



## FEASIBILITY STUDY REPORT

# Feasibility Study of Climate Resilient Livelihoods for Vulnerable and Marginalized Communities of Dailekh and Surkhet Districts of Karnali Province

### Prepared by:

Madhu Subedi, PhD  
Rakshya Bhusal, MSc Agri

### Commissioned by:

Group of Helping Hands  
(SAHAS) Nepal  
Lalitpur, Nepal

March 2022

## Acknowledgement

We thank participants of focus group discussion and key informant survey for their information and time. Without this the work would not have completed.

Logistical support received from Mr Manoj Upadhaya and Mr Manoj Thapa in Dailekh, and Mr Rabindra Badi, Mr Nanda Bahadur Buda and Mr Ganga Bahadur Raji in Surkhet during focus group discussion and key informant interview is gratefully acknowledged. The consultants are indebted to Field support received from Mr Tej Kumar Rai (Project Officer, SAHAS Dailekh) and Mr Prabin Khadka (Admin and Finance Officer, SAHAS Dailekh) for all support they provided during our field work in Dailekh.

We duly acknowledge Lisann Fried, Programme Manager of SODI and Wolfgang Zarth, Spokes Person of Nepal Team, Germany for their comments and suggestion on the earlier draft, which added values of this report.

Finally, we gratefully acknowledge the support of Dr. Surendra Shrestha (Executive Director, SAHAS), Mr Sujan Shrestha (Knowledge Management, Monitoring and Evaluation Senior Coordinator, SAHAS) and Mr Raju Jati (Climate Change and DRR Coordinator, SAHAS) for overall guidance and in shaping this study. In addition, administrative support from Ramesh Moktan (Admin and Finance Coordinator, SAHAS) is duly acknowledged.

# Table of Contents

Summary	1
1. Introduction	3
1.1 Subject of the evaluation	3
1.2 Objective of feasibility study	3
1.3 Study mission	4
2. Methodological approach	5
3. General conditions	7
4. Assessment of the local executing agency (SAHAS)	10
5. Validation of Problem statement	11
5.1 Existing situation:	11
5.2 Existing socio-economic conditions of target area and communities	13
5.3 Problem associated with Climate and disaster risk	15
5.4 Target area and suitability of activities selected	19
5.5 Specific comments on LogFrame	20
6. Developmental impact	25
6.1 Relevance	25
6.2 Coherence	26
6.3 Effectiveness	26
6.4 Efficiency	27
6.5 Overarching developmental impact	28
6.6 Sustainability	29
7. Cross-cutting issues	30
8. Conclusions and recommendations	31
8.1 Conclusions	31
8.2 Recommendations	32
References	33
Annexes	35

## List of annexes

- Annex 1:** Field plan
- Annex 2:** Research questions organized against OECD/DAC criteria
- Annex 3:** Checklist for complementary information
- Annex 4:** Details of FGD participants
- Annex 5:** List of key informants interviewed.
- Annex 6:** Basic Information about the FGD sites

## List of tables

- Table 1:** Team members and their role and responsibilities
- Table 2:** Summary of Key Stakeholders.
- Table 3:** Details of other organisations working in the target area of the proposed project.
- Table 4:** Personal qualification of staff involved in implementation and management BiOREM project.
- Table 5:** Absent population in Nepal 1981-2011.
- Table 6:** Human deaths due to flood and landslides during 2013-14
- Table 7:** Situation of climate induced stresses in different ecological zones of the country.
- Table 8:** Vulnerability to different environmental hazards.
- Table 9:** Types of land degradation in different physiographic region of Nepal.
- Table 10:** Project Log frame - comments and suggestion

## List of figures

- Figure 1:** Household food sufficiency from own production.
- Figure 2:** Major destination of Nepali labour migrant workers, 2018/19.
- Figure 3:** Aridity index, Nepal 2019.
- Figure 4:** Precipitation, Nepal 2019.

# List of abbreviations

<b>ASDP</b>	Agriculture Sector Development Programme
<b>BiOREM</b>	Biodiversity and Resource Management for Sustainable Food Security in Mountain Community Nepal
<b>CBNO</b>	Community-based network organisation
<b>CBO</b>	Community-based organisation
<b>CBS</b>	Central Bureau of Statistics
<b>CC</b>	Climate change
<b>C&amp;D</b>	Climate and Development
<b>CRV</b>	Climate resilient village
<b>CSAIP</b>	Climate Smart Agricultural Investment Plan
<b>CSO</b>	Civil society organization
<b>DAC</b>	Development Assistance Committee
<b>DoWRI</b>	Department of Water Resources and Irrigation
<b>DRR</b>	Disaster risk reduction
<b>FGD</b>	Focus group discussion
<b>FSL</b>	Food security and livelihoods
<b>FYM</b>	Farmyard manure
<b>GDP</b>	Gross domestic product
<b>GESI</b>	Gender equality and social inclusion
<b>GHG</b>	Greenhouse Gas
<b>GLOF</b>	Glacial lake outburst floods
<b>GoN</b>	Government of Nepal
<b>HDI</b>	Human development index
<b>ICT</b>	Information and Communication Technology
<b>IFCO</b>	Improving Food Security through Community organising Project
<b>IoM</b>	International Organization for Migration
<b>IGA</b>	Income generating activities
<b>JTs/JTAs</b>	Junior Technicians/ Junior Technical Assistant
<b>KII</b>	Key informant interview
<b>KPPC</b>	Karnali Provincial Planning Commission
<b>LIP</b>	Livelihood improved plan
<b>MAP</b>	Multi Actor Partnership
<b>MEAL</b>	Monitoring, Evaluation, Accountability & Learning
<b>MoE</b>	Ministry of Environment

<b>MoEST</b>	Ministry of Environment, Science and Technology
<b>MoF</b>	Ministry of Finance
<b>MOFE</b>	Ministry of Forests and Environment
<b>MoHA</b>	Ministry of Home Affairs
<b>MoLESS</b>	Ministry of Labour, Employment and Social Security
<b>MoPE</b>	Ministry of Population and Environment
<b>NAPA</b>	National Adaptation Programme of Action to Climate Change
<b>NCC</b>	Nepal Commerce and Credit Bank
<b>NDHS</b>	Nepal demographic health survey
<b>NFGF</b>	National Farmers Group Federation
<b>NLSS</b>	Nepal living standard survey
<b>NPC</b>	National planning commission
<b>NRM</b>	Natural resources management
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PSE</b>	Public sector engagement
<b>PwD</b>	People with disability
<b>RBA</b>	Right Based Approach
<b>SNV</b>	Stichting Nederlandse Vrijwilligers (Foundation of Netherlands Volunteers)
<b>SOM</b>	Soil organic matter
<b>TVET</b>	Technical education and vocational training
<b>UAE</b>	United Arab Emirates
<b>UNDP</b>	United Nations Development Programme
<b>USAID</b>	United States Agency for International Development
<b>WASH</b>	Water, sanitation and hygiene
<b>WFP</b>	World Food Programme



## Summary

SAHAS Nepal has designed a project (entitled Climate Resilient Livelihoods for Vulnerable and Marginalized Communities of Dailekh and Surkhet Districts of Karnali Province) to respond climate change impacts on the livelihoods of resources poor, marginalized and vulnerable communities through the introduction and scaling up of the climate resilient villages (CRV) approach.

Karnali is largest in area, (27,984 km<sup>2</sup>), smallest in population (1,168,515 people- 4.41% of the total population in Nepal) and poorest in economy (KPPC, 2020). Agriculture is the main source of occupation and livelihoods of the people in Karnali, while agro pastoral livelihood dominates in higher altitudes. Karnali Province in Western Nepal is the most vulnerable province in terms of climate change and disaster risks. The region is particularly vulnerable to climate phenomena such as, torrential rains followed by flooding and landslides, hailstones, droughts and water shortage posing challenges for agricultural production and food security. Land holding is small (average 0.54 ha/hhs) and fragmented. Only 15% of agricultural land in the province is irrigated. Food insecure population is at least 40%, while undernutrition exists in 55% of the population. Under this pretext, a project is designed to respond to climate change impacts on the livelihoods of resources poor, marginalized and vulnerable communities through the introduction and scaling up of the climate resilient villages (CRV) approach.

This feasibility study was conducted to assess the technical, socio-economic and environmental feasibility for the implementation of Climate Resilient Village (CRV) approach and livelihood enhancement interventions for

the chosen vulnerable communities in Mahabu Rural Municipality in Dailekh, and Birendranagar Municipality and Bheri Ganga Rural Municipality in Surkhet.

A mixture of tools including quantitative and qualitative research methods such as literature review, interviews, focus group discussion, key informant interviews, and direct observation. The process was guided by participatory approach and different views from the study areas were respected.

**Main findings of this feasibility study are as follows.**

Existing issues surrounding main theme of the project (existing scenario with **poverty, climate change and DRR**) is illustrated well in the proposal. The project is structured well. Some unclarity and anomalies however observed in LogFrame and indicator monitoring plan that needed attention from project team.

Livelihood strategy and option of the targeted communities (Badi and Raji) in Surkhet is different compared to targeted communities in Dailekh. Most of the targeted households in Surkhet have adopted off-farm strategy as they do not have land and most of them living in the riverbank (officially designated as public land). While Households in Dailekh adopted on-farm livelihood strategy and produce vegetables at different scale and with the use of some improved technologies (such as polyhouse, smart irrigation, biopesticides, etc).

Targeted beneficiaries in Dailekh are involved in vegetable production at small (kitchen garden) scale. They also use some improved technologies for vegetable production, such as poly house, small scale irrigation, bio-pesticides etc. At present, there is no problem of marketing, but if the quantity



of production increased, then access to bigger market is essential. The quality and taste of the vegetables produced in Dailekh like ginger and potato is considered of high standard and is expected to fetch good price if supplied to bigger settlements within and outside the district.

The farmers in Mahabu lack the proper and regular agro-vet services for agriculture inputs and technical support. As a result, farmers now have to travel longer and invest more time to acquire these services.

Access to financial services (for instance, borrowing loan) have become difficult particularly to poor household due to some of the conditions of the financial service institutions. Palika as a local authority holder is in a position to review such rules and find ways to enhance access of poor households to available financial services.

Proper utilisation of social security benefits by some community is being questioned and ways to enhance usefulness of allowance is being discussed.

Birendranagar Municipality has developed strategy document and local plans (such as

CC adaptation plan, Preparedness and response plan etc) to work on cc issues, while Mahabu and Bheriganga Rural Municipalities are yet to prepare these locally adapted strategies and plans without which it is difficult to make strategic advances towards combating the cc effects and minimising disaster risks.

Technical support from project would be great help to Palika in developing locally adapted strategies and plans to embark on long-term fight against climate adversities and disaster risks.

The CRV established by the project could be place for learning/study for policy makers, politicians, academicians, development workers, students etc.

Network of likeminded organisation has two-fold advantage; first the concept will be institutionalised with the government system; and second, the initiatives will sustain even after the project and will establish authenticity of the structure under the Palika.

System change is required to realise expected output from CCA; therefore, long-term commitment is required from funding agency, implementing organisation and beneficiary communities to produce lasting contribution.

#### **Based on the findings of the study, following recommendations have been suggested.**

- Livelihood action should focus on on-farm intervention in Dailekh and off-farm interventions in Surkhet. In both districts vocational training should be implement. In addition to engage the community from Surkhet, leasehold farming in coordination with Palika should be better option for the improving livelihood of Badi and Raji community.
- Any initiation to run the closed or establish new agro-vet vendor would help farmers to acquire the service locally in Mahabu. It is suggested to identify training need of the perspective agro-vet operator and provide support in enhancing capacity. The capacity building activity would be an opportunity for the project to orient and sensitise the perspective agro-vet operator on organic production, it's benefit and alternative organic options available to control insect/pest that could be sold instead of chemical options available in the market.
- It is suggested to work with Palika to find ways to enhance poor people's access to financial services to start up entrepreneurship.
- Discuss with Palika on the existing situation about financial institutions services available in the area and find ways to enhance access of poor households to available financial services.
- Technical support from project would be great help to Mahabu and Bheriganga Rural Municipalities in developing locally adapted strategies and plans to embark on long-term fight against climate adversities and disaster risks.
- It is suggested to explore the possibility of leasehold farming opportunity for poor and marginalised households with palika authority.
- Access to market and orientation on value chain development is suggested to ensure before embarking on production enhancement of vegetables in Dailekh. It is suggested to provide training on market and value chain development to farmers, intermediaries and traders.
- It is suggested to work with palika to sensitise the social security allowance recipients (PwD, endangered group, elderly people, single women and widow) to enhance effectiveness of allowance provided.
- Issues with LogFrame and indicator monitoring plan have been identified and suggested to project team to review.
- Explore the possibility for engagement of the research centres, academic institutions and universities in verifying the project interventions in the local condition and scaling up for community benefits.
- Integrated approach to respond climate change is required and need to scale up beyond the project areas of Palikas, Districts and Province.
- Establish CBOs & CBNOs in Surkhet and strengthen the capacity of the CBOs and CBNOs in both Dailekh and Surkhet for community mobilisation, lobbying and advocacy on climate change issues.
- Enhancing financial, technical and institutional sustainability of CBNOs should be given priority from the beginning of the project implementation.
- Agro ecological and biodiversity conservation activities should be promoted for the sustainable farming.





# 1. Introduction

## 1.1 Subject of the Study

SAHAS Nepal has designed a project (entitled Climate Resilient Livelihoods for Vulnerable and Marginalized Communities of Dailekh and Surkhet Districts of Karnali Province) to respond climate change impacts on the livelihoods of resources poor, marginalized and vulnerable communities through the introduction and scaling up of the climate resilient villages (CRV) approach. CRV is an integrated approach including the sustainable livelihood options and economic empowerment working with the beneficiaries to build the resilient communities. The project proposes to work in four different components of strengthening community's capacity, technologies promotion, knowledge & information sharing mechanism and mainstreaming climate change and Disaster risks mitigation activity into the local planning process.

The target beneficiaries of the project are resources poor, marginalized, vulnerable group of the society including Dalit, women, youth and PwD. The project will also focus on the endangered ethnic groups of western Nepal called Raji and also the Badi communities, who are most deprived as a result most vulnerable to climate change effects. The project is planned to work with communities to establish the demonstration sites and generate evidence. In addition, the project also planned to influence the local government and its planning process for the institutionalisation of inclusive and resilient development approach in the local planning and development process.

The project is designed to implement in hamlets of two climate vulnerable Palika

(Municipality – Local government), in Surkhet (Bheri Ganga Rural Municipality Ward number 2 Sattari, and Ward number 12 Raji Gaon, and Birendranagar Municipality Ward number 11 Jhupra Basti) and one Palika in Dailekh (Mahabu Rural Municipality Ward number 4) districts. The target group of the project will be resource poor, vulnerable, marginalized and the ethnic minority (Badi and Raji) groups focusing women and youth.

## 1.2 Objective of feasibility study

The objective of the study is to assess the technical, socio-economic and environmental feasibility of the implementation of the Climate Resilient Village (CRV) approach and livelihood enhancement project for the chosen vulnerable communities in Mahabu Rural Municipality in Dailekh, and Birendranagar Municipality and Bheri Ganga Rural Municipality in Surkhet.

### Objectives of the Study

- Analyse the initial socio-economic and environmental situation (problems, causes, consequences and solutions/needs) of the target groups
- Perform a stakeholder analysis and assess the institutional capacities (technical, material, human, financial) and interactions (convergences, divergences or conflicts of interest) of stakeholders in the implementation (including project implementing organization)
- Assess the climate vulnerability of the target areas
- Perform a sector analysis
- Perform risk analysis including political, socio-

economic and environmental risks and mitigation strategy

- Assess the project according to the OECD DAC criteria (relevance, effectiveness, efficiency, impact, significance, sustainability)
- Produce a socio-economic feasibility report on the project under consideration of the local climate vulnerability

### Scope of the study

As suggested by the terms of reference, the study assessed the technical, socio-economic, and environmental feasibility of implementation of the proposed project for the chosen rural communities in Mahabu Rural Municipality

(Dailekh), Birendranagar Municipality and Bheri Ganga Rural Municipality (Surkhet).

The study analysed the existing information and situations to verify if the project proposal is founded on strong evidence particularly while stating the problem, defining socio-economic and environmental conditions of beneficiaries and proposing development interventions to address the problem stated. It was further examined the route to achieve the output expected. Additionally, the study explored possible positive and negative changes by the projects.

Good mixture of representation of women and men from the community, CBOs and CBNOs members were involved in the study. In addition, the study team also consulted Palika Officials, Agriculture Development Officials and other stakeholders from the proposed project areas.

## 1.3 Study mission

The field study was conducted during 2-15 January 2022 (Annex 1). The field work was conducted by two-member study team (Table 1) with logistical and communication support from SAHAS staff.

**M Subedi** (Team Leader), holds PhD in Sustainable Agricultural Systems, is an experienced Agriculture, Food Security and Livelihoods specialist, with more than 20 years of experience in Asia, Africa, Latin America and Europe. He has extensive knowledge on sustainable agriculture, natural resources management, soil water conservation and climate change effects on agriculture. Key areas of his specialty include agriculture,

food security, livelihood interventions, seed production, Household Economy Analysis, small holder vegetable production, climate smart agricultural technologies, income generation activities, skill development and adolescent transitioning programme, value chain development and market link, micro-enterprises, vocational training, vulnerable women income generating activities and village Savings & Loans Cooperatives. He has experience of managing projects at both consortium as well as operational level; technical coordination & support; and policy support and advisory. At present, he is working as freelance consultant and engaged in studies

such as feasibility study, baseline studies, mid-term evaluation and final evaluation.

**Rakshya Bhusal** has MSC degree in Vegetable Sciences. She has expertise on organic farming, IPM, Market system, economic empowerment, knowledge management, capacity building, GESI and community empowerment. She has experience of project management, research studies and consultancy work. She has experience of consultancy work for different studies (feasibility study, project evaluation) and research works. At present, she is working with Value Chain Development Project.

**Table 1. Team members and their role and responsibilities**

SN	Responsibility	Qualification	Gender	Activities/roles
1	Madhu Subedi	PhD	Male	<ul style="list-style-type: none"> <li>• Coordination with SAHAS project team,</li> <li>• Preparation of study framework,</li> <li>• Preparation of checklists</li> <li>• Field coordination and supervision,</li> <li>• Synthesis of information</li> <li>• Preparation of reports</li> <li>• Presentation of key findings</li> <li>• Finalisation and submission of final report</li> </ul>
2	Rakshya Bhusal	MSc	Female	<ul style="list-style-type: none"> <li>• Familiarize with study tools,</li> <li>• Information collection through group discussions, KII and direct observation,</li> <li>• Preparation field notes</li> <li>• Support in report preparation</li> </ul>

There were some disturbances in field movement due to heavy rain. The survey team suffered COVID-19 infection at the end of field work that inflicted delays in write up of report.





## 2. Methodological Approach

The study was based on OECD/DAC criteria. The methodology was designed by the consultant team including quantitative and qualitative research methods such as literature review, interviews, focus group discussion, key informant interviews, and direct observation. The process was guided by participatory approach and different views from the study areas were respected.

FGD, KII and direct observation was conducted to discuss with perspective target households in 11 communities of proposed project locations. Discussion was focused on understanding the environmental conditions of the location, socio-economic conditions of communities, and suitability of proposed intervention to achieve the outcome and impact expected. Discussion was also held with Community Based Organisations (Community Based Organisation, Main Committee and Community Based Network Organisation). Meeting with other stakeholders (local government representatives, sectoral units and line agencies, financial service providers, private sector and other development actors) were held to understand ground reality.

### Tools/instruments

Following tools/instruments were applied to collect relevant information:

**Desk Review:** Available information including federal, provincial and local policies, profile of Palikas, sector specific – Climate change and Disaster Risk Reduction and Management, poverty alleviation, economic development, employment, GESI and Public Sector Engagement (PSE) – policies and plans, annual

plans and reports, COVID-19 response reports and other relevant information related to PSE, GESI, return of migrants etc. were studied to understand the local context as well as opportunities, challenges and supporting an enabling environment. The following documents were taken into account in the study:

- National strategy/policy papers from relevant contexts such as rural development, climate resilience etc.
- Background papers
- Literature references
- Documents from preceding projects (e.g. [external] evaluation, social audit reports etc.)
- Structuring points
- Existing rapid need assessment
- Draft of project proposal including plans/outlines and impact matrix

**Consultation with SAHAS Management Team, M&E Team, and Coordinators:** Preliminary information deducted from the desk review was discussed with SAHAS Nepal team and appropriate refinement and adjustments were made based on the discussion.

The study team applied appropriate tools and approaches for collecting relevant information from multiple sources, which was guided by the objective of the study and deliverables anticipated. FSL, NRM, DRR, GESI were central focus of data collection process. The primary information was collected using FGD, KII and field observation, whereas secondary information was derived from published reports and project documents. Information was

collected using participatory approaches with the target communities, key informants, Palika Officials and SAHAS team.

**Focus Group Discussions (FGD):** A thorough discussion was held with the SAHAS Nepal team to finalize information to collect from FGDs. Based on the discussion, checklists for FGD were prepared to collect community specific information, which guided the discussion process (Annexes 2 and 3). Number of FGDs to conduct was decided based on the discussion with SAHAS Nepal team. The FGDs were conducted by the experts and with support from facilitators/note takers. Care was taken in creating a gender-responsive and safe environment for women from marginalized communities, so their voices are represented. Details of FGD participants is presented in Annex 4.



Image: Focus Group Discussion

**Key Informant Interviews (KII):** As for KIIs, the discussion with the SAHAS Nepal team was held for finalization of checklist and identification of Key Informants. The study collected diversity of perceptions and information from different stakeholders, especially from marginalized groups. The tentative number of KII was decided

after discussion with the SAHAS Nepal team. A checklist was used to guide the interview. Details of key informants interviewed is presented in Annex 5.

**Direct Observation:** Direct observation of existing situation in the field/community was made to supplement collected from FGD, KII, Meeting and desk review.

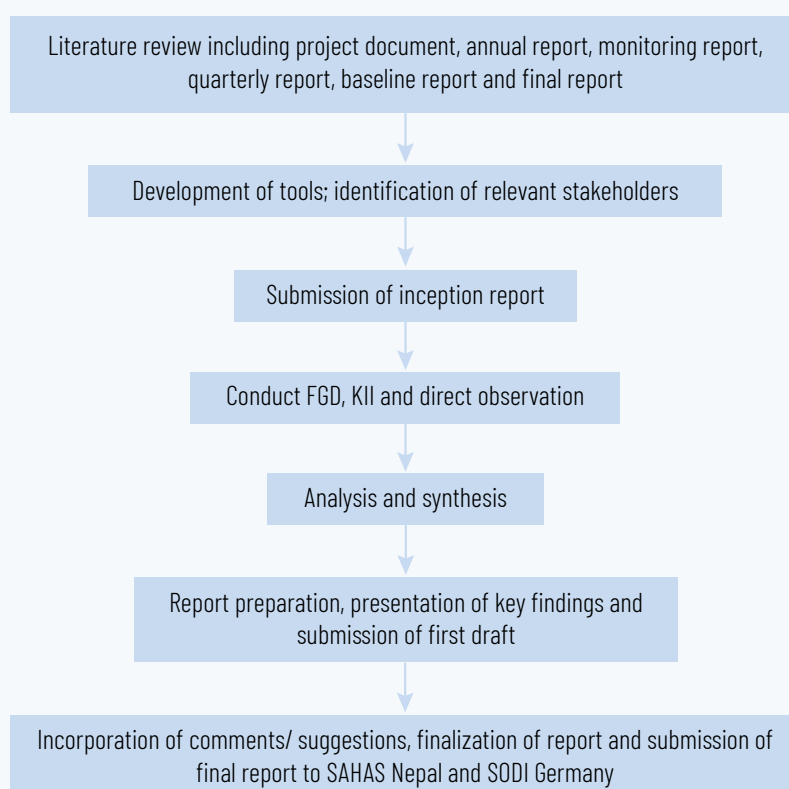
**Field implementation:** The field studies were conducted by two-member study team (Table 1) with logistical and communication support from SAHAS project team. DOs & DON'Ts of social survey was reviewed before embarking for field study. Details of field plan is presented in Annex 3.

**Quality assurance:** The two-member team performed the quality assurance task (Table 1). The team leader coordinated all the tasks performed and led the process. The consultant led the field study. The roles and responsibilities of each member is presented in the following table.

## Analysis and synthesis

The study team applied the approaches such as data triangulation, direct observation, participatory field verification (FGDs and KIIs) to verify if situation analysis, selection development interventions, beneficiary selection etc are done correctly and appropriately. Any lacuna in the project formulation was identified and alternative suggestions proposed accordingly. The information verification approach was discussed with SAHAS management team and the BiOREM project team to arrive at consensus. The preliminary findings were shared with the SAHAS Nepal Team to ensure ownership and concurrence with the analysis.

## Study framework:







### 3. General Conditions

Karnali is largest in area, (27,984 km<sup>2</sup>), smallest in population (1,168,515 people- 4.41% of the total population in Nepal) and poorest in economy (KPPC, 2020). Agriculture is the main source of occupation and livelihoods of the people in Karnali, while agro-pastoral livelihood dominates in higher altitudes. Rugged hills/ mountains dominate the topography of the province and only ~6% (165,910 ha) of the land area is used for agricultural, which is ~3.3% of agricultural land in Nepal. Only 15% of agricultural land of the province is irrigated. Land holding is small (average 0.54 ha/hhs) and fragmented. Food insecure population is at least 40%, while undernutrition exists in 55% of the population (NDHS, 2016). This means some of the food secure population does not have access to nutritious food.

This province has 600,000 people in multidimensional poverty and has the lower Human Development Index (HDI) of 0.538 (NPC and UNDP 2020). The average literacy rate is 63% with a significant gender disparity in literacy rate of (73% male and 53% female). Karnali is food deficit region with an annual deficit of 25,428 tons. More than 77% of households in the province are not sufficient even to feed them (myrepublica, 2019). About 53% of the food requirement is met through market purchase (MoALD, 2020). As most of the people (particularly youths) migrate to India for seasonal employment (mostly as daily wage labour). The seasonal migrants leave home after harvesting summer crops (around Sept/Oct) and return home just before the planting of summer crops (around April/May). Seasonal migration in Nepal is pre-dominantly a male business as the share of female migrants during the last one decade was only 5% (MoLESS, 2020). The recent

pandemic situation of COVID-19 made them more vulnerable as they lost their jobs.

Karnali Province in Western Nepal is the most vulnerable province in terms of climate change and disaster risks. The region is particularly vulnerable to climate phenomena such as, torrential rains followed by flooding and landslides, hailstones, droughts and water shortage posing challenges for agricultural production and food security (KPPC, 2020). Nepal is least contributor of global warming, which is evident from the amount of Greenhouse Gas (GHG) emission compared to other countries in the world, however, Nepal is facing the consequences of global warming (MoHA, 2015). Climate change effects is external driver impacting food systems in Nepal adversely. High temperature, torrential/no rain, flood, landslide, and drought are recurrent climate induced hazards with varying intensity and impacts. The increasing trend of climate change also triggered the risk of climate induced disasters. In the region, the climate stresses including drought, flood, untimely rain, irregular weather, diseases and pest in crops and cattle etc. are in increasing trend (Pandey et. al. 2019). The lands remained fallow and the rearing of the cattle was difficult.

In addition, as the province is dependent on the food supply from the plain areas in the South of the country, the climate induced disasters like flood and landslide disrupt the supply line due to damages to roads and bridges, causing food shortages in the northern part of the province. The provincial contribution to the national GDP is only 3.4 % (GoN, 2019) and the life expectancy is also lower in comparison to other provinces i.e., 66.8 year. In this situation, it is important to support the community in order to increase adaptive capacity and increase food production locally hence to secure their



livelihood and the economic generation. Most deprived and vulnerable groups generally live in less endowed and more disaster-prone areas, and thus they are most affected by the untoward effect of such stresses. In addition, poor education, skills, access to information and confidence contribute to keeping them hooked in the loop of intergenerational poverty cycle. In this context, the integrated approach that can respond to climate change, disaster risks and social justice is essential to build a resilient community.

Agriculture is mainstay of the majority of rural people in Nepal. About 76% of households are engaged in agriculture production (NDHS, 2011). About 75% of women and 35% of men engaged in agricultural occupation (NDHS, 2011), most of them work on subsistence-oriented family

farming. The average size of agricultural land area in the country is 0.7 hectares per household but 45% households possess less than 0.5 hectares (NLSS, 2011). About 46% of rural households are food insecure compared to 67% of urban households. Nearly 7 million out of about 27 million people in Nepal go to bed hungry everyday (WFP Annual Report, 2010).

Under this pretext, a project is designed to respond to climate change impacts on the livelihoods of resources poor, marginalized and vulnerable communities through the introduction and scaling up of the climate resilient villages (CRV) approach. The project aims at enhancing livelihood capacity as well as alleviating vulnerability of target beneficiaries (resources poor, marginalized, endangered ethnic groups, vulnerable group of the society including Dalit, women, youth and PwD).

## Key Stakeholders of the project

Stakeholders' analysis has been done and key stakeholders, their functions, comparative advantage has been summarised in Table 2.

**Table 2. Summary of Key Stakeholders**

Stakeholder	Function	Comparative Advantage	Assistance to the project
Rural Municipality and Ward Office	<ul style="list-style-type: none"> <li>Local governing body</li> <li>Approval of the project</li> <li>Formulation of the local policies for the target groups</li> </ul>	<ul style="list-style-type: none"> <li>Budget allocation through annual planning process</li> </ul>	<ul style="list-style-type: none"> <li>Resource sharing</li> <li>Monitoring and feedback</li> <li>Scale up and mainstream good practices of the project.</li> <li>Support to the CBOs and CBNOs beyond the project period</li> </ul>
Thematic development offices in Rural Municipalities (Agriculture, livestock, forest, child and women, Education, Judicial committee)	<ul style="list-style-type: none"> <li>Provide services to community</li> <li>Develop plan of subjective office and implement</li> <li>Judiciary</li> </ul>	<ul style="list-style-type: none"> <li>Technical Expertise</li> <li>Resource sharing</li> <li>Justice for the social issues</li> </ul>	<ul style="list-style-type: none"> <li>Provide synergy and technical support</li> <li>Justice on violence of human rights to the target groups</li> </ul>
CBOs and CBNOs	<ul style="list-style-type: none"> <li>Resources – human and financial planning and implementation of projects</li> <li>goodwill</li> <li>Ownership on the local development process</li> </ul>	<ul style="list-style-type: none"> <li>Human Resources and local technical knowledge</li> <li>Adaptation to local conditions</li> <li>Social capital and unity</li> </ul>	<ul style="list-style-type: none"> <li>Project implementation</li> <li>Collaboration</li> <li>Local technical knowledge in solving local problems</li> <li>Buy on the project beyond the project period</li> </ul>
National Networks (NFGF, C&D Dialogue and MAP platform)	<ul style="list-style-type: none"> <li>Policy advocacy in province and national level</li> </ul>	<ul style="list-style-type: none"> <li>Consortium for the joint advocacy on socio economic and climate issues, and smallholders' farmers right</li> </ul>	<ul style="list-style-type: none"> <li>Dissemination of the good practices and lessons learnt of the project</li> </ul>
Financial institutions	<ul style="list-style-type: none"> <li>Financial transactions for the income generation and livelihood enhancement activities</li> </ul>	<ul style="list-style-type: none"> <li>Financing for livelihood and income generating activities</li> </ul>	<ul style="list-style-type: none"> <li>Subsidy loan for the target community members</li> </ul>



In addition, following stakeholders are also operating in the target area of Dailekh:

**Nepal Commerce and Credit (NCC) Bank** is the only bank in Mahabu Rural Municipality. Mr Kamal Bhandari (manager of the branch) mentioned that the bank is providing its service to the whole of Mahabu Rural Municipality. At present, the bank is performing basic banking functions (such as opening account, saving and withdrawal of cash, etc). However, the bank has encountered problem with Loan disbursement as most loan requests are made without reliable co-lateral as deposit. Generally, people present their land as co-lateral, but the liquidity of land in the area is very poor as a result it is very difficult to repossess the loan by selling the land. Thus, poorer households who cannot present collateral other than land are deprived from accessing financial services mainly loans.

Bank demand for producing credible collateral as a condition for loan. Providing loan considering the strength of the business plan was not in practice. As a result, the poor household such as Dalit, resource poor, women

headed HHs and marginalised families are deprived from accessing financial services. Possibility of disbursing loan to farmers or farmers' group with promising business plan certified by credible organisation (Such as SAHAS Nepal) was discussed. Mr Bhandari mentioned that this is something to be decided from higher authority and suggested to discuss this at central level. It is suggested to work with Palika to find ways to enhance poor people's access to financial services.

**Acharya Agro-vet:** The only agro-vet in Mahabu Rural Municipality, involved in trading vegetable seeds, pesticides and veterinary medicines. Mainly seeds of local varieties of Radish, broad leaf mustard, beans and peas and improved varieties of cucumber, pumpkin, okra, carrot, coriander etc are sold. As yet, the agro-vet is trading conventional chemical pesticides only and not the bio-pesticides. Ms Kamala Acharya, main person operating the agro-vet, was married to different location, as a result the only Agro-vet service available in the area is closed since last one year and farmers have to travel longer and invest more time to acquire the service.



Image: KII with agro-vet operator

**Vegetable vendor in Dailekh:** Mr Bharat Bahadur Bam is operating vegetable in Narayan Municipality (district headquarter, about 2 hours far by jeep from proposed project site) since last 17 years. He is selling vegetable produced within Dailekh (40%) as well as imported from southern districts (60%). On an average, the margin between buying selling rate is NPR 20/kg of vegetable (for retail sell) and NPR 10/kg (for wholesale). Fewer farmers are producing vegetable at commercial scale as a result the produce is not sufficient for fulfilling the demand. Mr Bam mentioned that he can purchase the product, collect from farm and assist farmers for input supply. But farmers are less aware of market demand and marketing strategy. Just for little more profit they prefer to travel door to door (as mobile vendor) and sell themselves. In the past, the business deal between buyers and farmers were not respected by famers for little monetary profit.

While on the other hand, many instances of farmers not receiving adequate price for their products are also reported. Intermediaries and traders are blamed for taking bigger share of the profit from the product produced by farmers. Thus, market for the produce and distribution of fair share of the profit are the two most important issues associated with the trading of agricultural produce in the area. Therefore, it is suggested to provide training on market and value chain development to farmers, intermediaries and traders.



Image: KII with Vegetable trader



### Key actors in the project area

Mapping of key actors in the project area has been done. Key stakeholders in Dailekh and nature of their work has been summarised in Table 3. The relationship between most of these organisation and project is likely to be complementary unless these organisations implement similar activities in future and compete with the project target groups for available Palika and provincial funding opportunities. FGD participants from all three communities (Jhupra Basti, Sattari village

and Raji Basti) mentioned that no development interventions on Food security, livelihood, climate change and disaster risk reduction issues are being implemented in the area at present.

**Table 3. Details of other organisations working in Mahabu Ward No 4 in Dailekh (one of the target areas of the proposed project)**

SNo	Name of organisation	Nature of their intervention
1.	SNV	WASH programme (drinking water)
2.	Helvetas	WASH programme (drinking water)
3.	Agriculture Sector Development Programme (ASDP)	Agriculture value chain (establish link and contract between farmers' group and traders, provide subsidy to farmers, but they operate only with Farmers' Group and not with individual farmers. Possibility of establishing linkage between Farmers' Group of the project and ASDP for market assurance.
4.	Suahara	Nutrition and 1000-Golden Days activities (Nutrition survey, Immunisation, Distribution of chicken & vegetable seeds, training on nutrition management)
5.	Gorkha Welfare	Drinking water project

There was no element of possible competition in the work of these organisations and proposed project. Rather strong complementary relation is likely with ASDP. As the ASDP is working in Mahabu palika, the local community can benefit from the value-chain support provided by ASDP. This will enhance household income as well as increase project efficiency. However, this needs to be discussed to explore what and how could this be materialised.

The proposed project, however, will have to establish memorandum of Understanding with local palika. This will provide not only the legal authority to implement the project interventions but also help garnering their support in project action and institutionalising the project work within the local government system. Good collaboration with Palika may also help in securing complementary fund in the event of funding problem. Similarly, the CBO established by the project can benefit from available funding/material support available with palika.

The contribution from the work of SNV and Helvetas in WASH sector may compliment the project interventions in one way or the other. It was revealed during the discussion with palika that SNV is also planning to work with Mahabu palika on climate change issues.

As yet, these organisations are working independently. Any possible complementarity will be just inadvertent.

No organisations are working in the area of interest of the proposed project in Surkhet.

## 4. Assessment of the local executing agency (SAHAS):

SAHAS Nepal is going to implement this proposed project. SAHAS has long experience in the Karnali and neighbouring regions. SAHAS is currently working in Dailekh, where the organisation has office set up, project staffs in the field and working experience with proposed target communities and Local government. There is Liaison office in Surkhet. Thus, the implementing organisation has good physical presence in the proposed project area. However, SAHAS is going to work with Badi and Raji communities, whose traditional occupation was not farming. This may pose challenges to achieve expected results from farming interventions.

The proposed project is yet to institute and function in the project area. Therefore, as yet, there are no project related staff in the proposed project area. Therefore, it is attempted to assess the capacity of the existing staff who are implementing the BiOREM project in Dailekh. A group of eight staff comprised

the Field Team of BiOREM project. There was a good balance (1:1) between male and female staff (Table 4). The staff had diverse academic background as well as work experience. Each of the technical staff were given responsibility of managing one project site, however they were also responsible for providing support to other site of the project as and when the skills of one staff is needed in other sites. So, these technical staff played the role of manager in one site and problem shooter in other sites of the project. They are competent in executing technical interventions (particularly livelihood interventions, climate change) and achieve developmental objectives (GESI outcomes, protecting rights of marginalised communities, etc.). They have established a good rapport with local community and functional working relation with palika authorities.

**Table 4. Personal qualification of staff involved in implementation and management BiOREM project.**

SNo	Name of project staff	Gender	Qualification	Area of main experiences
1.	Tej Kumar Rai	Male	B Ed	Group Strengthening Training, Coordination & linkage with stakeholder & line agencies. GESI training, Planning and implementation, Leadership Development training
2.	Prabin Khadka	Male	Bachelor of Business Studies (BBS)	Financial Management, Office Administration & Assist to programme coordination & linkage at local line agencies.
3.	Partiva B.K.	Female	B Ed	GESI Training, Report Writing, Coordination & linkage with stakeholder, Group Meeting, Group Strengthening Training, Group Concept training
4.	Janak Bahdur Karki	Male	Diploma in Engineering	Design & estimation, Monitoring & supervision of all construction activities, Provide Technical idea to community, Report Writing, Climate Change Training Coordination & Linkage at local line agencies, Group Concept training
5.	Sajana Panta	Female	Diploma in Agriculture (Animal Science)	Provide livestock technical support to community, livestock Management Training and Report writing, Group Meeting, Coordination & Linkage at local line agencies, Group Concept training

SAHAS Nepal has unique approach of establishing grassroot organisations (CBO, MC and CBNO), implementing the interventions through these organisations and sustaining the project work after the project period. Such organisations have already been established by earlier project in the proposed target area in Dailekh. In addition, Palika officials has verbally agreed to institute the network of like-minded organisation within the structure of Palika and pledge the ownership of the organisation as envisaged in the proposed project.

## 5. Validation of Problem statement



Image: Mahabu

The objective of the proposed undertaking is to address problems associated with climate and Disaster risk and enhance livelihood of the target households. In this study, validation of problem statement was done based on the information provided by them during FGD and KII, which was further underpinned by the direct observation made during field visits.

### 5.1 Existing situation and target group:

During the field study, the team visited most of the communities in Mahau-4, Dailekh district and following three communities in Surkhet district.

1. Badi community in Birendranar-11
2. Badi community in Bheriganga-12
3. Raji community in Bheriganga-2

Direct target beneficiaries are yet to be selected and will be done by the project staff once the project is established in the area. Therefore, we discussed with the community mentioned above. Brief information about the proposed project sites is presented below (refer Annex 6 for further details).

**Mahabu** is one of the Rural Municipality situated 22 km North of district headquarter in Dailekh. The area is dominated by slopping hill (30%) and mountain (70%) environment. The altitudinal ranges from 630 to 4,168 m asl. Around 65% area in the Mahabu is covered by forest. Farmers mentioned that they are experiencing water scarcity and recurrent drought in higher altitudes compared to low hills. As a result, higher proportion of high hill areas remain fallow particularly during winter compared to arable areas in lower altitude. Total annual rainfall in the area is 1,800 mm. Farming is main livelihood option for most households but only 10% of the cultivated land has irrigation facility. Most farmers (82%) are still using traditional production system without using modern technologies and external inputs. Maize is the most important crop in the area followed by wheat. Rice is most prestigious and preferred crop but assured irrigation for rice growing is limited. Irrigated area in Mahabu is merely 10% despite this, farmers cultivate rice under rainfed condition with the expectation of rain.

The area is known for potato production. The potato produced in the area is considered of high quality and receives high demand from other areas. In addition, Farmers in Dailekh are skilled in producing vegetables using modern technologies (such as polyhouse, smart irrigation, biopesticides, etc). The quality and taste of the vegetables from Dailekh is





Image:Jhupra Basti

reported to be good quality. Major cropping patterns in *bari* land (unirrigated and un-bunded land where paddy condition cannot be created) are Maize-wheat; Maize-potato-wheat; Maize-potato-vegetables; Maize-rapeseed-potato; Maize-wheat+rapeseed-potato; Maize-vegetable-wheat; and Maize/millet-wheat. While rice-wheat-fallow is the major cropping pattern in *Khet* land (land where paddy condition can be created). More than 79% households in Mahabu Rural Municipality produce food sufficient for 6 months or less (Mahabu Rural Municipality, 2021). Less than 1% household have surplus production.

**Jhupra Basti** is situated in the bank of Jhupra river in Birendranagar Municipality of Surkhet about 1 km from the confluence of Bheri river and its tributary Jhupra river. The area constitutes flat river basin along the gorge of Jhupra river flowing north to south. The sloping land in the two sides of river pose risk of flood and landslide to the settlement during rainy season. Community reported the incidence of

inundation and damages to the life and property when rainfall and flood exceeds the normal level. Community mentioned that such disaster events recur every 4-5 years. The settlement is dominated by Badi community. All households are landless as whole community is settled in public land officially designated as forest area. It is illegal to settle in public area, but since they are landless people and they are demanding a place from the government for permanent settlement. As yet, there is no social or legal conflict has cropped up. Instead the Palika authorities in Surkhet is sympathetically working on the demand of the community and working to resolve this issue permanently. Most households have occupied about 30-100m<sup>2</sup> area and vegetables were grown in the excess land not covered by their house. Daily wage labour (sand/gravel extraction from river, stone crushing) and some skilled works (truck/tractor driver, petti-business etc) are the main occupation adopted by targeted households for their livelihood. In addition, many households rearing pigs in the shed erected along the bank of the river.

**Sattari Village** is situated in the bank of Sattari river in Bheri Ganga Rural Municipality of Surkhet about 1.5 km from the confluence of Bheri river and its tributary Sattari river. The area constitutes flat river basin along the gorge of Sattari river flowing north to south. The sloping land in the two sides of river pose risk of flood and landslide to the settlement during rainy season. Community reported the incidence of inundation and damages to the life and property when rainfall and flood exceeds the normal level. Community mentioned that such disaster events recur every 4-5 years. Soil fertility was poor in the area due to high proportion of sand and gravel. The settlement is comprised of mixed community including, Badi, Raji, Dalits, janjati and others. Most households are landless and settled unofficially in the area officially designated as forest area. Most households have occupied about 30-100m<sup>2</sup> area and vegetables were grown in the excess land not covered by their house. Daily wage labour (sand/gravel extraction from river, stone crushing) and some skilled works (truck/tractor driver) are the main occupation adopted by targeted households for their livelihood. In addition, many households rearing pigs in the shed erected along the bank of the river.



Image:Sattari village



Image: Raji Gaon

**Raji gaon** is a densely populated settlement near (about 1 km) Chhinchu town of Bheri Ganga Rural Municipality of Surkhet. Most households have very small landholding (1-2 ropani equivalent to 500-1000 m<sup>2</sup>) merely sufficient for a house and small kitchen garden. Daily wage labour and some skilled works (mason, carpenter etc) are the main occupation adopted by targeted households for their livelihood. In addition, many households are rearing goats at small scale (2-8 goats).

## 5.2 Existing socio-economic conditions of target area and communities

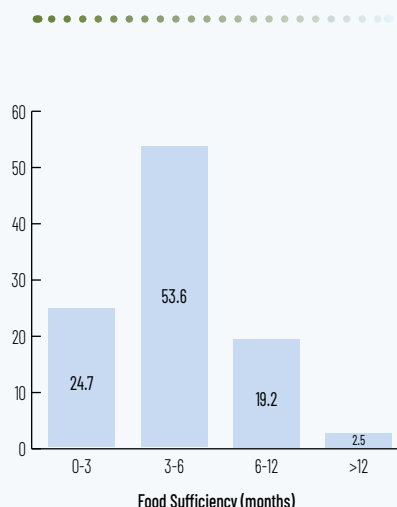


Figure 1

**Livelihood options and strategies:** Wealth categorisation of households in the community was done during the FGD discussions in all eight sites. The categorisation was done by FGD participants based on Comparative household economic status in the community. The participants opined that on average most (>92%) community members were categorised either poor (32.6%) or Medium (59.6%), while only 7.8% households were considered to be rich during the wealth categorisation exercise in Dailekh. Community members mentioned during the discussion that there are only few households who produce food sufficient for their family for 12 months or more. For most of the households, own production is sufficient to meet 3-6 months of household food requirement only (Figure 1). Low irrigation facility, erratic rainfall and uncertain winter precipitation are leading cause for low production in the area. Farmers get some production from the summer crops depending on good/bad season, but winter crop is purely an uncertain business for farmers in expectation of winter rain. As a result, many farmers do not bother wasting production resources and land remains fallow in winter. Maize is predominant crop in the summer and wheat during the winter. Rice is most prestigious and valued crop, but the cultivation is limited to flat land in the river basin and irrigated terraced land in the low hills.

Farmers generally manage inputs (seeds and fertilizers) themselves, as they mostly grow local varieties and rely on compost/FYM for crop production. Agricultural extension support from local Government is either absent or occasional as only one community members recall the visit of agri-technicians (JTs/JTAs) to the community. There is general lack of financial service providers. The only Bank (NCC Bank) in Mahabu also providing saving and withdrawal of cash as the bank is reluctant to provide loans due to absence of credible co-lateral as deposit for the loan. In the past, relatives and local lenders use to be the only source of loan for community members. The interest rate for the loan from village lenders use to be very high (36-60%). At present, Saving and Credit Group, established in most communities, are playing the role of financial safety net. Community members are receiving loans from their own Saving and Credit Group with a modest interest rate, which ranged between 12% (most groups) to 24% (fewer groups).

Caste based marginalisation is diminishing but still exist as Dalits community felt socially marginalised. While households with PwD and landless households were the most vulnerable groups in the community. Most of the community opined that poverty ridden households are also marginalised and vulnerable. In addition, lack of land, decrease in food production, lack of technical skill, lack of education and awareness, lack of economic resources, reduction in labour availability due to seasonal migration, destruction of standing crops by wild animals were among the other reason contributing to vulnerability for community members.

Livelihood strategy and option of the targeted communities (Badi and Raji) in Surkhet is however different compared to targeted communities in Dailekh. Most of the targeted households in Surkhet do not have land. Badi community in Jhupra Basti is a settlement in the bank of Jhupra river, while Badi community in Sattari village is situated on the bank of Sattari river and Raji Basti is a densely populated settlement near Chhinchu. Most Badi and Raji households in Jhupra basti and Sattari village have only 30-100m<sup>2</sup> area being used as kitchen garden. Most households in Raji community in Raji Basti possess land but the area was very small (usually 1-2 ropani). Daily wage labour and some skilled work (truck/tractor driver, mason, carpenter etc) are the main occupation adopted by targeted households for their livelihood, which is different from agrarian based livelihood of the targeted households in Dailekh.

Vegetable production was observed in all surveyed locations. The size of production however was different. In Surkhet, the production was limited to kitchen garden scale around the home. While Households in Dailekh produced vegetables at different scale and with the use of some improved technologies (such as polyhouse, micro irrigation, biopesticides).

**Seasonal migration to India:** At present, large numbers of young people are leaving Nepal every day in search of jobs to ensure family livelihood in other countries. Reduced prospects of economic prosperity in the country are compelling youths to explore employment opportunities in other countries. Extreme poverty, lack of employment in hometown, climate change effects, environmental degradation, natural and man-made disasters/ conflicts are among the primary factors associated with the rising migration trend among Nepali youth (IoM, 2019). Qatar, UAE and Saudi Arabia are the most preferred destination among workers who obtained labour approvals (Figure 2), etc).

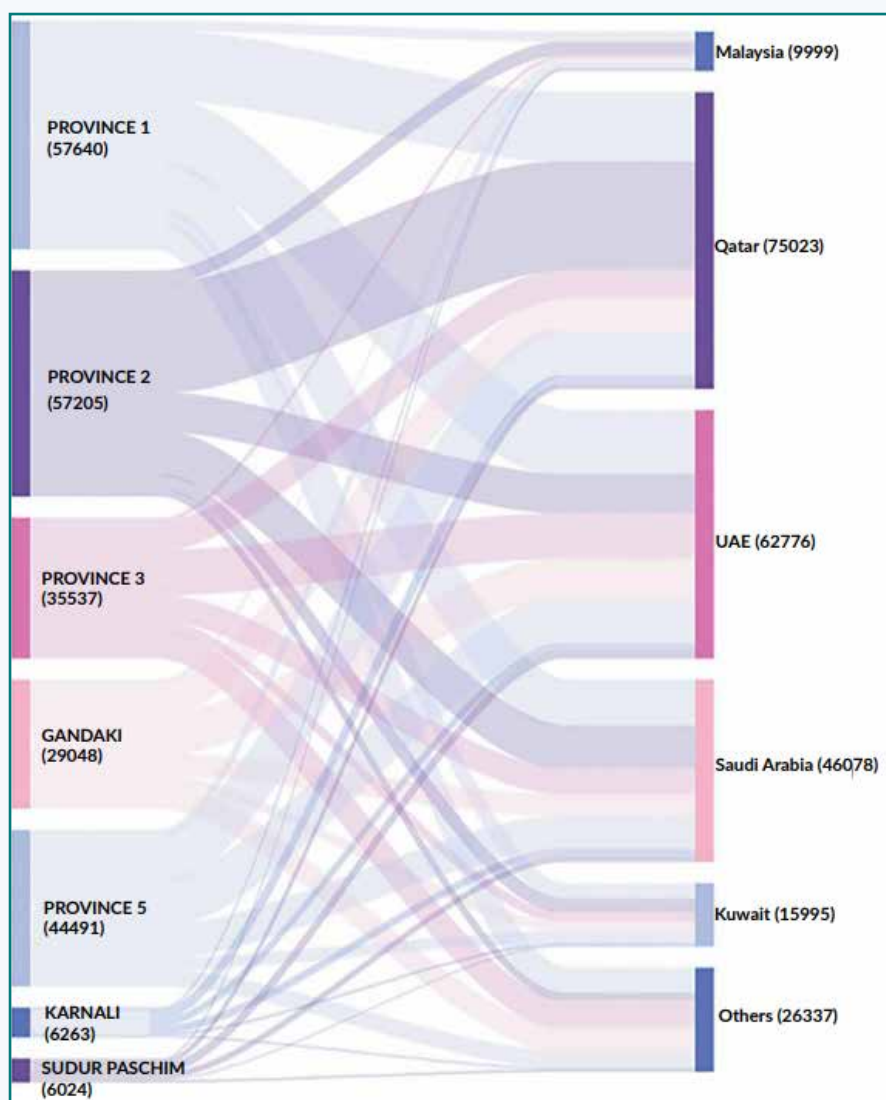


Figure 2. Major destination of Nepali labour migrant workers, 2018/19 (MoLESS, 2020).

However, India remained destination of Nepali migrant worker since long. It is the low cost - low return destination, therefore even a poorer migrant can afford travel to India (Shrestha, 2017). In addition, the open border waives all official formalities to travel to India making the migration informal and unrecorded. Relative proximity and ease in finding job due to similarity in language and culture could be the reason for India becoming the choice of Nepali migrant workers. As most of the workers from Karnali and Sudur Paschim provinces migrates to India and therefore their number in other countries is low and their presence in India is unrecorded. About 60% migrants arrange their travel cost by borrowing mostly from village lenders, friends and relatives.

Nepal witnessed a significant rise of absent population (not living in the country) in recent years (CBS, 2014). The absent population increased by two-fold (3.2% in 2001 cf 7.3% in 2011) within a decade (Table 5). Most of the absent population in 2011 were male (87.6%). Purpose of migration from Nepal was mainly for foreign employment and almost one in every two households had a member who was either working in or had returned from other countries (IoM, 2019). The remittance from the migrant worker contributed mainly in improving living conditions, food security and children's education. Despite the migration contributed to remittance flow in the country and has significant positive effect on household and Nepal's economy, it also has escalated social issues as well as shortage of productive labour forces in Nepal. Income from seasonal migration to India is low compared to other countries. Generally, earning from seasonal migration to India is merely sufficient to pay back family loan borrowed to meet the household need.

Table 5. Absent population in Nepal 1981-2011

Year	Number of absent population (%)		
	Total	Male	Female
1981	402,977 (2.6%)	328,448 (81.5%)	74,529 (18.5%)
1991	658,290 (3.4%)	548,002 (83.2%)	118,288 (16.8%)
2001	762,181 (3.2%)	679,489 (89.2%)	82,712 (10.8%)
2011	1,921,494 (7.3%)	1,684,029 (87.6%)	237,400 (12.4%)

Source: CBS (2014).

The exodus of economically able and active population has reduced the work force required to improve the agricultural production. It is difficult for the young, elderly and women left behind to continue the cumbersome farming work without their young and able workforce. The exodus is so significant that there is scarcity of labour to hire for farming operations. The problem is acute during the time of main agricultural operation - particularly during rice transplanting and harvesting. The family

try their best to crop paddy - main staple crop of Nepal, but they generally leave their land fallow in winter. So fallow area is more during winter.

Discussion with community members revealed that seasonal migration is very common practice in Dailekh. Almost every household adopt this strategy to generate much needed cash income. Around 85% households from the surveyed communities in Dailekh were practicing seasonal migration mainly to India. Only households with less able elderly,





minors, disabled do not migrate. Migration of male members has been instrumental in generating much needed cash to pay for the required goods and services for the family. However, this also shifted the responsibility as well as workload of male members to female as a result women's drudgery further escalated. The situation becomes particularly difficult for female members in the household to handle when family encounter with new problem, such as illness, accident, calamities or disaster). Despite the importance of migration for generating cash but at the same time it is equally responsible for reduced farm production due to reduction in labour force. Migration is one of the important contributing factors for

winter fallow in the region. In some communities, female and minors felt more unsecured in absence of male members.

The situation in Surkhet however was different, where very few people found to migrate India for seasonal work. Badi and Raji communities in Surkhet live in the riverbank and their main occupation was to extract sand, gravel from the river. They are poor and do not have land to cultivate, but regular work opportunity was there. Thus, they were able to generate cash for their livelihood. There was no need for Badi and Raji communities in Surkhet to migrate India in search of work. Thus, employment opportunity has been appeared to be one of the important deciding factors for migration to India.

### Badi and Raji community

The Badi and Raji people are nomadic entertainers and performer. Traditionally they used stage dance, musical performances, make musical instrument for their livelihood. Later with the decrease in demand for singing and dancing, staging performance alone could not meet their livelihood requirement. Then Badi and Raji women then adopted prostitution as means to earn income for their livelihood. Prostitution is however illegal in Nepal, but Badi and Raji girls grow up accepting prostitution as their way of life. Later, Badi and Raji women inclined slowly towards leaving prostitution and started to adopt alternative profession for livelihood. Generally, Badi and Raji people did not have land as they were not supposed to engage in agriculture. A superstition was prevalent in the past that the soil becomes unproductive if Badi and Raji people touch the soil. Therefore, most Badi and Raji people do not have their own land and are living in land officially designated as forest or public land as in case of Jhupra Basti and Sattari village. Despite the past misconception, they have started vegetable production in small area, work as daily labourer as well as skilled worker (driver, mason, carpenter etc). However, though not common but some form of prostitution is still in practice.

## 5.3 Problem associated with Climate and disaster risk



Temperature is increasing in recent years. Frequency and duration of drought is increasing. Which is manifested in decreased length of winter, increased frequency and length of droughts associated with decrease in water sources in recent years.

Local community experienced rainfall is decreasing substantially in recent years. In addition, rainfall is becoming increasingly erratic and unpredictable. Intense rain caused flooding, landslide, riverside cutting and water pollution during summer. While there was no winter rain last year (2021) and farmers did not grow winter crop now a days and land remain fallow during winter. Water resources are disappearing gradually. The source of natural water (springs and wells) is disappearing from higher elevation gradually towards lower elevation as if the water sources are shifting towards lower elevation. As a result, Women had to invest more time and efforts in fetching drinking water. As a result, one of the communities in Birendranagar-14 is in the verge of getting displaced.

Incidence of plant diseases, insect and natural hazards in recent years are major threats to agricultural production. Similarly, community experienced adverse effects on human health

also. For instance, incidence of water-borne diseases is increasing due to contamination of water as result of flooding, landslides and pollution. Community also mentioned about appearance of new types of insects not native to the area such as mosquito.

Effects of climate change is being felt in more than one way. For instance, there was no flowering of rhododendron, while bayberry (Kafal) did not set fruit during 2021 season. In addition, following environmental issues were most commonly cited problem affecting their farm production and livelihoods in Dailekh.

- Strong wind during grain filling stage of maize.
- Drought during winter
- Hailstone during harvesting stage of rice and wheat.
- Excess precipitation during monsoon.
- Landslides.
- Flood.
- River side cutting.

Climate change adaptation actions by farming communities are mediated by their perceptions. In addition, increase in temperature and drought both is affecting agricultural productions adversely. In some case, farmers have lost entire production of

the crop season. To adapt with the changed climatic conditions, farmers had adopted new cultivars, shifting planting time, strengthening irrigation systems, protecting watersheds to preserve water resources, rehabilitating traditional ponds/ water bodies, promoting afforestation and using smart irrigation technologies. While in other case, farmers changed farming practices, sold livestock, engaged in daily wage labour and adopted seasonal labour migration. Farmers reported these climatic adversities to have substantial negative impact on agricultural production resulting in food insecurity thereby declining livelihood capacity.

Some evidence of climate change supporting experiences of community members have been presented below:

**Temperature:** Mean temperature increased by 0.06o C annually during 1987-2017 (MoPE, 2016). Between 1960-2003, the number of hot nights increased by 2.5% (USAID, 2017). The warming trend is spatially variable, which was more evident in high altitude regions in the north and during the winter season (MoE, 2011). Average temperature is projected to increase by 1.3-3.8°C by the 2060s and 1.8-5.8°C by the 2090s (MoPE, 2016) increasing the frequency of hot days and nights (USAID, 2017). Frequency of consecutive dry days projected to increase by 3-7% (USAID, 2017). Trend analysis revealed an increasing trend in annual mean and annual maximum temperature in high altitude more

than that of lower altitude (Baidya et al., 2008). Consequently, the snow cover on the Himalayan Mountain is melting fast. Between 1977 and 2010, total estimated ice reserve in Nepalese Himalaya has decreased by 29% (129 km<sup>3</sup>), glaciers recede by an average by 38 km<sup>2</sup>/year, and number of glacier lakes has increased by 11% (MoPE, 2016). This led to increase in flooding during the summer, decreasing water flow in the river during the winter and exhausting much needed flow of water for agricultural production during the winter.

Higher temperatures are expected during the winter season, especially in the far western and central region. Research (MOFE, 2018) evidence that rise in temperature will be sharper in the high mountains than in areas at lower elevations. As a result, agro-ecological zones will shift upwards altitudinally, as is already being experienced by mountain farmers in Nepal. Temperature is increasing in winter may lead to decrease in snow fall, further accelerating glacial degradation and retreat leading to the formation of new glacial lakes that may profoundly impact the Himalayan environment. Temperature rise in winter will contribute as well to the reduction of soil moisture and acceleration of erosion and, therefore, having an impact on winter crops.

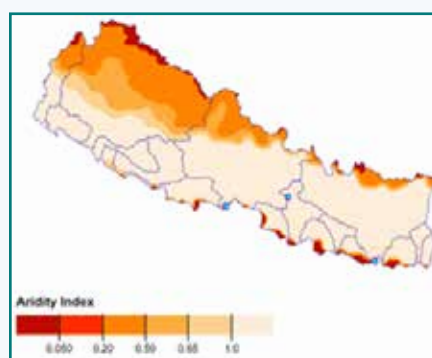
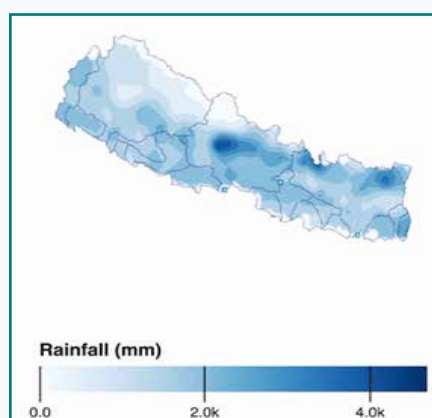


Figure 3. Drought Column  
(Source: Climate Smart Agricultural Investment Plan (CSAIP), 2019.)

**Drought:** Drought is a period drier than normal conditions that leads problem associated with water stress (MoHA, 2015). Droughts occurs as a result of acute water shortage due to lack of rains over extended periods of time and lead to widespread crop failure, drying of springs and water sources leading to drinking water shortage, depletion in lakes/ reservoirs water, and reduced availability of fodder and pasture. Droughts are becoming more frequent, particularly during the dry season (USAID, 2017). Frequency and duration of droughts increased due to increase in average annual temperature and decrease in precipitation during winter affecting production of winter crops adversely. Time series study (1987-2017) of climatic parameters has revealed frequent occurrences of drought events during summer maize and winter wheat crop season that occurred during the sensitive period of crop growth (Hamal et al., 2020). This has made agricultural production increasingly vulnerable to such extreme weather conditions. Insufficient irrigation facilities make the problem even more serious as prolonged drought condition pose adverse effect in crop production. As agriculture is the primary source for livelihoods for the majority of people, however only 17% of the total area is cultivable (USAID, 2017). About 75% of the farmland is rainfed and is recurrently affected by droughts posing adverse effects on crop and livestock production (Fig. 3). Agriculture contributes to ~27% of Nepal's total gross domestic product, any negative impact on agriculture will have far reaching consequences on livelihood of the poorer section of the society (MoF 2020). Western Nepal experiences a higher occurrence and impact of drought than Central and Eastern Nepal.



**Precipitation:** Monsoon contributes 60-80% of the annual rainfall in Nepal. Annual average precipitation in Nepal lies around 1500 mm. Generally, onset of monsoon rain is observed in the eastern Nepal on June 10, which advances westwards and covers the whole Nepal within a week then retreats usually by September 21 (Yogacharya and Gautam, 2008). Territorial

as well as seasonal variation in precipitation is significant in Nepal. The heaviest rainfall falls on the Pokhara region (Lumle station 5180mm/year), while the rain shadow area receives the lowest rain (Jomosom station 273 mm/year)(Nayava, 1980). The western part of Nepal receives low annual rainfall compared to the eastern part (Fig. 4). Monsoon precipitation (June to August) shows a general increase causing floods, erosion and landslides in the central region.

Figure 4. Precipitation, Nepal 2019.  
(Source: Climate Smart Agricultural Investment Plan (CSAIP), 2019.)





With only about 40% of the total agricultural area with irrigation facilities, Nepal's agriculture is heavily dependent upon the monsoon rainfall (DoWRI, 2019). In addition, the amount of rainfall has decreased in recent years as the mean rainfall decreased by an average of 3.7 mm (-3.2%) per month per decade (MoPE, 2016). Extreme rainfall projected to increase by 35-52% particularly during July-September, thus dry season projected to be drier and monsoon season even wetter (USAID, 2017). Analysis of regional and seasonal variation revealed increased precipitation in high rainfall regions and seasons, becoming wetter, while reduction of precipitation low rainfall regions and seasons, becoming drier (MoPE, 2004). This has increased likelihood of flooding, soil-water erosion and landslides during rainy seasons owing loss of top fertile soil due to soil erosion, landslides and floods and drought during the winter season pose adverse effects on agriculture production and livelihoods security.

**Floods and landslides:** In Nepal, over 6000 rivers and streams flowing north to south through steep slope terrain with high velocity due to high river gradient (MoHA, 2015). High slope area (hills and mountains) constitutes about 75% of the total land area in Nepal. High rainfall in such steep slopes leads to swelling up of river and develop flood, landslide and debris flow. Floods and landslides are the most destructive types of disasters in Nepal.

Sloping land in the hills are prone to flash flood and landslides while flat lands in terai

are prone to flash flood, deposition of debris and inundation. Terai (floodplains in the south) are the most productive agricultural areas but are prone to floods and riverbank cutting. Increased temperature during summer caused rapid melting of snow and increased rainfall during monsoon have increased flood and landslides incidents in the country.

Nepal is recurrently witnessing damages to agricultural land, crops, human settlements and other physical properties due to floods and landslides (MoHA, 2015). Every part of the country, including mountains in the north, hills in the middle and plains in the south, are vulnerable to flood and landslides and often they create havoc. Floods and landslides damaged nearly 1% of the area between 1984 and 2003 (MoEST, 2008).

Landslides are common natural disaster particularly during rainy season in sloping upland of hills and mountain. Landslides results in loss of productive layers of soil leading to decline in crop production as well as productivity. Severe landslides often cause total loss of agricultural land, settlements properties and life (Table 6). High-intensity rain, steep slope, weak geology along with human-induced factors (deforestation, disturbance of ground cover during farming and infrastructure development) contribute to the development of landslide. Landslides deposit debris in cropland, damages the standing crop as well as future production. It also contributes in increasing erosivity of swelling river to damage life and properties downstream.

**Table 6. Human deaths due to flood and landslides in Nepal during 2013-14**

Disasters	2013	2014
Flood	132	128
Landslide	87	113

Source: MoHA (2015).

**Climate induced vulnerability:** As a result, Nepal is vulnerable to climate induced hazards. Long-Term Climate Risk Index indicates that Nepal is one of the most affected countries (ranked 9th globally) due to climate risk during 1999-2018 (Eckstein et al., 2020), which explains the intensity of climate related stresses (Table 7). As Nepal ranked 4th for climate change risk, 11th for earthquake risk and 30th for flood risk globally (UNDP/BCPR, 2004).

**Table 7. Situation of climate induced stresses in different ecological zones of the country**

High hills	Mid hills	Low hills/terai
<b>Temperature</b> <ul style="list-style-type: none"> <li>• Days getting hotter</li> <li>• Nights getting colder</li> </ul>	<ul style="list-style-type: none"> <li>• Days getting hotter</li> <li>• Hot days increasing</li> <li>• Nights getting colder</li> </ul>	<ul style="list-style-type: none"> <li>• Rise in temperature in summer</li> <li>• Decrease in temperature in winter</li> <li>• Increase in both extreme hot and extreme cold days</li> <li>• Increase in both diurnal and seasonal duration of cold wave</li> </ul>
<b>Rainfall</b> <ul style="list-style-type: none"> <li>• Increasingly unpredictable</li> <li>• Late onset</li> <li>• More rain in monsoon</li> <li>• Torrential rain event increasing</li> <li>• Low rain in dry season</li> </ul>	<ul style="list-style-type: none"> <li>• Increasingly unpredictable</li> <li>• Late onset</li> <li>• More rain in monsoon</li> <li>• Torrential rain event increasing</li> <li>• Low rain in dry season</li> <li>• Droughts getting longer</li> </ul>	<ul style="list-style-type: none"> <li>• Increasingly unpredictable</li> <li>• Late onset</li> <li>• Increasing events of torrential rain for short duration</li> <li>• Decrease in number of rainy days</li> </ul>
<b>Snowfall/ hailstorm</b> <ul style="list-style-type: none"> <li>• Decreased snowfall</li> <li>• Changes in snowline</li> <li>• Snow melting</li> </ul>		

Source: MoE (2010).

One-third of the districts in Nepal are highly vulnerable to overall climate change effects (MoE, 2010). Vulnerability due to Landslide and drought are more widespread while NAPA and flood vulnerability is more niche specific (Table 8). More investment on research and capacity building is suggested to develop technologies to adapt and/or mitigate climate change effects.

**Table 8. Vulnerability to different environmental hazards.**

Vulnerability	Number of districts (N=75 districts)	
	Very high vulnerability	High vulnerability
Glacial lake outburst floods (GLOF)	6	6
Drought	7	15
Flood	1	8
Landslide	4	25
Overall climate change vulnerability	9	17

Source: MoE (2010).

### Climate induced land degradation:

Depletion of soil nutrients, and reduction in soil organic matter (SOM), soil compaction, soil erosion, and loss of biodiversity are the major types of land degradation witnessed in Nepal. It is estimated that 1.7 mm of topsoil is lost each year due to soil erosion, while it takes about 100 years to convert 1 cm of soil from its parent materials in nature (Gautam, 1993). Loss of topsoil have occurred as a result of conscious and unconscious anthropogenic activities (Chalise et al., 2019). Great variation exists in the topography and land-use patterns as well as population and development interventions even within the physiographic regions which produces different types of land degradation (Table 9).



**Table 9. Types of land degradation in different physiographic region of Nepal.**

Land degradation type	Terai Plains (60 - 700 m)	Siwalik Hills (700 - 1500 m)	Middle Mountains (1500 - 2700 m)	High Mountains (2000 - 4000 m)	High Himalayas (4000 - 8848 m)
Flooding	✓				
Water logging	✓				
Shifting of river course	✓				
Riverbank cutting	✓		✓	✓	
Sheet erosion	✓				
Rill erosion		✓	✓	✓	
Inter-rill erosion		✓	✓	✓	
Gully erosion		✓			
Mass wasting			✓	✓	
Rockslides					✓
Glacial lake outburst					✓

Source: Chalise et al. (2019).

Note: Middle mountain, high mountain and high Himalayas dominates the topography of the proposed project area.

Poorer section of the society generally lives in remote, marginalised, low productive marginalised areas, which is prone to disaster particularly climate induced vulnerability. They are directly exposed to the effect of climate change and various vulnerability situations. Thus, such communities are most affected by the untoward effect of such stresses. In addition, poor education, skills, access to information and confidence contribute to keeping them hooked in the loop of intergenerational poverty cycle.

### Climate change actions of local government:

Climate change issues have attracted the attention of local governments. All three Palika authorities in the project area (Mahabu Rural Municipality, Birendranagar Municipality and Bheriganga Rural Municipality) have identified climate change as important issues and started to work on this issue. However, only Birendranagar Municipality has developed strategy document and local plans (such as climate change adaptation plan, Preparedness and response plan etc), while Mahabu and Bheriganga Rural Municipalities are yet to prepare these locally adapted strategies and plans without which it is difficult make strategic advances towards combating the climate change effects and minimising disaster risks. As yet, action from Palika authorities is limited to passing by mention of the climate change issues in the annual plan. Technical support from project would be great help to Palika in developing locally adapted strategies and plans to embark on long-term fight against climate adversities and disaster risks.

## 5.4 Target area and suitability of activities selected



Agriculture is main livelihood strategy for the households in Dailekh. However, farming is increasingly challenged by climate change effects (drought, drying of water sources etc) and disaster risks (landslides, river side cutting etc). Proposed interventions are expected to reduce climate change effects as well as enhance household livelihood capacity.

Farmers in Dailekh are aspiring to enhance household income through vegetables production. Dailekh districts import vegetables from Surkhet and other big markets in the south, however, there is no local market in the target area to consume any further increase in production. Poor market network and value chain development is the main obstacles to achieve their aspiration. The quality of vegetables produced in Dailekh district is considered of high standard and is expected fetch good price if supplied to bigger settlements within and outside the district.

Targeted households in Surkhet district do not have sufficient land to augment enhancement of household income through agricultural production. Livestock (pig, goat and chicken) rearing and production of some high value food (such as mushroom) could however be option. The existing livelihood strategy of the target households is also based on off-farm activities. Therefore, different strategies would be appropriate to improve livelihoods of the target households in Dailekh and Surkhet. Agriculture based livelihood strategy focussing on on-farm production would be appropriate in Dailekh, while off-farm livelihood strategy focussing on enhancing vocational skills (such as plumbing, masonry, carpentry, driving, petti-shop, electrical/automobile mechanics, mobile vendor, etc) would be more appropriate in enhancing livelihood capacity of the target households in Surkhet. It is suggested to explore the possibility of leasehold farming opportunity for poor and marginalised households with palika authority.



Enhancing community stewardship towards their land and nature is possible only if the community possess capacity to do it. Poor households lack time and resources to invest for the stewardship action. Enhancing livelihood capacity of local community is expected to care and management of land and nature.

Existing livelihood strategy of target households (sand/gravel extraction from river, stone crushing) in Jhupra Basti and Sattari village is affected by the introduction big industrial machineries (excavators and trucks) by contractors and industrialists mining the available resources rapidly from the area. This has threatened their existing means of livelihood. The community expressed great concerns towards this and requested support in finding new livelihood options for them. In such a situation, enhancing vocational skills would help them in enhancing household income and livelihood capacity.

Local community in both the districts are facing different climate change effects and disaster risks. Establishment of CRV proposed is expected to alleviate climate change effects and adapt or mitigate disaster risks. The project success on this is likely to encourage other community to establish CRV, other palika to extrapolate and scale-up the successful achievement in the project site. Moreover, project site could be place for learning/ study for policy makers, politicians, academicians, development workers, students etc.

Network of likeminded organisation has two-fold advantage; first the concept will be institutionalised with the government system; and second, the initiatives will sustain even after the project and will establish authenticity of the structure under the Palika.

## 5.5 Specific comments on LogFrame

Detailed comments/suggestion are provided in last column of the LogFrame (Table 10). Main issues to consider:

- Selection of target threshold values: please do consider the numerator and denominator for each value, source of information and collection methods
- Most activities planned under Outcome 2 are suitable for Dailekh only. Inclusion of off-farm vocational skill-based activities (such as plumbing, masonry, carpentry, driving, petti-shop, electrical/automobile mechanics, mobile vendor, etc) is suggested for Surkhet.



Table 10. Project Log frame – comments and suggestion

Expected Results	Indicators	Baseline	Target	Comments/ suggestions
Impact: Vulnerable and marginalised communities are resilient to climate change and disaster risks, and engaged in sustainable livelihood/economic growth				
Outcome 1: Empowering local leadership, multi stakeholder's engagement and partnership to inclusive and resilient development	CBOs, CBNOs, CSOs and multi stakeholders engaged in policy formulation and local planning process	0	90%	How to calculate 90% participation? What is numerator & denominator?  <b>Suggested wordings:</b>  <ul style="list-style-type: none"> <li>By the end of the project, 90% CBOs, CBNOs &amp; CSOs established by the project engaged in policy formulation</li> <li>By the end of the project, 90% CBOs, CBNOs &amp; CSOs established by the project engaged in local planning process</li> </ul> Note: CBO, MC & CBNO or CBO, CBNO & CSO? Which one is correct? This appears in multiple positions.
	CBOs, CBNOs, CSOs and private sectors are advocating for the climate resilient development	0	90%	How to calculate 90% participation (numerator/denominator?) Would it be possible to get 90% private sectors advocating for climate resilient development?  <b>Suggested wordings:</b>  <ul style="list-style-type: none"> <li>By the end of the project, 90% CBOs, CBNOs &amp; CSOs established by the project engaged in policy formulation</li> </ul>
	Climate change and disaster response program mainstreamed in Local level planning	0	3 Palika	<b>Suggested wordings:</b>  <ul style="list-style-type: none"> <li>By the end of the project, 90% CBOs, CBNOs &amp; CSOs established by the project advocate for climate resilient development</li> </ul>
	Private sector increased their investment in the climate resilient alternative livelihood activities	0	20%	Again, what are numerator/denominator? And, whether they are practically possible to collect (source of information?).
Output 1.1: Strengthened the capacity of CBOs, CBNOs, CSOs, Palikas and multi stakeholders on climate resilient development planning process	Number of CBOs, CBNOs, CSOs, Palikas and multi stakeholders' members trained on climate resilient village approach	0	250	Please refrain from using vague words like 'multi stakeholders'. Suggest using the name/category of stakeholder.
	% of community structures like CBOs and CBNOs sensitised on climate change and disaster issues	0	90%	
	Number of awareness campaigns organized	0	50	
	Number of policy and advocacy events organized at local level by CBOs and CBNOs	0	8	

Expected Results	Indicators	Baseline	Target	Comments/ suggestions
Output 1.2: Strengthened the capacity of the CBNOs to take leading role for social, economic and climate issues	Number of CBNOs developed their vision plan and implemented	0	2	This looks like two indicators 1. Number of CBNOs developed their vision plan 2. Number of CBNOs implemented their vision plan
	Number of CBNOs members trained in leadership, good governance, fundraising and financial management	0	120	Is this one training package? If not, participants number can be different in different training. How to monitor? Should we have different indicators (training wise)?
Output 1.3: Enhanced the capacity of local communities to prepared and manage the climate and disaster risks	The number of local level inclusive climate and disaster resilient plans prepared	0	3	
	% of CBOs received financial and technical support to implement the resilient plans	0	70%	
Output 1.4: Increased private sectors investment to support sustainable climate resilient alternative livelihood	Number of climate resilient Livelihood Improved Plan (LIP) prepared/submitted by CBO members	0	60%	Unit of Indicator (No) and target (%) is not matching. Please correct!
	Number of CBO members (% of female) accessed the financial support from private sector for their climate resilient livelihood improvement plans	0	100	Indicator (particularly the text within the parenthesis) is not clear. Please re-phrase the indicator.

#### Activities for Outcome 1

- Training on leadership development, strategy development, fundraising and social mobilization to the community members
- Training on various climate resilient agriculture technologies and practices, climate change adaptation, mitigation and Disaster Risk Management
- Promotion of social inclusion and women's right through awareness champions
- Linking the Duty Bearer and the Right Holders through the regular dialogues and meetings
- Meetings and discussion with private sectors for the Coordination and partnership
- Organization of a multi-stakeholder process to identify and accompany the implementation of priority, economically sustainable and interesting innovations
- Support to the CBNOs for its capacity building activities

Communities are more concerned about diminishing water resources. Some communities in Surket are in the verge of translocation due to water shortage in the area. Therefore, activities to rejuvenate local hydrology (particularly those activities that help in reducing run-off, increased infiltration and recharging local aquifers, such as construction/repairment of local reservoirs, conservation farming etc.) needed to be considered.

Outcome 2: Promotion of the alternative climate resilient sustainable livelihood for the economic growth	% of targeted HHs increased their annual income by 25%	0	60%	
--	--	---	-----	--

Expected Results	Indicators	Baseline	Target	Comments/ suggestions
	% of targeted HHs increased their food self-sufficiency by one month	0	40%	How would you achieve this in Surkhet, where target beneficiaries do not have land?  <b>Suggested wordings:</b>  % of targeted HHs receiving on-farm livelihood support increased their food self-sufficiency by one month
Output 2.1: Targeted households engaged in alternative climate and disaster resilient income generating activities and enterprises	% of targeted HHs received technical knowledge and skills of IGAs	0	70%	
	% of targeted IGA holders trained on business and entrepreneurship skills	0	60%	
Output 2.2: Identified and promoted the value-chains of local commodities	Number of targeted HHs trained on value chain mechanism	0	90	
	Number of value chain mechanism developed for different local commodities	0	3	
Output 2.3: Youth (male and female) from targeted families have enhance technical education and vocational Training (TVET) skill	Number of youths enrolled in vocational training courses	0	50	Vocational training and business support should be among the main components for livelihood enhancement in Surkhet. Therefore, consider if this target (50) appropriate to increase.

### Activities for Outcome 2

- Assessment of the local climate change and disaster vulnerability and the resilient plans preparation and implementation
- Demonstration site establishment for the climate resilient village
- Promotion of climate resilient and drudgery reducing agriculture technologies to the community
- Reduce chemical pollution by using bio pesticides and organic manures
- Community seed bank establishment for the agro-biodiversity conservation, quality seed production and distribution to the locals and the income generation
- Promotion of climatic stress tolerant crops promotion including horticulture
- Commercial farming promotion through pocket area approach
- Strengthen local Cooperatives and develop the value chain for the marketing of the major commercial products
- Support for the on farm and off farm income generation activities
- Promotion of local innovation for the climate change adaptation, mitigation and Disaster Risk Reduction
- Information and Communication Technology (ICT) development to access information on weather and disaster forecast by the community
- Organization of stakeholder meetings to identify producer groups and cooperatives in the priority value chains to be identified
- Action research on climate-resilient agriculture and Climate resilient village approach

Majority of activities under Outcome 2 are suitable for Dailekh only. As most of the target holders in Surkhet didn't have land to cultivate. Some activities that can be done in small land (such as Pig/poultry/goat farming, mushroom production etc.) can be planned for Surkhet. Having said that some off-farm and vocational skill-based livelihood enhancement interventions (Such as plumbing, masonry, carpentry, driving, petti-shop, electrical/automobile mechanics, mobile vendor, etc) is suggested to design for Surkhet.

Expected Results	Indicators	Baseline	Target	Comments/ suggestions
<b>Activities for Outcome 2</b> <ul style="list-style-type: none"> <li>• identification and promotion of the local climate resilient technologies and practices, and testing innovations in the fields (e.g. demos of plots of participating farmers etc.) and documentation.</li> <li>• Advisory for the long-term institutionalization of action research approaches in local universities.</li> </ul>				
Outcome 3: Evidence and Knowledge generation on climate resilient communities, documentation and dissemination to scale up and also feed the policy and practices.	Number of climate resilient villages established as the model demonstration sites disseminate to the policy makers and practitioners	0	6	
Output 3.1: Knowledge products of good practices, evidence, and results demonstrating effective disaster and climate resilience disseminated	Number of publications in different forms such as electronic and print media, brochure, and research papers prepared and disseminated	0	3 case studies, 1 video document 15 Brochures 2 journal papers	
Output 3.2: Partnerships and knowledge exchange facilitated through different networks and media	Number of workshops and seminars organized for province and national level	0	5	
<b>Activities for Outcome 3</b> <ul style="list-style-type: none"> <li>• Documentation of the learning and success stories in the form of print and electronic media and dissemination it with the policy makers</li> <li>• Travelling seminar to facilitate 'learning by seeing' to the local policy makers and stakeholders</li> <li>• Orientation on existing laws and policies of local and federal government to the CBOs, Local Cooperative and Community Based Network Organizations (CBNOs)</li> <li>• Evidence based advocacy on climate change, DRR and social discrimination</li> <li>• Integration of climate change and Disaster resilient plans into local annual development plan</li> <li>• National and provincial workshops and seminars</li> </ul>				

In summary,

- Available evidence suggest that the problem statement is defined well and still valid.
- Livelihood strategy adopted by target household in Dailekh and Surkhet are different, therefore different types of interventions is required for enhancing livelihood capacity of target household in the project area.
- Development of MEAL plan defining the numerator and denominator for each target value is suggested.



## 6. Developmental Impact



### 6.1 Relevance

The proposed action is well in line with the SDG, national plan and provincial plan for development. This action contributes to achievement of following development goals of SDG.

SDG 1: End poverty in all its forms everywhere

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

SDG 5: Achieve gender equality and empower all women and girls:

SDG 6: Ensure availability and sustainable management of water and sanitation for all

SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

SDG 13: Take urgent action to combat climate change and its impacts

Similarly, the major focus of the 15<sup>th</sup> five-year plan (2019/20-2023/24) of Nepal is on high and equitable national income; high and sustainable production and productivity; healthy and balanced environment. The plan targeted to increase per capita national income to USD 1,585 against USD 1,051 that of the base year of the plan 2015 (NPC, 2017).

While, the First 5-year Plan of the Karnali Province outlays the plan to increase the per capita income from existing USD 606 to USD 1147 within 5-year period of the plan (by 2024/25). In addition, the plan projected to increase agricultural sector productivity from 4.4% to 11.1%, increase the area under year-round irrigation from 15.5% to 33%, reduce the

proportion of population below poverty line from 28.9% to 18%, reduce unemployment rate from 9.7% to 6%, achieve gender development index of 0.930, increase the proportion of household with basic food security from 22.5% to 50%. In addition, the Karnali province is high priority to fight against climate change effects, reduce the incidences and impacts of disaster risk and promote organic agriculture in the province (KPPC, 2020).

Among the seven provinces in Nepal, Karnali is the poorest province in Nepal (KPPC, 2020). Agriculture is the main source of occupation and livelihoods but only ~6% of the land area is used for agricultural. Only 15% of agricultural land of the province is irrigated and land holding is small (average 0.54 ha/hhs) and fragmented that dictates the productivity of agricultural crops. As a result, Karnali is food deficit region with an annual deficit of 25,428 tons which is manifested by the fact that at least 40% people are food insecure and 55% are undernourished. This province has 600,000 people in multidimensional poverty and has the lower Human Development Index (HDI) of 0.538 (NPC and UNDP 2020). More than 77% of households in the province are not sufficient even to feed them (myrepublica, 2019). Karnali Province in Western Nepal is the most vulnerable province in terms of climate change and disaster risks despite the fact that Nepal is least contributor of global warming, which is evident from the amount of Greenhouse Gas (GHG) emission compared to other countries in the world (MoHA, 2015). High temperature, torrential/ no rain, flood, landslide, and drought are recurrent climate induced hazards with varying intensity and impacts.

Significant proportion of area in Dailekh is without irrigation. About one quarter (25%) of land has Irrigation facility in Dailekh (CBS 2074). More than 73% households in Dailekh produce food sufficient



for 6 months or less (CBS 2074). Discussion with community members revealed some important environmental issues are affecting agricultural production and livelihoods in Dailekh, such as strong wind during grain filling stage of maize, drought during winter, hailstone during harvesting stage of rice and wheat, excess precipitation during monsoon, landslides, flood, and river side cutting (refer Section 3 for further details). In this context, the issues identified and articulated in the proposal is relevant, which is key to the success of the project.

Most deprived and marginalised groups are more affected by climate change effects. SAHAS used participatory approach and involve beneficiaries during discussion, consensus building and decision making. As a result, ownership of beneficiaries and stakeholders is developed on the decision made and with consensus on the discussion and decision.

The project concept and structure were discussed with all three Palika authorities in the project area (viz. Mahabu Rural Municipality, Birendranagar Municipality and Bheriganga Rural Municipality). The authorities were also briefed about the Network and discussed the possibility of housing the structure within Palika system under the leadership of local government. All three local authorities responded positively and mentioned that CC has become an important issue for them. The local government are trying make advances on this issue and would welcome any collaboration towards this. They also welcome the plan to institute the Network within the local government system. All three Palika authorities agreed in the concept and pledged their support to collaborate in the proposed development venture.

## 6.2 Coherence

The proposed action is well connected with and contribute to achievement and national as well as local development policy, strategy and programmes.

Out of 17 main goals set out to combat development lacuna in Nepal, this action responds to achievement of 7 goals (refer section 5.1 for details).

High and equitable national income; high and sustainable production and productivity; healthy and balanced environment, the major focus of the 15th five-year plan of Nepal, are the major outcome this action is striving to achieve.

Karnali is known for poverty, short supply of food and lack of economic prospects. Karnali is the poorest province in Nepal and 28.9% people in the region are below poverty line 28.9% (KPPC, 2020). Most households are hooked in the loop of intergenerational poverty cycle and only 22.5% household have basic food security. Provincial and local government are trying to enhance economic prospects and reduce poverty in the region. Similarly, there has been increasing realisation among development actors about the on-going climate change phenomena and resulting effects as a result government as well as development partners are trying to respond the effects of climate adversity. But local government generally lack knowledge and skills to work on issues related to CC and DRR. This was evident from the fact that officials of all three palikas were enthusiastically welcomed to this initiative, expressed their interest to collaborate in this venture and pledged their support for the implementation of this proposed interventions.

Other development actors working in the area generally found to complement the proposed action. For instance, the drinking water scheme built by Gorkha Welfare Foundation and Helvetas is the source of waste-water in some communities, which is being collected and used for irrigating vegetable crop.

SAHAS adopt right-based working approach and implement pro-poor, pro-marginalised, pro-women development interventions. As a result, SAHAS actions not only helps in alleviating poverty, but also upholds the rights of the most deprived and marginalised section of the society.

## 6.3 Effectiveness

Dailekh is endowed with good environment vegetable production, particularly potato produced in Dailekh are considered to be of high quality. However, lack of irrigation and insufficient labour force, mainly due to seasonal labour migration, has been envisaged to be bottleneck for increasing vegetable production in the area. Water conservation (waste and rain water collection, plastic pond) and smart irrigation (drip and sprinkler irrigation) technologies extended by other projects of SAHAS Nepal has been found to very successful in combating water scarcity for farm production. During the FGD with community members, problem of labour

scarcity for increasing vegetable production was discussed. The community mentioned that they go for seasonal migration because they do not have alternative sources of income other than farm production and there is no employment opportunity available locally. They expressed their enthusiasm towards engaging in activities locally if that help them in generating much needed cash income.

SAHAS Nepal has long experience of implementing climate sensitive and bio-sensitive interventions in the area. The IFCO and BiOREM projects implemented by SAHAS Nepal were successful in addressing cc effects (drought) and other problems (such as low soil fertility, low temperature) affecting farm production. In addition, SAHAS Nepal also





has experience of implementing off-farm interventions and enhancing family income of some most deprived households. The interventions have increased farm production as well as household income. Community members in the previous project (IFCO, BiOREM) area quoted the success and were thankful to Project. SAHAS Nepal is planning to introduce the successful interventions in the proposed project area.

SAHAS Nepal has successfully established community organisation (CBOs) and their network (main Committee and CBNOs) for

sustaining the project work after the interventions. The success of these community organisations and their network will get institutionalised within the local government structure and thus expected to make favourable impact in wider areas and interventions. During the meeting, Palika officials were interested to house the network structure within the palika and provide patronage.

This indicates the proposed initiatives has identified the right problem and proposing correct solution to address the problems identified, which is expected ensure project effectiveness.

The outcomes expected are well balanced between environmental and livelihood issues. In addition, the outcome is also designed to secure collective actions from likeminded stakeholders and achieve sustainability through creation of permanent institutional set up under the local government. Thus, the project is crafted well to augment expected impact. Following points are suggested to enhance effectiveness project actions.

- Livelihood strategy and option of the targeted communities (Badi and Raji) in Surkhet is different compared to targeted communities in Dailekh. Most of the targeted households in Surkhet have adopted off-farm strategy as they do not have land and most of them living in the riverbank (officially designated as public land). While Households in Dailekh adopted on-farm livelihood strategy and produce vegetables at different scale and with the use of some improved technologies (such as polyhouse, small irrigation, biopesticides, etc). Therefore, in order to enhance the effectiveness of this project, different livelihood strategy for Dailekh (on-farm) and Surkhet (off-farm) is suggested.
- Targeted beneficiaries in Dailekh are involved in vegetable production at small (kitchen garden) scale. They also use some improved technologies for vegetable production, such as poly house, small irrigation, bio-pesticides etc. The produce is mostly used for home consumption and any excess production (which varies between households depending on size of production) is sold on market. There is no big market in or near Mahabu, but the quantity of excess production is also small. Thus, at present there is no problem of marketing, but if the quantity of production increased due to project actions, then access to bigger market is essential. Increase in Production is likely as farmers are now confident about using modern approach of vegetable production due to previous action like IFCO and BiOREM projects and have now realised the economic benefit from vegetable. However, access to market and orientation on value chain development is suggested before embarking of production enhancement otherwise wastage of perishable commodity would incur unbearable losses to poor beneficiaries.
- ASDP (Agriculture Sector Development Programme) is working on enhancing agriculture value chain In Karnali province. Mahabu Rural Municipality is one of the working areas of ASDP. Any collaboration with ASDP to establish link and contract between farmers' group and traders would benefit project beneficiaries. This collaboration could be instrumental in developing linking micro-meso -macro level activities for lasting impact and sustainability of the project action.

## 6.4 Efficiency

The implementation modality of SAHAS Nepal utilises the in-kind contribution from beneficiary. Generally, external and purchased inputs is provided by the project, while farmers are responsible for locally available resources such as labour, land, manure etc.

A competitive budget has been prepared for the intervention. The intervention has been planned to achieve budget efficiency. On average, this project spent €400 per beneficiary (equivalent to NPR 54,531 per beneficiary) during its 3-year project period, which is more than average budget spent for each target beneficiaries by BiOREM project (€256.2 equivalent to NPR 34,985) implemented during 2019-21. However, considering high inflation; cost required for coordination of project spread over large area; facilitating engagement of diverse stakeholders (academician, researchers, private sectors);

establishing and institutionalising the network structure within local government; and policy facilitation, the budget looks realistic.

SAHAS has experience of facilitating the beneficiary groups in attracting fund from other sources, such as palika and other like-minded organisation. The funds were used in complimentary, scaling up and value chain development actions, such as

- Complimentary actions: Such as irrigation facility for SAHAS's vegetable production programme.
- Scaling-up actions: Such as construction of shed required for the herd expanded from two goats provided by SAHAS.
- Value chain development actions: Such as rustic store construction for the seed potato production programme implemented by SAHAS.



The organisation has built good rapport with local government and has implemented activities co-funded by project and local government. Also, SAHAS recruit the local staff as much as possible who are familiar with the local situations. In addition, collaboration with ASDP also would help in enhancing project efficiency.

SAHAS Nepal promotes low cost, sustainable input, local innovation and site-specific technologies and practices that decrease the cost of intervention and enhances efficiency. The intervention not only provide the hardware materials, but also provide the required skills and tools to handle, repair and maintenance as required.

SAHAS has different policies (financial, procurement policies), which describe clearly about the financial best practice and internal control system. Any procurement is done adhering with the financial policy of the organisation. Procurement Committee reviews the bid proposals, analyse the information and provide their suggestion to Management team and recommend to Executive Director for the

approval. Once procurement is done then tracking system activates that ensures if the procured items have been used for the intended use or not.

In addition, SAHAS Nepal focus on the staff's capacity building to achieve the best result of the project.

This presents the pre-conditions that ensures the efficiency of proposed project.

The intervention is planned to achieve budget efficiency.

- Low-cost technologies are being introduced under this project that can be maintained by the beneficiaries themselves.
- It is planned to develop CRV model at ward level and scale-up later at palika level. This will save resources from being wasted in unsuccessful intervention.
- Hiring of local staff reduces the cost and capacity building of such staff ensures the access of local community to skilled person locally even after the project.

## 6.5 Overarching developmental impacts

SAHAS Nepal works in remote areas focusing on the resource poor, marginalised and socially excluded groups of people. SAHAS provide emphasis on gender sensitive actions and use Right Based Approach (RBA) and inclusive community-based approach for project implementation.

The project contribution in establishing a network of likeminded organisation working in climate change actions would establish the project leadership in climate change and CRV actions among the likeminded organisations. The network is envisaged to institute under local government. This would ensure sustainability even after the project completion, authenticity of the actions and institutionalisation of project agenda into the government's annual plan.

Project site (CRV) could be place for learning/study for policy makers, politicians, academicians, development workers, students etc. Climate change issues are increasing gaining attention, but the climate action is still in its infancy in Nepal. In this context, CRV is a new concept. And project would set an example if it succeeded in establishing CRV as planned. Thus, it would not only implement project action but also sensitise other likeminded organisation, stakeholders and beneficiaries, and establish a new concept of CRV.

Badi and Raji are land less community and at present, most of them are staying in public land mostly classified as forest land. It is less likely that these community invest time and resources for the stewardship and land care action for the land which is does not belong to them. Land degradation and disaster events is likely in absence of such stewardship and land care action. Therefore, it is suggested for the proposed project team to discuss with respective palika for the permanent settlement of these community. In return, the project team is advised to develop a new proposal for livelihood enhancement of the newly settled community. This may enhance community stewardship towards the land and natural resources around them. In case if this is not possible to materialise, then it is suggested to explore the possibility of leasehold farming opportunity for resource poor and marginalised households with palika authority. All individuals in Raji communities are receiving social security benefit (@ NPR 4000 per calendar month) from the government. Database of Badi community is being prepared to provide the benefit. However, there are anecdotal reports about misutilisation of benefits (spent on alcohol etc.) provided. It is suggested to proposed project team to discuss with palika authority about a new initiative to sensitise the recipient community about proper utilisation of benefit and provide suitable options for the utilisation.

## 6.6 Sustainability



Change in existing system paradigm is necessary to achieve expected output from climate change adaptation. System change requires long-term commitments as changing human behaviour and environmental parameters (such as soil fertility, local hydrology, etc.) takes time. System change includes change in:

- Social system that values human activities reducing climate change effects
- Natural environment: soil system, local hydrology.
- The project area is sloping land extending from river basin/flat land to hilltop. Lower part of the sloping land is endowed with better water availability compared upper part which generally remain dry during winter season. As a result, crop production during winter is possible in lower part, while the upper part is either remain fallow or farmers grow crops with the expectation of winter rain. The winter rain is not predictable and assured as a result, winter crops often fail.
- Economic system: that promotes pro climate actions
- Governance system: that encourages pro climate actions and formulate policies accordingly.

Therefore, long-term commitment is required from funding agency, implementing organisation and beneficiary communities.

Network of likeminded organisation envisaged in the project is expected to play a coordinating role in sensitising and disseminating the climate change actions and continuing the project concept even after the project. However, the leadership change in local government after the periodic election is likely affect the commitment of local government on climate change actions and the network activities. This change can be in either (positive or negative) direction.

Strengthening local capacity is key to the success of project action. Beneficiaries need

to understand the crux of climate change issues, then only their commitments towards establishing CRV is possible. Establishing beneficiary groups is helpful in enhancing their capacity in leading and managing their organisation, discuss on common issues and arrive at the decision, identifying issues for advocacy and lobbying. SAHAS learning from past project suggest that establishing community-based structures (such as, CBOs, MCs and CBNOs) is effective in sustaining and scaling up the project work after the project period. Organisation and networks of Badi and Raji communities also expected to instrumental in sustaining the benefits from the project interventions. Saving and credit groups are helpful in enhancing access of beneficiaries to financial support needed to implement project activities. And orientation of farmers, intermediaries and traders on value chain and market systems is necessary for augmenting economic benefits and livelihood enhancement of beneficiaries from project actions.

This action is likely to contribute to enhance awareness about climate change effects which may help in increasing involvement and contribution local communities on climate change action. In longer term, the project action may help towards building more inclusive, just and gender-sensitive society.

Disease transmission risk during the COVID19 pandemic. Risk was there during travelling and community preference not to make field visit during the pandemic. Leadership change as a result of periodic election may shift priority of local government affecting project work.

Similarly, foreign trade policy is also likely to affect the project effectiveness. Nepal has open border and open trade policy with India. Indian products are cheaper in the market than Nepalese product mainly due low cost of production (because of larger scale of production cheaper input prices and assured supply of inputs, such as irrigation, seeds, fertilisers) compared that in Nepal. Thus, Nepalese product cannot compete with Indian product as a result, Nepalese farmers are experiencing problem in marketing. Any regulatory mechanism for Indo-Nepal trade in favour of Nepalese farmers would benefit project beneficiaries and enhance project effectiveness. Proposed project is advised to discuss with palika authorities to explore how market could be regulated at local level. Higher local tax for the product imported from outside the district could be one option.





## 7. Cross-cutting Issues

Establishment of network of likeminded organisation provides the platform to discuss and build consensus on local development issues. Implementation of any development initiatives requires some investment. Climate change and DRR action at household level particularly requires investment from beneficiary households. Livelihood actions enhances household income and thereby investment capacity of the beneficiaries. Therefore, focus should be on livelihood enhancement action to achieve climate change and DRR outcomes. The project is designed well, taking care of these issues, to achieve the expected outcome.

Climate change is multifaceted issue and needs contribution from different actors to achieve expected outcome from climate change adaptation. The network, planned to establish in the project, is expected to provide the forum for collaboration between different actors. The network is planned to institute within the concerned Palika authority, which will secure authenticity of the structure and longer-term sustainability after the project. This was discussed with all three Palika authorities (Mahabu Rural Municipality, Birendranagar Municipality and Bheriganga Rural Municipality), who agreed in the concept and pledged their support to collaborate in the proposed development venture. This will be a good contribution from project if everything goes as planned.

Insufficient labour force, mainly due to seasonal labour migration, has been envisaged to be one of the major problems for increasing vegetable production in the Dailekh. The community mentioned that they go for seasonal migration because they do not have alternative sources of income other than farm production and there is no employment opportunity available locally. They expressed their enthusiasm towards

engaging in economic activities locally if that help them in generating much needed cash income. On the other hand, Badi and Raji communities in Surkhet had the job opportunity locally, therefore migration in the studied communities was low. This reveals the prospects of stopping the seasonal migration and retaining the work force locally, but economically promising intervention would require for convincing the migrants to sacrifice the possible income from migration and to guarantee profit from the investment for vegetable production.

SAHAS Nepal ensures role of females in the society while implementing development interventions. Learning from the experience of past project suggest that the capacity of females enhanced dramatically. As they are now able to lead the CBO, discuss the issues and make collective decision, take the minutes of the meeting, maintain account of saving and credit group, clearly articulate the situation/problem and advocate the issue of their concern etc., which has helped women to come forward in the society. Thus, gender gap in the proposed project area will also expected to get narrowed down. Likewise, the project will also address the issues of PwDs focusing their needs and right to establish their dignified life.

On the other hand, vulnerable groups (women, children, PwD, ill, poor) are most affected by disaster. Increase in family income of such vulnerable groups enhances household capacity to reduce vulnerability and disaster risk; enhances household capacity to invest for the special needs of the vulnerable groups; reduce dependence over natural resources and their mining; enhances household capacity to invest for nature care thereby reduces disaster and associated vulnerability; enhances household capacity to invest and reduce vulnerability to production system (such as irrigation, land care etc.). Thus, the proposed project is likely to enhance household capacity to fulfil the special needs of vulnerable groups.





## 8. Conclusions and Recommendations

### 8.1 Conclusions

Existing issues surrounding main theme of the project (existing scenario with poverty, climate change and DRR) is illustrated well in the proposal. The project is structured well. Some unclarity and anomalies however observed in LogFrame and indicator monitoring plan that needed attention from project team.

Livelihood strategy and option of the targeted communities (Badi and Raji) in Surkhet is different compared to targeted communities in Dailekh. Most of the targeted households in Surkhet have adopted off-farm strategy as they do not have land and most of them living in the riverbank (officially designated as public land). While Households in Dailekh adopted on-farm livelihood strategy and produce vegetables at different scale and with the use of some improved technologies (such as polyhouse, smart irrigation, biopesticides, etc).

Targeted beneficiaries in Dailekh are involved in vegetable production at small (kitchen garden) scale. They also use some improved technologies for vegetable production, such as poly house, small scale irrigation, bio-pesticides etc. At present, there is no problem of marketing, but if the quantity of production increased, then access to bigger market is essential. The quality and taste of the vegetables produced in Dailekh like ginger and potato is considered of high standard and is expected to fetch good price if supplied to bigger settlements within and outside the district.

The farmers in Mahabu lack the proper and regular agro-vet services for agriculture inputs and technical support. As a result, farmers now have to travel longer and invest more time to acquire these services.

Access to financial services (for instance, borrowing loan) have become difficult particularly to poor household due to some of the conditions of the financial service institutions. Palika as a local authority holder is in a position to review such rules and find ways to enhance access of poor households to available financial services.

Proper utilisation of social security benefits by some community is being questioned and ways to enhance usefulness of allowance is being discussed.

Birendranagar Municipality has developed strategy document and local plans (such as CC adaptation plan, Preparedness and response plan etc) to work on cc issues, while Mahabu and Bheriganga Rural Municipalities are yet to prepare these locally adapted strategies and plans without which it is difficult to make strategic advances towards combating the cc effects and minimising disaster risks.

Technical support from project would be great help to Palika in developing locally adapted strategies and plans to embark on long-term fight against climate adversities and disaster risks.

The CRV established by the project could be place for learning/study for policy makers, politicians, academicians, development workers, students etc.

Network of likeminded organisation has two-fold advantage; first the concept will be institutionalised with the government system; and second, the initiatives will sustain even after the project and will establish authenticity of the structure under the Palika.

System change is required to realise expected output from CCA; therefore, long-term commitment is required from funding agency, implementing organisation and beneficiary communities to produce lasting contribution.

## 8.2 Recommendations

- Livelihood action should focus on on-farm intervention in Dailekh and off-farm interventions in Surkhet. In both districts vocational training should be implemented. In addition to engage the community from Surkhet, leasehold farming in coordination with Palika should be a better option for the improving livelihood of Badi and Raji community.
- Any initiation to run the closed or establish new agro-vet vendor would help farmers to acquire the service locally in Mahabu. It is suggested to identify training need of the perspective agro-vet operator and provide support in enhancing capacity. The capacity building activity would be an opportunity for the project to orient and sensitise the perspective agro-vet operator on organic production, its benefit and alternative organic options available to control insect/pest that could be sold instead of chemical options available in the market.
- It is suggested to work with Palika to find ways to enhance poor people's access to financial services to start up entrepreneurship.
- Discuss with Palika on the existing situation about financial institutions services available in the area and find ways to enhance access of poor households to available financial services.
- Technical support from project would be great help to Mahabu and Bheriganga Rural Municipalities in developing locally adapted strategies and plans to embark on long-term fight against climate adversities and disaster risks.
- It is suggested to explore the possibility of leasehold farming opportunity for poor and marginalised households with palika authority.
- Access to market and orientation on value chain development is suggested to ensure before embarking on production enhancement of vegetables in Dailekh. It is suggested to provide training on market and value chain development to farmers, intermediaries and traders.
- It is suggested to work with palika to sensitise the social security allowance recipients (PwD, endangered group, elderly people, single women and widow) to enhance effectiveness of allowance provided.
- Issues with LogFrame and indicator monitoring plan have been identified and suggested to project team to review.
- Explore the possibility for engagement of the research centres, academic institutions and universities in verifying the project interventions in the local condition and scaling up for community benefits.
- Providing orientation and skills to pig farmers to minimise the adverse effects from feed waste and pig faeces on water bodies.
- At present Nepalese farmers are facing market adversity due to unequal and undue competition with Indian products. Therefore, discuss with palika authorities to explore how market could be regulated at local level in favour of local producers. Higher local tax for the product imported from outside the district could be one option.
- Integrated approach to respond climate change is required and need to scale up beyond the project areas of Palikas, Districts and Province.
- Establish CBOs & CBNOs in Surkhet and strengthen the capacity of the CBOs and CBNOs in both Dailrkh and Surkhet for community mobilisation, lobbying and advocacy on climate change issues.
- Enhancing financial, technical and institutional sustainability of CBNO's should be given priority from the beginning of the project implementation.
- Agro ecological and biodiversity conservation activities should be promoted for the sustainable farming.

# References

- Baidya SK, Shrestha ML and Seikh MM (2008). Trends in daily temperature and precipitation in Nepal. *Journal of Hydrology and Meteorology*, 5(1): 38–51.
- Bhandari G (2013). Assessment of Climate Change Impacts and Adaptation Measures in the Kapilbastu District of Nepal. *Applied Ecology and Environmental Sciences*, 2013, Vol. 1, No. 5, 75–83. DOI:10.12691/aees-1-5-2.
- CBS (2014). Population Monograph of Nepal Vol. I. Central Bureau of Statistics (CBS), Nepal. <https://cbs.gov.np/wp-content/uploads/2018/12/Population-Monograph-of-Nepal-2014-Volume-I-FinalPrintReady1.pdf>
- CBS (2074). Dailekh district profile 2074. Central Bureau of Statistics (CBS), Surkhet.
- CSAIP (2919). Climate Smart Agricultural Investment Plan (CSAIP), 2019.
- Chalise D, Kumar L and Kristiansen P (2019). Land Degradation by Soil Erosion in Nepal: A Review. *Soil Syst.*, 3 (12). doi:10.3390/soilsystems3010012.
- DoWRI (2019). Irrigation Master Plan 2019. Department of Water Resources and Irrigation (DoWRI). <http://dwri.gov.np/documents/documents/1603184416.pdf>
- Eckstein D, Künzel V, Schäfer L, Winges M (2020). Global Climate Risk Index – briefing paper. Germanwatch e.V. <https://www.germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%20202014.pdf>
- Gautam DR (1993). Environmental Risk in Nepal: A General Assessment. *Tribhuvan Univ. J.*, 16: 87–93.
- GoN (2019). Economic Survey 2018/19, Government of Nepal, Ministry of Finance, Kathmandu.
- IoM (2019). Migration in Nepal – A Country Profile 2019. International Organization for Migration (IoM), Nepal.
- KPPC (2020). Karnali Provincial Planning: baseline and Strategic options for Karnali Province – Final Report. Karnali Provincial Planning Commission, Nepal. [http://kppc.karnali.gov.np/actfile/PPC\\_Nepal%20Regional%20Report\\_Karnali%20Province-%20Final%20copy\\_1616310619.pdf](http://kppc.karnali.gov.np/actfile/PPC_Nepal%20Regional%20Report_Karnali%20Province-%20Final%20copy_1616310619.pdf)
- Hamal K, Sharma S, Khadka N, Haile GG, Joshi BB, Xu T and Dawadi B (2020). Assessment of drought impacts on crop yields across Nepal during 1987–2017. *Meteorol Appl.* 2020;27:e1950. DOI: 10.1002/met.1950.
- Mahabu Rural Municipality (2021). Profile of Agriculture Development section. Mahabu Rural Municipality, Dailekh.
- MoALD (2020). The Impact of COVID-19 on Households in Nepal mVAM Household Livelihoods, Food Security and Vulnerability Survey (Available at: <https://docs.wfp.org/api/documents/WFP-0000116728/download/>)
- MoE (2010). National Adaptation Programme of Action to Climate Change (NAPA). Ministry of Environment, Nepal.
- MoE (2011). Status of Climate Change in Nepal. Ministry of Environment (MoE), Nepal.
- MoEST (2008). Nepal Thematic Assessment Report: Land Degradation. Ministry of Environment, Science and Technology (MoEST), Nepal.
- MoF (2020). Economic survey 2019/20. Ministry of Finance, Nepal. (<https://mof.gov.np/uploads/document/file/Economic%20Survey%20201920201125024153.pdf>)
- MoFE (2018). Nepal's sixth national report to the convention on biological diversity. Ministry of Forests and Environment (MoFE), Nepal.
- MoHA (2015). Nepal Disaster Report 2015. Ministry of Home Affairs, Nepal. <https://www.dpnep.org.np/uploads/files/Nepal%20Disaster%20Report%202015%202018-10-06%2006-30-47.pdf>
- MoLESS (2020). Nepal Labour Migration Report 2020. Ministry of Labour, Employment and Social Security (MoLESS), Nepal. [https://drive.google.com/file/d/1toxeA8TPrz5DI2\\_Kf673SCbtAGCq2aCyB/view](https://drive.google.com/file/d/1toxeA8TPrz5DI2_Kf673SCbtAGCq2aCyB/view)
- MoPE (2004). Initial National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change. Ministry of Population and Environment, Nepal.
- MoPE (2016). Nationally Determined Contributions. Ministry of Population and Environment, Nepal.
- myrepublica (2019). Available at: <https://myrepublica.nagariknetwork.com/news/seven-karnali-province-districts-food-insecure/> published on September 11, 2019
- Nayaya JL (1980). Rainfall in Nepal. *Himalayan Review*, Vol. 12, 1980. <https://www.researchgate.net/publication/328065298>

- NDHS (2011). Nepal Demographic and Health Survey 2011. [https://dhsprogram.com/pubs/pdf/FR257/FR257\[13April2012\].pdf](https://dhsprogram.com/pubs/pdf/FR257/FR257[13April2012].pdf)
- NDHS (2016). Nepal Demographic and Health Survey 2016. <https://www.dhsprogram.com/pubs/pdf/fr336/fr336.pdf>
- NLSS (2011). Nepal Living Standards Survey Report 2010/11. Nepal Living Standards Survey, Central Bureau of Statistics, Kathmandu, Nepal. <https://nepalindata.com/resource/nepal-living-standards-survey-2010-11—statistical-report-volume-two/>
- NPC (2020). 15th Plan 2019/20-2023/24. Kathmandu: National Planning Commission, Government of Nepal.
- NPC and UNDP (2020). Nepal Human Development Report 2020, published by National Planning Commission and United Nations Development Programme. Kathmandu, Nepal (Available at: [https://www.npc.gov.np/images/category/NHDR\\_2020\\_-\\_Final\\_-\\_TheSquare\\_compressed\\_final1.pdf](https://www.npc.gov.np/images/category/NHDR_2020_-_Final_-_TheSquare_compressed_final1.pdf))
- Pandey, V. P., Sharma, A., Dhaubanjhar, S., Bharati, L., & Joshi, I. R. (2019). Climate shocks and responses in Karnali-Mahakali basins, western Nepal. *Climate*, 7(7), 92.
- SDG (2017). Nepal's Sustainable Development Goals: Status and Roadmap 2016-2030. National Planning Commission, Nepal.+
- Shrestha M (2017). Push and Pull: A Study of International Migration from Nepal. World Bank, Washington, DC. doi: 10.1596/1813-9450-7965.
- Sujakhu NM, Ranjitkar S, Niraula RR, Pokharel BK, Schmidt-Vogt D, and Xu J (2016). Farmers' Perceptions of and Adaptations to Changing Climate in the Melamchi Valley of Nepal. *Mountain Research and Development*, 36(1): 15-30. <http://dx.doi.org/10.1659/MRD-JOURNAL-D-15-00032.1>
- UNDP/BCPR (2004), A global report reducing disaster risk-a challenge for development, United Nations Development Program, Bureau for crisis Prevention and Recovery, Geneva.
- USAID (2017). Climate Risk in Nepal: Country Risk Profile. USAID. <https://www.climatelinks.org/sites/default/files/asset/document/2017USAID%20CCIS-Climate%20Risk%20ProfileNepal.pdf>
- Yogacharya KS and Gautam DK (2008). Floods in Nepal: Genesis, Magnitude, Frequency and Consequences. Proc. of the International Conference on Hydrology and Climate Change in Mountainous Areas, November 15-17, 2008, Kathmandu, Nepal. <https://www.researchgate.net/publication/264458594>



# Annexes

## Annex 1. Field plan

### Feasibility Study of Proposed Project in Dailekh and Surkhet Tentative Schedule 2 - 14 Jan 2022

Date	Activity	Remarks
2 Jan 2022	<ul style="list-style-type: none"> <li>Planning and Preparation for feasibility study</li> <li>Collection of documents from different government sources (District Agriculture Office, District Coordination Office, District Administration Office)</li> <li>Downloaded information/literature from different sources</li> </ul>	
3 Jan 2022	<ul style="list-style-type: none"> <li>Review documents (proposal and KII) about the Feasibility Study</li> <li>Preparation checklist for FGD and KII</li> <li>Preparation checklist based on DAC Criteria</li> </ul>	
4 Jan 2022	<ul style="list-style-type: none"> <li>Discussion with CBNO facilitator (Manoj Thapa), CBNO Secretary (Purna Prasad Jaisi) for finalisation of field plan</li> <li>Document collection</li> <li>Meeting with SAHAS centre Office team regarding feasibility study</li> </ul>	
5 Jan 2022	<ul style="list-style-type: none"> <li>KII with Financial Service Provider (Kamal Bhandari, Manager, Nepal Commerce and Credit Bank, Mahabu)</li> <li>KII with Agrovet (Ms Kalpana Acharya, Acharya Agro-vet, Mahabu)</li> <li>KII with Mahabu hospital (Mukesh Bdr Bist, Health Post In-charge)</li> <li>KII with Chairperson (Jang Bdr Shahi), vice- Chairperson (Ms Prem Kumari Budha), Administrative Head (Bhakta bdr Malla), Agriculture Dept Head (Bal Bdr Bist), Livestock Dept head (Prem bdr Chalaune), Mahabu Rural Municipality</li> <li>FGD with Tolipata Krishi Samuha, Tolipata</li> <li>FGD with Krishi Kisan sakriya samuha, Mukhiya Dada</li> <li>FGD with Krishi samuha, Mukhiya Dada</li> </ul>	
6 Jan 2022	<ul style="list-style-type: none"> <li>Worked in Dailekh office</li> <li>Document/literature collection and review of Surket district</li> <li>Planning for Surkhet visit</li> </ul>	Travel disruption due to heavy rain
7 Jan 2022	<ul style="list-style-type: none"> <li>Field observation at Mukhiya Dada</li> <li>FGD in Kada Siraula community including Taja Tarakari Utpadan Samuha</li> <li>Field observation at Kada Siraula</li> <li>Field observation at Batase</li> <li>FGD in Batase dada community including Jana Sakriya Krishi samuha</li> <li>Field observation at Geetachaur</li> </ul>	
8 Jan 2022	<ul style="list-style-type: none"> <li>FGD in Gitachaur community including Mahila Janachetana Samuha</li> <li>Field observation</li> <li>KII with Manoj Thapa, CBNO facilitator</li> </ul>	Saturday
9 Jan 2022	<ul style="list-style-type: none"> <li>Meeting with District Livestock Development Officer</li> <li>Meeting with Value Chain Expert, ASDP</li> <li>Meeting with Station Chief, Horticulture Research Station</li> <li>Meeting with District Agriculture Development Officer (DADO)</li> <li>Meeting with Doctor and Acting Executive Chief of District Hospital</li> </ul>	
10 Jan 2022	<ul style="list-style-type: none"> <li>FGD in Pipal Dada</li> <li>Field observation in Pipal Dada</li> </ul>	

Date	Activity	Remarks
11 Jan 2022	<ul style="list-style-type: none"> <li>• FGD in Batase Dada</li> <li>• Field observation in Batase Dada</li> </ul>	
12 Jan 2022	<ul style="list-style-type: none"> <li>• FGD with Dalit community in Gitachaur (Dalit/Damai Basti)</li> <li>• Field observation in Dalit/Damai Basti</li> <li>• FGD in Fagu</li> <li>• Field observation in Fagu</li> </ul>	
13 Jan 2022	<ul style="list-style-type: none"> <li>• KII with Vegetable vendor in Daikekh Bazar</li> <li>• Travel to Surkhet</li> <li>• FGD with Badi community in Jhupra Basti</li> <li>• Meeting with Birendranagar Municipality officials</li> <li>• Meeting with Programme Coordinator, Agriculture Sector Development Programme (ASDP)</li> </ul>	
14 Jan 2022	<ul style="list-style-type: none"> <li>• Meeting with Bheri Ganga Rural Municipality officials</li> <li>• KII with ward chairman, Bheri Ganga Rural Municipality, ward no 2</li> <li>• FGD in Sattari village, Bheri Ganga Rural Municipality, ward no 2</li> <li>• FGD with Raji community in Raji Gaon, Bheri Ganga Rural Municipality, ward no 12</li> </ul>	
15 Jan 2022	<ul style="list-style-type: none"> <li>• Travel to Kathmandu</li> </ul>	

## Annex 2. Research questions organized against OECD/DAC criteria

The Study team will answer the key questions based on OECD/DAC criteria as given below.

Criteria
<b>Relevance:</b> <ul style="list-style-type: none"> <li>• Does the planned project approach address a problem of developmental importance or a crucial developmental shortcoming of the partner country or region? Why is climate resilience a central matter of concern of the target group?</li> <li>• Are the orientation, prioritisation and objectives (approach) of the planned project coordinated with the target groups and clearly defined?</li> <li>• To what extent do the intervention objectives and design adequately take into account the specific needs of the target groups and structural obstacles in the project region, partner/institution, policy programmes?</li> <li>• Are norms and standards of the approach compatible with those of the target groups?</li> <li>• Is the project designed in a conflict-sensitive way (Do-No-Harm principle)?</li> </ul>
<b>Coherence</b> <ul style="list-style-type: none"> <li>• How coherent are the planned activities with human rights principles (inclusion, participation), conventions and relevant standards/guidelines?</li> <li>• To what extent are there synergies and connections between the planned project and other interventions by the same organisation (SAHAS) and other actors?</li> <li>• What are the similarities or intersections between the target groups and the projects of other actors in the same context? To what extent does the intervention add value and avoid duplication?</li> </ul>
<b>Efficiency</b> <ul style="list-style-type: none"> <li>• To what extent can the planned measures be implemented with the budgeted funds and personnel in the planned term?</li> <li>• To what extent are the planned expenditures used economically and are the investments, operating and personnel expenses in relation to the intended objectives?</li> </ul>
<b>Effectiveness:</b> <ul style="list-style-type: none"> <li>• Which impact logic/hypothesis should the project be based on? What could a meaningful impact matrix including appropriate, meaningful indicators look like (submission of first rough draft with indicators and baseline data)?</li> <li>• Are the causal relationships (including assumptions) plausible? What negative effects could occur?</li> <li>• Is the chosen methodological approach adapted to the context and sufficient to achieve the project objective? Should meso- and/or macro-level activities (multi-level approach) be foreseen to increase sustainability?</li> </ul>

Criteria
<ul style="list-style-type: none"> <li>How are changes measured, when and at what intervals (impact monitoring)? Which indicators (fields) are better suited for this?</li> <li>Which measures does the feasibility study recommend?</li> </ul>
Impact:
<ul style="list-style-type: none"> <li>What special contribution does the project objective (outcome) make to the overall objective (impact)?</li> <li>To what extent is the planned project structure-building, exemplary and broadly effective? At what levels will norms or structures be changed?</li> <li>To what extent does the objective take into account gender-sensitive, inclusive, culture- and conflict-sensitive, and human rights-based aspects?</li> </ul>
Sustainability:
<ul style="list-style-type: none"> <li>How can the sustainability of the results and impacts be ensured and strengthened (structural, economic, social, and ecological)?</li> <li>What long-term capacities are built among the target group to be able to continue the implemented measures on their own?</li> <li>What positive changes (role behaviour, mechanisms, networks and others) benefit civil society in the long term?</li> <li>What role/responsibility do state and/or civil society structures assume? To what extent can local potential, structures and procedures be built upon? Which measures and instruments are best suited to using and strengthening local initiative, participation and capacities?</li> <li>What risks (personnel risks for the implementers, institutional and reputational risks, and context risks) exist in project implementation and how can they be minimized?</li> </ul>

## Annex 3. Checklist for complementary information

### A. General Information

#### 1. Target beneficiary communities and households

##### 1.1 Wealth categories of beneficiary households: (FGD)

Wealth Category	No. of households (Total N= .....)
Rich	
Medium	
Poor	

##### 1.2 Food self-sufficiency level of beneficiary households: (FGD)

Food sufficiency level	No. of households (Total N =.....)
0 – 3 months	
>3 – <6 months	
>6 – <12 months	
> 12 months	

##### 1.3 Information on target beneficiary households: (FGD)

Parameter	No. of households (Total N=.....)
No of <i>Dalit</i> households	
No of <i>Badi</i> households	
No of <i>Raji</i> households	
No of women headed households	
No of PwD (person with disability) households	

Parameter	No. of households (Total N=.....)
No of landless households	
No of households with, at least, one member work-migrated	

1.4. Which section of groups of the target households are more marginalized and vulnerable? (KII)

1.5. What makes selected communities more vulnerable and marginalized compared to others in the district? (FGD, KII)

1.6. What kind of vulnerabilities (social, cognitive, environmental, emotional or military) are prevalent? (FGD, KII)

1.7. How these selected communities are rated in terms of high, medium and low vulnerability for climate and disaster risks by the local authorities? (KII, RM)

1.8. What kind of marginalization (social/economical/political) are prevalent? (FGD, KII)

1.9. What kind of social (ethnic, caste, occupational) and economic (resource poor, low income and food deficit) marginalization are prevalent among target beneficiary households in the selected communities? How is this prevalence rated in terms of high, medium and low by them? (FGD, KII)

1.10. What is the situation of out-migration in the selected communities' and it is impacting communities, including wellbeing of women? (FGD, Desk Review)

1.11. How is the access of target beneficiary household over agricultural resources and services, particularly for the following? (FGD)

Parameter	No. of households (total N =.....)
No. of households having access to irrigation	
No. of households having access to agricultural inputs (seeds, fertilizers etc)	
No. of households having access to finance (banking services)	
No. of households having access to government agri-extension services	

## B. Promotion of climate resilient technologies

### 2. Community/farmer perception about climate change trends and its impact, particularly: (FGD)

- Change in air temperature (hotness/ coldness) and its impact (FGD)
- Change in rainfall (increased, same, decreased, uncertainty, irregularity) and its impact: (FGD)
- Occurrence of drought (increased, same, decreased) and its impacts: (FGD)
- Incidence of agricultural insects, pests and diseases (increased, same, decreased): (FGD)
- Change in water availability in rivers, streams, wells both for irrigation and drinking: (FGD)
- Incidence of human health problems: (FGD)

2.1. Key climate change vulnerabilities: (FGD)

2.2. What are the key food crops associated with vulnerable and marginalized groups of the community? (FGD)

2.3. What kind of agricultural production practices are used and how they are vulnerable to climate change? (FGD)

2.4. Climate resilient and disaster risk reduction programmes being implemented by various stakeholders in the concerned Palikas if any.? (RM)

2.5. If any climate smart technologies are used in the area to mitigate climate change impact if any. (FGD, KII)



2.6. Are project target beneficiaries engaged in agriculture-based income generating activities? (FGD, KII)

2.7. How is the market condition and access? What proportion of the total family income comes from marketing of agricultural products? (FGD, KII)

2.8. Opportunities and challenges of market value chains (FGD, KII, RM)

2.9. Community/farmer perception about key problems/ challenges and opportunities on three purpose (outcome) areas, namely (FGD)

- Community and stakeholder capacity,
- climate resilient livelihoods, and
- scaling up climate resilient village models and practices

2.10. Stakeholder perception about key problems/ challenges and opportunities on three purpose (outcome) areas, namely (RM)

- Community and stakeholder capacity,
- climate resilient livelihoods, and
- scaling up climate resilient village models and practices

## C. Establish Knowledge development and sharing center and mechanism

3. Climate induced disaster events and their impacts in the project communities: (FGD)

4. Awareness and knowledge about climate change adaptation and mitigation, and disaster risk management among: (FGD, KII, RM)

- Project communities:
- Palika authorities
- Local government authorities (duty bearers):

## D. Capacity Building of the community groups and network

5. Information on community institutions (type and number), for example CBOs, farmers' groups, associations, cooperatives, mother groups, youth groups etc (FGD)

5.1. Governance, management and resource capacity of community institutions (good, medium, poor) (FGD)

5.2. How is the awareness and knowledge of these community institutions about climate change and disaster issues? (FGD)

5.3. Capacity of these community institutions (FGD)

## E. Mainstreaming climate change into development plans

6. Do you discuss climate change issues during local development planning? (RM)

7. Who are the main actors involved in this discussion? (RM)

8. Challenges faced for mainstreaming climate changes issues in development plans? (RM)

## E. Any other

9. Validate stakeholder analysis included in the project proposal and add missing information (Desk review, RM)

## Annex 4. Details of FGD participants

### I. FGD Participants in Dailekh

#### A. Toli Pata Krishak Samuha, Mahabu Rural Municipality Ward No 4, Toli Pata

**Date:** 2078/09/21 (5 Jan 2021)

**Facilitators:** Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Khadak Bahadur Bista	Male	
2.	Chandra Bahadur Baduwal	Male	
3.	Jay Bahadur Bista	Male	
4.	Man Bahadur Khadka	Male	
5.	Hari Bahadur Bista	Male	
6.	Gagan Bahadur Baduwal	Male	
7.	Padam Bahadur Gurung	Male	
8.	Bal Bahadur Bista	Male	
9.	Lila Ram Baduwal	Male	
10.	Bhim Bahadur Bista	Male	
11.	Dal Bahadur Gurung	Male	
12.	Prem Kumari Bista	Female	
13.	Krishna Kumari Bista	Female	
14.	Gaukala Bista	Female	
15.	Laxmi Baduwal	Female	
16.	Bal Kumari Bista	Female	
17.	Bhumisara Baduwal	Female	
18.	Pavitra Bista	Female	
19.	Bindra Khatri	Female	
20.	Nara Bahadur Gurung	Male	
21.	Purna Prasad Jaisi	Male	
22.	Tek Bahadur Gurung	Male	
23.	Ujwal Singh Gurung	Male	
24.	Gagan Gurung	Male	
25.	Top Bahadur Gurung	Male	
26.	Prem Sen	Male	
27.	Ratan Gurung	Male	
28.	Bhakte Nepali	Male	
29.	Khadak Bahadur Gurung	Male	

## B. Krishi sakriya Samuha and Krishi Kishan Samuha, Mahabu Rural Municipality Ward No 4, Mukiya Dada

**Date:** 2078/09/21 (5 Jan 2021)

**Facilitators:** Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Mani Ram Gywali	Male	
2.	Sasi Ram Jaisi	Male	
3.	Jay Bahadur Rawat	Male	
4.	Ganesh Bahadur Gurung	Male	
5.	Mani Ram Acharya	Male	
6.	Jay Prasad Jaisi	Male	
7.	Kaushila Gurung	Female	
8.	Manish Gurung	Female	
9.	Tek Bahadur Gurung	Male	
10.	Sher Bahadur Gurung	Male	
11.	Lok Bahadur Gurung	Male	
12.	Nara Bahadur Gurung	Male	
14.	Bhim Bahadur Gurung	Male	
15.	Jaumati Jaisi	Female	
16.	Premika Gywali	Female	
17.	Juna Jaisi	Female	
18.	Laxmi shahi	Female	
19.	Ganagasara Pandey	Female	
20.	Man Kumari Gurung	Female	
21.	Blmala Pandey	Female	
22.	Rama Pandey	Female	
23.	Setu Gurung	Female	
24.	Krishna Nepali	Female	
25.	Aaam Kala Gurung	Female	
26.	Kaushila Gurung	Female	
27.	Padam Gurung	Male	
28.	Tulsi Shahi	Female	
29.	Pampa Gurung	Female	
30.	Bhavikala Nepali	Female	
31.	Om Prasad Adhikari	Male	
32.	Nanda Thapa Gurung	Female	
33.	Usha Thapa	Female	
34.	Nanda bahadur Gurung	Male	
35.	Ratna Gurung	Female	
36.	Bimala Thapa	Female	
37.	Laxmi Pandey	Female	

SNo	Participants	Gender	Remarks
38.	Nara Bahadur Thapa	Male	
39.	Purna Bahadur Gurung	Male	
40.	Bhavisara Thapa	Female	
41.	Egya Bahadur shahi	Male	
42.	Purna Prasad Jaisi	Male	
43.	Dipan Buda	Male	
44.	Bishnu Thapa	Male	
45.	Nanda Sunar	Female	
46.	Khagisara Thapa	Female	
47.	Chandra Prasad Acharya	Male	
48.	Prem Bahadur Gurung	Male	
49.	Nareshowr Jaisi	Male	
50.	Navaraj Shahi	Male	
51.	Pravati Rawat	Female	
52.	Jaukala Thapa	Female	

### C. Taja Tarkari Krishak Samuha, Mahabu Rural Municipality Ward No 4, Kandsirula Tole

**Date:** 2078/09/23 (7 Jan 2021)

**Facilitators:** Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Bhavisara Buda	Female	
2.	Ram Bahadur Buda	Male	
3.	Padam Bahadur Nepali	Male	
4.	Karna Bahadur Damai	Male	
5.	Man Bahadur Buda	Male	
6.	Indra Bahadur Buda	Male	
7.	Lala bahdur Buda	Male	
8.	Ram Chandra Buda	Male	
9.	Parvati Pandey	Female	
10.	Nirmala Buda	Female	
11.	Dipa Sunar	Female	
12.	Tulsi Buda	Female	
13.	Gagan Buda	Male	
14.	Mani Ram Jaisi	Male	
15.	Dip Bahadur Buda	Male	



#### D. Jana Sakriya Krishi Samuha, Mahabu Rural Municipality Ward No 4, Batase Danda

Date: 2078/09/23 (7 Jan 2021)

Facilitators: Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Chakra Bahadur Shahi	Male	
2.	Khani Ram Thapa	Male	
3.	Jasbir B.K	Male	
4.	Lala Bahadur Thapa	Male	
5.	Bam Bahdur Thapa Magar	Male	
6.	Pratap Bahadur Thapa Magar	Male	
7.	Binita Thapa	Female	
8.	Ratna Kumari Thapa	Female	
9.	Lali Darlmi	Female	
10.	Naurupa Thapa	Female	
11.	Birma Tarami	Female	
12.	Laxmi Tarami	Female	
13.	Usha Tarami	Female	
14.	Ghan Bahdur Shahi	Male	

#### E. Shiva Himalaya and Mahila Janachetan Samuha, Mahabu Rural Municipality Ward No 4, Gita chaur

Date: 2078/09/24 (8 Jan 2021)

Facilitators: Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Keshav Bahadur Singh	Male	
2.	Jeevan Kumar Shahi	Male	
3.	Harka Bahadur Shahi	Male	
4.	Bir Bahadur Shahi	Male	
5.	Amrit Kumar Singh	Male	
6.	Kalu Singh	Male	
7.	Rana Bahdur Singh	Male	
8.	Bhim Bahadur Shahi	Male	
9.	Ratna Bahadur Shahi	Male	
10.	Ghan Bahadur shahi	Male	
11.	Jhalak Bhadur Shahi	Male	
12.	Dorna Bahadur Singh	Male	
13.	Gynendra Bhadur Shahi	Male	
14.	Dhan Bahadur Singh	Male	
15.	Tika Kumari Singh	Female	
16.	Nisnika Kumari singh	Female	
17.	Ranju Kumari Singh	Female	

SNo	Participants	Gender	Remarks
18.	Dal Bahadur Singh	Male	
19.	Ghan Bahadur Singh	Male	
20.	Anita Rawat	Female	
21.	Gori B.K	Female	
22.	Gita B.K	Female	
23.	Nain sara Singh	Female	
24.	Gita Singh	Female	
25.	Chandra B.K	Female	
26.	Amrita Rawal	Female	
27.	Sanju Singh	Female	
28.	Bilma Rawal	Female	
29.	Nisha Singh	Female	
30.	Tara Kumari Ban	Female	
31.	Tika Devi Singh	Female	
32.	Purna Singh	Female	
33.	Sarita Singh	Female	
34.	Padma Devi Singh	Female	
35.	Resham Devi Singh	Female	
36.	Keshav Bahadur Singh	Male	
37.	Chandra Badur Singh	Male	
38.	Bhakta Singh	Male	
39.	Dipek Singh	Male	
40.	Ram Bahadur Shahi	Male	
41.	Yem Bahadur Singh	Male	

#### F. Farmers' group, Mahabu Rural Municipality Ward No 4, Tarami Tole

**Date:** 2078/09/26 (10 Jan 2021)

**Facilitators:** Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Birma Tarami	Female	
2.	Rabindra Rana	Male	
3.	Durga Bahadur Baral	Male	
4.	Lila ram pandey	Male	
5.	Pratap Bahadur Thapa Magar	Male	
6.	Karna Magar	Female	
7.	Laxmi Tarami	Female	
8.	Padam Bahadur Shahi	Male	
9.	Hem Bahadur Tarami	Male	
10.	Daman darlami	Male	

SNo	Participants	Gender	Remarks
11.	Dekendra Darlami	Male	
12.	Chandra Bahadur Thapa	Male	
13.	Gork Bahadur Tarami	Male	
14.	Chandra Kumari Shahi	Female	
15.	Usha Tarami	Female	
16.	Debu Shahi	Female	
17.	Bir Bahadur Thapa Magar	Male	
18.	Bal Bahadur Thapa Magar	Male	
19.	Purna Prasad Jaisi	Male	
20.	Nirmala Tarami	Female	
21.	Dipasa Tarami	Female	
22.	Khadga Bahadur Thapa	Male	

### G. Farmers' group, Mahabu Rural Municipality Ward No 4, Pipal Danda Tole

**Date:** 2078/09/27 (11 Jan 2021)

**Facilitators:** Manoj Upadhaya, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Kahgisara Thapa	Female	
2.	Gogan Sara pandey	Female	
3.	Bishna Pandey	Female	
4.	Jaumati Pandey	Female	
5.	Laxmi Shahi	Female	
6.	Batu Gurung	Female	
7.	Kausila Gurung	Female	
8.	Jagt Gurung	Female	
9.	Manju Shahi	Female	
10.	Hira Devi Shahi	Female	
11.	Yega Bahadur Shahi	Male	
12.	Padam Prasad Jaisi	Male	
13.	Chandra Prasad Acharya	Male	
14.	Khadga Bahadur Shahi	Male	
15.	Lila Ra Jaisi	Male	
16.	Bimala Pandey	Female	
17.	Gogan Sara Shahi	Female	
18.	Juna Shahi	Female	
19.	Sita B.K	Female	
20.	Sabitra Tamotta	Female	
21.	Bhumisara Tamotta	Female	
22.	Ratna Devi Shahi	Female	

SNo	Participants	Gender	Remarks
23.	Purna Prasad Jaisi	Male	
24.	Laxmi Prasad Pandey	Male	
25.	Nanda Gurung	Female	
26.	Bhishna Thapa	Female	
27.	Jaukala Thapa	Female	
28.	Ratna Tamotta	Female	
29.	Usha Thapa	Female	
30.	Sita Thapa	Female	
31.	Amrita Thapa	Female	
32.	Ratna Bahadut Thapa	Male	
33.	Subash Shahi	Male	
34.	Yem Bahadur Thapa	Male	
35.	Bishnu Thapa	Male	
36.	Premika Gywali	Female	
37.	Rama Pandey	Female	
38.	Man Kumari Shahi	Female	
39.	Batu Kumari Gurung	Female	
40.	Anita Shahi	Female	
41.	Jagat Kumari Gurung	Female	

#### H. Farmers' group, Mahabu Rural Municipality Ward No 4, Dalit Tole Gita Chaur

**Date:** 2078/09/28 (12 Jan 2021)

**Facilitators:** Manoj Thapa, Prabin Khadka, Tej Kumar Rai, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Daan Bahadur Nepali	Male	
2.	Tarka Bahdur Nepali	Male	
3.	Ratna Kumari Nepali	Female	
4.	Lila Nepali	Female	
5.	Ranga Nepali	Female	
6.	Tulsa B.K.	Female	
7.	Khira Nepali	Female	
8.	Basanta Nepali	Female	
9.	Resham Nepali	Male	
10.	Shanata B.K.	Female	
11.	Jira B.K.	Female	
12.	Dhila B.K.	Female	
13.	Bhadra Nepali	Female	
14.	Khese Damai	Male	
15.	Rekha B.K.	Female	



SNo	Participants	Gender	Remarks
16.	Sunita BK.	Female	
17.	Gaura B.K.	Female	
18.	Balu B.K.	Female	
19.	Goma damai	Female	
20.	Nanda Kala B.K.	Female	
21.	Gita B.K.	Female	
22.	Man Bahadur Khatri	Male	
23.	Rane Damai	Male	
24.	Padma Nepali	Female	
25.	Nain Kala B.K.	Female	
26.	Manju B.K.	Female	
27.	Bhumisara B.K.	Female	

### I. Farmers' group, Mahabu Rural Municipality Ward No 4, Fagu Tole

**Date:** 2078/09/28 (12 Jan 2021)

**Facilitators:** Manoj Thapa, Prabin Khadka, Tej Kumar Rai, Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Tarka Bahadur Singh	Male	
2.	Chakra Bahadur shahi	Male	
3.	Rana Bahadur Shahi	Male	
4.	Yen Bahadur Singh	Male	
5.	Bishna Bahadur Singh	Male	
6.	Surendra Bahadur Singh	Male	
7.	Kalama Bahadur Singh	Male	
8.	Prem Bahadur Shahi	Male	
9.	Dipesh Bahadur Shahi	Male	
10.	Sidha Bahadur Singh	Male	
11.	Prem Bahadur singh	Male	
12.	Prakash Bahadur singh	Male	
13.	Daman Singh	Male	
14.	Susmita Singh	Female	
15.	Nirmala Singh	Female	
16.	Harka Bahadur Singh	Male	
17.	Tek Bahadur Singh	Male	
18.	Mithu Kumari Singh	Female	
19.	Lalita Singh	Female	
20.	Man Bahadur Khatri	Male	

## II. FGD Participants in Surkhet

### A. Local community, Birendra Nagar Municipality, Ward No 11, Jhupra Basti

**Date:** 2078/09/29 (13 Jan 2021)

**Facilitators:** Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Rabinda Bahadur Badi	Male	
2.	Sajan Pariyar	Male	
3.	Abilal Badi	Male	
4.	Man Bahadur Badi	Male	
5.	Sudan Badi	Male	
6.	Sunita Badi	Female	
7.	Pushpa Badi	Female	
8.	Jay Bahadur Badi	Male	
9.	Hari Bahadur Badi	Male	
10.	Bakhate Badi	Male	
11.	Sunita Badi	Female	
12.	Bidhya Badi	Female	
13.	Mangali Badi	Female	
14.	Parbati Badi	Female	
15.	Nanda Badi	Female	
16.	Dila Badi	Female	
17.	Gita Badi	Female	
18.	Asha Badi	Female	
19.	Kamala Badi	Female	
20.	Salina Badi	Female	
21.	Tara Badi	Female	
22.	Sunita Badi	Female	
23.	Shankar Badi	Male	
24.	Madan Badi	Male	
25.	Rupa Badi	Female	
26.	Durga Badi	Female	
27.	Sushil Badi	Male	
28.	Najiran Badi	Male	

## B. Local community, Bheri Ganga Rural Municipality, Ward No 2, Sattari

Date: 2078/09/30 (14 Jan 2021)

Facilitators: Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Sher Bahadur Sarki	Male	
2.	Nar Bahadur Sinjali	Male	
3.	Nanda Bahadur Buda	Male	
4.	Prem Badi	Male	
5.	Lok Bahadur Badi Badi	Male	
6.	Pushpa Badi	Female	
7.	Nanda Kala Badi	Female	
8.	Prakash Badi	Male	
9.	Gaurav Badi	Male	
10.	Lal bahadur Badi	Male	
11.	Bal bahadur Badi	Male	
12.	Padam Badi	Male	
13.	Mahendra Badi	Male	
14.	Dal bahadur Badi	Male	
15.	Ekhte Badi	Male	

## C. Local community, Bheri Ganga Rural Municipality, Ward No 12, Raji gau

Date: 2078/09/30 (14 Jan 2021)

Facilitators: Rakshya Bhusal and Madhu Subedi

SNo	Participants	Gender	Remarks
1.	Kamal Rana	Male	
2.	Tularam B.C	Male	
3.	Gangaram Raji	Male	
4.	Bhimkala Raji	Female	
5.	Kamala Raji 1	Female	
6.	Kamala Raji 2	Female	
7.	Pabitra Raji	Female	
8.	Sita Raji	Female	
9.	Kumar Raji	Male	
10.	Basanta B.K	Male	
11.	Jit Bahadur Raji	Male	
12.	Sher Bahadur Raji	Male	
13.	Arjun Raji	Male	
14.	Bhed Bahadur Raji	Male	
15.	Ganga Bahadur Raji	Male	
16.	Imansara Raji	Female	

SNo	Participants	Gender	Remarks
17.	Bhumisara Raji	Female	
18.	Khagisara Raji	Female	
19.	Kalu Rana	Male	
20.	Gyan bahadur Raji	Male	
21.	Birendra Raji	Male	
22.	Laxmi Kumar Raji	Male	
23.	Shanti Raji	Female	

## Annex 5. List of key informants interviewed.

SNo	Name	Position	Organization
1.	Manoj Thapa	CBNO Facilitator	CBNO, Dailekh
2.	Purna Prasad Jaisi	CBNO secretary	Swabalamban Ekata Samaj, Dailekh
3.	Kamal Bhandari	Branch Manager	Nepal credit and commerce Bank, Gaidabaj, Mahabu-4
4.	Kalpna Acharya	Owner	Acharya Agrovet, Gaidabaj, Mahabu-4
5.	Mukesh Bahadur Bista	Health post in charge	Mahabu Hospital, Gaidabaj, Mahabu-4
6.	Jang Bahadur Shahi	Chairperson	Mahabu Rural Municipality, Gaidabaj, Mahabu-4
7.	Prem Kumari Budha	Vice- Chairperson	Mahabu Rural Municipality, Gaidabaj, Mahabu-4
8.	Bhakta Bahadur Malla	Administrative Head	Mahabu Rural Municipality, Gaidabaj, Mahabu-4
9.	Bal Bahadur Bista	Agriculture Department Head	Mahabu Rural Municipality, Gaidabaj, Mahabu-4
10.	Prem Bahadur Chalaune	Livestock Department head	Mahabu Rural Municipality, Gaidabaj, Mahabu-4
11.	Dr Prachand Bahadur Khadka	District Livestock Development Officer	District Livestock Development Office, Dailekh
12.	Kamala Rana	Value Chain Expert	Agriculture Sector Development Programme (ASDP), Dailekh
13.	Yam Kumari Paudel	Value Chain Expert	Agriculture Sector Development Programme (ASDP), Dailekh
14.	Rameshwor Yadav	Station Chief	Horticulture Research Station, Dailekh
15.	Indra Bahadur Thapa	District Agriculture Development Officer (DADO)	District Agriculture Development office, Dailekh
16.	Puja Acharya	Doctor	District Hospital Dailekh, Dailekh
17.	Nanda Lal Jaisi	Acting Executive Chief	District Hospital, Dailekh
18.	Bharat Bahadur Bam	Vegetable vendor	Dailekh Bazar
19.	Uttam Prasad Acharya	Information Officer	Birendranagar Municipality, Surkhet
20.	Bhojraj Sapkota	Programme Coordinator	Agriculture Sector Development Programme (ASDP), Birendranagar, Surkhet
21.	Renu Acharya	vice- Chairperson	Bheri Ganga Rural Municipality, Surkhet
22.	Nanda Bahadur Buda	Ward chairman	Bheri Ganga Rural Municipality, ward no 2



## Annex 6. Basic Information about the FGD sites

1. Tolipata, Mahabu-4, Dailekh	
Area	Small village – small area
Cropping Pattern	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Steep slope
Aspect	SW
Remoteness	5 km from Gaudabaz
Soil fertility	Fertile (medium)
Water availability	Good
Land characteristics	Narrow terrace
Social characteristics	Mix community, low social cohesion, low enthusiasm
Problems	Seasonal migration, low aspiration towards commercialization
Prospects	Proximity to market, access to market, good social mobilization required



2. Kada siraula, Mahabu-4, Dailekh	
Area	Big village – large area
Cropping Pattern	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Steep slope
Aspect	NE-NW
Remoteness	5 km from Gaudabaz
Soil fertility	Fertile (medium)
Water availability	Low
Land characteristics	Narrow terrace
Social characteristics	Mix community, low social cohesion, low enthusiasm
Problems	Seasonal migration, low aspiration towards commercialization
Prospects	Proximity to market, access to market, good social mobilization required



### 3. Mukhiya Dada, Mahabu-4, Dailekh

Area	Big village – large area
Cropping Pattern-	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Steep slope (low steepness)
Aspect	NE-NW
Remoteness	5 km from Gaudabaz
Soil fertility	Fertile (High)
Water availability	Low
Land characteristics	wide terrace
Social characteristics	Mix community (janjati dominted), good social cohesion, high enthusiasm
Problems	Seasonal migration
Prospects	Proximity to market, access to market





#### 4. Batase Dada, Mahabu-4, Dailekh

Area	Big village – large area
Cropping Pattern	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Steep slope
Aspect	W
Remoteness	10 km from Gaudabaz
Soil fertility	Fertile (medium)
Water availability	Good (water sources available)
Land characteristics	wide terrace
Social characteristics	Mix community (janjati dominated), good social cohesion, high enthusiasm
Problems	Seasonal migration, far from market
Prospects	



#### 5. Gita chaur, Mahabu-4, Dailekh

Area	Big village – large area
Cropping Pattern	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Flat land (river basin), gentle slope
Aspect	E
Remoteness	20 km from Gaudabaz
Soil fertility	Fertile (low-medium)
Water availability	Low but possible (from river)
Land characteristics	wide terrace
Social characteristics	Mix community (Thakuri dominated), social cohesion in question, average enthusiasm
Problems	Seasonal migration, far from market
Prospects	Good social mobilization required



## 6. Gita chaur (Damai tol), Mahabu-4, Dailekh

Area	Small village – small area
Cropping Pattern	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Sloping land (gentle to steep)
Aspect	E
Remoteness	20 km from Gaudabaz
Soil fertility	Fertile (low-medium)
Water availability	Low
Land characteristics	Medium terrace
Social characteristics	Dalit settlement, good social cohesion, good enthusiasm
Problems	Seasonal migration, far from market, small land holding
Prospects	Good social mobilization required





### 7. Fagu, Mahabu-4, Dailekh

Area	small village – small area
Cropping Pattern	Rice-wheat or fallow Maize-wheat Maize-potato-vegetables
Slope	Very Steep slope
Aspect	S
Remoteness	20 km from Gaudabaz
Soil fertility	Fertile (medium)
Water availability	low
Land characteristics	narrow terrace
Social characteristics	Thakuri community, high enthusiasm
Problems	Seasonal migration, far from market, low social cohesion, small land holding
Prospects	Good social mobilization required



### 8. Jhupra Basti, Birendranagar-11, Surkhet

Area	Small village (139 HHs; Badi 103 HHs; Raji 5 HHs; Dalit 6 HHs) situated in gorge of Jhupra khola.
Cropping Pattern	Small kitchen garden
Slope	Flat riverbasin
Aspect	Flat bank of Jhupra river (almost in the meeting point of Jhupra and Bheri rivers.
Remoteness	10 km from birendra nager
Soil fertility	Low (River bed: sand, gravel)
Water availability	Drinking water: Unreliable water supply since last 1.5 years – river source
Land characteristics	No land (river bed)
Social characteristics	Badi community, making living from extracting sand, gravel and stones, high enthusiasm, Low seasonal migration
Problems	far from market, low social cohesion, only small (10-50 m <sup>2</sup> )
Prospects	Good social mobilization required



### 9. Sattari village, Bheriganga-2, Surkhet

Area	Small village (Total 38 HHs; Badi 9 HHs; Dalit 25 HHs) situated in gorge of Sattari river.
Cropping Pattern	Small kitchen garden
Slope	Flat river basin; sloping land along the two sides of river
Aspect	Flat bank of Sattari river (1.5 km upward the meeting point of Sattari and Bheri rivers) in the gorge of Sattari river.
Remoteness	15 km from Birendranagar
Soil fertility	Low (Riverbed: sand, gravel)
Water availability	Drinking water: only source supplied from opposite side of the river; use river water when pipe water supply does not work.
Land characteristics	No /small land (riverbed)
Social characteristics	Mixed (Badi, dalit, janajati) community, making living from extracting sand, gravel and stones, high enthusiasm, low seasonal migration
Problems	Far from market, low social cohesion, small area (10-50 m <sup>2</sup> )
Prospects	Good social mobilization required





## 10. Raji Gaon, Chinchu, Bheriganga-12, Surkhet

Area	Densely populated sub-urban settlement (Total 300 HHs; Badi 12 HHs; Raji 27 HHs; Dalit 100 HHs) situated 1 km from Chhinchu town.
Cropping Pattern	Small area (1-2 ropani equivalent 500 - 1000 m <sup>2</sup> )
Slope	Moderate
Aspect	South and West facing slopes
Remoteness	26 km from Birendranagar; 1 km from Chhinchu
Soil fertility	Low (yellow oxidized soil)
Water availability	Drinking water supply in alternate days; No water sources for irrigation
Land characteristics	Moderate slope, terraced land,
Social characteristics	Raji community, daily wage labour, Low seasonal migration
Problems	far from market, low social cohesion
Prospects	Good social mobilization required



**SODI!**



For more information

**Group of Helping Hands (SAHAS) Nepal**

P.O.Box 8975, EPC 1590

Lalitpur, Nepal

Tel: 00977-1-5905671

Fax: 00977-1-5905670

Email: [info@sahasnepal.org.np](mailto:info@sahasnepal.org.np)

Web: [www.sahasnepal.org.np](http://www.sahasnepal.org.np)