 (500 Meter)	Janaki 4	15	1	3	2	9	1	5	3	6
3	LB 26: 28+150 to 28+650 (500 Meter)		13	0	0	0	13	0	0	0	13
4	LB 27: Chainage 28+850 to 29+350 (500 Meter)	Janaki 7	9	0	2	1	6	0	2	2	5
5	LB 28: Chainage 30+500 to 31+250 (750 Meter)		23	6	13	2	2	8	11	1	3

	Total		67	7	18	6	36	9	18	7	33
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#### 4.4.1 Major Source of Income for Livelihoods

In the project affected communities in Janaki Rural Municipality, 65 HHs have reported agriculture as their major source of income, 28 HHs depend on daily wages whereas 49 HHs have stated livestock farming as a major source of income. There are 21 HHs who also depend on seasonal migration for alternative livelihood options. The livelihood sources of the affected households are maintained through various forms of engagement and all the households are engaged in more than one livelihood activities in the project affected area. It was also reported that almost all the HHs cultivate their own land.

#### 4.4.2 Institutional Affiliation

Out of the 67 HHs, 45 HHs have membership in Saving and Credit Cooperatives. From among the cooperative members, 1 HH is engaged in Community Forest Group, 28 HHs are engaged in Mothers Group and 16 HHs in Women's Group whereas 8 HHs are engaged in farmers groups. One member of the community represents the Ward Committee at the local level.

### 4.5 Demographic Features of Joshipur Rural Municipality Ward No. 4 & 5

The field survey in the affected area of Janaki Rural Municipality Ward No 2, 4 and 7 consist of 94 HHs with a population numbering to 743. Caste/ethnic distribution of the HHs includes four Dalit HHs, 85 Janajati, and five HHs consist of BCTs. The presence of Janajati (Chaudhary) is 91% followed by 5% BCTs and 4% Dalit HHs. The population comprises of 51% males as opposed to 49% females in the affected area. There are seven females and six males, who have been classified as PLDs in the project affected area. The details are presented in the table below:

Table 10: Demographic Characteristics of Joshipur RM Ward No 4 & 5

S. n	Chainages	Address	Affected HHs	Dalit	Janajati	Madhesi/Muslim	BCT	Total HHs members		Total population
								F	M	
1	RB 10: 18+600 to 19 + 900 (1300 Meter)	Joshipur 5	26	3	23	0	0	115	135	250
2	RB 10: 22+500 to 24 +800 (2300 Meter)	Joshipur	40	1	34	0	5	153	146	299
3	RB 11: 25+300 to 25 +800 (500 Meter)		10	0	10	0	0	33	38	71

4	RB 12: 29+200 to 29 +900 (700 Meter)		15	0	15	0	0	50	50	100
5	RB 13: 30+800 to 31+000 (200 Meter)		3	0	3	0	0	12	11	23
	Total		94	4	85	0	5	363	380	743
	Demographic features in percentage			4%	91%	0	5%			

#### 4.5.1 Population by age and literacy in Joshipur RM 4 & 5

Of the total 471, a major portion (45%) of the population falls under the active age i.e between 16 to 40 years. 24% of the population stands in between 41 to 60 years. Only 4% of the population is above 60 years. The average literacy rate of the affected area is 32% of which the female literacy rate is 30% while that of male is 34%, which has been shown in figure 3. Refer Annex 8 for further details.

#### 4.6 Land holding and food sufficiency-Joshipur Rural Municipality

Of the total affected HHs, 11 HHs have less than 5 *katthas* of land, 9 HHs have land between 5 to 10 *Kattha* followed by 19 HHs who have landholding between 10 to 15 *katthas* each. Each of the remaining 55 HHs has 15 or more than 15 *katthas* of land in the affected area.

Similarly, 13 HHs are food self-sufficient only for less than three months, 12 HHs are food self-sufficient for four to six month followed by 13 HHs who have food sufficiency for seven to nine months and 56 HHs who also owns more land have food sufficiency for 10 to 12 months or above. The details are in the table below:

Table 11: Land holdings and food sufficiency –Joshipur Rural Municipality

S. n	Chainages	Address	Affected HHs	Land holding				Food Self-sufficiency in month			
				< 5 katta	5-10 Katta	10-15 Katta	> 15 Katta	Below 3	4 to 6	7 to 9	10 to 12
1	RB 10: 18+600 to 19 + 900 (1300 Meter)	Joshipur 5	26	4	5	7	10	6	8	6	6
2	RB 10: 22+500 to 24 +800 (2300 Meter)	Joshipur 4	40	2	2	8	28	2	2	3	33
3	RB 11: 25+300 to 25 +800 (500 Meter)		10	0	1	3	6	0	1	3	6
4	RB 12: 29+200 to 29 +900 (700 Meter)		15	5	1	1	8	5	1	1	8
5	RB 13: 30+800 to 31+000 (200 Meter)		3	0	0	0	3	0	0	0	3



	Total	94	11	9	19	55	13	12	13	56
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#### 4.6.1 Major Source of income for livelihoods promotion

In the project affected communities in Joshipur Rural Municipality, 83 families have reported agriculture as their major source of income, 38 HHs depend on daily wages whereas 49 HHs have reported livestock farming as their major source of income. There are 34 HHs who also depend on seasonal migration for alternative livelihood options. There are 39 HHs who are engaged in more than one activities to maintain their livelihoods in the project affected area. It is reported that 55 HHs cultivate their own land whatever available to them.

#### 4.6.2 Institutional Affiliation

Out of the 94 HHs, 64 HHs have a membership in Saving and Credit Cooperatives who are the regular members of the cooperative organizations. From among the cooperative members, 12 HH are engaged in Community Forest Groups, 27 HHs are engaged in Mothers Group and 17 HHs are also a part of Women's Group whereas 18 HHs are part of farmers groups. Two HHs members in the community represent the Ward Committee at the local level.

### 4.7 Demographic Features of Tikapur Municipality Ward No. 06

The field survey in the affected area of Tikapur Municipality Ward no 6 shows that there are 20 households that can be classified as PAHs and these 20 consist of population numbering to 100. Caste and ethnic distribution of the HHs includes three Dalit HHs, three Janajati, and 14 BCT HHs. The affected Ward has very limited HHs of Dalits and Janajaties. The population comprises of 54 % female and 46 % male in the affected area. One female of this area has been reported as PWD. Details are presented in table 12.

Table 12: Demographic information-Tikapur Municipality Ward no 6

S. n	Chainages	Affected HHs	Dalit	Janajati	Madhesi /Muslim	BCT	Total HHs members		Total population
							F	M	
1	LB 29: 35+000 to 35+700	20	3	3	0	14	54	46	100
	Demographic features in percentage		15%	15%	0	70%	54%	46%	

There is one PWDA (Female) in the affected area.

#### 4.7.1 Population by age and literacy in Tikapur Municipality 6

Of the total 100 population, a major portion (50%) of the population falls under the active age group, i.e., between 16 to 40 years, 23% of the population stands in between 41 to 60 years and only 2% of the population is above 60 years. The average literacy rate of the affected is 37% of which, there are 39% female and 34% male who are literate. See Annex 8 for further details.

## 4.8 Land holding and Food Self-sufficiency-Tikapur Municipality

Of the total affected HHs, two HHs have less than 5 *katthas* of land, four HHs have land between 5 to 10 *katthas* followed by 10 HHs who have landholdings between 10 to 15 *katthas*. In addition four HHs have 15 or more than 15 *katthas* of land.

With regards to food self-sufficiency, two HHs have food self-sufficiency under three months, four HHs are food self-sufficient for four to six months followed by 10 HHs who are food self-sufficient for seven to nine months. Four HHs who own more land have food sufficiency for 10 to 12 months or above. The details can be seen in the table below:

Table 13: Land holdings and food sufficiency in Tikapur Municipality 6

S. n	Chainages	Address	Affected HHs	Land holding				Food sufficiency in month			
				< 5 katta	5-10 Katta	10-15 Katta	> 15 Katta	Below 3	4 to 6	7 to 9	8 to 12
1	LB 29: 35+000 to 35+700 (700 Meter)	Tikapur 6	20	2	4	10	4	2	4	10	4

### 4.8.1 Major Source of income for livelihoods promotion

In the project affected communities in Tikapur Municipality, 10 families have stated agriculture to be their major source of income, two HHs depend on daily wages whereas 16 HHs also depend on seasonal work for alternative livelihood options. There are 16 HHs engaged in more than one livelihood options to maintain their livelihoods in the project affected area. It is reported that four HHs cultivate their own land in the project affected area.

### 4.8.2 Institutional Affiliation

Out of the 20 HHs, 12 HHs have membership in Saving and Credit Cooperatives. There are eight HHs who are also affiliated to Mothers Group in the affected area. Altogether, 19 HH members are also said to be engaged in the Electricity Committee.

## 4.9 Demography of Bhajani Rural Municipality Ward No. 08

The field survey in the affected area of Bhajani Rural Municipality Ward No. 8 shows that there are 26 HHs, with a population numbering to 160 as being affected by the project river training works. Caste and ethnic distribution of the HHs includes 15 HHs of Janajati and 11 of BCTs, which is 58% and 42% respectively. The population comprises of 42 % female and 58 % male in the affected area and two males have been reported to be PLDs. Details are presented in the table below:

Table 14: Demographic information-Bhajani Rural Municipality Ward No 8

S.n.	Chinages	Address	Affected HHs	Dalit	Janajati	Madhesi/Musli	BCT	Total HHs members		Total population
								F	M	
1	RB 14: 32+850 to 33 +150 (300 Mtr)	Bhajani 8	1	0	1	0	0	3	5	8
2	RB 15: Chainage 34+700 to 35 +300 (600 Mtr)		8	0	5	0	3	15	28	43
3	RB 16: Chainage 35+650 to 36 +000 (350 Mtr)		8	0	2	0	6	30	34	64
4	RB 17: 36+600 to 36 +950 (350 Mtr)		9	0	7	0	2	19	26	45
	Total		26	0	15	0	11	67	93	160
	Demographic features in percentage			0		58%	42%	42%	58%	

#### 4.9.1 Population by age and literacy in Bhajani Rural Municipality 8

Of the total 160, a major segment (48%) of the population falls under the active age group, who are between 16 to 40 years, while 20% of the population is in between 41 to 60 years and 8% of the population is above 60 years. The average literacy rate of the affected is 69%, which includes 26% female and 44% male. Refer Annex 8 for further details.

#### 4.10 Landholding and food sufficiency in Bhajani Rural Municipality 8

Bhajani RM is different in terms of land holding than other areas in terms of land holding. All the HHs own above 5 *katthas* of land and only one family owns land in between 5 to 10 *katthas* of land. Five HHs have landholding of 10 to 15 *katthas* and 20 HHs have landholding of 15 *Kattha* or more.

Apropos food self-sufficiency, two HHs have food sufficiency under three months, three HHs have reported to be food self-sufficient for four to six months followed by another four HHs who have food sufficiency from seven up to nine months, 17 HHs who are among the 20 HHs having more than 15 *Kattha* of land have food sufficiency of 10 to 12 months or above. The details could be presented in table 15.

Table 15: Landholding and food sufficiency in Bhajani Rural Municipality 8

S.n.	Chinages	Address	Affected HHs	Land holding				Food sufficiency in month			
				< 5 kattha	5-10 Katta	10-15 Kattha	> 15 Kattha	Below 3	4 to 6	7 to 9	10 to 12

1	RB 14: 32+850 to 33 +150 (300 Meter)	Bhajani 8	1	0	0	0	1	0	0	0	1
2	RB 15: Chainage 34+700 to 35 +300 (600 Meter)		8	0	0	0	8	0	0	1	7
3	RB 16: Chainage 35+650 to 36 +000 (350 Meter)		8	0	1	3	4	1	2	1	4
4	RB 17: 36+600 to 36 +950 (350 Meter)		9	0	0	2	7	1	1	2	5
	Total		26	0	1	5	20	2	3	4	17

#### 4.10.1 Major Source of income for livelihoods promotion

In the project affected communities in Bhajani Rural Municipality, 25 families have stated that agriculture is their major source of income. There are six HHs depending on daily wages. From among the 20 HHs, 16 HHs who have more than 15 Kattha of land also said that they had seasonal migration for work. All 26 HH reported that they were engaged in more than one livelihood options to maintain their livelihoods. It was reported that 25 HHs cultivated their own land whereas one HH was found to be a sharecropper.

#### 4.10.2 Institutional Affiliation

Out of the 26 HHs, 17 HHs have membership in Saving and Credit Cooperatives. There are 17 HHs who are also members of Community Forestry User Groups (CFUG) and five HHs are also a part of Mothers Groups and another six HHs are also members in Women's Group.

## 5. Loss of Land and Impact on Livelihood Sources

Out of the total 3,531,243.775 square meters of land owned by the PAHs, only 273,878.925 square meters will be required for river training works based on the measurement with 20 meters width in all chainages. This amounts to an average of 7.75% of landholding being donated by PAHs. The PAHs reported that land loss would not affect their livelihoods; instead, the PAHs stated that they would eventually lose even more land in the future if the river training works don't get constructed on time. For the alternative livelihoods options, the PAHs said that they would continue their existing livelihood strategies with some advancement after being skilled in new technologies and practices supported by RJKIP and other stakeholders. During the field survey, the PAHs were found to be deriving their livelihoods from various sources and being engaged in multiple economic activities, including both farm and off-farm activities. Household income from farm activities include income from crops and livestock as well as agriculture wages, and under off-farm economic activities, it includes wages, remittance and services.

There are multiple sources of livelihoods strategies in the PAHs communities. 91.67% of the PAHs in Lamki Chuwa Municipality have agriculture and livestock farming as a major source of income. 70.37% of the HHs who are also engaged in agriculture and livestock farming in the Municipality are also derive their sources from daily wages and seasonal migration. There are 8 HHs who are

engaged in regular job or derive pension followed by 19 HHs who have income from remittance or other sources (contingency opportunities like loading and unloading of mud, sand and timber) in the Municipality.

Likewise, 97.01% of the HHs in Janakai Rural Municipality have agriculture and livestock farming as a source of income followed by 73.13% of the HHs who also earn daily wages and are also into seasonal migration. 8.96% of the HHs in the RM have access to regular services or are getting pension. 25.37% of the HHs in the RM have remittance and other sources.

Agriculture and livestock farming is a major source of livelihoods in Joshipur RM, Tikapur Municipality and Bhajani Rural Municipality. Of the total, 88.30% of the HHs are engaged in agriculture and livestock farming in Joshipur followed by 65% and 96.15% in Tikapur and Bhajani respectively. From among the total HHs, 76.6% of the HHs in Joshipur are also engaged in daily wages and seasonal labor. Likewise, 60% of the HHs are engaged in wages and seasonal labor in Tikapur Municipality followed by 80.77% in Bhajani Rural Municipality. There are also HHs in government and non-government services who also derive pension, which also supports their means of livelihood. As reported service and pension holders account to 20.21% in Joshipur Rural Municipality, 30% in Tikapur Municipality, 3.85% in Bhajani Rural Municipality, 8.96% in Janaki Rural Municipality and 7.41% in Lamki Chuwa Municipality, ward number 8 and 9. The HHs of the Municipalities have also remittance and other sources of income as mentioned in the table below. Thus, it is not only agriculture that PAHs are exclusively dependent upon but as reported they eke out their living from multiple sources of livelihoods. Given this, even if they voluntarily donate land, the PAHs can maintain their livelihood as per the pre-project stage.

Table 16: Livelihood sources of PAHs

Municipalities	Total PAHs	Agriculture/Livestock		Wages/Seasonal labor		Service/Pension		Remittance/Others	
		HHs	%	HHs	%	HHs	%	HHs	%
Lamki Chuwa Municipality-9 and 10	108	99	91.67%	76	70.37%	8	7.41%	19	17.59%
Janaki Rural Municipality 2, 4 and 7	67	65	97.01%	49	73.13%	6	8.96%	17	25.37%
Joshiipur Rural Municipality 4 & 5	94	83	88.30%	72	76.60%	19	20.21%	20	21.28%
Tikapur Municipality 6	20	13	65.00%	12	60.00%	6	30.00%	2	10.00%
Bhajani Rural Municipality	26	25	96.15%	21	80.77%	1	3.85%	4	15.38%
	315	285	90%	230	73%	40	12%	62	20%

## 6. Principles of Land Donation

As part of the voluntary land donation there are certain principles that need to be followed by the project. These principles have been laid down in the land donation principles as well as in the policy entitlement of the site specific RAP scheme. The table below lists the provisions of the land donation principles of 315 households that lose their land in any volume.

Table 17: Principles of voluntary land donation report checklist

Provisions for Land donation	Yes/No	Explanation If Relevant
Meaningful consultation with PAHs and communities on alignment finalization and design so as to avoid adverse impact/minimize additional land take and resettlement effects	Yes	27 formal meetings consisting of 664 participants were held with community members including PAHS.
PAHs informed of their right to compensation for any loss of their property (house, land, and trees) and the land donation might be accepted only as a last option;	Yes	Informed through mass meetings during social and environmental screening and also through site specific consultations with the PAHs
Donating household is direct project beneficiary	Yes	Land donation is only done by PAHs who will benefit directly from the river training works
Land donation will be confirmed through a written record, including a "no coercion" clause verified by an independent third party	Yes	A consent form has been signed in the presence of a witness
PAHs are fully informed about their entitlement, the project will assess their socio-economic status and potential impact of land donation and accept land donation only if it is minor and remaining land area will allow them to maintain their livelihood at current levels	Yes	Social screening, surveys, number of meetings, consultations have been carried out for this purpose
Accept land donation if it is minor and remaining land area will allow them to maintain the donor's livelihood at current levels	Yes	Donation has been limited to land and since PAHs rely on multiple sources of livelihood and agriculture is not the exclusive livelihood of the PAHs.
A grievance redress committee will be set up and APs who are not satisfied with the land donation can file their complaint with GRC. If GRC finds that the above provisions are not	Yes	A three-tier GRM has been set up.

<p>complied with, APs will be excluded from the land donation.</p>		
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**7. Consultation Undertaken for Land Donation**

The project organized a series of meeting and consultations with the project affected community members and local level representatives to disseminate information about the project activities and to take consent for land donation. The project shared with PAHs the information about findings of the technical survey and the volume of land they will have to donate voluntarily for the construction of the embankment during the consultations.

These consultations were held during social and environmental screening. Consultations were also carried out during the household surveys. Mass meetings were also held with the affected communities and people living along the entire chainages of the CAP works. These consultations were carried out from May 16, 2019 to June 25, 2019. A total of 27 formal meetings were organized participating 664 participants of the CAP area including all the PAHs. Presence of Ward Level Chair and other GRC members was ensured in such meetings. During such consultations, the views and concerns of the PAHs were noted and incorporated in the proposed alignments, where found possible. Sharing of RPF of the project was a crosscutting theme in all the consultations and meetings. Thus, the project made all necessary efforts to minimize project impacts on assets and avoid disruption of livelihoods as far as possible. After consensus building in the consultation meetings, the project obtained the individual land donation consents from all the PAHs. Minutes on these consultations and land donations consents are annexed with the report.

The field assessment and consultations suggest that the donating households will not fall below the poverty after land donation because they have access to other sources of livelihoods. Further, land donation will not reduce the donor's remaining land area below that required to maintain the donor's livelihood at current levels because a significant portion of the land owned by the PAHs in the area has already been eroded by the river.

**7.2 Livelihood Support Activities for PAHs**

The project has consulted with the PAHs during the social and environmental screening and also during site specific consultations. During these consultations along with the community and PAHs, personnel from RJKIP, ACIU were also present to identify activities that the PAHs and community wanted to benefit from. These identified activities were related to agriculture (modernization and mechanization of cereal crops farming), agriculture based skill development trainings (use of pesticides, integrated pest management, services to be provided by agriculture extension workers) and demonstration site visits in other areas. They also identified agro-based

information as per seasonal agriculture activities (seeds, fertilizers, technology). The PAHs also identified activities related to seasonal and off seasonal vegetable farming, livestock support programs. The proposed activities have been discussed and shared with ACIU which will address these demands from the PAHs and community by incorporating it in the annual and monthly activities that will be planned and implemented by ACIU in coordination with RJKIP.

### 7.1 Infrastructures to be replaced and Mitigation Measures

Besides land donation, there were 19 infrastructures proposed for replacement or utilization for CAP works i.e toilets, temporary house, cow shed, hand pump, electric pole, road section, school ground and private nursery. Chainage-wise number of infrastructures to be affected is presented in table 18 in the next page.

Table 18: Infrastructures to be replaced

Chainages	Structures								Remarks
	Toilet	Mud House	Cow Shed	Hand pump	Electric Pole	Road section	School ground	Nursery	
8+450 -8+750					1		1		SG-1:Rastriya Secondary School ( Lamki Chuwa 10)
10+150 - 10+400	1		1	1		1			T -1, HP-1: Mohamad Hamik CW-1: Embrahim Khan (Muslim Tole)
11+100 - 11+300			1						CW-1: Janak Chaudhary ( LC 10, Tighari)
23+850 - 24+850						1			
28+850 - 29+350								1	PN-1: Chet Ram Chaudhary and Jugaram Chaudhary (Janaki 7, Shankarpur)
30+500 - 31+250		3	1			1			H-1: Cheddu Kumal H-1, Cowshed-1: Dil Bdr Ale H-1: Manu Prasad Sharma (Janaki 7, Jawalpur)
18+600 - 18+900	2								T- 1: Chamari Dangaura Tharu T- 1: Mewalal Chaudhary (Joshipur 5, Rajagaudi)
29+200 - 29+900						1		1	CN-1: Community Managed (Joshipur 4, Bani)



32+850- 33 +150							1		SG-1: Shiva Adaharbhut School (Bhajani 8, Chhachaurwa)
Total	3	3	3	1	1	4	2	2	
<i>School Ground: SG; Hand Pump: HP; Cow Shed: CS; Private Nursery: PS; House: H; Toilet: T; Community Nursery : CS</i>									

For the mitigation measures, the project has allocated fund under ‘Social and Environmental Mitigation Measures’. The PIO will construct the replaced infrastructures owned by the individual and community as mentioned in table 19 to which the community have also agreed.

Table 19: Replacement cost of infrastructures

Infrastructures	Total Unit	Unit Cost	Total cost	Remarks
Mud House	3	100,000	300,000	
Hand Pump	1	5,000	5,000	
Toilet	3	15,000	45,000	
Cow Shed	3	10,000	30,000	
Nursery	2	20,000	40,000	
Road Section				NA
School Ground				NA

## 8. Grievance Redress Mechanism

Grievance Redress Committees (GRC) is a locally constituted committee in line with the project approach for dispute resolution with regard to overall project intervention. The GRCs is established at the various level of project and given a mandate to receive and facilitate the resolution of PAHs' concerns and grievances about physical and economic displacement including other impacts due to project intervention, paying particular attention to the impacts on vulnerable groups.

For the purpose of command area protection works at concerned Municipality & Rural Municipality, the GRC consists of three layers.

The first layer (5 members) of the GRC was formed at ward level led by Ward Chairperson including,

### Level 1 - Word Level - (5 Members)

1. Coordinator /chairman - Concerned Word Chairman
2. Member - Concerned Badghar
3. Member - Woman's Representative
4. Member - Concerned WUA Branch Chairman
5. Member - Project Affected People.

The second layer (7 members) of GRCs was formed at Project level led by Project Director including,

### **Level 2 - Project Level (7)**

1. Chairman - Project Director
2. Member - S.D.E
3. Member - SR. Sociologist
4. Member - Engineer
5. Member - Mai WUA Chairman
6. Member - Concerned WUA Branch Canal Chairman
7. Member - Project Affected People

The third layer (5 members) of GRCs was formed at Municipality/Rural Municipality level led by deputy mayor/vice Chair-man including,

### **Level 3 - Municipality / Rural Municipality Level (5 Members)**

1. Chairman - Deputy Major / Vice- Chairperson
2. Member - Concerned Word Chairperson
3. Member - Concerned Badghar
4. Member - Project Affected People
5. Member - RJKIP Representative

## **9. Monitoring of Land Donation**

In order to ensure that land donation was not done by the voluntary donors under duress, monitoring of the land donation process was carried out. Several measures were taken by the project to ensure that no one was compelled for forced land donation. These measures included that the PAHs were duly informed about the land donation process, which included informing the PAHs that they had the right to refuse a land donation proposal and if they were willing to donate land they were also fully informed about their entitlements. Such voluntary donations were only carried out in the presence of the witnesses who also signed the consent form attesting to the fact that he or she was a witness to the consent. The project also assessed the socio-economic status and potential impact of land donation to ensure that the donating households did not fall into poverty. The project also ensured that the PAHs were informed about the project progress on a regular basis. A joint mechanism of GRC, WUA and PIO have carried out a series of field visits and consultations with the PAHs as part of the monitoring process.