

Government of Nepal
Ministry of Irrigation
Department of Irrigation

Rani Jamara Kulariya Irrigation Project



Social Assessment Rani Jamara Kulariya Irrigation Project Phase II

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TIKAPUR, KAILALI

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PREFACE

This document is the fifth of eight volumes, which describes the Social Impact Assessment (SIA) conducted in relation to the Modernization Rani Jamara Kulariya Irrigation Scheme (MoRJKIS) in Tikapur Kailali Districts, Far West in the Province Seven of Nepal. This study was conducted by project proponent (Department of Irrigation, Rani Jamara Kulariya Irrigation Project) between April to November 2017 and finalized on December 26, 2017. The Report has been prepared in compliance with the GoN Law and World Bank Safeguard Policies.

The report of these studies comprises eight volumes, which are arranged as follows:

- Volume 1: Executive Summary (combining the finds of EA, BIA, IPM, SA, VCDP & RPF)
- Volume 2: Environment Assessment (EA);
- Volume 3: Biodiversity Impact Assessment (BIA)-;
- Volume 4: Integrated Pest Management Plan (IPM);
- Volume 5: Social Impact Assessment (SIA)-**this document**;
- Volume 6: Vulnerable Community Development Plan (VCDP);
- Volume 7: Resettlement Planning Framework (RPF);
- Volume 8: Stakeholder Consultation Proceeding conducted at Tikapur on December 14, 2017.

The relevant inputs received from the stakeholders during consultation has already been incorporated in respective reports. It is enclosed for reference only.

LIST OF ACRONYMS

ADB	: Asian Development Bank
AoI	: Area of Influence
BNP	: Bardia National Park
BZCFUGs	: Buffer Zone Community Forest Users Groups
CAD	: Command Area Development
CAP	: Command Area Protection
CBOs	: Community Based Organizations
CFUGs	: Community Forest Users Groups
DADO	: District Agriculture Development Office
DFO	: District Forest Office
DoI	: Department of Irrigation
EA	: Environmental Assessment
EIA	: Environmental Impact Assessment
EPA	: Environment Protection Act
EPR	: Environment Protection Rules
FNCCI	: Federation of Nepalese Chambers of Commerce and Industries
FGD	: Focus Group Discussion
FMIS	: Farmers Managed Irrigation System of Nepal
GRM	: Grievance Redress Mechanism
GoN	: Government of Nepal
IFC	: International Finance Corporation
IFIs	: International Financial Institutions
ILO	: International Labor Organization
IP	: Indigenous People
IPVC	: Indigenous People and Vulnerable Community
VCDP	: Vulnerable Community Development Plan
KII	: Key Informant Interview
LEMC	: Local Environment Monitoring Committee
MoI	: Ministry of Irrigation
NCDN	: National Committee for Development of Nationalities
NEFIN	: Nepal Federation of Indigenous Nationalities (Adivasi/ Janajati)
NFDIN	: National Foundation for Upliftment/Development of Indigenous Nationalities
NFIWUAN	: National Federation of Irrigation Water Users Association of Nepal
NGO	: Non-Governmental Organizations
NPC	: National Planning Commission
OP	: Operational Policy (World Bank's)
PLARRIDP	: Policy on Land Acquisition, Resettlement and Rehabilitation for the Infrastructure Project Development
RAP	: Resettlement Action Plan
RJKIP	: Rani Jamara Kulariya Irrigation Project
RJKIS	: Rani Jamara Kulariya Irrigation Scheme
RPF	: Resettlement Policy Framework
SA	: Social Assessment
SIMF	: Social Impact Management Framework
VC	: Vulnerable Communities
VDCs	: Village Development Committees
WB	: World Bank
WUAs	: Water Users Associations
WUGs	: Water Users Groups

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1. INTRODUCTION

Rani, Jamara and Kulariya irrigation systems (RJKIP) were developed by the farmers in 1953, 1960 and 1972 BS, respectively. These three irrigation systems were independent, traditionally operated and managed by the indigenous Tharu community. Later on, towards the end of 1986, all these three systems were integrated and known as Rani Jamara Kulariya Irrigation System. At present, the canal network comprising three branch canals, 48 sub branch canals and 821 tertiary canal supplies water to 14300 ha cultivable area benefiting 160,612 population from 25063 HHs of Tikapur Municipality, Lamki-chuha Municipality and Janaki Rural Municipality of Kailali District.

The locally developed irrigation systems are Farmers Managed Irrigation System of Nepal (FMIS)¹. The intakes used to be seasonal inundation type located on water channel of Karnali River and with no other permanent control structures except canal network. The temporary diversion structures constructed used to get washed away by flood in the river annually resulting inundation of the adjoining command area. The changing of river morphology for last two decades (e.g. western watercourse shifted towards eastern watercourse) and as consequence farmers faced difficulty to divert water into the canals and demanded for the development of the system. Until the "modernization" of these irrigation canals, it was established, managed and operated by the community themselves. The map help visualizes the project area (**Figure 1**).

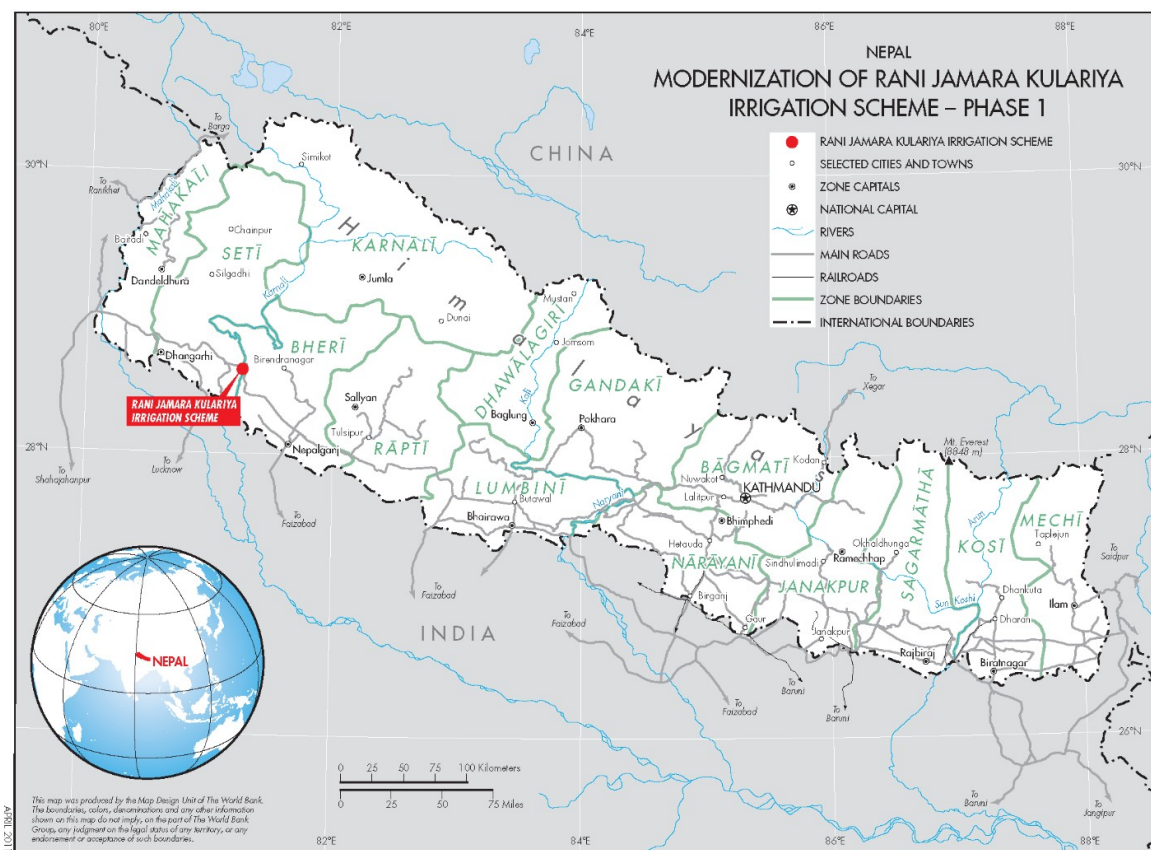


Figure 1: Map of Project Area

Feeder *Kulos* (canals) constructed by the farmers used to frequently get damaged by the debris deposited by crossing drains during the rainy season. The discharge in the approach channel fluctuates

¹ The irrigation systems were developed by the farmers between 1896 and 1915. These three irrigation systems were independent, traditionally operated and managed by the indigenous Tharu community. Later on, towards the end of 1986, all these three systems were integrated to Rani, Jamara, and Kulariya Irrigation System (RJKIS).

depending upon surface water level in the Karnali River. The major percentage of the diverted discharge is lost in the dried course of the Karnali River and the Jharahi Nala. Relatively very small percentage of the water diverted from the Karnali River near Chisapani is available for irrigation in the farmers system. Disturbance to the diversion channel by flood, by debris deposited by crossing drains and uncertain availability of water in the farmers irrigation systems.

Department of Irrigation set up Rani, Jamara, Kulariya Irrigation Project (RJKIP) Office at Tikapur, in Kailali District in FY 2009/2010 to implement the Project activities. The project started procurement activities for the construction of Intake, main canal and feeder canal along with associated structures on the fund allocated to the project by the GON. In the meantime, GON requested the World Bank to provide financial support for the remaining works of modernization of RJKIS. The World Bank agreed to provide financial assistance for the Phase-2 for the modernization of RJKIS

Proposed Modernization of Rani Jamara Kulariya Irrigation Project, Phase II:

The major activities in the Phase-2 includes Command Area Development (CAD) work, Command Area Protection (CAP) work, Rural Agriculture Road Improvement work and Agriculture Extension works. The modernization shall also focus on addressing the existing lower-order irrigation system (such as- sub-branches, tertiary canals and water courses) so that irrigation water can reach farmer fields with the optimal flows. Under modernization activity, three pilot area pilot area of each about 300 ha each has been designed down to watercourse level. While planning and designing existing canals alignments have been followed. The Phase 2 will further provides continuation to the WUAWUG support program along with the implementation of a comprehensive agricultural improvement program.

Rationale for Social Assessment

The aim of the Social Assessment (SA) is to assess and analyses the likely social issues arising from the implementation of the project and to recommend mitigation and enhancement measures for adverse and beneficial impacts. It provides socioeconomic profile of the project area and map out stakeholder in the project area; assess the underlying social and economic factors that plays in the design and implementation of the project; and assess likely project impacts. On the basis of these assessments, the report also discusses the necessary interventions and mitigation plans to be developed in line with relevant government and World Bank Policies.

2. METHODOLOGY

The SA draws on variety of information, including the in-depth knowledge of different stakeholders including the Indigenous Peoples and Project beneficiaries. Assessment has overwhelmingly followed qualitative and quantitative method. Both the primary and secondary information were collected for the purpose of social assessment and analysis was done using various social analytical tools and techniques.

2.1 LITERATURE REVIEW

All relevant literatures including project documents like the Social Impact Management Framework (SIMF), Resettlement Action Plan (RAP), Indigenous and Vulnerable Community Development Plan (IVCDP), DIME report 2017 and other applicable documents prepared under RKIP phase I was carried out.

2.2 BASELINE SURVEY INFORMATION

A detailed census survey of 2,443 households of the three pilot areas in Rani, Jamara and Kulariya under the RJKIP was undertaken to identify socio-economic characteristics of the affected households, legal status on land (landowner, holder of land rights, tenant, and illegal squatter), landholding size, ownership on physical structure and its types, livestock, livelihood pattern, income and expenditure of households, standing crops and trees on land to identify vulnerable groups. Through household survey, local people knowledge, perception and response were also documented and the possible loss and effect on asset like land, structure and livelihood due to the upgrading of the canals were also identified. The data collected was edited, validated and updated. A statistical analytical tool was used to analyses data collected.

In addition to the census survey of the pilot areas, the findings of the baseline survey of the project carried out by DIME in 2017 was used for the socio-economic analysis. The survey was carried out in 2509 households of the project command areas (10 % of the total population) selected through the stratified random sampling.

2.3 SOCIAL AND RESOURCE MAPPING OF THE PROJECT SITE

Social and resources mapping was carried out during the field study to map the exact locations of main kulo and sub-kulos and settlement of IPs and other vulnerable communities in relation to the proposed project area. Additionally, current and traditional areas for natural resources and cultural sites were identified and marked.

2.4 INSTITUTIONAL ANALYSIS OF THE WATER USER ASSOCIATIONS (WUAS)

Institutional analysis of the main WUA and 3 branch WUAs (Rani, Jamara and Kulariya) were carried out to assess their existing institutional and governance condition, their roles, their capacity in performing their expected roles, capacity gaps, and identify potential areas for capacity development.

2.5 FOCUS GROUP DISCUSSIONS

Focus group discussion (FGD) was used to draw the group or community opinions and needs. Intensive consultations were carried out particularly with the indigenous people, women group, vulnerable groups and WUAs/irrigation users committee using the semi structure interview. Main purpose of the consultation was to get their views and opinion towards the project, identify key social issues and assess potential social impact, and explore possible mitigating and/or enhancement measures. Operation and coexistence of the traditional and modern institutional arrangement for irrigation management; right, responsibilities and obligation of water users' committee members were also explored during the consultation. Altogether 23 focus group discussions were carried out with the Women, Occupational

Caste, Terai Janajati (Tharu), Hill Janajati (Magar) following a free, prior and informed consultation approach during the social assessment. Further, displaced people were also consulted for the cross verification and validation of the information.

Table 1: List of Focus Group Discussion

Location	Participants by sex		Caste/ethnicity of the Participants			Total
	Male	Female	Dalit	IPs/Tharu	others	
Tikapur	44	3	-	31	16	47
Manuwa, Janaki	12	4	-	13	3	16
Jamara Kula (Layakpur, Rajipur and Tikapur)	-	10	5	5	-	10
Jamara Kula (Tikapur)	9	-	-	7	2	9
Jamara Kula (Tikapur)	9	3	-	10	2	12
Pahadipur, Kulariya Kula	14	-	-	5	9	14
Pahadipur, Kulariya Kula	-	7	2	2	3	7
Pahadipur, Kulariya Kula	10	-	-	8	2	10
Simreni(Uttar, Dakchin and Padampur) Rani Kula	-	5	5	-	-	5
Simreni(Uttar, Dakchin and Padampur) Rani Kula	-	3	-	3	-	3
Simreni(Uttar, Dakchin and Padampur) Rani Kula	6	-	2	3	1	6
Simreni(Uttar, Dakchin and Padampur) Rani Kula	-	9	-	9	-	9
Simreni(Uttar, Dakchin and Padampur) Rani Kula	7	2	1	5	3	9
Padhalnapur, Bhagriya, Kulariya Kula	26	4	-	20	10	30
Salyani Tole, Bhagriya, Kulariya Kula	26	3	1	2	26	29
Layakpur, Jamara Kula	24	28	-	52	-	52
Bhagatpur, Jamara Kula	12	4	1	11	4	16
Naya Tikapur, Jamara Kula	18	5	-	23	-	23
Layakpur, Jamarakula	30	2	11	6	15	32
Bhagatpur, Jamara Kula	37	1	8	6	24	38
Rajipur, Jamara Kula	39	7	-	35	3	46
Aampur Bhagriya, Kulariya Kula	28	1	15	1	13	29
Simreni, Rani Kula	37	26	4	47	12	63
Total (23 Community meetings)	388	127	55	304	148	515

2.6 KEY INFORMANT INTERVIEWS

Key stakeholders of the project; GoN line agencies (District Forest Office - DFO, District Agriculture Development Office-DADO, Bardia National Park), local government representative (Tikapur Municipality, Lamki chuha Municipality and Janaki Rural Municipality), Water Users Associations (WUAs), Badghars, Local leader, Local Environment Monitoring Committee (LEMC), Community Forest Users Groups (CFUGs); private service provider - agro-vet and Non-Governmental Organization (NGO) working in the project areas were consulted to gather their views and opinion towards the project, assess potential impact of the project, get their suggestions and explore possible mitigating measures. The consultation also assessed how are they likely to be affected by the project, as well as how they may influence the project's outcomes. Stakeholder mapping was carried out at the beginning of assessment to identify the existing and potential stakeholders of the project. (Please see **Annex-2** for the list of individual and stakeholders consulted)

Table 2: List of Interviews

SN	Name	Position	Address
1.	Prem Raj Sharma	Badaghar	Bhagaraya Kula
2.	Babu Ram Chaudhary	Secretary	Bhagaraya Kula
3.	Laxmi Ram Chaudhari	Treasurer	Bhagaraya Kula
4.	Ravi Lal Chaudhary	Chairperson	Kulariya Irrigation System WUA
5.	Laxman Kathariya	Vice-chairman	Kulariya Irrigation System WUA
6.	Lalbir Chaudhary	Chairman	Jamara Irrigation System WUA
7.	Tej bahadur Chaudhary	Vice-chairman	Jamara Irrigation System WUA
8.	Man Bahadur Chaudhary	Secretary	Jamara Irrigation System WUA
9.	Sripal Chaudhary	Chairman	Rani Irrigation System WUA
10.	Kallu Chaudhary	Vice-chairman	Rani Irrigation System WUA
11.	Bir Bahdur Khatri	Treasurer	Rani Irrigation System WUA
12.	Fulram Chaudhary	Secretary	Rani Irrigation System WUA
13.	Kumar Raj Shahi	Chairman	WUA Main Committee
14.	Damodar Khadka	Vice-chairman	WUA Main Committee
15.	Parsuram Mahato	Secretary	WUA Main Committee
16.	Sushila Chaudhary	Local Farmer	Tikapur Municipality – 6, Laxinapur
17.	Anita Chaudhary	Local Farmer	Tikapur Municipality – 6, Laxinapur
18.	Dambar Ghrti	Badghar, South Simreni Kula Samiti	Tikapur Municipality – 7, Sati
19.	Dilbar sunar	Badghar, North Simreni	Tikapur Municipality – 5, North Simreni
20.	Parbati Nepali	Member, Rani branch	Tikapur Municipality – 5, Simreni
21.	Mohan Prasad Chaudhary	Badghar, Bhagriya Kula	Badkapur
22.	Ruplal chaudhary	Badghar, Rajipur	Rajipur
23.	Niraj Chaudhary	Badghar, tikapur	Tikapur
24.	Laxmi Chalaune	Secretary, Layakpur CFUG	Janaki – 3, Layakpur

3. LEGAL AND INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL ASSESSMENT

3.1 POLICY FRAMEWORK RELATED TO RESETTLEMENT PLANNING

Because of the absence of comprehensive and inclusive national policy & regulations for development projects, resettlement related issues in Nepal are being addressed through project specific guidelines prepared in accordance with donors' involuntary resettlements policies. These guidelines have been acknowledged by the Government under Article 16(ka) of the LAA 1977, which provides for Government directives as one of the basis for fixing compensation. Additionally, Financial Administration Rules of the Government of Nepal has provisions which allow any agreement between the Government and donor agencies to prevail. Such provisions provided ground to adopt alternative practices to formulate project specific policies for involuntary resettlement. To avoid inconsistencies existed in resettlement process, the government recently introduced Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Project (LARRPIDP) 2071, paving the way for developers of various physical infrastructure projects to acquire land without affecting livelihood of people who have to be relocated from the area where such projects will be built. However, in the absence of a legal instrument like related Act and regulation to implement the provision articulated in this policy, it may become redundant as there is no compulsion or penalty involved in connection with the implementation of the policy.

The Constitution of Nepal (2015) guarantees the fundamental rights of a citizen. **Article 25 (i)** establishes the right to property for every citizen of Nepal, whereby Every citizen shall, subject to laws, have the right to acquire, enjoy own, sell, have professional gains, and otherwise utilize, or dispose of property ; (ii) states that except for social welfare, the state will not acquire or exercise authority over individual property; and also (iii) In the case when the land of a person is acquisitioned by the State according to clause (2), the basis of compensation and the relevant procedure shall be as prescribed by Act.

The Land Acquisition Act (1977), and its subsequent amendment in 1993, specify procedures of land acquisition and compensation. The Act empowers the Government to acquire any land, on the payment of compensation, for public purposes or for the operation of any development project initiated by government institutions. There is a provision of Compensation Determination Committee (CDC) chaired by Chief District Officer to determine compensation rates for affected properties. The Act also includes a provision for acquisition of land through negotiations. It states in Clause 27 "notwithstanding anything contained elsewhere in this Act, the Government may acquire any land for any purpose through negotiations with the concerned land owner. It shall not be necessary to comply with the procedure laid down in this Act when acquiring land through negotiations". The Act also protects tenant's right on land; Clause 20 states that when state acquires land under tenancy, the registered tenant and the landlord will each be entitled to 50 % of the total compensation amount.

The Land Related Act (1964) establishes the tiller's right (chapter 7) on the land which s/he is tilling. The act specifies the compensation entitlements of registered tenants on land sold by the owner or acquired for the development purposes. Tenants are verified through a record of tenancy at the Land Revenue Office (LRO).

The Public Roads Act, (1974) empowers the State to acquire any land on a temporary basis for storage facilities, construction camps, etc., during construction and upgrading of roads. Any buildings and other structures (such as houses, sheds, schools, and temples) are to be avoided, wherever possible. The State is required to pay compensation for any damages caused to buildings, standing crops, and trees. Compensation rates are negotiated between the Government and the landowners.

The National Planning Commission has introduced **Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Project, 2071**. The policy seems very much in line with satisfying the inadequacy existed in LAA 1977. In order to translate the policy provision in reality, the subsequent act and regulation are under the process of formulation. The key highlights of newly introduced policy are; (i) creation of scientific standard for land valuation (ii) extension of compensation equivalent to minimum market value of land (iii) provision for action against those who try to disrupt land acquisition process (iv) categorization of projects based on economic and social impact assessment (v) relocation and rehabilitation of people affected by the project, and (vi) special consideration for vulnerable people, if affected by the project.

Irrigation policy and directives: Irrigation Working Policy 2045 first opened avenue to involve water user, through their organized institutions, in the process of irrigation development. Implementation of Water Resources Act 2049 and Water Resources Regulation 2050 further provided space to register water users' association and function as a legal entity. Irrigation Policy 2049 (and 2070) and irrigation Regulation 2056; WUA formation and operational directive 2072 made obligatory involvement of water users association in the implementation of irrigation projects and programs.

The WB operation policy on Involuntary Resettlement (OP 4.12) requires preparation of Resettlement Action Plan or Resettlement Policy Framework that includes measures or strategies to mitigate the impoverishment risks due to physical or economic displacement. The operational principles on involuntary resettlement under OP are: assess all viable alternative project designs to avoid, where possible, or minimize involuntary resettlement; b) identify, assess and address the potential economic and social impacts of the project that are caused by the Involuntary taking of land; c) ensure consultation with and participation of the IPs, hosts communities and local NGOs; d) inform displaced person of their rights, consult them on options and provide them with technically and economically feasible resettlement alternative; e) Give preference to land based resettlement strategy for displaced persons whose livelihoods are land based; f) provide resettlement assistance in lieu of compensation for land to the affected people without legal right to help improve or at-least restore their livelihoods; g) disclosure of the draft resettlement plan; and f) implement all relevant resettlement plans before project completion and provide resettlement entitlements before displacement.

3.2 RELEVANT POLICY FRAMEWORK RELATED TO VULNERABLE COMMUNITY

Constitution of Nepal, 2015 recognizes the diversity of Nepalese peoples (**Article 3**) and defines the country as a secular, inclusive and democratic state (**Article 4**). It recognizes the right of each ethnic group to preserve and promote its language and cultural heritage, as well as to receive basic education in its mother tongue (**Article 32**). The constitution has provided right to employment in state structures on the basis of the principle of inclusion (**Article 42**). The constitution has clearly articulated the policies regarding the social justice and inclusion by means of making special arrangements for preserving and maintaining the traditional knowledge, skill, experience, culture and social practices of Adivasi and Janajatis and local communities (**Article 51-J-8**). In addition, the constitution has clear provision for the formulation of Adivasi and Janjati Commission, Tharu Commission for the upliftment of Adivasi and Janjati (**Article 261 & 263**).

The Three Year Interim Plan (TYIP) (2013-2016) includes the following policies for inclusive development of Adivasi/Janajati and other disadvantaged groups: (i) creating an environment for social inclusion; (ii) participation of disadvantaged groups in policy and decision making; (iii) developing special programs for disadvantaged groups; (iv) positive discrimination or reservation in education, employment, etc.; (v) protection of their culture, language, and knowledge; (vi) proportional representation in development; and (vii) making the country's entire economic framework socially inclusive.

National Federation for Development of Indigenous Nationalities (NFDIN) Act 2002 gives mandate (clause 6) for NFDIN to work for the overall development of the indigenous nationalities by formulating

and implementing programs relating to the social, educational, economic and cultural development and advancement of the indigenous nationalities, and promotion of their languages, scripts, cultures, arts, histories traditional knowledge, skills, and technologies of indigenous nationalities. As per the clause 2. (a) of the Act, indigenous or ethnic groups are a tribe, community or ethnic group which have its own mother language and traditional rites and customs, distinct cultural identity, distinct social structure and written or unwritten history.

Forest Act 1993 emphasizes protection and promotion of IP's knowledge and cultural heritage. Local Self-Governance Act, 1999 gives more power to the local political bodies, including authority to promote, preserve and protect the IPs' languages, religions, cultures and their welfare.

The GoN has signed the **ILO convention 169** on Indigenous and Tribal Peoples and UN Declaration for the Rights of Indigenous Peoples (UNDRIP, 2007) 2007. Both UNDRIP and ILO 169 advocates for the human rights and fundamental freedoms of IPs. ILO Convention 169 is a legally binding international treaty. Following ILO 169, the GoN has identified 59 indigenous ethnic groups. All development projects are required to pay high attention to such groups during consultation and mitigation of potential project impacts on them.

The WB policy on Indigenous Peoples (OP 4.10): Key objectives of the Indigenous Peoples policy are to: (i) ensure that indigenous people affected by World Bank funded projects have a voice in project design and implementation; (ii) ensure that adverse impacts on indigenous peoples are avoided, minimized or mitigated; and (iii) ensure that benefits intended for indigenous peoples are culturally appropriate. The policy provision is triggered when there are indigenous peoples in the project area and there are likely potential adverse impacts on the intended beneficiaries from these groups. That necessitates the preparation of Indigenous Peoples Development Plan is to mitigate the potential adverse impacts or maximize the positive benefits of the project interventions.

Irrigation Policy 2070 has provision for Gender Equity and Inclusive Development (**clause K**). According to the policy, social programs which can contribute towards the ending of existing discrimination against women in irrigation sector, achieving gender equity, and women empowerment shall be implemented. Further, it adopts affirmative quota policy to ensure voice of women, Occupational Caste, down-trodden and excluded with provision of minimum 33 percent representation in users' associations. Clause (L) of the Irrigation policy 2070 has a separate provision under "**Poverty reduction and Women Development**" The clause has articulated to implement water management, livelihood, micro credit, professional skill development programs with priority in the areas of irrigation development and management. Similarly, the policy has provisioned to provide improved access of women to irrigation sources, opportunities and information for their empowerment. Likewise, the policy stresses to the improvement of women's skill and professional efficiency through promotion and training programs.

With the intension to mainstream Gender Equality and Social Inclusion under the Ministry of Irrigation and its departments "**Gender Equality and Social Inclusion Mainstreaming Guideline, 2071**" has been formulated and enacted. In order to translate the provisions articulated in the irrigation policy, it further guides the sector to consider gender equality and social inclusion in every step of program implementation.

Similarly, Nepal is signatory of number of international human rights related conventions and declarations, which call for the elimination of all forms of gender based discrimination, including those related to access to education, health and other services. The Convention on the Elimination of all forms of Discrimination against Women (CEDAW), signed by the GoN in 1991, commits Nepal to constitutional and legal equality, particularly in the fields of education, health, citizenship, property and employment. It also guarantees freedom from all kinds of violence and sexual exploitation

3.3 IDENTIFICATION OF GAPS IN NATIONAL POLICIES AND RECOMMENDATIONS TO BRIDGE GAPS

The major legal document for handling compensation and resettlement for an affected person or family is the LAA 1977. However, this act is insufficient dealing with problems arising from involuntary resettlement in Nepal. There are other related acts and legal instruments however; all of them are limited in scope to deal with people affected by development projects. Resettlement issues, existing provision in government regulation and additional measures in this resettlement framework to achieve WB policy requirements is presented in following table.

Table 3: Comparison of Government of Nepal and the World Bank Policies and recommendations to bridge identified gaps

Applicability to the Project	GON Policy	World Bank Policy	The GAP	Recommendations to Bridge Gaps
WB Safeguard Policy: Involuntary Resettlement OP 4.12				
<p>Project may require private Property acquisition land, commercial, residential structures and other means of livelihood) leading to involuntary resettlement. The project is required to assist displaced/affected persons in improving their livelihoods and standards of living in real terms</p>	<p>Clause 3 of this Land Acquisition Act states that any asset that is required for public purposes shall be acquired by providing compensation. Compensation Fixation Committee will establish the Compensation rates.</p> <p>Guthi Corporation Act, 2033 (1976). Section 42 of this Act states that Guthi (religious trust land) acquired for a development must be replaced with other land, rather than compensated in cash</p> <p>Land Reform Act (LRA) 2021 (1964). This Act establishes the tiller's right on the land, which he is tilling. The LRA additionally specifies the compensation entitlements of registered tenants on land sold by the owner or acquired for the development purposes</p>	<p>Full compensation at replacement cost for lost assets shall be provided according to asset types and location. Resettlement and Rehabilitation assistance to affected people to enable them to improve their living standard.</p> <p>As per OP 4.12 community assets needs to be replaced in consultation with the community.</p> <p>As per OP 4.12, all those who are affected needs to be assisted including tenants and sharecroppers.</p>	<p>The Land Acquisition Act of Nepal only provides for cash compensation based on degree of loss. It does not take into account vulnerability of the land affected person.</p> <p>The Land Acquisition Act also does not make provision for compensation to non-registered tenant farmers, agricultural laborer, shopkeepers.</p> <p>The Land Acquisition Act of Nepal does not make any provision regarding to entitlement for compensation. There is no provision for rehabilitation assistance for such vulnerable groups.</p>	<p>A project affected person needs to be defined as a person or households whose livelihood or living standard is adversely affected through loss of land, housing and other assets, income or access to services as a consequence of the implementation of the project, causing a change in land use.</p> <p>Entitlements should be established for each category of loss covering both physical loss and economic loss.</p> <p>Practical provisions must be made for compensation for all lost assets to be made a replacement cost without depreciation or reductions for salvage materials.</p>
WB Safeguard Policy: Indigenous People OP 4.10				

<p>Project may be implemented in areas inhabited by Indigenous People. It therefore be designed and implemented in a way that they receive culturally compatible social and economic benefits and impact from the project.</p>	<p>Though GoN's interim plan encourages development programs to incorporate income generation schemes for IPs, there is no mention of broad consent from the IPs. At the same time GoN has also ratified ILO 169 and United Nations Declaration of Rights of Indigenous People (UNDRIP), and is in the process of preparing National Action Plan for implementation of these international commitments.</p> <p>NFDIN Act 2002, Local Self- Governance Act, 1999 and Tenth Plan (2007-10) and Three Year Interim Plan (2011-13) Constitution of Nepal 2015</p> <ul style="list-style-type: none"> • These acts and plans include policies for the development of Adivasi/Janajati and other disadvantaged groups: inclusive • creating an environment for social inclusion; • participation of disadvantaged groups in policy and decision making; • developing special programs for disadvantaged groups; • positive discrimination or reservation in education, employment, etc.; • protection of their culture, language and knowledge; • proportional representation in development process; and • making the country's entire economic framework socially 	<p>Ensures free, prior, and informed consultation (FPIC) with the affected indigenous people to obtain broad community support to the project.</p> <p>Social Assessment will be carried out to identify potential effect and prepare plan to ensure that indigenous peoples receive social and economic benefits that are culturally appropriate. Based on Social Assessment Indigenous Peoples Development Plan will be prepared.</p>	<p>Nepal does not have a standalone policy on Indigenous Peoples and other vulnerable communities. These acts have been placed significant emphasis on delivering basic services to the disadvantaged and indigenous people, Occupational Castes, women, disabled and other vulnerable groups</p>	<p>Project will carry out free prior informed consultations with the indigenous community and other vulnerable communities to obtain broad consent for the project. Project will prepare Vulnerable Community Development Plan (VCDP) based on community needs of indigenous as well as other vulnerable communities.</p>
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4. SOCIO-CULTURAL, INSTITUTIONAL, HISTORICAL ENVIRONMENT

4.1 SOCIO-ECONOMIC CONDITION

4.1.1. Population and Demography

According to the population census of Nepal, 2011 the total household and population of the project command area is 26,601 and 1,35,062 respectively. The average household size varies between 4.53 and 5.95. The population of the project area composed of different castes and ethnicity. Indigenous Tharu community has highest population of 48% followed by Chhetri (17%), Brahmin (10%), Occupational Caste (15%) and others (7%) (Source: National Census 2011). Households and population of the area is presented below in **Table 4** below.

Table 4: Household and Population

VDC/ Municipality	Household	Population			Average HH Size	Sex Ratio (M/F)
		Total	Male	Female		
Baliya VDC (Ward No. 7 & 9 only)	1607	7285	3451	3834	4.53	90.01
Dhansingpur VDC	1540	8750	4142	4608	5.68	89.89
Durgauli „	2626	13683	6340	7343	5.21	86.34
Janakinagar	992	5905	2959	2946	5.95	100.44
Munuwa	1990	11556	5600	5956	5.81	94.02
Narayanpur	2186	11207	5210	5997	5.13	86.88
Pathariya	3443	17396	8057	9339	5.05	86.27
Pratappur VDC(Ward No. 2 & 5 only)	587	3153	1484	1669	5.37	88.92
Tikapur Municipality	11630	56127	26893	29234	4.83	91.99
Total	26601	135062	64136	70926		

Source : CBS census report,2011

4.1.2. Occupation

The occupation in the surveyed households is a mix of farm and non-farm activities. Based on the sampled survey of the RJKIP command area carried out by the DIME in 2017, 59.9% and 21.7% of households consider agriculture and daily wages as their main source of livelihood respectively (DIME Report, 2017).

As agriculture production from own farm land is not sufficient for living, almost all poor households to supplement income from off-farm sources including daily wages and seasonal migration. Seasonal migration to India and youth migration to gulf is common. It was reported during the FGD discussion, more than 80 percent male go to India in search of temporary job after paddy plantation and they come back for harvesting. Further, it is reported that there is a shortage of labour due to the migration, almost all agriculture field is cultivated during the rainy season whereas about one third land is left uncultivated during winter cropping.

4.1.3. Literacy

According to census data, the literacy rate in the project area is just above 65. The census survey conducted in three pilot schemes in 2017 shows a wider gap between educational status between men and women. About 23% women are illiterate whereas only 12% male.

Table 5: Educational Status of Pilot Project Area Population by Sex²

By Education Status Population	Men		Female		Total	
	No	%	No	%	No	%
Illiterate	860	11.72	1587	22.88	2447	17.14
Literate only	690	9.40	717	10.34	1407	9.86
Primary education	1496	20.39	1154	16.64	2650	18.57
Lower Secondary education	1031	14.05	764	11.01	1795	12.58
Secondary education	942	12.84	724	10.44	1666	11.67
SLC	879	11.98	578	8.33	1457	10.21
Intermediate	779	10.62	576	8.30	1355	9.49
Bachelor	352	4.80	251	3.62	603	4.22
Master & above	159	2.17	64	0.92	223	1.56
Informal Education	149	2.03	521	7.51	670	4.69
Total	7337	100.00	6936	100.00	14273	100.00

Source: Field Survey, 2017

4.1.4. Land holdings size

The baseline survey of the project carried out by Development Impact Evaluation (DIME) shows the highest percent (45.4 %) of land holding falls in the range of 0.1 to 0.5 ha. Average land holding size in the project command areas is 0.42 ha which is lower than the national average (0.67 ha). About 34 percent have landholding size less than 0.1 ha. This higher percentage of smaller land holding indicates that the agricultural land is highly fragmented thereby creating small farming. The report also shows that there landless population in the project area as well. (See **Table 6**)

Table 6 Land Holding Size in RJKIP

Land Holding Size	Percentage of Holding
No holding	6.9
Holding with land	93.1
< 0.1 ha	34.2
0.1 – 0.5 ha	45.4
0.5 – 1.0 ha	9.1
> 1 ha	4.4

Source: DIME report, 2017

Nepal Living Standards Survey (NLSS) - 2010/11 reveals that limited land holding in Nepal is a major trigger for the incidence of poverty in rural Nepal. The same report highlights that the incidence of poverty has been found to be less among households having more than 1 ha of arable land. Couched in other words, the larger the size of land holding is, the lesser the incidence of poverty is found. The DIME survey revealed that around 79% farmer are "small farmer" having less than 0.5 hectare. This implies that the agriculture component of the RJKIP phase II should have the extension activities focused to these groups of the farmers.

Landholding size in the pilot areas: Average land holding size of households of the pilot areas is 0.417 ha which is quite lower than the national average of 0.63 ha per household. A variation can be seen in the land holding size by social categories. By household head, male headed households have slightly bigger land holding as compared to female headed. Likewise, below poverty level households have the least land holding size. (See Table 7)

Table 7: Landholding in Pilot areas of the Project

By Caste/Ethnicity ³	Average landholding (ha)
BCTS	0.42
Hill origin Janajati/Adibasi	0.40
Tarai origin Janajati/Adibasi	0.42
Hill origin Occupational Castes	0.35
Tarai Occupational Castes	0.42
Musalman	1.39
Other	0.28
By Household Head Sex	
Male	0.42
Female	0.39
By Percapita Group	
Below Poverty	0.37
Above Poverty	0.43
Total	0.42

Source: Household Survey, 2017

List of Janjati/ Aadibashi of hill and terai origin with their details of population as shown in Annex

4.2 MAJOR FESTIVALS OF THE AREA

People of the project area celebrate more than two dozen of festivals. Main festivals are Dashain, Tihar, Maghi, Gaura, Holi, Teej, Aitbari, Shreepanchami, Shree Krishna Janma Astami (God Krishna's Birthday), Shivaratri (God Shiva's Birthday), Jesta Purnima (full Moon of Raji Caste), Charai (Festival of Rana Tharu Caste), Dhuriya Pooja, Bhutuwa Pooja, Rani Putla (Brahmin Kshetri), Annantya jatra, Bhuwa (Demonstrating Fighting Skills in War), Pouse 15, Ashare 15, Nag Panchami, Rakcha Bhandhan, Tihar, Chaite and Ram Nawami.

4.3 LAND TENURE, LAND USE AND FARMING PRACTICES

There are different forms of land tenancy in Nepal. The common land tenancy systems in the project area are: Battaya, Thekka, and Bandhaki. Mainly Battaya, Thekka and Bandaki are being practiced by the farmers of the RJKIP command areas since long. However, due to the shortage of Human resource at local level, the Battaya (share cropping) and Thekka (leased) system is increasing in recent years. the Battaya system, the land owner and tenants have 50-50 share in the inputs costs and agricultural products. The labour cost is fully born by the tenants only. In the Thekka system, the landowner gives the land on lease to the tenant on predetermined amount of cash or quantity in kind. The tenant has freedom in choosing crop type and crop pattern and has tendency to produce as much as possible. In the Bandhaki system, the tenants lend an agreed amount of money to the land owner against taking the land on lease for a defined period of time. The majority of the owners and tenants prefer Battaya system in the project area because of out- migration of land owners. Kamaiya system in the project areas is disappeared after abolishing the system by the government in 2057 BS.

Furthermore, it is reported that the tendency of leaving land area as fallow has been observed due to the urbanization and shortage of labour particularly in around the potential commercial areas. In

4.4 IRRIGATION MANAGEMENT SYSTEM, OPERATION AND MAINTENANCE OF MAIN AND BRANCH CANALS

Traditional Irrigation Management System

The Rani, Jamara and Kulariya irrigation canals (Kulos) were constructed by farmers more than a hundred years ago. Since then these systems are being operated and managed by farmer through their indigenous institutions. According to indigenous management structure, each system had been headed by a Kulo Chaudhary, a supreme authority to deal with the managerial tasks related to the operation and management of irrigation system. The first Chaudharies were those who had played major role to establish the Kulos and, according to the tradition, the position generally passed from one generation to the next. (e.g., the current chairperson of Kulariya is third Chaudhary -grand sun of first Chaudhary from the same family). The position of "Chaudhary" was voluntary and the tenure remained as long as they wanted to continue. In course of the management of canal system, the Chaudharies were supported by some other village based traditional institutions

In order to manage the irrigation tasks at Mauja (settlement) level, "Badghar" or "Sahayak-Chaudhary" were second most important positions having key roles in the implementation of the decision of Chaudharies for the management of canal system. The Badghar is an elected chief of a village or settlement for the period of one year and responsible to work for the welfare of the village. In addition to organize and manage the cultural traditions of the community, Badghar are responsible to mobilizes villagers for repair and maintenance of canal as decided by Chaudhary and punishes those who do not follow their order or go against the rules set out for the O&M of the canal system. In order to manage the specific task of irrigation "Sahayak-Chaudharies" are appointed in Kulariya system, although the responsibility of Badghar and Sahayak Chaudhary is assumed by same individual in majority of cases. At present there are 152 Badghar involved in irrigation management practices.

in order to convey the messages, "Chiragis" were appointed and placed under the Badghar. They are responsible for conveying the important message such as time of resource mobilization (Desawar), water distribution schedules and other information that are related to the management of irrigation system. Chiragis are paid in kind (certain amount of paddy harvest from each household). Since there are no any structured rules and regulation that defines the role and responsibilities of the Badghar system, local community people often crafts their own rules and regulations. In addition to this, "Guruwa" (priest) are responsible conducting rituals both before initiating and after completing the "Desawar" during canal maintenance whereas "Nandaruwa" assisted Chaudharies to decide how much work is needed for operation and maintenance at various section of canal and division of work between the village depending on the size of the village and its population. All these institutions, in one way or other, are still exists and functioning even after the formalization irrigation institution.

The population of the command area and number of sub-canals has increased significantly since the kulos were first built to service a limited pool and scale of predominantly Tharu population. As new settlements were established and existing ones expanded, residents started diverting water as per where they lived and their water requirements. The irrigation management system too, evolved alongside such demographic shifts. The transformation in the demographic profile of the Badghar system services as an example. The list of Badghar available at WUA office reveal that out of 152 Badghars, about 45 Badghar are from hill origin. Of which 10 from Occupational Caste community, 21 from Brahmin/chhatri and rest 4 belongs to indigenous community other than Tharu.

Water User Associations and their roles

The three Kulos have historical track record of cooperation with each other for maintenance at source River. With the growing prospect of the need of external funding for the upgrading and improvements of the canal system, a formal system level Karnali (Rani, Jamara, Kulariya) Water User Association (WUA) comprising the representatives from all three Kulo level WUAs was formed in year 2057. But the apex committee has remained passive due to various reasons including the decade long civil conflict that created disabling environment for the functioning any social institution freely and independently.

Alike the main WUA, Rani, Jamara and Kulariya were also shaped as formal institutions responsible for the management of their own irrigation system (Kulos). These committees are duly registered in accordance with government rule and are also associated with the National Federation of Irrigation Water Users Association of Nepal (NFIWUAN). All four committees (Rani, Jamara, Kulariya and Main) have their written constitutions, and all have their offices provided under WUA strengthening component of RMKIP. The registration status of WUA is presented in following table.

Table 8: WUA Registration Status

S. N	Name of system	Registration date (year)	Remark
1	Rani WUA	2004	Irrigation Development Division No-1: Kanchanpur
2	Jamara WUA	2000	Water Resource Development Committee, Kailali
3	Kulariya WUA	2004	Irrigation Development Division No-1: Kanchanpur
4	Main WUA (system level)	1999	Water Resource Development Committee, Kailali

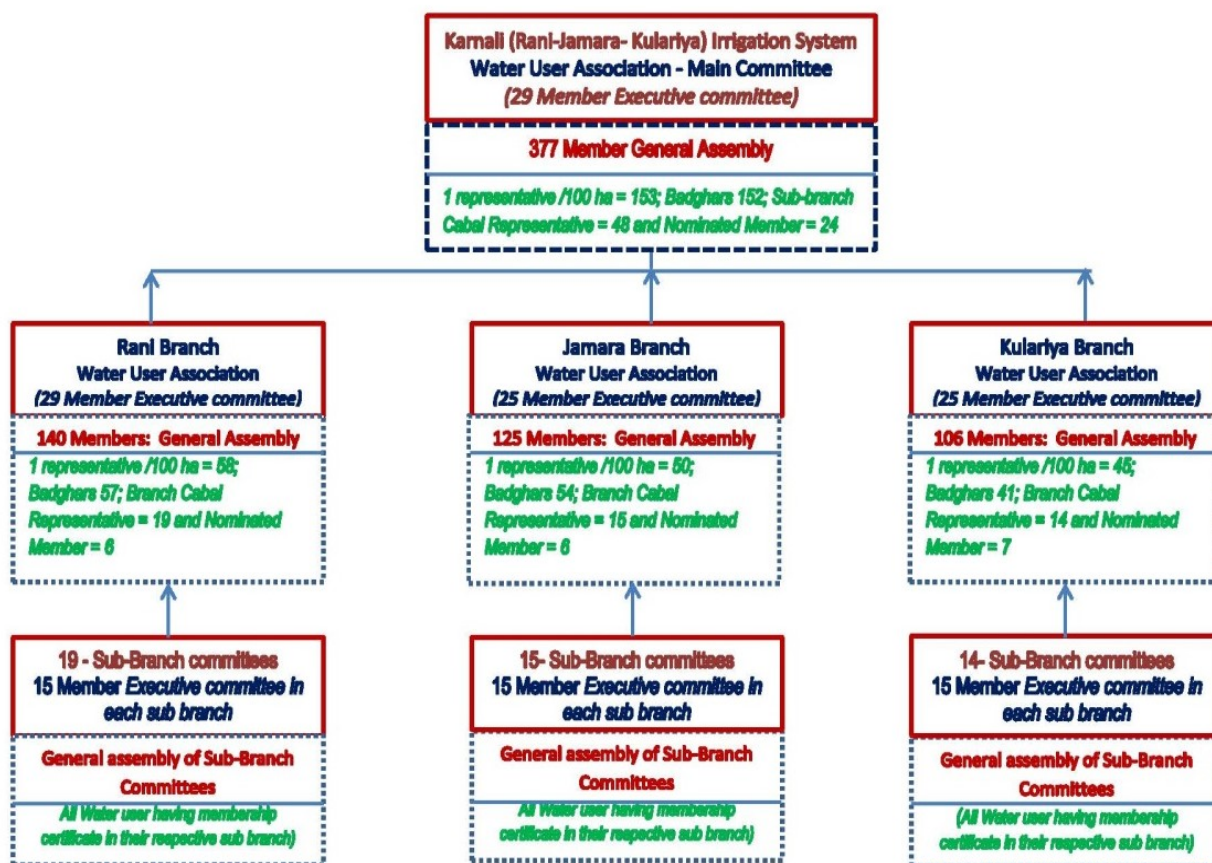
Source: WUA record, 2017

At present three tier organizational structure representing entire system exists for the management of the irrigation canals. The rules for the selection of committee at various levels are more or less similar. The second amendment of the constitution of main committee in year 2014 made uniformity in election process. Similarly, the election guidelines have been drafted and enforced for conducting WUAs election in year 2015. The present institutional structure of WUA is presented below.

WUA formation Process: The WUA election/selection process initiated form the sub-branch level which is the lower organization in present WUA structure. At lower level, all the sub-branches emanating from the individual branch canals (Kulos) have separate sub-branch committees. All members having valid membership certificate are eligible to take part in sub-branch level WUA formation process as general member (GM). Additionally, all Badghar in the command area of particular sub-branch are also eligible to cast vote for selecting the executives, however they are not eligible to submit their candidature for executive position due to the provision of "one person one position". Thus, eligible member among themselves (excluding Badghar) selects/elects fifteen-member executive committee at sub-branch level. At present there are 48 sub-branch canals (19 Rani, 15 Jamara and 14 Kulariya) exists in the entire canal network. The key functionaries are chairperson, vice-chairperson, secretary, treasurers and 11 executive members including five women members.

These sub-branch committees are the functional committees responsible for under-taking field level activities ranging from resource generation and mobilization to canal repair and maintenance, settle any dispute among the water users in their respective area. Some of the sub-branch canal committees are separately registered in DOI. Kulariya branch has three separately registered sub-branch committees (Sonaz, Amarawati etc.). Similarly, Jamara has one (Vhursa Kulo) separately registered as sub-branch committee. These sub-branch canals were rehabilitated under government's sector programs, i.e.

Present Organizational Structure of WUA



At the branch canal (Kulo) level, three independent WUAs one in each Rani, Jamara and Kulariya are formed. These WUA are sole responsible for the management of their own canal system and also coordinates between main and sub-branch level WUAs including external agencies. The branch level executive committee is formed by a general assembly constituted with (a) representative nominated by each sub-branch committee; (b) all Badghar within the command area of branch canal; and (c) representatives selected based on land holding. The numbers of representatives are increased or decreased based on the number of the sub-branches and the area served by particular sub-branch canals. The present composition of general assembly in each branch is given in following table.

Table 9: Composition of General Assembly

S. N	Name of Branch system	Composition of branch canal general Assembly				
		Number of GA member	Based on land holding "Prasad"	Badghar	Representatives from sub-branch canal	Nominated
1	Rani WUA	140	58	57	19	6
2	Jamara WUA	125	50	54	15	6
3	Kulariya WUA	126	44	41	14	6

Source: Main canal WUA

The General assembly constituted in each branch canal is responsible to elect the executive committee in their respective branch canal. The chairperson, vice-chairperson, secretary and treasurers are elected from and by the member of general assembly. The number executive member varies according to the

number of sub-branch system existed in the command area of particular branch canal. The Badghar are also considered eligible for voting, however they are not qualified to nominate as candidates unless they resigned from the post of Badghar. The composition of branch canal committee is presented in following table.

Table 10: Composition of Branch Canal WUA

S. N	Name of system	Composition of branch canal WUA			Remark
		Number of Executive Member	Key Positions ⁵	Representative from sub-branch	Nominated by elected committee
1	Rani WUA	29	4	19	6
2	Jamara WUA	25	4	15	6
3	Kulariya WUA	25	4	14	7

Source: WUA Record, 2017

At the system level a combined main committee consisting of the representatives of Rani, Jamara and Kulariya has been formed and acting on behalf of the all three canals. The system level organization assumes overall responsibility for the smooth implementation of the system modernization activities, coordination with external agencies, formulation of operational guidelines and bye-laws coordinate between the branch and sub-branch level WUA etc.

The main canal committee, ***Karnali (Rani, Jamara, and Kulariya) Main Water User Association***, is formed by a 377-member general assembly constituted at the system level. The GA representatives are: (a) 153 representatives selected/elected based on the land holding; 152 Badghar from the command area of all three-branch canal; 48 representative members from sub-branch canal and 24 nominated members (nominated based on their extraordinary contribution to irrigation system/institution development or in having well track record of the promoting irrigated agriculture in command area).

The general assembly selects/elects one chairperson, vice chairperson; secretary; under-secretary and treasurers among and by the member of general assembly. The rest executive members are: (a) chairpersons of Rani, Jamara and Kulariya as ex-officio member; (b) 15 members from three branch canals (five members including one female from each Rani, Jamara and Kulariya branch) and six members nominated by executive board after election. In this way, 29-member executive committee formed for the period of five years.

Following the state policy of inclusiveness, all WUAs have reserved seats for women although none of them have been able to meet the minimum requirement of 33% for women's representation. Instead of election/selection through the normal process, the women representations in branch canal are selected as nominated member. The composition of WUAs with their inclusiveness is presented in following table.

⁵ Chairperson, vice-chairperson, secretary and treasurers

Table 11: Status of Inclusiveness in WUAs

S. N	Name of system	Composition of WUA						
		Size of WUA	Present board member	Female	Occupational caste (Occupational Castes)	Janjati	Religious Minority	Women in key position
1	Rani WUA	30	30	8	2	18	0	0
2	Jamara WUA	25	25	5	1	21	0	0
3	Kulariya WUA	25	25	8	0	14	0	0
4	Main (system level) WUA	29	29	8	1	18	0	0

Source: WUA record, 2017

In order to execute the decision including the monitoring of their execution, nine-member secretariat has been constituted that works on behalf of executive committee. The chairperson of main committee acts as the coordinator of secretariat whereas other members includes the vice chairperson; secretary; under-secretary, treasurers, three ex-officio members (chairperson of each Rani, Jamara and Kulariya) and one member from main committee. Likewise, 7-member branch level WUA secretariat has been formed in all three branch canals. All the decision made and executed by the secretariat are to be endorsed by the executive committee of the respective WUAs

Membership criteria of WUA: According to WUA policy, there are two criteria for membership of WUA i.e., ownership on land, and tenancy rights. The landless and non-title holders are directly excluded from accessing of membership of WUA because they do not own land in the irrigated command area. In the project area, a large proportion of women do not have land entitlements. Tenants are also men rather than women. Thus, the policy itself biased against land nontitle holders including women and landless and marginal farmers regarding the distribution of membership card which make difficult for women, landless and marginal farmers to participate in WUA and their voting rights to select their representative in WUA.

In the discussion with WUA, it was reported that any member of the family can become the membership of WUA, although the consent letter of title holder must be required. In the family, most of the land title holders are husband and father-in-law in a family. In the absent of husband's or father-in-law's consent letter, wife or daughter-in-law cannot be member of WUA. The provision of WUA for membership makes problematic to women to be a member of WUA directly.

Operation and Maintenance of the system

The irrigation management practices are highly decentralized. At present the system level WUA is responsible for coordinating with the project office, DOI and other stakeholders for operationalization of the modernization process of irrigation system. It further involves in the formulation of strategies, plan and policies for institutionalization of WUA affairs throughout the system. The branch level WUAs are responsible for the management of annual source maintenance, monitoring the irrigation related activities of Badghar, coordination between system and sub-branch level committees including external agencies like the DOI and DOA.

In Maujas, (settlement) the Badghars are more or less autonomous indigenous institution responsible to manage the irrigation system and other social affairs. At present Badghar are responsible to collect irrigation service fee from the beneficiary farmer. Out of the total collection around 10% is provided to Badghar. Likewise, all decision of the branch level WUA are enforced and implemented by Badghar. As traditionally assumed responsibility, irrigation related conflicts are also falls in the jurisdiction of

Badghars. After the establishment of formal irrigation institutions, the role of Badghars that they were assuming before is duly recognized. In addition to ISF collection, the Badghars are still responsible for irrigation management tasks at farm level including resource mobilization (Desawar⁶) during source maintenance work when large numbers of beneficiaries are mobilized at the source river. **Table 12** shows the annual labour contributed by farmer

Table 12: Labour Contribution Status

SN	Name of WUAs	Labor Contribution person day by FY					
		2068/069	2069/070	2070/071	2071/072	2072/073	2073/074
1	Rani WUA	4008	38976	58597	35109	43886	50366
2	Jamara WUA	37923	37797	31368	38699	48362	56396
3	Kulariya WUA	7064	70279	97928	78978	76578	95601
	Total	48995	147052	187893	152786	168826	202363

Source: RJKIP report, 2017

All three committees have initiated collecting funds. Membership fee, membership renewable fee and irrigation service fees are major source of regular income of all three-branch level WUAs. In addition, the regular income includes penalties collected from the beneficiaries failed to participate during source maintenance. Out of the collected irrigation service fee, each branch canal provides 10% to main canal committee and 10% to Badghars. The WUA records shows that the collection of water service fee stands between 28-50% of the targets (**table-13**).

Table 13: ISF Collection Status

FY	ISF collected by WUAs (Rs)				Progress (%) of target
	Rani	Jamara	Kulariya	Total	
068/69	141000	200778	131282	473060	28.76
069/70	18000	299251	145546	462797	28.14
070/71	17730	593741	161357	772828	34.12
071/72	272677	500345	250581	1023603	45.20
072/73	291817	543341	217335	1052493	46.48
073/74	225962	511865	587041	1324868	49.90

Source: RJKIP report, 2017

The fee structure for the registration of membership and renew is different in three Kulos. For example, Rani charges Nrs.25 for membership registration and Nrs. 5 for its renewing annually. Likewise, Jamara

⁶ Desawar (assembly of all farmers), The Desawar takes care of maintenance and repair of the systems. Desawar also refers to the time when all the farmers of the systems work collectively to do major maintenance of the canals. The farmer elects the organization's leaders and during times of crises in decision making, the Desawar helps make the decisions. When the fines imposed could not be collected, all the members (Desawar) of the system go to the village of the defaulters, and force them to pay the fine. Different methods including physical assault or damage to property are used to collect the fines. The funds collected are used by the Desawar for feasting.

charges Nrs. 25 for on time registration and same renewable charge whereas Kulariya charges Nrs. 60 for one-time registration and Nrs 5 for annual renewable charge. The project WUA should work on assessing the reason behind the low collection and adopt strategies for increasing the ISF as per the target.

The Kulariya, Jamara and Main canal WUA have paid secretarial staff responsible for day-to-day operation including all essential record keeping. In Rani all documentation including financial records are being kept by the secretary. In all WUAs, a system of regular meeting has been initiated and the meeting minutes are well maintained, the financial records are properly kept and annual transactions are audited by authorized auditors in all four WUAs. The WUAs registrations are regularly renewed, list of beneficiary member with landholding including the number of parcels are maintained in all three-branch level WUA. The system of service fee collection has been started in all three WUAs and the record of service fee collections, dues has been maintained properly.

4.5 WATER AVAILABILITY, ALLOCATION AND USE

Most of the FGD participants and KII complained that they were regular faced water scarceness especially in dry season throughout the three irrigation systems. In deed the main vista of the project is a year-round supply of irrigation water. Availability of water, however, varies across time and location.

When there is enough water, especially during the monsoon, water allocation is hardly a problem both for upstream and downstream. Indeed, excess water from 'jaharan' during periods of plentiful water was raised as a major concern particularly by community people living in the downstream part of the irrigation system as the water from the jaharans falls into the canals and overflows and denudate in the agriculture field. In general, however, due to their settlement location close to the source of the water, people of upstream tend to have greater access to water. The community people of the upstream have also enforced diversions to prevent the irrigation water from flowing down-stream. People of the downstream part said that they have to work extensively harder than the people of upstream for operation and maintenance and should, therefore, have equal claims on the water during periods of scarcity. People of upstream part also faced distinct challenges. Since they are located close to the source, the Kulo carries a heavy quantity of sand and silt, which is disposed on their land.

As the systems have traditionally practiced a highly decentralized form of governance, the rules for water allocation are exclusively determined by local communities. Once the source at Chisapani is repaired and water diverted to the Kulos, water allocation/distribution responsibility falls on Badghars and users themselves. In each settlement, Badghars in coordination with the WUA, set up rules of water allocation based on the amount of available water and the size of land to be irrigated. If serious disputes took place, the Badghars normally sit down and set up new allocation rules.

Ground water also used by the community people as an alternative source of irrigation water. Ground water boring is mostly common. Water is drawn using diesel or electricity-powered motors. Boring is a largely self-initiative in most of the village. There are a number of problems with this alternative source. First, all households, particularly those living far off the main streets, do not have access to electricity. Second, there is a problem of regular power outage. Third, both diesel and electricity are expensive for the average farmer.

In the time of lean water period, Badghar acts accordingly in collaboration with the community members and WUAs for water allocation. Since there is no water control system in lower canals, the allocation of water is done as per the traditional system with using local materials. The present water management system retains traditional cultural system in coordination between Badhaghars and WUAs.

4.6 CONFLICTS AND THEIR RESOLUTION

Generally, as mentioned above, local farmers have managed these Kulos for generations, several types of conflicts used to take place yearly earlier. Key types of conflict include labor dispute between Pahadi and Tharu communities, upstream and downstream dispute regarding water allocation and disputes between the main committee and Badghars regarding roles and responsibilities and jurisdictions. Since the Badghars have the complete authority over how locally based conflicts are resolved, Badghars used to force heavy fines on free riders. If a household, for example, failed to appear for operation and maintenance as decided by the community, the Badghar, in consultation with the local users, was entitled to forcefully take away whatever the disobedient user possessed, including goats, roosters, pigs, and even bullock carts. If the person does not pay the fine on time, the community either sell the confiscated goods (or animals) or kill the animal to organize community feasts. But these strict practices have decreased in recent years as they have started to deposit the fine to WUA fund. Further, the conflict between the WUAs and Badhaghars are also rare, and Badhaghars could hardly recall such instances that had taken place in the past. It was because of the Badhaghar system is now represented in the WUAs and part of the WUA decision making process.

4.7 LEGAL ENTITLEMENT OF THE IRRIGATION CANALS

Issue of legal entitlement of the irrigation canals (branch and sub-branch level) in some places of the RJKIP command areas were identified. It might have some implications in the smooth implementation of the project if the irrigation canals are not demarcated and marked in the cadastral survey map and transfer the ownership in the name of the irrigation system or the Government. However, community did not identify it as a legal concern as traditionally, the ownership of land under irrigation canals belongs to the community rather than to individuals.

4.8 THE STATUS OF "INDIGENOUS PEOPLE"; "OCCUPATIONAL CASTE- OCCUPATIONAL CASTES" AND WOMEN

The exclusionary nature of Nepali society characterized by traditional hierarchical social structure, discriminatory laws, feudal inegalitarian land tenure system, patriarchy, imbalanced regional development policy, and non-inclusive developmental strategies and practices of the past have triggered the exclusion of a sizable proportion of Nepalese population (notably indigenous nationalities, *Occupational Castes* and women) from the mainstream development efforts which now needs to be changed by removing the institutional barriers, creating the conducive social environment for access to livelihood assets, opportunities and services, safeguarding their social and economic displacements/dislocations that take place in the name of development and empowering them to combat the social and geographical exclusion is the key development need of the Nepalese society.

In Nepal, there are several factors that determine a group's exclusion. However, gender, caste and ethnicity have been officially acknowledged as primary factors that determine a group's backwardness. Other factors such as region, economic status and patronage network play an equally important role. For the first time, the Tenth National Plan (2002–2007) has identified three major groups as more vulnerable than others in the context of Nepal-women, *Occupational Castes* and indigenous ethnic groups. These three groups are disadvantaged in terms of: (i) access to livelihood assets and services; (ii) socio- economic inclusion and empowerment, and (iii) legal inclusion and representation in government.

The underlying assumption for the need for special safeguarding for these groups is that "they" are frequently susceptible to changes that are normally promised by the development processes. If such groups are found in project areas and are likely to be affected as a result of RJKIP interventions, the implementation procedures will assure safeguarding of such groups by means of framework guidelines that will help implementing agencies to determine the magnitude of impacts in terms of: (a) customary rights of use and access to land and natural resources; (b) socioeconomic status; (c) cultural and communal integrity; (d) health, education, livelihood, and social security status, and (e) the recognition of

indigenous knowledge. In the process of safeguarding, the level of vulnerability of the affected 'Vulnerable Peoples' is to be assessed and support plans with appropriate measures are to be prepared accordingly.

In Nepal the term Indigenous People (IP) denotes to Adivasi, Janajati or ethnic groups with distinct identity in terms of their culture, language and social association from the prevalent dominant culture. The Act of Nepal Federation for Nationalities 2058 (2002) has defined "nationalities" (Adivasi) and indigenous people (Janajati) as people having their own mother tongue, distinct separate traditional cultural identities and social structure. This definition apparently is very close to the World Bank definitions of the Indigenous People.

According to the national census 2011, there are 126 caste/ethnic groups in Nepal. Chhetri is the largest caste/ethnic groups having 16.6% (4,398,053) of the total population followed by Brahmin 12.2%, (3,226,903), Magar 7.1%, (1,887,733), Tharu 6.6%, (1,737,470), Tamang 5.8% (1,539,830), Newar 5% (1,321,933), Kami 4.8% (1,258,554), Musalman 4.4%, (1,164,255), Yadav 4%, (1,054,458) and Rai 2.3%, (620,004).

There are disparities in terms of socio-economic standing in *Adivasi Janajati* groups. According to Nepal Federation of *Adivasi Janajati*, 10 out of 59 *Adivasi Janajati* are endangered", 12 are "highly marginalized", 20 are "marginalized", 15 are "disadvantaged" and 2 are "advanced" or better off on the basis of a composite index consisting of literacy, housing, land holdings, occupation, language, education, and population size.

Table 14: Classification of Adivasi Janajati (Indigenous) Group in Nepal

Region	Classification of Adivasi Janajati				
	Endangered (10)	Highly Marginalized (12)	Marginalized (20)	Disadvantaged (15)	Advantage d (2)
Mountain (18)		Shiyar, Shingsawa (Lhomi), and Thudam	Bhote, Dolpo, Larke, Lhopa, Mugali, Tokpegola, and Walung	Bara Gaule, Byansi (Sauka), Chhairrotan, Maparphali Thakali, Sherpa, Tangbe, and Tingaunle Thakali	Thakali
Hill (24)	Bankariya, Hayu, Kusbadiya, Kusunda, Lepcha, and Surel	Baramu, Thami (Thangmi), and Chepang	Bhujel, Dura, Pahari, Phree, Sunuwar, and Tamang	Chhantyal, Gurung (Tamu), Jirel, Limbu (Yakthumba), Magar, Rai, Yakkha, and Hyolmo	Newar
Inner Terai (7)	Raji, and Raute	Bote, Danuwar, and Majhi	Darai, and Kumal		
Terai (10)	Kisan, and Meche (Bodo)	Dhanuk (Rajbansi), Jhangad, and Santhal (Satar)	Dhimal, Gangai, Rajbansi (Koch), Tajpuriya, and Tharu		

Source: The national federation for development of indigenous nationalities

The WB defines IP as groups having a distinct social and cultural identity from the dominant groups in a project area and requires that the proposed project ensures the protection of language, cultures, social organization and adequately addresses the livelihood of such groups. The underlying assumption for the

need for such protection is that 'indigenous people' are frequently susceptible to changes that are normally promised by the development processes.

While looking at the issues of indigenous or vulnerable people through the development lens in irrigation sector, they are normally characterized by marginal and small land holding size, land locate generally in the tail reach of the command area, mostly involve in traditional agricultural practices with limited benefits from irrigated agriculture, limited exposure to emerging market, limited access to institutional credit, farm inputs and agricultural extension, lack or poor leadership, marginalization in the decision making process, inadequate participation in decision-making in WUA functioning; lack of consultation regarding water management practices etc.

Not all indigenous people are of course vulnerable or disadvantaged, available resource and poverty remains more important than caste or ethnicity, but the correlation is so strong that any project increases its chances of reaching the poor by including high numbers of ethnic groups and Occupational Castes. For differentiation within ethnic minorities, the categorization of NEFIN (**table: 14**) is particularly useful and has been accepted by several agencies and donors. This categorization allows a project to lump Advantaged Indigenous People like Thakali or Newar with the other advantaged groups, while giving highest priority to the endangered and marginalized categories.

Occupational Castes (Dalits): *Occupational Caste* is a polite and political term, for what has been known as 'occupational castes' in Nepal, or more commonly as 'untouchables' from the idea that their touching of certain persons or items is ritually polluting. They occupy the lowest social stratum under the Varna System, the Hindu caste hierarchy, an ascribed status, an inescapable social and occupational role assigned to each merely as a result of their birth. Nearly all Occupational Castes belong to either an occupational or artisan group.

The Dalit Commission Act 2059 (2002) defines them as "the community discriminated on the basis of caste and marginalized in terms of social, economic, educational, political and religious sectors." It lists the following as occupational castes:

Table 15: List of Occupational Caste (Dalit) in Nepal

• Biswakarma (Kami, Sunar, Lohar, Tamta, Chunara, Odh)	
• Sarki (Mizar, Charmakar)	• Darjoi (Damai, Pariyar, Hudke, Dholi)
• Gaine (Gandharba)	• Vadi
• Khadgi	• Kapali
• Kuche	• Deula
• Dushadh (Pasan, Hazara)	• Chamar
• Tatma	• Dhobi (Rajak)
• Baatar	• Dom
• Musahar	• Khatwe
• Pattharkatta	• Halkhor

Source: *Nepal Occupational Caste Commission Act 2002*

Each caste name in the above list also denotes (to a Nepali speaker) the type of work a person with that name does, for example Kamis are metal workers, Sarkis are leatherworkers and Damais are tailors and play musical instruments. Other communities wash clothes, or make clay pots. Each has a separate and distinct caste group name which is immediately recognizable.

Women and other vulnerable group: Though women comprise half of the total population, gender discrimination still prevails in the society. In rural Nepal, institutional and structural barriers exist to exclude women from playing a full and equitable role in society. Status of women in Nepal with regards

to their access to knowledge, economic resources, political power, and personal autonomy in decision making is quite low. For example, women are subjected to the dominance of patriarchal values including, in practice, the denial of rights to landed property, despite the legal provision which gave women equal rights over ancestral property. However, mostly the property, particularly the land is mainly registered in the names of men, which limits women in accessing loans from formal banking institutions by pledging the land as security. Division of labor by gender within households is also inequitable as women shoulder more responsibility than men, particularly regarding household chores, looking after children, and on farm and off-farm activities. Women in all social groups and regions have been proven as more disadvantaged than their male counterpart and even among women widows, separated, divorced and women headed households are particularly vulnerable. Similarly, women in all groups due to their limited access to economic resources and livelihood options can equally be classified as vulnerable who are at permanent risk for facing severe poverty in Nepal. Elderly people, children and the individuals are less able to care themselves within the communities are also persons who are prone to vulnerability any time

Women are more reliable partners for a project because they are sincerer, ensure benefits to reach the whole family and remain in the area almost all year and largely involved in O&M of canal due to the out migration of male. However most of the training program planned and organized related to water allocation, distribution and system maintenance are targeted to male only. Furthermore, women have practical ideas about irrigation at household and community level, however, the project consults naturally more with men, as these have more time and are of same gender as most project staff are men.

4.9 VULNERABILITY ISSUES IN PROJECT AREA

In the project area, there are two one major indigenous group, Tharu and Mahar. Out of the total beneficiaries of the project, about half (48%) of HHs are Tharu followed by Brahmin and Chhetri (27%), and occupational caste (15%) and other caste groups accounts around 10% population in the project area. The SA shows that the impacts on particular group, whether positive or negative, are generally not different from those on others with the same socio-economic status and land size, like occupational caste or poor Chhetri, because most household in project area do not have different types of livelihoods from other groups. Not all indigenous people are vulnerable or disadvantaged, available resource and poverty remains more important than caste or ethnicity.

The key informants and participants in the consultation meetings identify two types of Tharus living in the command area as Purvariya-Kathariya and Dangoria. The Purvariya-Kathariya Tharus are indigenous to the project command area and constitute the majority of the Tharu population having their history of over 300 years anecdotally. The Dangoria Tharu community came much later to the area as migrant laborers and Kamaiyas (bonded labor) in the area. The latter were given land by the GoN for settlement. These two groups of Tharu communities have different language, customs, and historical roots. Despite the differences, there is an increasing sense of solidarity and common identity between them.

The major ethnic communities – the Tharus – are not in disadvantaged position in terms of their participation in the current governance structure of the irrigation systems as they are more than 71% of WUA functionaries. The presence of Occupational Caste is low (4%) in comparison to their population (15%). Furthermore, all Badghar from the villages are integrated into formal WUA structure who have influencing role over rules of water allocation, labor mobilization, and imposition of fines and penalties at the village and sub-branch levels. This shows the common issues of exclusion and low level of participation from indigenous group does not exist in the WUA. If the marginal and small holders located in the tail reach of the system, are relatively disadvantaged as they receive limited irrigation water and are mainly concerned about the timely and equitable water distribution. They are often neglected, as they reside at a distance from the main system. To this end, appropriate representation of tail enders in a decisive position in WUA is important to ensure that water allocated to all the reaches of canal section.

During FGDs it was reported that around 80% of households in project area migrate seasonally for employment. Migrant households often fail to benefit from irrigation because the benefits are not big

enough to keep the men at home, while the men are needed to capitalize on the new opportunities. Women left alone at home were often not able to manage the new intensive agriculture. This group needs guidance in simple business planning to allow them to make basic cost-benefit analysis comparisons between investing time at home or migratory labor. When formulating VCDP activities, special attention should be paid to those that are seasonally absent. For those migrants that belong to the most marginal groups a little extra assistance might make the difference between staying at home and migratory labor.

While designing the safeguard measures and identifying target group for specific support, land holdings are the best indicators to use as selection criteria for determining specific disadvantages and poverty issues that the plan should address. Nepal Living Standards Survey (NLSS) - 2010/11 reveals that limited land holding in Nepal is a major trigger for the incidence of poverty in rural Nepal. The same report highlights that the incidence of poverty has been found to be less among households having more than 1 ha of arable land, means the larger the size of land holding is, the lesser the incidence of poverty is found. The sample survey revealed that around 77% farmer are "small farmer" having less than 0.5 hectare. This implies that the agriculture component of the RJKIP phase II should have the extension activities focused to these groups of the farmers.

All poor and disadvantaged groups have mostly the same constraints and mostly the same issues. Generally, these groups are less informed less educated and has very little experience or access to external assistance and external institutions. This as a consequence decreases their chances of receiving assistance, due to inept and naive about the requirements and possible benefits. The concerned of these groups is relatively more focused to equitable benefit sharing, affordable O&M expenses and proportionate to the benefit received. They are in need of opportunities that come along with the project like capacity building, income generation, labor opportunities, water use for other than irrigation. A specific awareness program regarding project support and likely benefit need to be organized through structured mechanism.

Table 16: Vulnerable settlements of RJKIP Command Area

Name of Irrigation systems	Settlements	Vulnerable Groups
Rani	Bijayanagar	MuktaKamaiya
	Jhanjhatpur	Land squatters/land less
	Simreni/Saipur	Magar
	Bisnukantipur	Badi
	Dhungana tole	Poor
Jamara	Laikpur Sibir	MuktaKamaiya
	Shaktinagar	Land squatters/land less
	Shankarpur, Katanpur	Occupational Caste
	Bangaun	Magar
	Jagatpur/Samatipur	Tharu/Poor
	Bhartapur, / Dailekhi Tole	Tharu/Poor
Kulariya	Schoolpur (Bichki tole), Munuwa/ Thala Tole	Occupational Caste
	Satbigaha	MuktaKamaiya
	Baklahawa	poor
	Chhota Khargauli	Magar, Bhul/Sarki
	Kanchanpur	Land squatters/land less
	Jadupur	MuktaKamaiya, Land squatters/land less
	Bhagriya Tharu Tole/Raji Tole	Poor
Amarwati	Land squatters/land less	

Source: Field survey, 2017

Vulnerable settlements/people of RJKIP Command Area were identified by social mapping exercise and KII (**Annex - 4**). People who live in unregistered (ailani) land near forests are also among the poorest

(Table 5). **People mostly from Badi, Haliya, Occupational Castes, Mukta Kamaiya and Tharu are poor and high vulnerable.** Recurrent natural disasters, basically droughts and floods further add number of poor in the areas.

Disability is one of the indicators of vulnerability. The census survey (see **Table 17**) reveals that 270 (1.8 %) persons are differently abled out of 15,260 in the pilot project areas. The data shows that the percentage of differently abled population is highest in hill originate occupational cast (2.6%) group followed by hill originate Indigenous people (2%).

Table 17: Disability by ethnicity

Caste/Ethnic Groups	Total Population	Differently-abled population	
		N	%
BCTS	6562	113	1.7
Hill Adivasi/Janajati	505	10	2
Terai Adivasi/Janajati	5633	103	1.8
Hill Dalit	1184	31	2.6
Terai Dalit	1327	12	0.9
Muslim	26	0	0
Others	23	1	4.3
All Total	15260	270	1.8

Source: Field Survey, 2017

Generally, occupational caste and indigenous people are taken in small, marginal land or land less categories, but focusing on these proxy poverty indicators sometimes excludes few really poor Brahmin-Chhetri households, who are also among priority target groups recognized for any kind of support activities. the project need to focus on the specific issues of this category.

Even within the Tharu community disparities exist in term of big and small landowners, and male and female-headed households as well as the household situated in head and the tail reach of the command area. Based on the social assessment and focus group discussion, the following section of the society should be treated as more vulnerable than other.

- HHs with Small and marginal⁷ land holding whose livelihood largely depends on wage labour
- Female headed HHs⁸
- Tail end user, especially if they are small holder
- Occupational Caste (Dalits) as majority of them possess small land size.
- HH below poverty line
- Households with differently abled Person

Majority of the Mid-hills migrants in the area are from mid and far western regions of the country. Hill communities during the focus group discussions highlighted that Tarai land is considered more appropriate and fertile for farming than the one in the Midhills because of its productivity. Thus, the tendency is that Mid hills' communities invest in purchasing land in the Tarai and migrate gradually for decent life. In addition, living adjacent to Tikapur and surrounding areas is a key attraction for those whose livelihood source is seasonal out-migration to India.

⁷ Small and marginal landholders : Households with land holding size less than 0.1 hectare.

⁸ Households with no able men member, i.e. single women or households with their men migrate for employment for more than 1 years.

4.10 GENDER ISSUES IN PROJECT AREA

In all WUAs of RJKIP, the representation of women is less than what is expected to fulfill the requirements of the Irrigation Policy. Reviewing the existing gender inclusion in WUAs, none of the WUAs have 33% women in their executive committee. In order to meet the legal requirement, it has been practiced that the female members are being selected through the provision of nomination by executive board, and this particular practice makes female member more loyal towards the chairperson and ultimately limits them to express their feeling freely. Further in key positions (chairperson, secretary and treasurer) the presence of women is almost nil (**table-18**). Apart from the social barriers existed in the indigenous Tharu community; lack of leadership skill could be one of the reasons that prevent them to take over the principle responsibilities in WUA. This also indicates the need to (a) organize separate leadership skill development training for female member of WUA and, (b) specific provision in the constitution related to selection/election process for women member.

The project area of RJKIP is spread over eight VDCs, (now two municipalities and one rural municipality) While discussing⁹ the women's low participation in WUA meeting, majority of participants were of the view that participating in meeting took more than 2-3 hour to reach the WUA office and sometime, unavailability of public transportation caused delay or forced to miss scheduled meetings.

Table 18: Women's Status in WUA governance structure

S. N	Name of system	Composition of WUA				
		Size of WUA	Female	Occupational caste ()	Janjati	Women in key position
1	Rani WUA	30	8	2	18	0
2	Jamara WUA	25	5	1	21	0
3	Kulariya WUA	25	8	0	14	0
4	Main (system level) WUA	29	8	1	18	0

Source: WUA record, 2017

Most of the participants were found aware on agriculture program implemented under Component-C of the project, but most of them were also unaware on process required to get involved in the agriculture production support program. This indicates the need to organize more extensive consultation and review the effectiveness of project public consultation strategy. The project report shows that about 26% out of total participants during information dissemination workshops were female however discussion with participant during FGD revealed that the effects are limited because they were not trained and guided to play effective roles in organizing village level consultations and acting as a go between the WUA and their village's women and men.

Household survey 2017 shows that around 18% HHs are headed by female in RJKIP. These HH with dependent children without adult males (sons) are somehow at more disadvantage than other. Once single and poor, women cannot find time to engage in intensified agriculture due to multiple duties at home. While designing the support program for these HH, care should be taken to correctly identify FHH and not include the wealthier FHH and women in whose name land is registered, but who are still under the male household head. Participants of FGD expressed that close-knit communities generally help

⁹ Daft report Consulting Services for Command area development study of Rani, Jamara and Kulariya irrigation systems phase-ii: Institutional Development Component - 2016

single women through labor exchange mechanisms and are also helped by relatives. Their needs and constraints are similar to women in general but more intense: social exclusion, poverty, time constraints.

During the FGD, it was informed that family members from more than 9% households have been identified to be migrated abroad and member from more than 80% HHs leave village for seasonal migration. Better economic opportunity and livelihood are some of the major causes of migration in rural areas. In addition, there is also practice of seasonal as well as long-term migration from different parts of the country to Indian cities for better economic chances. In this sense, women from migrant family have constraints similar as that of FHH or single women.

However the group discussion witnessed that the cultural barrier are slowly getting weaker as most of women are now participating in the public meetings (25% participants during FGDs), taking part in training program (about 22% in WA training, above 82% in farmer field school), operating the sewing and knitting centers (can be seen in Tikapur market), working as a member of WUA (25%), openly putting their views in the in the mass , dialogue with front of stranger and in some cases it was clearly visible that they were putting their arguments strongly with their husbands while discussing on the gender role in decision making. These are some of the indicators showing relatively better social status of women in the project area.

Division of Labour in Agriculture: Irrespective of caste/ethnic groups, both male and female carry out agricultural tasks, although differences can be clearly seen in agricultural work spheres by sex. In project area, men's involvement is higher in plowing fields, threshing crops, watering crop-fields, maintenance of canals and carrying crops-loads whereas women in carrying manure, breaking pods, sowing seeds, transplanting seedlings, weeding, harvesting, storing and selling crops. In the discussion with local people, women are hardly understood as farmers, although their contribution in agriculture is very high. The obstacle to women's participation in irrigation is created by gender biases in institutions that often reproduce assumptions that men are the famers (Gurung et al. 2006). As a result, agricultural training, services and technologies rarely are available to women farmers. Without access to agricultural trainings, services and technologies, women cannot enhance their capacity.

The observed change in Desawar is that previously women were not allowed to participate in Desawar. One of the reason for non-participation of female might be the need to stay 5 days in a row at the site which has been changed now day as most of male and female farmers have by-cycle and motor bike. They can return home without difficulties. Participation of women in Desawar is a big social change being observed in the system.

Badghar system and Women: Being a traditional home land of Tharu community, the socio-economic, political and cultural systems are operating under the *Badghar* system. The term *Badghar* is composition of two words *badha* (big) and *ghar* (house), literally the big house. The Badghar is selected by an assembly of local communities specifically of Tharu on annual basic during the Maghi festival mostly with consensus which is taken as a symbol of being trustworthy, knowledgeable and of good moral integrity (Chhetri and Kattel, 2004). Traditionally, men are *Badghar*, but not women. If we see the criteria for the selection of Badghar, we can say that women are not honest, knowledgeable and of good moral integrity. This believes system makes problematic to be selected *Badghar* for women as Badghar. However, the perception regarding the selection of Badghar is gradually changing. Out of several Badghars in different irrigation schemes, there is one Badghar in Kulariya and the same number in Jamara and one assistant Badghar in Rani Irrigation Scheme. No additional role to perform by the women Badghar (it is same as male); however, they have to manage their time for this additional responsibility. It is because 'Badghars' have traditionally been men, and still command considerable decision-making power at the village level, there were greater barriers to women taking the role. Badghar is selected through the local communities on consensus annually during Maghi festival but in most cases, it is repeated. Almost all the participants of the FGD urged that women's participation has increased in source maintenance work and other

activities in the community in recent days due to out migration of male members for employment, increased awareness among the women about their roles and facilitation by the project.

Badhaghar system is being institutionalized in government system. Badhaghar as an institution is represented in WUAs as a member and there is a close coordination and collaboration between Badhaghar and WUAs in managing the irrigation systems. Effect of such social issues and barriers could have been reduced if rigorous social mobilization and empowerment program were conducted with focusing women, Occupational Castes and other socially excluded people.

4.11 ACCESS TO LAND AND LAND TITLE

For households which depend on agriculture, land is the most important asset for a living. But statutory and customary laws restrict women's land rights in South Asia including Nepal which influence control over land (Agarwal, 1994). The issue of control on land has three main dimensions – women's ability to retain title to the land they inherit or otherwise acquire; their ability to take decisions regarding the disposal of the land through sale, mortgage, bequest, or gift; and their ability to take decisions regarding the use of the land, including leasing it out or self-managing it, and disposing of its products.

The census survey of three irrigation schemes under RJKIP shows that only 11.57% of women have land title compared to that of men (56.6%). This means there is a wider gap between men and women regarding land ownership. Moreover, the difference on land ownership is manifested across caste/ethnic backgrounds, household head and poverty level. The proportion of women's land ownership is slightly higher in hill origin high caste, hill Adivasi Janajati and Tarai Occupational Castes as compared with Tarai Adivasi Janajati, Hill Occupational Castes and Musalman.

Table 19: Land ownership across Social Category by Sex

Social category	Women			Men		
	Total Population	Land title	%	Total Population	Land title	%
All Total	7422	859	11.57	7838	4436	56.60
By Caste/Ethnicity						
Hill origin high caste	3153	465	14.75	3409	1817	53.30
Hill Adivasi Janajati	253	38	15.02	252	208	82.54
Tarai Adivasi Janajati	2733	199	7.28	2900	1821	62.79
Hill Occupational Caste	602	51	8.47	582	276	47.42
Tarai Occupational Caste	658	101	15.35	669	304	45.44
Musalman	13	1	7.69	13	4	30.77
Others	10	4	40.00	13	6	46.15
By Household Head						
Male Headed	5981	482	8.06	6572	3674	55.90
Female Headed	1441	377	26.16	1266	762	60.19
By Poverty Level						
Below Poverty	2010	197	9.80	1992	996	50.00
Above Poverty	5412	662	12.23	5846	3440	58.84

Source: Field survey, 2017

In the project area, women's land ownership come through three ways;

1. Gift to daughter or sister locally known as Daija/Daijo; (2) Women after the death of their husbands and 3) The government of Nepal has reduced the tax if someone would buy land in woman's name.

The practices show that women are the first rights claimers on land in a society or households as men do. Daughter/sister does not inherit land as son/brother does. They are presented as gift or grants rather

than rights. In the second case, women cannot claim her rights on land while her husband is still alive. Finally, some villagers have been using third method to avoid tax because the women in the project area cannot make decision to sale or mortgaged or lease out of the land themselves. This means women's control over land is very poor in the project area.

In the discussion with the women groups in project area, lack of land title for women has multifaceted impact in their livelihood. It was reported that lack of land title makes difficult for them to access credit from formal financial institutions like government and private banks. Without credit, they cannot buy new or hybrid varieties of crops and vegetable seeds, improved variety of animals (cow, buffalos, goat, pig and so on) and new tools and technologies. Moreover, they also rarely get loan from local money lenders. Without access to land, credit and agricultural tools and technologies, women farmers face major constraints in their capacity to diversify into alternative livelihood (Demetriades and Esplen, 2009).

4.12 INSTITUTIONAL ASSESSMENT OF THE PROJECT IMPLEMENTATION OFFICE

At present the PIO is headed by a Class -1 civil engineer (Project Manager) supported by multi - disciplinary team with defined responsibilities for various activities. Five different sections, i.e., Social, Environmental, and Institutional; Technical; Procurement; Administration and Financial Management are directly responsible for the implementation of project activities. In general, the tasks of PIO ranging from overall planning and management of the civil works to coordination with WUAs, agricultural agencies, forestry and environment departments, wildlife conservation, local agencies and district administration.

At present most of the positions are fulfilled other than the positions sanctioned at Social, Environmental and Institutional Development Unit which is largely suffering from the lack of specialized human resource. The section is responsible to; (i) prepare and organize training events for variety of stakeholder during various stages of system improvement; (ii) identify the training needs of WUA at various stages of system improvement and organize training/exposure visit accordingly (vii) re-orient the technical staffs of PIO with special focus on "Working with Farmer" (v) organize periodic training on Safeguards (social and environment) and Gender Equality and Social Inclusion (GESI) awareness and conduct periodic compliance monitoring of social and environmental plans.

The position of environmental expert in this section has never been fulfilled even though there is clear provision in PAD for the recruitment of this position. Similarly of the two positions sanctioned under social section, the Unit has only one senior sociologist. But Phase 1 experience revealed that the sociologist in this unit has been suffering from regular discontinuation. The position was fulfilled in early 2012 and was continued for less than a year. Later on, DOI assigned another sociologist who spent around two years in the project and then after pulled back to the DOI. After the gap of more than a year, the same professional assigned again towards the end of year 2016. During this gap, none of the WUA strengthening activities, activities in the RAP and VCDPs were carried out in the project.

For effective implementation of RJKIP-II, the Project should capacitate the existing social environment and institutional unit at PIO and ensure that it take the responsibility for all social and environmental safeguard oversight, management, coordination and capacity building support to their district chapters. Moreover, the unit has to be equipped with qualified social and environmental safeguard personals with enough capacity building training in the field of: (i) screening prospective projects for impacts of IR and impacts on IPs & vulnerable groups; (ii) safeguard plan preparation and appraisal; (iii) plan monitoring; and (iii) reporting. Similarly, it is important that DOI makes effort to train the relevant project staff on management of social issues, provide guidance to explain WB's and GoN's social safeguard obligations, their importance, and benefits and encourage them to build requisite capacities. In addition to this extensive social mobilization will required during system improvement. One effective option to fulfill the existing human resource gap could be providing TOT on the process and procedures for social mobilization in the RJKIP to lead farmers/ WUA members.

4.13 REVIEW OF THE MONITORING PRACTICES

The PIO is monitoring implementation progress and process in accordance with government's calendar. However, some of the monitoring structures crafted for project monitoring like LEMC were found less effective due to several reasons. The LDO was supposed to lead the LEMC, however, due to absence of local government it was not possible for him to look after the individual project affair. In the changed context of state restricting it is essential to review the structure and participating institution as many of the institution will not exist anymore. Additionally, in the project level, as provisioned in the project document, establishment of independent third-party monitoring system was also lacking due to the confusion on who should commission the agency and other priorities over this.

For the monitoring of phase-II activities, The PIO, through its Social Environment and Institutional Development Unit, will be responsible for implementation, monitoring and evaluation of the all social and environment safeguarding activities. If necessary, the Project will modify its monitoring framework and make compatible to include social and environment disaggregated information and streamline with project regular monitoring process. The M&E unit will regularly analyze/monitor project progress and outputs with specific reference to impacts on various segment of society.

The quarterly review of programmatic and financial progress will be conducted following the government calendar year of operations. The PIO will prepare the Trimester reports and share with WB in accordance with agreed plan. A separate third-party monitoring will be conducted after completing the implementation of planned activities by independent monitor hired by the project. The exercise is expected to provide an independent observation of ground realities and serve as an important input for planning monitoring for the succeeding year.

However, the structured conventional monitoring process essentially is disempowering at the community level because of the limited understanding among the local implementers (WUA, Association organizer and field level technicians). However, monitoring and evaluation should provide opportunity for internal learning and improvement, and the capacity building of the persons involved. The Vulnerable communities cannot contribute to such structured system. Hence, it is proposed to include a "participatory approach to monitoring and evaluation" such as social audits and participatory reviews and reflection in periodic intervals. Such periodic practices empower both organizations and indigenous communities because lessons can be learned for improvement and thereby crucial decisions can be made on time by tracking changes.

A system of self-monitoring will be established by providing technical assistance to WUA. The technical assistance will be provided in the form of various templates to be applied for collecting and analyzing data in order to establish in-house monitoring system. The wider ranges of the monitoring tool such as field observation, participatory interactions with beneficiaries/users, public hearing and public auditing, inputs and service delivery, implementation process will be applied. The results of monitoring will become inputs for regular and mandatory program review and evaluation.

4.14 REVIEW OF GRIEVANCE REDRESS COMMITTEE (GRC)

Assessment revealed that a systematic Grievance Redress Mechanism was not established during Phase 1. A project level GRC chaired by Project Manager was formed in the beginning however it was discontinued. Moreover, grievances were not documented and was handled on adhoc basis. At the settlement level, the existing Indigenous tradition of grievance handling led by Badghar exists and appears to be functioning. Most of the settlement level grievances were settled by Badghar. At the WUA level all complaints were registered and WUA in coordination with the project handled the complaints.

5. Assessment of Project impacts

5.1 LAND ACQUISITION AND ASSOCIATED IMPACTS

Experience and lessons from phase I

The project prepared and enacted Social Impact Management Framework (SIMF) to provide appropriate guidelines to identify impacts, prepare plans, and mitigate adverse impacts likely to arise from the activities financed under RJKIP during the planning of the phase-I activities. The framework guidelines further provided strategies and principles for identifying project affected individuals, families, communities, and to assess potential social impacts of interventions, and suggested measures to avoid/minimize and manage any adverse impacts. The SIMF guidelines provided standards for incorporating involuntary resettlement considerations through Resettlement Planning Framework and safeguarding the concerned of vulnerable communities residing in project area.

Under infrastructure improvement component, construction of 7.3 km Feeder Canal was one of the major activities carried out during the modernization of RJKIS -I. It was new alignment and due to passing through forest and residential area, impact on natural resources and personal property were detected as a result of project intervention. Following the provision specified in the RPF prepared as a part of the SIMF, the project prepared resettlement planning document to identify project affected individuals, families, communities, and to assess potential social impacts of interventions, and suggests measures to avoid/minimize and manage any adverse impacts.

Land acquisition and associated impacts were managed according to the SIMF. One public school, one temple and two community forestry offices affected due project intervention was relocated. Similarly, resettlement and rehabilitation of 17 families residing along canal alignment were managed as per the RAP prepared. Evaluation of loosed property (communal and Personal) has done by the project office before implementation of the project and APs were provided with compensation amount according to the law of land and RPF. The compensation included cost of affected property (mainly structures), house displacement allowance, Business disruption allowance and support allowances. As they were identified as non-titleholders (settled in the government land) compensation of land they occupied was not provided.

Most of the displaced families (13 out of 21) were found satisfied with the compensated amount. Whereas, 8 respondents have shown their dissatisfaction with the amount that they received as compensation. Lower property valuation, partiality in valuation and well settled business disruption and no cooperation in establishing new settlement by the project were few reasons behind dissatisfaction of APs. Furthermore, nonfulfillment of commitment for including them in employment opportunity as agreed during planning stages were additional reason. Most of the consultation were informally conducted and minutes were not maintained. Further, the implementation of agreed action slowly processed over the long period of time, the demand of APs also changed from the previously agreed and was became challenging to address for the project authority.

The Social Environmental and Institutional Unit was responsible to coordinate the implementation of RAP and other safeguarding activities, however the capacity of the unit, specially the available human resources, was not enough to conduct the implementation of RAP and VCDP specified activities. Frequent turnover and discontinuation of the staff in the unit was cited as the one of the reasons.

Proposed Phase 2:

The major activity of RJKIP will focus on the modernization of existing of irrigation infrastructures for improved irrigation services to existing RJKIP command area. Since the major civil works will be limited to existing and functioning irrigation system significant land acquisition is unlikely. Impact assessment of Pilot schemes revealed that land acquisition and associated impacts are unlikely. However, Minor changes in existing alignment to increase the water conveying efficiency including reduction in cost and other infrastructure activities may require additional land and have impacts on structures that may require relocation. Livelihoods or source of income of the community could be affected. These will be determined only after engineering design is completed.

5.2 POTENTIAL IMPACTS AND RISKS OF LABOR INFLUX

Influx of workers and additional populations (followers - family members of workers, traders, etc) can lead to adverse social and environmental impacts on local communities, especially if the communities are rural, remote and small. Such adverse impacts may include social conflicts within and between communities, increased risk of spread of communicable diseases, increased rates of illicit behavior and crime, gender-based violence, child labor, increased demand for goods and services that can lead to price hikes and crowding out of local consumers, increased volume of traffic and higher risk of accidents, increased demands on ecosystem and natural resources.

5.3 IMPACTS ON INDIGENOUS POPULATIONS AND OTHER VULNERABLE GROUPS

Indigenous Peoples, Dalits, women and marginal land holders are considered as vulnerable groups in the project area. The Project area is a mixed community where IPs and other groups live together. Therefore, they are expected to experience similar physical and socioeconomic impacts from the project. Specific impacts especially for Indigenous Group in the project area are not expected.

However, given the lack of access to information, poor leadership quality, gender disparities, lack of access to services, the vulnerable groups identified in the project are most likely to be at disadvantageous position to avail of benefits from the project. These groups would need more attention and support to ensure their meaningful participation in the project and sharing of the benefits of the project.

Another impact is the demise of the traditional Tharu-led governance system due to modernization and upgrading of the irrigation system under RJKIP Phase 2.

6. Public Consultation and Stakeholder Perception

Assessment identified project beneficiaries, WUAs, local government unit, District Forest Office, District Agricultural Development Office, private sector - Agro-vet, Bardiya National Park, Community Forest Users Groups (CFUGs) and concerned line Ministries/Departments and its subordinate offices as major stakeholders. The direct project beneficiaries such as users and WUAs are the primary stakeholders. Whereas the local level political parties, CBOs, NGOs and government line agencies are the secondary stakeholders.

6.1 REVIEW OF INFORMATION COMMUNICATION AND CONSULTATION STRATEGY

The major objectives of Information, Communication, and Consultation Strategy are two-fold. First, it is to keep all stakeholders informed of the project activities, the potential beneficial and adverse impacts. Second, it is to ensure that stakeholders actively participate in all levels of the project cycles, come up with mitigation plans of the potential negative impacts of the project, and are well trained and equipped to take over the responsibilities of operation and management once the project phases out. These will ultimately contribute towards narrowing down the gaps between the project officials and beneficiaries, and help create a conducive-environment to mitigate the adverse social and environmental issues through optimal cooperation from the project beneficiaries themselves

During the Social Assessment, the team reviewed the communication strategies adopted by the Rani Jamara Kulariya Project Officials to disseminate information about the project during Phase 1 period. The team noted following findings and lessons:

- Together with the system improvement activities, the project management office organized awareness program targeting to the variety of stakeholders. To this end, four information dissemination workshops were organized to local bodies, media, political parties, WUA and others stakeholders. A total of 97 participants attended the programs of which around 26% were female. These workshops were instrumental in creating awareness on local stakeholder on the process, procedures and scope of system improvement.
- The available information shows that one information dissemination workshop for staff member of RJKIP was organized at the time of inception. Moreover, the existing process and practices of staff transfer does not allow for an effective handover to the incoming officer; and there is no functional information management system at PIO to access so as to provide continuity for any process started or used earlier. To cope with the issues, the PIO should organize periodic orientation events on project implementation Occupational Caste to newly transferred staff including orientation on Safeguards (social and environment) and Gender Equality and Social Inclusion (GESI) on regular intervals.
- A set of project information brochures was published and distributed as a part of communication. Moreover, publication of two irrigation news bulletin were completed during the phase -I activities. Similarly, under agriculture development support, information on improved agriculture operation was disseminated through the publication of leaflet broacher and newsletter, six types of leaflet and broacher were published and distributed. All these materials were published in Nepali language only.
- Specific awareness program targeting to the women member of Rani, *Jamara* and *Kulariya* irrigation canals was organized. five members from each canal attended the training. However, discussing with participant during FGD revealed that the effects are limited because the

participants were not properly trained on playing effective roles in information sharing and acting as a go between the WUA and their village's women and men.

- During the discussion with WUA and joint observation of the newly constructed structures, it was found that even the key representatives of WUAs were thoroughly confused on the functioning of structure being constructed as well as how existing irrigation practices will have to transmute into new one. This might be due to inadequate interaction and discussion with WUAs on proposed design and function of modern structures.
- Low literacy and wide differences in educational level between males and females; lack of information sharing culture; utilization of limited means of communication in selected language was some of the key barriers limiting the effectiveness of communication strategy.
- The social institutional and environment section at PIO is responsible to execute the activities related to information and communication. The section is headed by the senior sociologist deputed by the DOI. During the implementation of phase I activities the position was suffering from regular discontinuation. The position was fulfilled in early 2012 and was continued for less than a year. Later on, DOI assigned another sociologist who spent around two years in the project and then after pulled back to the DOI. After the gap of more than a year, the same professional assigned again towards the end of year 2016. During this gap, none of the communication activities were carried in the project.
- The Social Assessment found that despite a wide variety of communication tools and methods available, the current mechanism limited to community/ mass meeting or person to person information flow. Local social activists, women leaders, NGO program, recently elected leader in rural municipality, CSOs, CFUGs are also identified as potential information disseminating sources.
- There was no practice of using selective tool for different target groups with different socio economic and cultural backgrounds. There was no special effort put on addressing and reaching out to the audiences on the basis of literacy status, gender, language, identity (such as Indigenous People) and disadvantaged/vulnerable groups (such as *occupational caste*, and landless depending more on the local common property resources).

6.2 STAKEHOLDER PERCEPTION

The study team felt that WUA members and Badghars have a good understanding on their own division of responsibility in the context of the RJKIP. Though less than one third project beneficiaries those consulted seem aware of the phase II of the project. The study team noted that majority of the local people have positive perceptions toward the project activities and they expressed their willingness and commitment to involve and participate in the project and to make it success. (See **Annex 5**). The participants of the discussion believed all indigenous practice of canal operation will be adopted even after the modernization of the irrigation system.

Project beneficiaries including WUA members were knowledgeable on likely positive impact of the project in detail. The positive outcome is increased productivity in the area and increased employment opportunities at local level. Most users are excited about the prospect of growing three or four crops a year. Similarly, even small landholders, who make up the largest group, said that they could produce a lot of seasonal and off-seasonal vegetables, which they could sell in the town of Tikapur.

The participants further expressed their view on likely impact of intervention on the existing Badghar system. The participants were aware of the fact that Badghar have been integrated in the WUA

governance structure, and have the same responsibility, hence in their opinion and experience the modernization process will not negatively affect the social system associated with Badghar.

Similarly, local government agencies, project stakeholders and local NGO appreciated for the project efforts in developing functional coordination and collaboration among the project stakeholders and harmonious working culture in the project.

During the FGD at Durgali of Jamara Irrigation System, the participants expressed their concern over the in-sufficient consultation with local farmers during the survey and construction of the irrigation canals in phase I. They added further more about the issue of clear demarcation of irrigation canals water logging, siltation, undomesticated livestock (damage of agricultural crops) problems and solid waste management issues particularly in Tikapur Bazaar area.

7. RECOMMENDATIONS – MITIGATING MEASURES

Following recommendations have been made as mitigating measures to be adopted by the project during the project phase II implementation:

7.1 GENDER AND SOCIAL INCLUSION

The assessment highlighted the issue of low representation of women and other vulnerable groups (including landless and marginal farmers) in WUA governance and project cycle owing to lack of access to information, poor leadership quality, gender disparities, increased workload of female headed households, limited access to services. A Vulnerable Community Development Plan (VCDP) should be developed to address these issues ensure that the project benefits are culturally appropriate and sustainable. Among others, VCDP will include:

- Measures to ensure free, prior and informed consultation with Indigenous Peoples and other vulnerable groups during throughout the project cycle
- Measures to create enabling environment for participation in the project activities
- Capacity support activities like leadership trainings targeted to vulnerable groups

To address the specific issues of gender, a Gender Action Plan should be developed.

7.2 INSTITUTIONAL STRENGTHENING OF SOCIAL ENVIRONMENTAL AND INSTITUTIONAL UNIT OF THE PROJECT

For effective implementation of RJKIP-II, it is suggested to capacitate the existing social environment and institutional unit at PIO for all social and environmental safeguard oversight, management, coordination and capacity building. Moreover, the unit has to be equipped with qualified social and environmental safeguard personals with enough capacity building training in the field of: (i) screening prospective project for impacts of IR and impacts on IPs & vulnerable groups; (ii) safeguard plan preparation and appraisal; (iii) plan monitoring; and (iii) reporting. Similarly, it is important that DOI makes effort to train the relevant project staff on management of social issues, provide guidance to explain WB's and GoN's social safeguard obligations, their importance, and benefits and encourage them to build requisite capacities. In addition to this extensive social mobilization will required during system improvement. One effective option to fulfill the existing human resource gap could be providing TOT on the process and procedures for social mobilization in the RJKIP context.

7.3 LAND ACQUISITION AND RESETTLEMENT

The proposed infrastructure activities under phase 2 may require small plots of land, have impacts on structures that may require relocation and have livelihood impacts. Since the final technical design of the difference components of the project is not available to understand the nature and scale of social impacts a Resettlement Planning Framework should be prepared to guide planning to address such possible impacts of land. During implementation of the project each system/schemes or infrastructure activities planned under RJKIP will have to be screened against the set criteria specified in Resettlement Planning Framework prepared on the basis of both GON and the WB safeguard policy provisions. After analyzing the collected information, appropriate mitigation measures are to be adopted accordingly.

The social impact assessment of pilot schemes indicated that there will be no land acquisition and associated impacts thus a separate Resettlement Action Plan required. **(See Annex 5)**. However, during implementation of these pilot schemes, implementation if any loss or impact on private asset is noted then the project would have to manage such cases as per this RPF.

7.4 LABOR INFLUX MANAGEMENT

Following mitigation measures are recommended:

- Reduce labor influx by tapping into local workforce
- Incorporate social and environmental mitigation measures into the civil works contracts
- Adopt worker code of conduct with associated penalties for violation
- Establish a functioning sub-project level Grievance Redress Mechanism (GRM)
- Transparent and effective local community engagement and participation throughout life of the project.

7.5 CONSULTATION AND INFORMATION DISSEMINATION WITH THE LOCAL COMMUNITIES AND PROJECT BENEFICIARIES

Based on the review of communication strategies adopted by the project during phase 1, the following strategies for phase-II of the project have been recommended:

- Mobilization of the women representatives or educated women/girl from the *Occupational Caste*, or indigenous community for social mobilization and communication for specific target group/community. Use of poster visualizing message will be adopted for those communities where literacy rate is below the average.
- Utilization of existing indigenous communication structure "Chiragis" which is widely used and effective in communicating the message relating to resource mobilization in RJKIP area. This will be very effective to communicating with the primary stakeholders, the beneficiaries.
- Defined key message for various stakeholders according to their level and need during particular stages of project implementation. A dedicated unit to look after the communication affair at PIO has to be established and made responsible for ensuring the efficient transparent/ flexible system to respond to the queries/ concerns of the stakeholders
- Use of the local FM are very effective and widely listen by the rural people as radio with FM frequency are available in cheaper price as well as can be listen in simple mobile phone. It is believed that the local FM broadcast their program in local languages in a more effective way than other means of communication
- Organize period workshop to aware and orient project official on GESI, issues of vulnerable community and other social concerns which are integral part of the project.

7.6 CAPACITY BUILDING AND INSTITUTIONAL STRENGTHENING OF WUAs

After the implementation of modernization and command area development activities, the WUAs are supposed to assume O&M responsibilities in a more technical and professional manner than that of the present mode of resource mobilization, that is largely limited to silt excavation for water diversion. For this reason, existing capacity of WUA need to be enhanced and make them capable of formulation and implementation of adequate Operation & Maintenance (O&M) plans, setting of irrigation service fees, maintaining proper record of maintenance and other accounts, establishing in-house participatory monitoring mechanism including the optimization of on-farm water management practices for enhancing the efficiency of the improved irrigation system. During the phase-I, about 53 training programs were organized in various subjects related to the capacity development of WUA. These programs were attended by 1548 participants of which 22% were female. The following three-pronged approach is proposed for Phase II.

- a) Awareness raising on the utilization of improved infrastructures during the meetings and site visit by project staff, consultants
- b) Formal training based on need assessment carried towards the end of phase I
- c) Technical assistance in crafting bye-laws, water distribution plan; O& M plan; ISF collection strategy etc.

These activities are to be implemented as per the scheme specific institutional development plan to be prepared detailing the activities with time frame.

Following the above approach, WUAs capability must be strengthened in the areas of WUAs institutional strengthening, group management, record keeping, irrigation water management and allocation, revenue generation and management plan, government policies and plan on irrigation sector, monitoring, and operation and maintenance of the irrigation system. Potential areas of capacity building of WUAs are presented below in the **table 20**:

Table 20: Recommended Activates for capability enhancement of WUAS

SN	Broad Theme	Possible areas/activities
1.	Institutional strengthening of WUAs	<ul style="list-style-type: none"> • Irrigation user membership expansion and management of irrigation services fee • Organizing regular meeting of WUA executive committees and assembly • Preparation of constitution of WUAs/irrigation committee and registration and renewal process • Planning process including development of annual plan • Public auditing and public hearing • Financial management • Record keeping • Revenue generation plan • Leadership development • Monitoring and reporting • Coordination with other stakeholders • Cooperatives development and management
2.	Exposure visits of lead farmers of WUAs	<ul style="list-style-type: none"> • Water management and allocation • Operation and management of irrigation system • Conflict and disputes management
3.	Social inclusion and social mobilization	<ul style="list-style-type: none"> • Selection of social mobilisers mobilization • Monitoring and reporting • Group management and good governance • Gender and social Inclusion • Awareness on social and environmental issues and possible mitigating measures
4.	GoN policies and procedures	<ul style="list-style-type: none"> • Irrigation and agriculture related policy, acts and regulations

The approach of developing a group of trained people in WUA through Training of Trainers (ToT) in phase I seem effective so it is recommended to continue the approach in Phase II with focus to branch and sub-branch WUAs. Then branch and sub branch WUAs to provide trainings to the users committee of their respective area.

An important and significant component of the training plan is experiential training through study tours. The lack of exposure to new ideas, best practice and emerging issues could be a major stumbling block to progress including inhibit innovation and free thinking. It is advised to organize study tours giving priority to experiential learning emphasizing on regional study tours that are effective to broaden the development vision and off-set the perceived limitations.

Currently, the project has been supporting for the institutional strengthening of the WUAs with technical as well as financial inputs regardless of their performance and contribution in achieving the project objectives. To ensure the contribution of the project and WUA in achieving the project objectives and motivate towards best performance, it is recommended to introduce a performance based support mechanism to WUAs by the project with developing annual performance indicators and performance contract with the main WUA and three branch WUAs.

Revenue Generation and Maintenance of the Irrigation System

There is a big gap between the revenue generated from the irrigation service fee and costs required to maintain the irrigation system. This may be the challenge to WUA once the system is handed over to the WUA formally. Following measures are further recommended:

- A strategy to be adopted by the WUAs so that farmers have capacity and are willing to pay the revenue with expanding the membership and generating the revenue from the irrigation service fee for the maintenance of the systems.
- Promotion of cultural, agriculture and nature tourism in the areas to increase revenue generation for the WUA. Establishment of irrigation museum is recommended.
- In the context, Deshwar is assumed still will be practiced even after modernization efforts, particularly after government component starts, develop the RJKIS as a research hub for the researcher that is interested in "Deshwar" as it is unique system and requires beneficiaries to contribute their labor under Chaudhari System.

7.7 INSTITUTIONAL LINKAGE AND COORDINATION WITH LOCAL GOVERNMENT

Since the local elected government is already in place with overall responsibilities of local development and providing basic service to local people, the project needs to develop institutional linkage and coordination with local government specifically for following issues:

- Monitoring of the project through LEMC
- Urbanization in command area of the project
- Management of feral cattle (Bangai)
- Waste management in the urban areas from where the irrigation canals pass and
- Excavation of sand, gravel and sands from the canals/command areas

7.8 PARCEL MAPPING FOR WATER MANAGEMENT AND DISTRIBUTION

Effective management and allocation of water at lower tertiary level is crucial for success of the project. Further, it is directly linked with sustainability of the scheme with generating fair level of revenue through the irrigation service charge for maintenance and operation of the Kulos. Disputes among the farmers may arise if the water allocation system is not transparent and unsystematic. In this context, a well-defined criterion to developed by the project for the water allocation in close coordination with the WUAs and irrigations committee. Thus, to start with, it is recommended to prepare parcel mapping of each Kulo for systematic and effective management of water at lower tertiary level.

7.9 COMPOSITION OF THE LOCAL ENVIRONMENT MONITORING COMMITTEE

The existing LEMC needs to be reformed for its effectiveness. Reshuffling current LEMC under the leadership of local government representative would make the system more functional and robust. The other members of the LEMC shall be representatives from DADO, DFO, main WUA, RJKIP, CSOs, NGOs and Federation of Nepalese Chambers of Commerce and Industries (FNCCI). The monitoring by the LEMC to be regularized with at-least 4 times a year.

7.10 INDEPENDENT THIRD-PARTY MONITORING

Independent third-party monitoring is essential element to enhance the performance of a project so it is recommended to retain this provision in Phase II too. The independent third-party monitoring agency to be commissioned by the RJKIP in coordination with the DoI and WB.

7.11 LEGAL ENTITLEMENT OF THE IRRIGATION CANALS

Legal entitlement of the irrigation canals (branch and sub-branch level) exists in some places of the RJKIP command areas. Though, local communities did not identify it as a big concern as traditionally, the ownership of land under irrigation canals belongs to the community rather than to individuals, it is recommended to assess the extent and implication of the issues and address it as early possible to ensure smooth implementation of the project.

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ANNEX 1: CHECKLIST FOR STAKEHOLDERS CONSULTATION

RJKIP Team

- a) Overview of the project, status and plan
- b) What are the major environmental and social issues in the project areas? What the major gaps are you find especially in Phase I activities (adequacy, change in emerging issues) and what would be in phase II activities?
- c) Who are the major stakeholders of project? What the role they are being performed and what will be in future?
- d) What is the benefit sharing mechanism - up stream and down- stream communities?
- e) The extend of the siltation problem.
- f) What is the water allocation system exist? Please explain about it?
- g) What about the capacity of WUAs in project management?
- h) Potential project impacts both positive and adverse on IPs?
- i) Possible obstruction of foot trails, bridge etc during construction and what about vehicular movement and related risks?
- j) What are the influx of outside people and socio cultural risks in the project areas?
- k) What will be the Land acquisition process and willingness to give land property for the project?
- l) What would be the better compensation option for the land (cash, Land, Other)?
- m) What would be mitigation plan to minimize the issues and challenges?
- n) What could be the best options for livelihoods and why? (vulnerable communities, affected people, indigenous people)
- o) What could be the best support from the GOs, I/NGOs and project to enhance their capacity of the project affected households, adivasi Janajati and vulnerable groups?
- p) What could be the best imparting commercial vegetable production training and providing backstopping supports?
- q) What could be the best skill training to enhance the employment opportunities for affected people on construction works of project?
- r) What are the measures implemented in phase I?
 - Procedure and mechanism to enhance the employment of project affected HHs, local people and other vulnerable groups in unskilled job categories
 - i. Recruitment eligibility (people from project – affected area, followed by other local residents.
 - ii. A requirement (The minimum age requirement in the public sector should be applied to avoid child labor).
 - iii. Recruitment and selection procedures to be followed by the contractors and sub-contractors.
- s) What is the status to establish of a database of job seekers from the project affected HHs.
- t) What is the status of job advertising and recruitment procedures?

1. District Forest Office (DFO)

- a) What are the major environmental and social issues in the project areas?
- b) What are the forest and bio-diversity issues in the project areas?
- c) What is the statue of community forest in the project areas? Buffer zones user groups and any other user groups exist in the areas?
- d) What is the status of the compensation plantation – status, survival rate, species selection, technical aspect of the plantation, nursery and availability of seedlings? If survival rate is low – what are the reasons?
- e) What is the scope of plantation in the district – location, tentative areas, government managed forest, CFs, public land, what are the preferred species for the plantation?
- f) How to ensure reasonable survival rate of plantation? Your suggestions.
- g) What would be mitigation plan to minimize the social issues and challenges?

2. District Agricultural Office (DADO)

- a) What are the major environmental and social issues in the project areas?
- b) Season wise intercropping practice in the project areas?
- c) What is the production per unit land for each crop in the district/project areas?
- d) Practice and extend of using fertilizers currently by the farmers? What is the approximate quantity of use in a year by an average farmer household?
- e) What about the use of pesticide in the district and project areas? Types of pesticide used and quantity used by a farmer.
- f) What will be the potential exists for vegetable and horticulture or other agro-based economic opportunity?
- g) Land tenure, land holding, land use and farming practices in the district and the project areas?
- h) What would be the possible mitigation measure to address the social issues?

3. Agro-vet shops

- a) What is the current scenario about the use of pesticide in the district especially in project area?
- b) Name, types and quantity of pesticide used by farmer households in the project areas. Volume of pesticide used in current situation?
- c) What the trading status? Is it legal or illegal?
- d) Is there any ban pesticide used by the farmer or sold by agro-vet?
- e) Have you found any negative impact of the pesticides to human health, wildlife and land? If yes, what are these?
- f) Your suggestion to minimize negative impact of the pesticides?

4. Water Users Associations (WUAs)

- a) Please explain about the Governance structure of WUA? Is it effectiveness in terms of performance, management capacity?
- b) What is the role of WUAs to manage water distribution/ water allocation, benefit sharing (up-stream & down- stream) and other management aspects of Irrigation system?
- c) What is the status of capacity of WUAs to manage the system in future? Do you have any plans or programs in these aspects?
- d) Sustainability aspect of the project? Do you have any plans and programs?
- e) What are the EMP implementation status – gaps, new opportunities, what are implemented and what not?
- f) Please brief about the gaps of the phase I activities?
- g) Effectiveness of the resource and training provided to WUA:
 - Whether the training were relevant and appropriate
 - Whether it is applied or not – use of the knowledge and skills
 - Selection of right persons for the trainings
- h) sustainability of the WUA – possible options – cooperative, factors that contribute to the sustainability of the irrigation management system,
- i) Potential project impacts – both positive and adverse – on IPs?
- j) How to improve and sustain access and related benefits to local communities - education, health, and economy in agriculture after the project.
- k) Urbanization of the project areas and the siltation issues.
- l) How the traditional and modern institutional arrangement for irrigation management operates and coexist;
- m) Right, responsibilities and obligation of water users committee members including evaluation of degree of broad community support and specific areas of potential opposition and conflict
- n) Temples in the project area and its religious significance, key festival in the project area and historical and touristic significance in the area?
- o) What are the other major environmental and social issues in the project areas?

p) What would be the possible mitigation measures?

5. Local government

- a) Potential impacts of the project to the local community and ecology – both positive and adverse
- b) EMP implementation status
- c) Land tenure, land holding, land use and farming practices in the project areas?
- d) Role local government in the project?
- e) Effectiveness of the role of WUA and irrigation users committee?
- f) What are the potential impacts of the project to local people?
- g) How the traditional and modern institutional arrangement for irrigation management operates and coexists?
- h) Specific areas of potential opposition and conflict
- i) Views and opinion towards the operation of the project?
- j) Your views and suggestions to the project

6. Focus group discussion

- a) What are the potential impacts of the project to the local community and ecology – both positive and adverse
- b) EMP implementation status
- c) Land tenure, land holding, land use and farming practices in the project areas?
- d) What is the water allocation system and benefit sharing mechanism?
- e) What are the potential impacts of the project to them?
- f) How are they likely to be affected by the project?
- g) How they use community resources, how their access to resources is organized, how they organize themselves?
- h) How different groups are represented in decision-making process?
- i) Have you found any negative impact of the pesticides to human health, wildlife and land? If yes, what are these?
- j) How the traditional and modern institutional arrangement for irrigation management operates and coexist;
- k) Specific areas of potential opposition and conflict
- l) Views and opinion towards the operation of the project?
- m) Your views and suggestions to the project
- n) What could be the best options for livelihoods and why? (vulnerable communities, affected people, indigenous people)
- o) What could be the best support from the GOs, I/NGOs and project to enhance their capacity of the project affected households, adivasi Janajati and vulnerable groups?
- p) What could be the best imparting commercial vegetable production training and providing backstopping supports?
- q) What could be the best skill training to enhance the employment opportunities for affected people on construction works of project?

7. Women

- a) What are the key problems faced by the women in the community? Please specify.
- b) What could be the specific measures (grants & skill training or any other) to undertake economically viable and sustainable incomes/employment generating activities for women development (Based on local Resources)?
- c) What are the main project impacts – both positive and negative to women?
- d) What could be the capacity enhancing assistance provided to women?
- e) What the activities could be launched/organized to increase women's integration into social and economic mainstream?
- f) How to strengthen the capacity of women?
- g) In what way/approach to enable you for meaningful and effective participation in the project activities?

8. Displaced Households (17 displaced households)

- a) Current location, locations of IPs and other vulnerable communities in the project area, total population
- b) Existing livelihoods strategies and options
- c) What support was received from the project earlier?
- d) What are the new livelihoods opportunities and expectation from the project - capacity enhancement / skill development, livelihoods support,
- e) What are the potential impacts of the project to them?
- f) Views and opinion towards the operation of the project?
- g) Your views and suggestions to the project
- h) What could be the best options for livelihoods and why?
- i) What could be the best support from the GOs, I/NGOs and project to enhance their capacity of the project affected households, adivasi Janajati and vulnerable groups?
- j) What could be the best imparting commercial vegetable production training and providing backstopping supports?
- k) What could be the best skill training to enhance the employment opportunities for affected people on construction works of project?
- l) What are the measures implemented in phase I?
 - Procedure and mechanism to enhance the employment of project affected HHs, local people and other vulnerable groups in unskilled job categories
 - i. Recruitment eligibility (people from project – affected area, followed by other local residents.
 - ii. A requirement (The minimum age requirement in the public sector should be applied to avoid child labor).
 - iii. Recruitment and selection procedures to be followed by the contractors and sub-contractors.
- m) What is the status to establish of a database of job seekers from the project affected HHs.
- n) What is the status of job advertising and recruitment procedures?

9. Local Environmental Management Committee (LEMC)

- a) Composition, role and function of LEMC? Its effectiveness? What needs to be changed in the Composition, role and function of LEMC?
- b) Indicators for monitoring
- c) What is the implementation status of EMP? What are implemented and what not? What are the gaps and new opportunities?
- d) What is the tenure, land holding, land use and farming practices in the project area?
- e) How the traditional and modern institutional arrangements for irrigation management operate and coexist?
- f) What are the major social and environmental issues in project areas? What could be the possible mitigation measure?
- g) Role of LEMC in new governance structure – linkage with local government?

10. Bardiya National Park

- h) What are the major social and environmental issues in the project areas?
- i) EMP implementation status
- j) Status of bio-diversity hotspots, threaten habitat, mammal diversity, habitat types, migratory corridors in the district and project areas?
- k) Compensation plantation – status, survival rate, species selection, technical aspect of the plantation, nursery and availability of seedlings and If survival rate is low – why?
- l) Scope of plantation in the buffer zone areas?
- m) What are the major social and environmental issues in project areas? What could be the possible mitigation measures to address the social and environmental issues?

11. Key informant – School teacher, local leader, Badghar (Tharu Leader in the community) etc

- a) What are the potential impacts of the project to the local community and ecology – both positive and adverse
- b) What is the tenure, land holding, land use and farming practices in the project area?

- c) How the traditional and modern institutional arrangements for irrigation management operate and coexist?
- d) How to improve and sustain access and related benefits to local communities - education, health, and economy in agriculture after the project?
- e) What are the major social and environmental issues in project areas? Urbanization of the project areas and the siltation issues?
- f) What could be the possible mitigation measure?
- g) Views and opinion towards the operation of the project?
- h) Your views and suggestions to the project

12. Community forest user groups (CFUGs)

- a) Please describe about major activities of CFUGs.
- b) What are the major environmental and social issues in the areas?
- c) Please brief the issues like compensation plantation – status, survival rate, species selection, technical aspect of the plantation, nursery and availability of seedlings, If survival rate is low – then why ?, scope of plantation in CF – potential sites and possibility of establishing nursery in CFUGs.
- d) How to ensure reasonable survival rate of plantation?
- e) Is it technical skills required?
- f) Please tell the preferred species if you have (local communities)?

13. Indigenous/ vulnerable community

- g) What are the main acute problems faced by the vulnerable communities? Please specify.
- h) What could be the appropriate repair and maintenance training?
- i) What could be the specific measures (grants & skill training) to undertake economically viable and sustainable incomes/employment generating activities of vulnerable community development (Based on local Resources)?
- j) What the specific program could be prepared/ implemented to minimize adverse impacts while maximizing projects benefits to indigenous communities?
- k) What are the main project impacts – both positive and negative?
- l) What the expectations are to be fulfilled from the project/contractors especially in employment and any other assistance?
- m) What could be supplementary infrastructure facilities developed/provided for Occupational Caste HHS (latrine, drinking water facilities)?
- n) What could be the assistance program developed, especially for vulnerable indigenous community HHS in order to promote their income opportunities?
- o) What could be the support needed for indigenous communities /organizations to protect and preserve their indigenous cultures, language and traditions?
- p) How to involve vulnerable and indigenous people in the planning and development process?
- q) What are your understanding /view on needs, priorities, and preference regarding the project implementation (assess the project impacts and benefits)?
- r) In what way/approach to enable you for meaningful and effective participation in the project activities?
 - How to represent of affected people /vulnerable groups on implantation structures
 - How to grievance management system for the resolution of grievances and disputes?
 - How monitoring and evaluation mechanism to track implementation issues?
 - how to disseminate / appropriate means of communication(communication/information dissemination mechanism)
- s) Entitlements for the loss of private assets (land, trees and other assets)
- t) Entitlements for the loss of communal resources and
- u) Entitlement eligibility criteria.

14. Grievance Redress Mechanism

- a) What will be the complains and grievance procedures (mechanism)?
- b) What will the key functions of the grievance redress mechanism?
- c) What will be the time frame to redress the grievance?

ANNEX 2: LIST OF INDIVIDUAL AND STAKEHOLDERS CONSULTED

Focus Group Discussion - Jamara Irrigation System

Women Group:

Date: 2074/04/31

S.No.	Name	Designation	Address	Contact No.
1	Dila Kumari Tamata	Beneficiaries, Jamara	Janaki – 3, Layakpur	98485770470
2	Jenisa Tamata	Beneficiaries	Janaki – 3, Layakpur	9815604129
3	Laxmi Chalaune	Secretary, Layakpur CFUG	Janaki – 3, Layakpur	9868864410
4	Gita devi Luhar	Beneficiary	Janaki – 3, Layakpur	
5	Jasara Sarki	Beneficiary	Janaki – 3, Layakpur	
6	Sita Chaudhary	Member, Jamara Kulo	Tikapur – 3, Puchhari	9814642528
7	Sumitra Chaudhary	Member, Jamara Kulo	Tikapur – 1, Rajipur	9800612725
8	Puspa Chaudhary	Beneficiaries	Janaki – 3, Layakpur	981263433
9	Ratna devi Chaudhary	Beneficiaries	Janaki – 3, Layakpur	9804698157
10	Rajrani Chaudhary	Member	Tikapur – 1, Rajipur	9804670652

Male Group:

Date: 2074/04/31

S.No.	Name	Designation	Address	Contact No.
1	Dhana Bdr. Saud	Chairman, Bhagatpur Kula		9848491696
2	Ruplal chaudhary	Badghar, Rajipur	Rajipur	9811671242
3	Maniram Devkota	Secretary, Bhagatpur Kula	Bhagatpur	9848403873
4	Niraj Chaudhary	Badghar, tikapur	Tikapur	
5	Gangaram Chaudhary	Farmer	Tikapur	
6	Chinku Chhaudhary	Badghar, Bhagriya	Bhagriya	9800653086
7	Janjirral Chaudhary	Badghar, Dasgharuwa	Dasgharuwa	
8	Ramesh Chaudhary	Badghar, Mukta Kamaiya Tole	Mukta Kamaiya Tole	9848562524
9	Man Bahadur Chaudhary	Secretary, Jamara Kula	Gyani kula	

WUA members

Date: 2074/04/31

S.No.	Name	Designation	Address	Contact No.
1	Lalbir Chaudhary	Chairman	Janaki-6, Jagatpur	9848613229
2	Amar Mahato	Vice- chairman	Tikapur -3, Ghiya	9811623935
3	Man Bahadur Chaudhary	Secretary	Janaki-3, Subarnapur	9848562524
4	Tej Bahadur Chaudhary	Treasurer	Tikapur-1, Bangaun	9848467313
5	Harihar Giri	Member	Janaki – 3, Layakpur	98688312
6	Bhadrabir Chaudhary	Member	Janaki – 3, Toraiyapur	9749599847
7	Baliram Chaudhary	Member	Janaki – 7, Tikulighad	9815669426
8	Bir Bahadur Ghartimagar	member	Tikapur – 1, Bipatpur	9851154328
9	Sita Chaudhary	Member	Tikapur -3, Puchhari Tole	9814642528
10	Rajrani Chaudhary	Member	Tikapur -6, Beluwabojhi	9804670652
11	Sumitra Chaudhary	Member	Tikapur – 1, Rajipur	9800612625
12	Bajir Singh Janala	Farmer	Tikapur -3, Shankarpur	-

Focus Group Discussion - Kulariya Irrigation System

Male Group

Date: 2074/04/30

S.No.	Name	Designation	Address	Contact No.
1	Tek Bdr. Thapa	Member	Amarwati	98688640088
2	Ranga Prasad Bhat	Member	Khairiphanta	9848538667
3	Dandi Prasad Jaisi	Beneficiary	Bhakriya	9865798579
4	Bisnu Devkota	Beneficiary	Bandevipur	98486032341
5	Bhajanlal Tharu	Beneficiary		
6	Janak Thapa	Beneficiary	Bandevipur	9868728689

7	Chatra Bista	Beneficiary	Bandevipur	9841886251
8	Rajendra Bdr. Chaudhary	Member	Bandevipur	9848416001
9	Man Bdr. Khadka	Badghar	Bandevipur	
10	Indra Raj Upadhaya	Member, Kulariya Kual	Pahadipur	9865646002
11	Prem Raj Sharma	Badghar	Bhagriya	9865806175
12	Mohan Prasad Chaudhary	Badghar, Bhagriya Kula	Badkapur	9749006134
13	Rati Ram Bhatta	Chairman	Bhagriya Kula	9848657973
14	Netra Prasad Jaisi	Member, Kulariya Kula	-	9858426636

Women Group

Date: 2074/04/30

S.No.	Name	Designation	Address	Contact No.
1	Somati Chaudhary	Treasurer	Janaki -1, Durgauli	9811606365
2	Kalpna Sapkota	Member, Bhoksi kula	Janaki -8, Pahadipur	98688224893
3	Rupa B.K.	Beneficiary	Janaki -8, Bhagraiya	9800664132
4	Manna B.K.	Member , Bhagriya kula	Janaki -8, Bichkitole	9814689413
5	Radhika Dhama	Beneficiary	Janaki -8, Purbatole	
6	Gauridevi Neupane	Beneficiary	Janaki -8, Paschimtole	
7	Shanti Kumari Chaudhary	Member Kulariya Kula Branch	Janaki -2, Khagrauli	9811681325

Water Users Association Kulariya Kulo

Date: 2074/04/30

S.No.	Name	Designation	Address	Contact No.
1	Rabilal Chaudhary	Chairman	Amarwati	9865615350
2	Mohan Prasad Chaudhary	Badghar, Bhagriya Kula	Badkapur	9749006134
3	Sher Bdr. Chaudhary	Beneficiary	Bhagriya	9812602666
4	Sait Bdr. Chaudhary	Farmer	Bhagriya	9868441565
5	Mitu Tharu	Former, Ward, Coordinator	Bhagriya	
6	Tek Bdr. Thapa	Member	Amarwati	98688640088
7	Ranga Prasad Bhat	Member	Khairiphanta	9848538667
8	Rajendra Bdr. Chaudhary	Member	Bandevipur	9848416001
9	Netra Prasad Jaisi	Member	-	9858426636
10	Shyam Prasad Chaudhary	Parsad, Member	Bhagriya	98485945

Focus Group Discussion – Rani Irrigation System

Women Group: Occupational Caste

Date: 2074/04/28

S.No.	Name	Designation	Address	Contact No.
1	Parbati Nepali	Member, Rani branch	Tikapur Municipality – 5, Simreni	9814681074
2	Dipa Sunar	Beneficiaries	Tikapur Municipality – 5, Simreni	9800720762
3	Laxmi BK	Member, Rani Kulo	Tikapur Municipality – 5, Simreni	9824656912
4	Kalpna BK	Beneficiaries	Tikapur Municipality – 5, Laxinapur	9848492464
5	Anita Sunar	Beneficiaries	Tikapur Municipality – 5, Simreni	-

Women Group: Hill Janajati (Magar)

Date: 2074/04/28

S.No.	Name	Designation	Address	Contact No.	Remarks
1	Sita Ghartimagar	Beneficiaries	Tikapur Municipality – 5, Simreni	9815612411	
2	Sabitri Gurung	Beneficiaries	Tikapur Municipality – 5, Simreni	9812690412	
3	Dil Kumari Punmagar	Beneficiaries	Tikapur Municipality – 6, Simreni	9814681325	

Male Group

Date: 2074/04/28

S.No.	Name	Designation	Address	Contact No.
1	Mangal Punmagar	Member, Rani Kulo	Tikapur Municipality – 6, Simreni	9848536250
2	Jaman BK	Chiraki, Tertiary Rani Kulo	Tikapur Municipality – 6, Simreni	9811674117
3	Dambar Ghrti	Badghar, South Simreni Kula Samiti	Tikapur Municipality – 7, Sati	9848462190
4	Fulram Chaudhary	Secretary, Rani Kula	Tikapur Municipality – 7, Beluwa	9814670598
5	Dilbar sunar	Badghar, North Simreni	Tikapur Municipality – 5, North Simreni	98006053
6	Shersingh Rijal	member	Tikapur Municipality – 7, South Simreni	9848557179

Women Group: Terai Janajati (Tharu)

Date: 2074/04/28

S.No.	Name	Designation	Address	Contact No.
1	Sushila Chaudhary	Beneficiaries	Tikapur Municipality – 6, Laxinapur	9815612411
2	Anita Chaudhary	Beneficiaries	Tikapur Municipality – 6, Laxinapur	
3	Saguni Chaudhary	Beneficiaries	Tikapur Municipality – 6, Laxinapur	9848492464
4	Ramkrishni Chaudhary	Beneficiaries	Tikapur Municipality – 6, Simreni	9848537496
5	Kamala Chaudhary	Beneficiaries	Tikapur Municipality – 7, Padampur	
6	Pardeshni Chaudhary	Beneficiaries	Tikapur Municipality – 7, Padampur	
7	Jugmani Chaudhary	Beneficiaries	Tikapur Municipality – 7, Padampur	
8	Binita Chaudhary	Beneficiaries	Tikapur Municipality – 7, Sati	981262497
9	Salesa Chaudhary	Beneficiaries	Tikapur Municipality – 7, Sati	9812606717

Water Users Association - Rani Kulo

Date: 2074/04/30

S.No.	Name	Designation	Address	Contact No.
1	Damodar Khadka	Vice chairman MCC	Rani Kulo	9841301559
	Sripal Chaudhary	Chairman, Rani Kula	Tikapur- 7, Beluwa	9848453714
2	Fulram Chaudhary	Secretary, Rani Kulo Branch	Tikapur- 7, Beluwa	9814670598
3	Bir Bdr. Khatri	Treasurer, Rani Kulo Branch	Tikapur - 8	9848638853
4	Dambar Gharti	Badghar, South Simreni	Tikapur- 7, Sati	98488462190
5	Kuber Bdr. Rawal	Beneficiary	Rani Kula	
6	Mangal Pun Magar	Member, Rani Kula Branch	Tikapur- 6, Simreni	9848536250
7	Parbati Nepali	Member, Rani Kula Branch	Tikapur-5, Simreni	9814681074
8	Gyanu Thapa Adhikari	Member, Rani Kula Branch	Tikapur- 7, Sati	9868441138
9	Sitaram Chaudhary	Member, Rani Kula Branch	Tikapur - 1	9812648497

ANNEX 3: NAME LIST OF THE WUAS

RJKIP WUA Main Coordination Committee (MCC)

S.No.	Name	Designation	Sex	
			Male	Female
1	Kumar Raj Shahi	Chairman	Male	
2	Damodar Khadka	Vice-chairman	Male	
3	Parsuram Mahato	Secretary	Male	
4	Kirti Bahadur Rokaya	Treasurer	Male	
5	Bhakta Bahadur B.K.	Joint-Secretary	Male	
6	Rabilal Chaudhary	Member	Male	
7	Labir Chaudhary	Member	Male	
8	Shreepal Chaudhary	Member	Male	
9	Tej Bahadur Bista	Member	Male	
10	Tirtha Raj Upadhaya	Member	Male	
11	Sanchu Ram Chaudhary	Member	Male	
12	Gulab devi Chaudhary	Member		Female
13	Sushiladevi Chaudhary	Member		Female
14	Punsidevi Chaudhary	Member		Female
15	Vidhayadevi Chaudhary	Member		Female
16	Janaki Chaudhary	Member		Female
17	Muktidharadevi Chaudhary	Member		Female
18	Sitadevi Rawat	Member		Female
19	Laxmidevi Chaudhary	Member		Female
20	Kirparam Binari	Member	Male	
21	Gopal Giri	Member	Male	
22	Jhapat Singh Rawal	Member	Male	
23	Bhakta Bahadur Magar	Member	Male	
24	Lautan Tharu	Member	Male	
25	Bhoj Bahadur Chaudhary	Member	Male	
26	Tej Sankar Bhatta	Member	Male	
27	Rameswor Prasad Regmi	Member	Male	
28	Janak Kumar Chaudhary	Member	Male	
29	Jit Bahadur Chaudhary	Member	Male	
30	Total		21	8

1. RaniKula Water Users Association (WUA)

S.No.	Name	Designation	sex	
			Male	Female
1	Sripal Chaudhary	Chairman	Male	
2	Kallu Chaudhary	Vice-chairman	Male	
3	Bir Bahdur Khatri	Treasurer	Male	
4	Fulram Chaudhary	Secretary	Male	
5	Khamma Thakulla	Member	Male	
6	Lahanu Chaudhary	Member	Male	
7	Dhana Bahadur Bohara	Member	Male	
8	Janga Bahadur Lohar	Member	Male	
9	Bharat bahadur Saud	Member	Male	
10	Sadhuram Chaudhary	Member	Male	
11	Som Bahadur Sashi	Member	Male	
12	Parwati nepali	Member		Female
13	Ramdulari Chaudhary	Member		Female
14	Sanjana Chaudhary	Member		Female
15	Shyاملal Chaudhary	Member	Male	
16	Sitaram Chaudhary	Member	Male	
17	Sher Bahadur Saud	Member	Male	
18	Purna Bahadur Magar	Member	Male	
19	Gyanu Thapa Adhikari	Member		Female
20	Bisnu Bahadur Khadka	Member	Male	
21	Ram Kisni Chaudhary	Member		Female
22	Ram Dulari Chaudhary	Member		Female

23	Sapana Chaudhary	Member		Female
24	Mangal Bahadur Pun magar	Member	Male	
25	Som Prasad Chaudhary	Member	Male	
26	Jalu Ram Chaudhary	Member	Male	
27	Sher Bahadur Thakulla	Member	Male	
28	Yogendra Saud	Member	Male	
29	Parwati Chaudhary	Member		Female
30	Dambar Gharti (Representative of Badghar)	Member	Male	
31	Total		22	8

Note: Sahayek Badghar - 1 (Female)

2. Jamarakula Water Users Association (WUA)

S.No.	Name	Designation	sex	
			Male	Female
1	Lalbir Chaudhary	Chairman	Male	
2	Tej bahadur Chaudhary	Vice-chairman	Male	
3	Man Bahadur Chaudhary	Secretary	Male	
4	Bhagawati Prasad Chaudhary	Treasurer	Male	
5	Baliram Chaudhary (Kha)	Member	Male	
6	Prakash Shah	Member	Male	
7	Bir Bahadur Gharti Magar	Member	Male	
8	Bhadrabir Chaudhary	Member	Male	
9	Tek Bahadur Chaudhary	Member	Male	
10	Laxman Tamata	Member	Male	
11	Nar Bahadur Chaudhary	Member	Male	
12	Baliram Chaudhary (Ka)	Member	Male	
13	Bal Krishna Dagaura Tharu	Member	Male	
14	Sita Chaudhary	Member	-	Female
15	Mohan Mahato	Member	Male	
16	Rajrani Chaudhary	Member	-	Female
17	Sumitra Chaudhary	Member	-	Female
18	Parwati Chaudhary	Member	-	Female
19	Hariram Chaudhary	Member	Male	
20	Kumar raj Shahi	Member	Male	
21	Garbu Chaudhary	Member	Male	
22	Biniram Chaudhary	Member (Representative of Birendra Vidhamandir)	Male	
23	Hiradevi Chaudhary	Member	-	Female
24	Harihar Prasad Giri	Member	Male	
25	Chhabilal Majhi	Member	Male	
26	Total		20	5

Note: Mahila Badghar – 1

3. Kulariya Water Users Association (WUA)

S.No.	Name	Designation	sex	
			Male	Female
1	Rabilal Chaudhary	Chairman	Male	
2	Laxman Kathariya	Vice-chairman	Male	
3	Sohanlal Kathariya	Secretary	Male	
4	Somati Chaudhary	Treasurer	-	Female
5	Tek Bahadur Thapa	Member	Male	
6	Ranga Prasad Bhat	Member	Male	
7	Kamal Prasad Neupane	Member	Male	
8	Ranga Singh Thapa	Member	Male	
9	Kanaiyalal Tharu	Member	Male	
10	Indra Raj Upadhaya	Member	Male	
11	Khusiram Mahato	Member	Male	
12	Rupa Chaudhary	Member	-	Female
13	Aiebar Ram Chaulagai	Member	Male	

14	Laxman Kumar Tharu	Member	Male	
15	Buddhilal Tharu	Member	Male	
16	Phaguna Kathariya	Member	Male	
17	Bhajanlal Dagaura	Member	Male	
18	Bilaspati Badayak	Member	-	Female
19	Laxmi Kumari Chaudhary	Member	-	Female
20	Chameli Devi Chaudhary	Member	-	Female
21	Shanti Kumari Chaudhary	Member	-	Female
22	Shanti B.K.	Member	-	Female
23	Tirtha Devi Chand	Member	-	Female
24	Netra Prasad Jaisi	Member	Male	
25	Gagan Thapa Magar	Member	Male	
26	Total		17	8

Note: Mahila Badghar - 1

ANNEX 4: SOME GLIMPSE OF THE SOCIAL ASSESSMENT



Command Area of Jamara Kulo



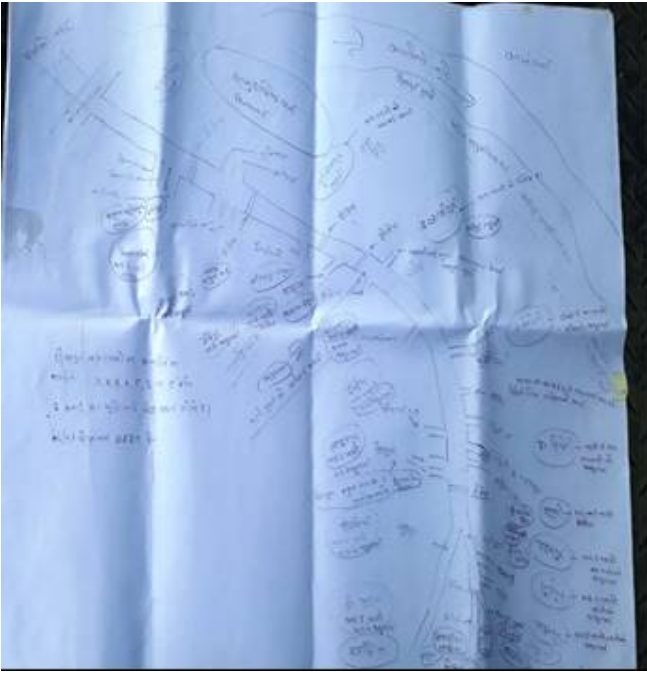
Map of Jamara Kulo Pilot Area



Settlement Map of Kulariya Kulo Command Area



Pilot Area of Kulariya Kulo



Settlement Map of Rani Kulo Command Area



Women group of Rani Kulo



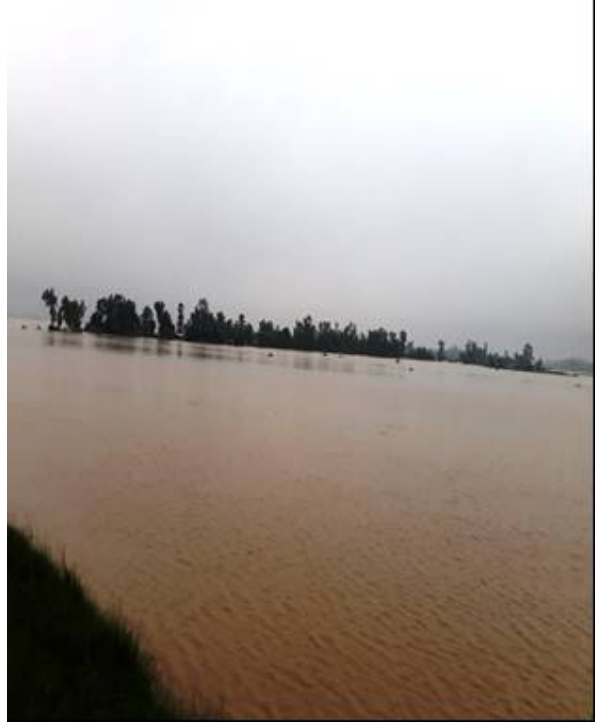
Women Group Of Jamara Kulo



Women Group Of Kulariya Kulo



Inundation area of Jamara Kulo



Inundation by Flood



Flooding Area of Jamara Kulo



Command Area of Jamara Kulo



Office Building of Jamara Kulo



FGD with Jamara Kulo WUA members



FGD with Rani Kulo WUA members



Flood Affected house at Bhagatpur, Jamara CA



HHS affected by Flood



Bhagatpur Pilot Area, Jamara Kulo



Damaged House by flood



Office Building of Rani Kulo WUA



Meeting with displaced persons



Project detail of RJKIP

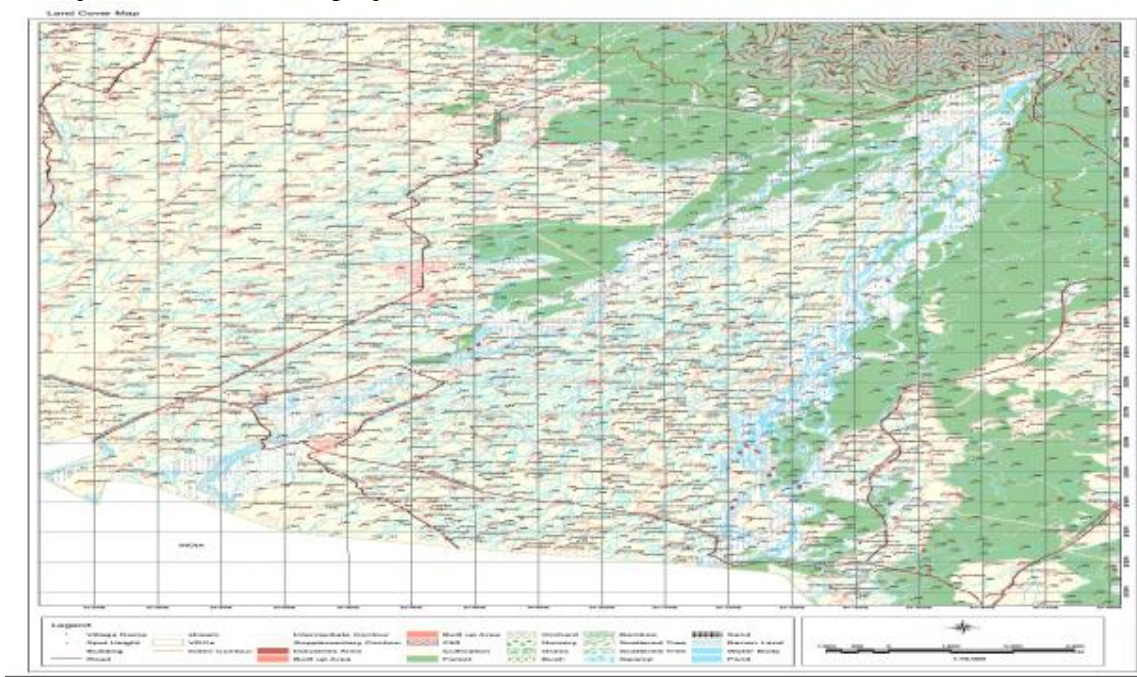


Water control system



Building constructed for caretaker

Major settlements in the project command areas



भाजमिती २०७६/१०/२० जाने का दिन इस तारखेचा कुला (पधलापुर) का वडघर श्री प्रेमराज शर्माको साध्यसंगत कुला किसान र कुलालाई पक्की र व्यवस्थित बनावने क्रमका प्रभावित किसानहुन को उपलब्धीतमा वैठ करी तपसिल तमोजिमका निर्वाय हुन सर्वसम्मती वर पारित जरीयो

नपसिल

क्रमांक	नाम	हस्ताक्षर
१)	प्रेमराज शर्मा	वडघर (अध्यक्ष)
२)	वाकराम चौधरी	सचिव
३)	बाधौराम	कोषाध्यक्ष
४)	शेरु वी	
५)	रुकुमिनाम	
६)	मित को	
७)	राजेश्वर	
८)	मित लाल चौधरी	
९)	जोग बाघार चौधरी	
१०)	दुर्गा प्रसाद चौधरी	
११)	सुनत जेठु शाही	
१२)	रमेश लाल चौधरी	
१३)	बाधौराम शर्मा	
१४)	राजेश चौधरी	
१५)	रमेश चौधरी	
१६)	माली राम चौधरी	
१७)	सुनत जेठु शाही	
१८)	सुनत जेठु शाही	
१९)	सुनत जेठु शाही	
२०)	सुनत जेठु शाही	
२१)	सुनत जेठु शाही	
२२)	सुनत जेठु शाही	
२३)	सुनत जेठु शाही	
२४)	सुनत जेठु शाही	
२५)	सुनत जेठु शाही	

प्रस्ताव नं १: कुला प्रयोग जम मा प्रयोग क्षेत्र परिचालन समिति
 निर्वाय नं १: प्रस्ताव नं १ शर्मा समिति छुट्टै जडा यस प्रस्ताव
 पधलापुर कुला संरचना निर्माण बाधौराम रमेश शर्मा प्रस्ताव
 हुनमा चलन चलनीमा र सुनत जेठु कुला हुन मा करै
 समस्ता तरेको र कुलाको परेता जडा उपलब्ध जराउने
 शर्मा हुनै कुलाको सुनत जेठु को हुनै निर्वाय
 सर्वसम्मती पारित जरीयो

Annex 6: Key Points of the Community Consultation

Ethnic Group	Issues Raised	Project response
Mixed group	<p>Capacity building for income generation, self Employment opportunity, Special income generation programs should be designed and implemented targeting women and IPs (e.g. skill training and monetary assistance for improved agricultural practices, livestock rearing (goatry, piggery, poultry, dairy etc.), vocational training and monetary assistance for plumbing, wiring, electronic (mobile, TV) repairing, vocational training and monetary assistance to run small business like hotel, tea and coffee shop, bakery etc.</p>	<p>Project to provide training on income generation activities. The identified trades are agriculture support program including goat and pig farming, weaving, tailoring, and beauty parlour. Training on construction related skills will also be imparted. A preferential Employment Policy and Strategy will be developed during the preparation of the Tender document for the project in consultation with the contractors and local government to achieve the objective of optimizing employment for project-affected and local people on project construction activities. Project will carry out free prior informed consultation with all disadvantaged groups at every stage of the project.</p>
Adivasi	<p>Capacity building for income generation, operation maintenance, Special income generation programs should be designed and implemented targeting women and IPs (e.g. skill training and monetary assistance for improved agricultural practices, livestock rearing (goatry, piggery, poultry, dairy etc.), vocational training and monetary assistance for plumbing, wiring, electronic (mobile, TV) repairing, vocational training and monetary assistance to run small business like hotel, tea and coffee shop, bakery etc.</p>	

ANNEX 6: Indigenous people of Rani-Jamara-Kuleriya Project Area

Indigenous people of Rani-Jamara-Kuleriya

Indigenous people by Origin	Groups
Hill Origin Janajati/Adibasi	Magar, Kumal, Tamang, Newar, Thakali, Rai, Gurung, Bhote, Limbu, Sherpa & Gharti/Bhujel
Tarai Origin Janajati/Adibasi	Tharu, Rajbansi, Raji & Meche

The dominant group is Tharu (about 90%) and the second largest is Magar and other groups are very few in number.

NEFFIN's categories of Indigenous people who live in Rani-Jamara-Kuleriya

Indigenous People	Groups
Advanced	Newar, Thakali
Disadvantage	Magar, Limbu, Gurung, Rai, Sherpa
Marginalized	Tharu, Tamang, Kumal, Bhote, Rajbansi & Bhujel
Highly Marginalized	
Endangered	Raji & Meche

Population distribution in Three Pilot Irrigation scheme (Rani-Jamara-kuleriya)

By Caste/Ethnicity	Male	Female	Total
BCTS	3409	3153	6562
Hill Adivasi/Janajati	252	253	505
Terai Adivasi/Janajati	2900	2733	5633
Hill Dalit	582	602	1184
Terai Dalit	669	658	1327
Muslim	13	13	26
Others	13	10	23

Source: Field survey, 2016 by NESS

Household distribution by caste/ethnic groups

By Caste/Ethnicity	No of Household
BCTS	1034
Hill Adivasi/Janajati	94
Terai Adivasi/Janajati	981
Hill Dalit	155
Terai Dalit	169
Muslim	5
Others	5

Source: Field survey, 2016 by NESS

Box 2: NEFFIN's categories of developmental stages of indigenous peoples

- Endangered group:** Kusunda; Bankariya; Raute; Surel; Hayu; Raji; Kisan; Lepcha; Meche; and Kusbadiya
- Highly marginalized group:** Majhi; Siyar; Lohmi; Thudam; Dhanuk; Chepang; Satar (Santhal); Jhagad; Thami; Bote; Danuwar; and Baramu
- Marginalized group:** Sunuwar; Tharu; Tamang; Bhujel; Kumal; Rajbansi; Gangai; Dhimal; Bhote; Darai; Tajpuriya; Pahari; Topkegola; Dolpo; Free; Mugal; Larke; Lohpa; Dura; and Walung
- Disadvantaged group:** Chhairotan; Tangbe; Tinganule Thakali; Bargaule; Marphali Thakali; Gurung; Magar; Rai; Limbu; Sherpa; Yakkha; Chhantyal; Jirel; Byansi; and Yolmo
- Advanced group:** Newar; and Thakali.