ADAPTATION FUND

AFB/PPRC.35/24
17 March 2025

Adaptation Fund Board
Project and Programme Review Committee
Thirty fifth Meeting
Bonn, Germany, 8-9 April 2025

Agenda Item 5o)

PROPOSAL FOR NEPAL

Background

1. The Operational Policies and Guidelines (OPG) for Parties to Access Resources from the Adaptation Fund (the Fund), adopted by the Adaptation Fund Board (the Board), state in paragraph 45 that regular adaptation project and programme proposals, i.e. those that request funding exceeding US$ 1 million, would undergo either a one-step, or a two-step approval process. In case of the one-step process, the proponent would directly submit a fully-developed project proposal. In the two-step process, the proponent would first submit a brief project concept, which would be reviewed by the Project and Programme Review Committee (PPRC) and would have to receive the endorsement of the Board. In the second step, the fully-developed project/programme document would be reviewed by the PPRC, and would ultimately require the Board's approval.

2. The Templates approved by the Board (Annex 5 of the OPG, as amended in March 2016) do not include a separate template for project and programme concepts but provide that these are to be submitted using the project and programme proposal template. The section on Adaptation Fund Project Review Criteria states:

> *For regular projects using the two-step approval process, only the first four criteria will be applied when reviewing the 1st step for regular project concept. In addition, the information provided in the 1st step approval process with respect to the review criteria for the regular project concept could be less detailed than the information in the request for approval template submitted at the 2nd step approval process. Furthermore, a final project document is required for regular projects for the 2nd step approval, in addition to the approval template.*

3. The first four criteria mentioned above are:
   (i) Country Eligibility,
   (ii) Project Eligibility,
   (iii) Resource Availability, and
   (iv) Eligibility of NIE/MIE.

4. The fifth criterion, applied when reviewing a fully-developed project document, is:
   (v) Implementation Arrangements.

5. It is worth noting that at the twenty-second Board meeting, the Environmental and Social Policy (ESP) of the Fund was approved and at the twenty-seventh Board meeting, the Gender Policy (GP) of the Fund was also approved. Consequently, compliance with both the ESP and the GP has been included in the review criteria both for concept documents and fully-developed project documents. The proposal template was revised as well, to include sections requesting demonstration of compliance of the project/programme with the ESP and the GP.

6. At its seventeenth meeting, the Board decided (Decision B.17/7) to approve "Instructions for preparing a request for project or programme funding from the Adaptation Fund", contained in the Annex to document AFB/PPRC.8/4, which further outlines applicable review criteria for both

concepts and fully-developed proposals. The latest version of this document was launched in conjunction with the revision of the Operational Policies and Guidelines in November 2013.

7. Based on the Board Decision B.9/2, the first call for project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Fund was sent out on April 8, 2010.

8. The following project concept document titled “Improving Food System Resilience of Vulnerable Communities in Nepal Through Community-based Adaptation” was submitted for Nepal by the World Food Programme (WFP), which is a Multilateral Implementing Entity of the Adaptation Fund.

9. This is the fourth submission of the concept note, using the two-step submission process.

10. It was first submitted as a project concept ahead of the forty-fourth meeting.

11. The current submission was received by the secretariat in time to be considered in the forty-fourth Board meeting. The secretariat carried out a technical review of the project proposal, assigned it the diary number AF00000407, and completed a review sheet.

12. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with WFP and offered it the opportunity of providing responses before the review sheet was sent to the PPRC.

13. The secretariat is submitting to the PPRC the summary and, pursuant to decision B.17/15, the final technical review of the project, both prepared by the secretariat, along with the final submission of the proposal in the following section. In accordance with decision B.25.15, the proposal is submitted with changes between the initial submission and the revised version highlighted.

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY:

Country/Region: Nepal/South Asia
Project Title: Improving Food System Resilience of Vulnerable Communities in Nepal Through Community-based Adaptation
Thematic Focal Area: Agriculture and Food Security
Implementing Entity: World Food Programme (WFP)
Executing Entities: Ministry of Forests and Environment, Ministry of Agriculture and Livestock Development
AF Project ID: AF00000407
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): 10,000,000
Reviewer and contact person: Estefanía Jiménez
Co-reviewer(s):
IE Contact Person:

Technical Summary	The project "Improving Food System Resilience of Vulnerable Communities in Nepal Through Community-based Adaptation" aims to aims to enhance the resilience of 12,100 smallholder farming households in the selected watershed areas under the Karnali River Basin by promoting community-based adaptation activities, climate-resilient agricultural practices, and access to reliable early warning and climate information adopting integrated watershed management and integrated risk management approach. This will be done through the two components below: Component 1: Community and ecosystem resilience: Enhancing community-based participatory climate resilient strategies for adapted livelihoods and sustainable natural resource management. (USD 6,808,045) Component 2: Climate governance and system strengthening: Capacity/system strengthening for improved last-mile climate information services and local adaptation planning to enable early/adapted actions and informed disaster management of climate risks/disasters. (USD 1,533,045) Requested financing overview: Project/Programme Execution Cost: USD 875,500 Total Project/Programme Cost: USD 9,216,590 Implementing Fee: USD 783,410 Financing Requested: USD 10,000,000

	The initial technical review raises some issues such as the need for more details regarding an initial gender analysis, the consultations process, technical standards, knowledge management, and the risk category as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. The second technical review finds that there are a few outstanding CRs and CARs to be addressed. The third technical review finds that there is only one item pending further clarification, in relation to the cofinancing mentioned in the proposal. The fourth technical review finds that the proposal has addressed all the CR and CAR requests.
Date:	March 6, 2025

Review Criteria	**Questions**	**Initial Technical Review Comments November 25, 2024**	**Second Technical Review Comments January 22, 2025**	**Third Technical Review Comments February 24, 2025**	**Fourth Technical Review Comments March 6, 2025**
Country Eligibility	1. Is the country party to the Kyoto Protocol, and/or the Paris Agreement?	**Yes.**	-	-	-
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	**Yes.** Nepal's vulnerability to climate change, marked by increased frequency and intensity of hazards like floods and	-	-	-

		landslides and droughts, poses a significant threat to food security and disproportionately affects marginalized rural communities, compounding their challenges related to limited resources and adaptive capacity.			
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	**Yes**. As per the endorsement letter dated September 5, 2024.	**-**	**-**	**-**
	2. Does the length of the proposal amount to no more than Fifty pages for the project/programme concept, including its annexes?	**Yes.**	**CR7 (NEW):** On stage of submission, please check the appropriate box as this is the second re-submission of the concept note.	**Cleared.** As per amendment on page 1.	**-**
	3. Does the project / programme support concrete adaptation	**Yes.** **CR1:** Please include a legible	**CR1: Cleared.** As per insertion of TOC diagraph	**-**	**-**

	actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	theory of change diagram at page 19.	In Annex one and note on page 22 of the tracked changed version of the concept note.		
	4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Yes.** As per information provided on page The project will target an estimated 12,100 households (approximately 60,654 community members) in two mountain districts of Sudurpaschim province (Bajhang and Bajura) and three districts of Karnali province (Humla, Kalikot, and Mugu), including 11 local governments, 2 from each of the 5 districts. These areas have been chosen due to their extreme vulnerability to climate change impacts, lowest adaptive capacity,		-	-

		and food insecurity. Using the Participatory Rural Appraisal (PRA) tools, the vulnerability assessment, and households classification, the project aims to target at least 60 percent women of the project beneficiaries and socio-economically marginalize households (Dalits, Janajatis, persons with disabilities, and the poor). The table on page 15 includes gender disaggregated data by district (25 percent target). The project can enhance economic resilience by promoting climate-smart agriculture, agroforestry, and diversified livelihoods. Investments in water management			

		and infrastructure enable two cropping seasons annually, boosting productivity and supporting high-value crops. Training initiatives and improved post-harvest facilities can reduce losses and strengthen value chains, while programs like the Food Assistance for Assets (FFA) and local infrastructure projects create income-generating opportunities and reduce migration pressures. By supporting farmer cooperatives and market access through contract farming, the project aims to ensure reliable income and foster entrepreneurship. Job creation in renewable energy,			

		agriculture, and value-added processing is further supported by access to adaptation finance and financial literacy training. The project fosters inclusivity by prioritizing women, persons with disabilities, and marginalized groups. Vulnerability and Adaptive Capacity Assessments (VCAs) ensure interventions meet their needs, focusing on income-generating activities like livestock rearing and fruit farming. Equal wages, community consultations, and gender-sensitive adaptation options are key to reducing inequalities and enhancing	**CAR1: Cleared.** As per amendments made to pages 4, 9, 25 26, 27, 28, 29 and 31 of the track change version of the concept note as well as Annex 3. **CR2: Cleared.** Based on the		

		livelihoods. Awareness campaigns combat social taboos, like untouchability, while capacity-building programs educate communities about climate change impacts and adaptation strategies, encouraging participation and resilience. The project promotes sustainable land, water, and energy management practices to enhance natural resources and ecosystem services. Activities like slope stabilization, afforestation, and agroforestry improve biodiversity, soil stability, and water availability.	insertion of percentage of beneficiaries from pages 26-28 of the tracked changed version of the re-submission.		

		Organic farming, climate-smart technologies, and renewable energy can reduce environmental degradation. By improving post-harvest processing and promoting eco-friendly practices, the project enhances value chains while reducing waste. Community-based forestry and water conservation strategies further bolster climate resilience, creating ecosystems that support sustainable livelihoods and adaptive capacity for local communities. The proposal includes a list of potential indicative activities under each planned output, but more details are needed			

		regarding benefits and or risks associated with specific activities, including agro-advisories. **CAR1:** It is noted that "A comprehensive gender assessment will be conducted during the full proposal formulation stage." However, please include an initial gender analysis or assessment elaborating on the gender-specific cultural and/or legal context in which the project will operate and providing qualitative and quantitative data for gender roles, activities, needs, and available opportunities and challenges or risks for men and women, and/or			

		identify how changing gender dynamics might drive lasting change. This is a requirement of the Adaptation Fund at concept stage. **CR2:** Please quantify estimated benefits associated with project activities, whenever possible.			
	5. Is the project / programme cost effective?	**Yes**, as outlined on page 27. The project is a scale up of the CAFS-Karnali project. The project demonstrates strong cost-effectiveness from a sustainability perspective by optimizing resource use and aligning	**CR3: Not cleared.** Although additional information was provided comparing the outcome of the alternative interventions, no cost comparisons were provided. Please provide additional information to justify this as a	**CR3: Cleared.** Based on the amendments made at the Part II Section C. <u>At the fully developed proposal stage a more comprehensive cost effectiveness analysis is required.</u>	-

		expenditures with long-term adaptation and development goals. Streamlining the flow of funds from federal to local governments through top-up grants integrated into regular budgets minimizes administrative costs and delays while encouraging the incorporation of adaptation measures into local development plans. By leveraging existing financial systems and administrative platforms, the project avoids the need for parallel structures, reducing operational expenses and ensuring institutional integration. Furthermore, investments in skill development and	sufficient cost effectiveness response.		

		local industries, particularly those linked to high-value commodities, capitalize on market opportunities and create sustainable economic benefits. The project aligns infrastructure development with climate adaptation, maximizing investment impact by simultaneously enhancing resilience and generating livelihoods. Programs such as cash-for-work and food-for-assets provide immediate financial and nutritional support while building long-term community resilience through asset creation. By linking these initiatives to specific adaptation outcomes, the project addresses			

		both short- and long-term needs, reducing household vulnerability to environmental and financial shocks. Additionally, prioritizing replicable and scalable solutions offers a cost-effective model that can be expanded to other regions, reducing the costs of developing unique interventions. **CR3:** Please provide examples of alternative interventions, beyond the baselines and those maintaining the status quo.			
	6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction	**Yes.** As outlined on page 29, The project aligns with multiple national and sub-national sustainable	-	-	-

	strategies, national communications and adaptation programs of action and other relevant instruments?	development strategies, including the National Adaptation Plan (NAP) 2021-2050, which prioritizes climate resilience in agriculture and food security. It specifically supports initiatives like sustainable agriculture, climate-smart practices, and enhanced climate services that are outlined in the NAP. The project also contributes to the targets of the Nationally Determined Contributions (NDC) for 2021-2030 by promoting climate-resilient agriculture and enhancing access to essential services. Additionally, it aligns with the WFP's Country Strategic Plan			

		(2024-2028) focused on climate adaptation and resilience for vulnerable populations, as well as the National Climate Change Policy (2019) and the 16th National Development Plan (2024-2028), which emphasize local adaptation planning and sustainable development.			
	7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	**Unclear.** No national technical standards are referenced. **CAR2**: Please identify the relevant national technical standards, including building codes, water quality regulations, and any other sector-specific regulations, and explain how the project activities will comply.	**CAR2: Not cleared.** Although the standards were included in the resubmission and indication that the project implementation will address those standards, the proposal does not demonstrate how the standards will be met. Please address as this is required for	**CAR2: Cleared.** Based on amendments made to Part II Section E of the revised submission.	-

			the concept note stage.		
	8. Is there duplication of project / programme with other funding sources?	**No**. As per information provided on page 30-31. **CR4**: Please provide more details on the coordination mechanism for ensuring that the project coordinates with other initiatives including potentially complementary projects such as WFP LISP and IFAD ASDP.	**CR4: Cleared.** Based on insertions made at table under section F from pages 36-37 or the resubmission.	-	-
	9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	**Unclear.** The proposal states the intention to establish a "climate change information management system within the provincial government, Ministry of Industry, Tourism, Forests	**CAR3: Cleared.** Based on insertion in the resubmission of Output 3.3. in the project and programme financing table on page 21 and the description provided of output 3.3. at page 29.	-	-

		and Environment (MoITFE)", the creation of documentaries and a communications strategy to ensure visibility, and a report on lessons learned, but these are not mentioned in the project components. Section G page 32 also Components 1and 2 involving innovation and knowledge dissemination as as well as "…comprehensive communication strategy for this project to ensure better visibility and dissemination of its outcomes and impacts will be developed. Regular monitoring and evaluation produced findings and recommendations will be			

		disseminated". **CAR3:** Please include activities related to knowledge management (KM) and dissemination of lessons learned in the project components. They can be grouped into a single component or be part of a larger component.			
	10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Yes**, but more details are needed regarding consultations with marginalized groups. Formal national and provincial level consultations were held between 2nd and 10th of April 2024, as well as discussions with the proposed 11 local governments and community members, but more details are	**CAR4: Cleared.** Based on insertion of Annexes 2 and 3.	-	-

		needed regarding the groups consulted, including the number of people consulted, their location, roles, consultation techniques employed, and the breakdown by gender. **CAR4**: Please provide more details regarding consultations with community stakeholders, including marginalized groups and include a report documenting the consultative process, including a) the list of stakeholders already consulted (principles of choice, role ascription, date of consultation), b) a description of the consultation techniques			

		(tailored specifically per target group), c) the key consultation findings (in particular suggestions and concerns raised).			
	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	**Yes**. As outlined on page 34-38.	**-**	**CAR6 (NEW)** At Section C Paragraph 1 the proposal indicates “This co-financing model will leverage public funds to maximize the impact of key project activities, ensuring ownership, sustainability and alignment with national priorities.” Please clarify if the proposal is being co-financed and what the form of	**CAR6: Cleared.** As per changes made in Section C Paragraph 1.

				expected co-finance is?	
	12. Is the project / program aligned with AF's results framework?	**Yes,** as outlined on page 42. **CR5:** In the top part of Part III Table A, please separate out the costs for the grant amount by the fund outcome and or fund outcome indicator e.g. Outcome 3 is $x etc.	**CR5: Cleared.** As per the amendment to the table at pages 43-44.	**-**	**-**
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	**Yes**, as outlined on pages 37-39. The proposal references established procedures from the CAFS Karnali project for asset transfer to communities or local government, including funding allocation coordinated with local governments to ensure continued utilization, repair, and maintenance	**CR6: Cleared.** Based on insertions at page 45 under building institutional sustainability and at page 46 under technical sustainability.	**-**	**-**

		of the developed infrastructure; management training for communities to handle minor and routine repairs; and the handover of the infrastructure to user committees in the presence of local government representatives. This process was further reinforced by deploying highly competent and accountable district-based local service providers, enhancing collaboration and partnerships with local authorities. It would be useful to provide more information on how this has progressed after the CAFS Karnali project, including how communities and local governments have			

		managed to upkeep the outputs from the previous project **CR6:** Please provide more details regarding how budget allocation from the treasury will be sustained beyond the life of the project and on activities that could require maintenance of infrastructure, including any policies and governance arrangements to be developed and implemented.			
	14. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Unclear.** The proposal includes checklist on page 40, however more information is needed on an initial gender	**CAR5: Cleared.** Based on amendment to Part II Section K including project risk categorization as B.	-	-

		analysis, particularly since the proposal acknowledges that the CAFS Karnali project which this project proposes to scale up faced challenges due to the lack of gender-disaggregated baseline data and the absence of a gender assessment during the inception phase. Additionally, more details are needed on all potential direct, indirect, transboundary, and cumulative impacts that could result from the proposed project. Please see **CAR 1**. **CAR5**: Please state the category in which the screening process			

		has classified the project (Category A, B or C). Please also ensure that these categories reflect AF ESP and not necessarily the IE policy.			
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	**Yes.**	**-**	**-**	**-**
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	**Yes.**	**-**	**-**	**-**
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	**Yes.**	-	-	**-**
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	**Yes.** The World Food Programme is Board accredited Implementing Entity. Accreditation expires on May 20,	-	-	**-**

		2025			
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	n/a at concept stage			
	2. Are there measures for financial and project/programme risk management?	n/a at concept stage			
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	n/a at concept stage			
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage			
	5. Is an explanation and a breakdown of the execution costs included?	n/a at concept stage			
	6. Is a detailed budget including budget notes included?	n/a at concept stage			
	7. Are arrangements for monitoring and evaluation clearly	n/a at concept stage			

	defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?				
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage			
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage			
	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage			

CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	Improving food system resilience of vulnerable communities in Nepal through community-based adaptation.
Country:	Nepal
Thematic Focal Area:	Agriculture and Food Security
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	World Food Programme (WFP)
Executing Entities:	Ministry of Forests and Environment, Ministry of Agriculture and Livestock Development
Amount of Financing Requested:	USD 10 million

Project Formulation Grant Request (<u>available to NIEs only</u>): Yes ☐ No ☒

Amount of Requested financing for PFG: Not Applicable

Letter of Endorsement (LOE) signed: Yes ☒ No ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☒ This concept has been submitted before

☐ This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: 12/20/2024

Project/Programme Background and Context:

General Context

Location and Climate

Nepal is a landlocked country bordering China to the north and flanked by India on the other three sides with a total land area of 147,516 km^2 that extends over 800-850 km from east to west and 144-240 km north to south with a total land area of about 147,516 km^2. It lies between 80^{o}04' – 88^{o}12' E and 26^{o}22' -30^{o}27' N. Nepal's geography is divided into three distinct ecological zones running from east to west: the Terai with fertile, alluvial grasslands; a temperate hill region; and the mountain region hence the geographic landscape is highly diverse ranging from flat and relatively low-lying in Terai in the South to the highest mountains in the North. Nepal has a wide range of climatic zones and possesses rich biodiversity. Federal, provincial, and local governments were enshrined in Nepal's 2015 constitution, which took effect in 2017 and gave each administrative structure responsibility for implementing policies, plans, and programmes that promote sustainable and inclusive development in line with Nepal's commitments to national and international goals, including the Sustainable Development Goals (SDGs). The annual temperature varies from -4°C to 19°C while the maximum temperature ranges from 4°C to 31°C[1]. The average annual precipitation of Nepal accounts for 1600 mm. It receives more than 70 % of the precipitation in monsoon (June-September). The distribution of the rainfall is not equal to all the altitudes, varying from place to place[2].

Figure 1: Physiographic map of Nepal

Environmental and agro-ecological conditions

Nepal is divided into three ecological regions i) Terai (<1000 m), ii) Hills (1000-3000 m) and Mountain (>3000 m) (MoSTE, 2014). Due to its diverse topography, it is rich in biodiversity. According to the national report to the Convention on Biological Diversity, Nepal is the habitat for more than 13000 flora and more than 17000 fauna. It has 75 vegetation types and 35 forest types. In 2019, Nepal's forest cover increased to 41.69% (6,166,766 hectares) from 39.99% (5,915,518 hectares) in 2000. Other significant land covers included cropland and grassland, with cropland seeing a decrease from 26.31% in 2000 to 24.21% in 2019, and grassland from 13.95% to 13.27% over the same period. Other wooded land (OWL) covered 3.62% (535,179 hectares) of Nepal in 2019, a slight increase from 3.57% (527,915 hectares) in 2000. Less significant land covers like snow, bare rock, glaciers, riverbeds, built-up areas, water bodies, and bare soil collectively comprised less than 18% of the land in both years. At the provincial level, forest cover was predominant in all provinces except Madhesh, where OWL saw a significant increase, and other provinces showed mixed trends. The built-up area increased in all provinces, while cropland decreased consistently across them. Physiographic regions such as Terai and Siwalik maintained a dominance in cropland and forests respectively, while built-up areas grew, and grassland areas generally decreased. Between 2000 and 2019, forest cover saw an overall increase of 1.70%, whereas cropland and grassland decreased by 2.10% and 0.68%, respectively. According to Global Forest Watch[3], Nepal experienced a net gain in tree cover from 2000 to 2019. Specifically, the data shows an increase in forest cover in various regions, including the Terai and Siwalik. GFW data also shows changes in land use, indicating a decrease in cropland and grassland during the same period. The FAO's FRA

[1] Ministry of Forests and Environment (MoFE) 2021, Vulnerability and Risk Assessment and Identifying Adaptation Options: Summary for Policy Makers. Kathmandu, Government of Nepal

[2] Ministry of Science, Technology and Environment (MoSTE), 2014, Economic Impact Assessment of Climate Change in Key Sectors in Nepal. Kathmandu with technical support from IDS Nepal, Global Climate Adaptation Partnership and Practical Action.

[3] Global Forest Watch. (2021). Global Forest Watch Open Data Portal. World Resources Institute.

2020 report indicates a positive trend in forest cover in Nepal[4]. During this period, land cover transformations included significant shifts from forest to OWL (Other Wooded Land) and vice versa, along with conversions involving cropland and built-up areas. The data from these studies indicated a classification accuracy of 84.80% and a kappa statistic of 0.73, reflecting a reliable assessment of land cover changes. In practice, most of the population still depends on agriculture and other natural resources available in their community. While an increase in forest cover in Nepal's Terai and Siwalik regions is encouraging, it is essential to consider the quality and context of this increase and not overlook potential land degradation issues. Even with increasing forest cover, soil erosion can still be a significant issue, especially in mid hills.

Due to its geography and environment, Nepal is among the countries most highly affected by ongoing extreme climate events, with four out of every five people at risk from hazards including intense heatwaves, flooding, and air pollution. The 191 events recorded between 2000 and 2019 caused losses averaging 0.39 % of GDP[5]. While earthquakes and floods have historically been the most destructive events, floods, storms, erosion, and landslides have seen a sharp increase in the recent past. These kinds of severe weather events regularly cause extensive human and economic losses. Heavy rains, floods, and landslides have claimed hundreds of lives, destroyed crops and hundreds of homes, and damaged infrastructure. For example, in 2020, landslides and flooding in western Nepal left 300 dead and 223 injured, causing economic damage of over USD 393,000[6]. Because the rains were unseasonal, there was significant loss of livestock, agricultural damage, and damage to houses and other infrastructure.

Risks associated with climate change and natural disasters are predicted to increase. Compared to the 1981–2010 reference period, temperature is expected to rise by 0.92–1.07degree Celsius in the medium term (2016–45) and by 1.3–1.8 degree Celsius in the long term (2036–65)[7]. Similarly, it is anticipated that yearly precipitation would rise by 2–6 % to 8–12 % over the medium and long term. Monsoon summers are predicted to be wetter with up to a threefold increase in rainfall, while winters are predicted to be drier[8]. By 2030, 350,000 people are expected to be affected by river flooding brought on by climate change each year, up from 157,000 in 2010[9].

Altered snow cycles, characterized by earlier snowmelt, and reduced snowfall, contribute significantly to the flooding risks. As temperatures rise, snow in the Himalayas melts earlier and more rapidly, increasing the volume of water in rivers during seasons already prone to heavy rainfall. This exacerbates flooding, particularly in the monsoon season, when rivers are already swollen from rainfall. These altered snow cycles, combined with heavy monsoon rains, lead to more severe and frequent floods. The Terai region, with its low-lying plains, is particularly vulnerable to such flooding. Additionally, the Siwalik region, with its hilly terrain, faces increased risks of soil erosion and landslides due to these changes.

Following the World Bank Global Workshop on Climate Change and Urban Resilience: Cities' Response to Disasters and Extreme Weather Events in January 2024, the trend continued in 2021 and 2022. In 2021, heavy rainfall led to more floods and landslides. The Kathmandu Valley and other areas suffered considerable impacts, emphasizing the ongoing risk that such weather events pose to both rural and urban areas. Further into 2022, the monsoon season again brought significant challenges. Nepal saw one of its deadliest floods and landslides in years, triggered by continuous heavy rainfall. These events led to substantial loss of life and damage across multiple districts, highlighting the increased frequency and intensity of such disasters. In the Terai, the floods caused extensive damage to agricultural lands and settlements, while in the mid-hills, landslides disrupted communities and infrastructure. These incidents underscore the escalating impacts of

[4] Food and Agriculture Organization of the United Nations (FAO). (2020). Global Forest Resources Assessment 2020: Main Report.

[5] Eckstein, David, Vera Künzel, and Laura Schäfer. 2021. Global Climate Risk Index 2021: Who Suffers Most from Extreme Weather Events? Weather Related Loss Events in 2019 and 2000–2019. Berlin: Germanwatch,

[6] DCA. (2021). When Climate becomes a Threat, Evidence of Climate Change Induced Loss and Damage in Nepal.
World Bank, GFDRR. 2022. "Melamchi Flood Disaster in Nepal: Damage and Risk Quantification with Drone Survey, Satellite-Based Land Displacement Analysis, and 2D Flood Modeling" https://www.gfdrr.org/en/publication/melamchi-flood-disaster-nepal-damage-and-risk-quantification-drone-survey-satellite

[7] MoFE (2019. Climate Change Scenarios for Nepal for National Adaptation Plan (NAP). Kathmandu: Ministry of Forests and Environment), Government of Nepal

[8] ibid

[9] World Bank Group and Asian Development Bank 2021

climate change in the region, which include not only increased rainfall during monsoons but also heightened risks of landslides and floods exacerbated by altered snow cycles that continue to threaten lives and livelihoods.

Gender, Inclusion and Socio-Economic Context

Gender and Inclusion dynamics analysis:

Social power dynamics in Nepal are shaped by complex intersections of gender, caste, ethnicity, and disability, resulting in unique vulnerabilities for different groups. Women face multiple layers of discrimination than their male counterparts. For example, while Janajati women may have more mobility and labour opportunities, they still face significant social marginalization compared to Brahmin women, who have higher social status but face restrictions, including limitations on work. Similarly, a Dalit man might face greater marginalization than a Brahmin woman due to persisting untouchability practices. Women and children are disproportionately affected by extreme weather events and are 14 times more likely to die in disasters due to limited access to resources and decision-making power. Climate change displacement also affects them the most, with an estimated 4 out of 5 displaced people being women and girls.[10.] The unique challenges faced by women, girls, marginalized groups, and persons with disabilities in Nepal, along with their potential to strengthen food security and disaster resilience in rural areas, highlight the importance of prioritizing gender and social inclusion in resilience building efforts. The project focuses on analyzing community dynamics, empowering women while fostering harmony with other groups, and promoting social cohesion. It also emphasizes the critical role of gender-disaggregated data in climate change adaptation and resilience efforts.

Population, economy and poverty

Nepal's population (April 2024) is over 29 million comprising 51.13 % female and 48.87 % male population with an annual growth rate of 0.92 % as per the national census of 2021. Its socioeconomic landscape is predominantly rural, although two-thirds of the population now live in urban municipalities per the 2021 census[11]. More than 45 % of the population resides in hills and mountains with fragile and remote physiography and low economic productivity. Likewise, 66 % population lives in urban municipalities and the rest of the population lives in rural municipalities. The population density is 212 in April 2024, which was 180 in 2011. The population density is higher in the city, and it decreases with remoteness[12]. About two-thirds of the population is employed by the agriculture sector itself. It is remarkably higher in comparison to other South Asian Countries[13].

Nepal's economy largely relies on agriculture (57.3 % of the country's population)[14] and seconded by remittances, natural resources use like forest, pastureland and so on. The economic growth rate not stable usually varies by year. The agriculture sector, which is experiencing a declining labour force, only contributes about 24.12 % of the gross domestic product (GDP) of Nepal in 2022/23. The service sector is the highest contributing sector (62.7 %) in the country's GDP. About two million people migrated abroad and remitted about Rs.1220 billion (Approx 9.3 billion USD) in 2022/23 and contributed 22.7 % to the country's GDP[15]. Nepal is highly dependent on imports, including food, medicine, petrol, and other essential goods, overwhelmingly from India[16]. Moreover, males (91.5 %) out-migrated as a migrant worker to earn their living which results in the increase of female headed household and overburden of the responsibility of agriculture work (73 % of the female workforce) in addition to the household chores and other social responsibilities[17].

Poverty is still widespread in Nepal and is strongly associated with gender, ethnicity, caste, and region. According to the recent data, there are 20.27 % of the population who lives under the poverty line[18]. According to the government, 4.98 million people in Nepal live in multi-dimensional poverty, accounting for 17.4 % of the population, a significant decrease from a previous 30.1% in 2014. This decline represents a significant number

10 https://www.un.org/en/climatechange/science/climate-issues/women#:

[11] GoN. 2022. National Population and Housing Census 2021. The increase in the share of the urban population has more to do with the reorganization of local governments after federalization than with actual urbanization.

[12] National Statistics Office, Nepal 2023, National Population and Housing Census 2021 (National Report)

[13] Biodiversity, Climate Change and Adaptation, Nature Based Solutions from the World Bank Portfolio, World Bank, 2008.

[14] National Statistical Office, 2023, National Population and Housing Census 2021: National Report

[15] Nepal Rastra Bank's Annual Report of Fiscal Year 2022/23 published in November 2023.

[16] World Bank. 2024. Crisis Preparedness Gap Analysis (CPGA), Nepal

[17] MoLESS 2020 retrieved from National Adaptation Plan report of Nepal 2023.

[18] National Statistics Office, 2024, Nepal Living Standard Survey IV 2022-23 1707800524_89.pdf (giwms.gov.np)

of individuals, nearly three million, rising out of multidimensional poverty. While Nepal is on track to achieve its commitment towards SDGs 2030, the country remains one of the poorest in the world with a Gross Domestic Product (GDP) per capita of USD 1,336.5 in 2022[19]. Nepal is categorized as a Least Developed Country (LDC) ranking in the Human Development Index (HDI) at 146th out of 193 countries in the 2023-2024 period[20], which is a slight improvement of its position from 149th previously. However, the HDI value itself experienced a minor decline from 0.602 to 0.601, attributed to the ongoing effects of the pandemic and other socio-economic factors.

Poverty and food insecurity rates are higher in the hills, more so in the western hills and mountains than in the Terai due to the limited availability of arable land and low agricultural productivity. It is highest in Karnali Province with 51.2 % and the third highest in Sudurpashchim Province with 33.6 % of the population experiencing multi-dimensional poverty[21], though there are significant pockets of poverty nationwide (28.6 %). Within the Sudurpashchim and Karnali Provinces, Bajura, Achham and Kalikot have HDI scores below 0.4. Overall, Sudurpashchim and Karnali Provinces have relatively poor infrastructure, low levels of agriculture productivity, limited access to markets and opportunities for non-agricultural activities compared to other provinces in Nepal.

Agriculture production, nutrition, food security and livelihoods:

According to agricultural statistics published by the Ministry of Agriculture and Livestock Development, the trend in agriculture production varies from year to year depending on rainfall variability and natural and climate-related disasters. Insufficient rainfall, prolonged drought and poor land management are the main issue over the hills and mountains of Karnali and Sudurpashchim provinces which has led to increased soil erosion, which is more prone to landslides and loss of arable land. These degraded lands are less resilient to climate change impacts, such as altered rainfall patterns and increased temperatures, which further threaten agricultural productivity and food security[22]. These issues are coupled with the disease infestations in crops and livestock attributed to climate change. More than 50% of households in these areas reported the emergence of new crop diseases which is taken as the new threats to crops in various communities due to changing climatic condition[23].

Farmers of Nepal face several additional interconnected challenges, primarily due to poor rural infrastructure and market dynamics. Inadequate roads and transportation networks hamper their access to markets, resulting in high transportation costs and reduced competitiveness. Limited access to real-time market information makes it difficult for farmers to make informed decisions about what and when to sell, stifling their negotiation with middlemen and often leading to lower prices and loss of income. Dependence on middlemen further reduces their share of the final market price, as these intermediaries exploit the lack of direct market access to and information to offer lower farmgate prices, reducing farmers' profit margins.

Post-harvest losses are another significant issue, with inadequate storage facilities leading to spoilage, pest infestations, and damage from weather conditions. Traditional storage methods are often insufficient to preserve the quality of produce, and the lack of modern processing and handling facilities exacerbates quality deterioration and reduces market value. Poor transportation infrastructure contributes to these losses, as long distances and rough roads lead to damage and spoilage, particularly for perishable goods. Furthermore, inadequate extension services mean that farmers often lack knowledge of modern agricultural practices, pest management, and post-harvest technologies[24]. Moreover, farmers face constraints related to quality control and certification. They often lack access to training and resources needed to maintain quality standards, limiting their ability to meet market requirements, especially for export markets. The limited availability of certification processes, such as organic or fair-trade certifications, restricts their access to markets that could offer premium prices. Financial constraints also play a significant role, with limited access to affordable credit preventing farmers from investing in improved inputs, technology, and infrastructure. The lack of crop insurance options increases their vulnerability to climate-related risks and disasters.

Nepal's 2015-2035 Agriculture Development Strategy (ADS) aims to transform the agricultural sector by

[19] The World Bank Data (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=NP)
[20] UNDP, Human Development Report 2023/2024
[21] Government of Nepal National Planning Commission, The 15th Five Year Plan (Fiscal Year 2019-2020, 2023-2024)
[22] National Climate Change Survey 2022
[23] ibid
[24] Statistical Information in Nepalese Agriculture 2021/22

enhancing food security, reducing poverty, and promoting inclusive economic development, with emphasis on pregnant and breastfeeding women, youth, Janajatis, Dalits, and inhabitants of disadvantaged regions (ie Karnali). The ADS focuses on increasing agricultural productivity sustainably, strengthening farmers' rights, and bolstering rural incomes. Since women make up the majority of the labour force in the agricultural sector, the ADS indicates that social sustainability will depend on increasing women and other marginalised groups power and capacity to control decisions about the use of resources (i.e. land ownership and co-ownership); recognising women as independent farmers; ensuring their access to means of production; enhancing their leadership, and improving women's positions in different structures of government, non-government entities, and the private sector (ie micro, small medium agro-entreprises).

The ADS emphasizes the need for climate-resilient agricultural practices and better access to markets and quality inputs for farmers. The strategy seeks to address challenges through governance reforms, productivity enhancements, and the promotion of commercial and competitive agriculture while ensuring social and geographic inclusiveness. Despite efforts to modernize agriculture and improve food security through various programs, the initial five years of implementation revealed that significant improvements are still needed to meet the set objectives effectively. Key focus areas include livelihoods, food security, and inclusiveness, with an emphasis on developing agro-enterprises, especially those led by women, youth, and other marginalized groups, to drive economic growth in rural areas. To support these goals, the ADS includes measures for disaster preparedness, agricultural insurance, and improved infrastructure, such as irrigation systems and rural electrification, to enhance the resilience and productivity of the agricultural sector. The achievements of the first five years show that there are still many interventions needed, especially in livelihoods, food security, and inclusiveness.

Table 1**:** Agriculture Development Strategy indicators and achievements adopted from Agriculture Development Strategy (ADS) Joint Sector Review (JSR) Fourth Annual Report, 2022, Ministry of Agriculture and Livestock Development.

ADS vision component	Indicators	Baseline (2015)	Mid-term Targets (2025)	Achievements (2021/22)
Self-reliance	Food grains self-sufficiency	16% food grains trad deficit	0-5% additional export business	14.59% food trade loss NPR 79.59 billion import NPR 5.4 million export (2022 July 15)
Sustainability	Land productivity/ha	USD 3,278	USD 5,339	USD 3,510.21
Livelihood	Agricultural GDP (USD)	835	1,268	931
	Rural Poverty (%)	24.3	15	18.7
Agricultural growth	Average GDP growth (%)	2.23	5	2.3%
Food and Nutrition Security	Food-based poverty (%)	27.6	13	23.1 in 2011 10% of the households were severely food insecure and 22% were moderately insecure in 2016
	Nutrition stunting-below 5 years child (%)	37.4	20	25%
	Underweight below 5-year child (%)	30.1	13	19%
	Wasting below 5-year child (%)	11.3	2	8%
	BMI-women of reproductive age having 18.5% or less.	18.1	13	16 in FY 2017/18
Inclusiveness	Women or jointly owned agricultural land (%)	16	30	19.7% in FY 2020/21
	Farmers' access to agricultural services and programmes (%)	18.2	26	20% in FY 2017/18. No estimation was found thereafter

Aligned with the goals of the ADS, Effective watershed management in Nepal's mountainous regions is essential due to their unique geography and climate. Degraded land relies on proper watershed management to sustain agricultural productivity, prevent flooding, and combat deforestation. Community forestry programs have successfully engaged local communities in forest management, leading to increased forest cover and soil stabilization. Soil and water conservation techniques, such as terraces, ponds, and check dams, help reduce erosion and improve groundwater recharge. Integrated watershed management projects promote sustainable practices and enhance climate resilience. However, rapid urbanization and infrastructure development, along with deforestation for agriculture and fuelwood, continue to challenge these efforts. Climate change

exacerbates these issues, altering precipitation and temperatures, and increasing flood, landslide, and water scarcity risks. Poor watershed management can lead to sedimentation, raising flood risks in downstream areas.

Nepal is a food-deficit country with about 4.6 million food-insecure people. According to the 2022 Nepal Demographic and Health Survey (NDHS), nearly 13% of people are moderately food-insecure and 1% is severely food insecure. Especially in the Karnali Province, 31.5% of the population is in a state of moderate or severe food insecurity, with 5.1 % experiencing severe food insecurity, making it the most food insecure among the 7 provinces. Rural residents more often experience moderate or severe food insecurity (16%) than urban residents (11%)[i]. Furthermore, WFP data shows that approximately 36% of Nepali children under 5 are stunted, 27% are underweight, and 10 % suffer from wasting due to acute malnutrition[ii]. Efforts to improve food security in Nepal include the implementation of the Agriculture Development Strategy and related programs aimed at modernizing agriculture and increasing food production. However, these initiatives face significant hurdles due to the dependence on monsoon rains, which affect nearly two-thirds of farming activities. The introduction of climate-resilient crop varieties and better irrigation practices are seen as vital steps towards mitigating these challenges. Despite these efforts, the overall food security situation remains precarious, and substantial improvements are needed to ensure that all segments of the population have reliable access to sufficient food. According to a 2023 unpublished report by the Government of Nepal/National Planning Commission and WFP: CLEAR, Nepal's livelihood profile is highly diverse and dynamic, influenced by its varied topography, climate, socio-cultural diversity, and limited resources. Households typically depend on multiple livelihood sources, engaging in small-scale, subsistence, rainfed agriculture due to small landholdings and diverse soil types within short distances.

[i] Ministry of Health and Population, USAID, New ERA, 2022 Nepal Demographic and Health Survey (NDHS)
[ii] https://www.wfp.org/countries/nepal#:~:text=One%20quarter%20of%20Nepal's%20population,wasting%20due%20to%20acute%20malnutrition.

Figure 2: Livelihood zones of Nepal.

Climate Change Vulnerability, Impacts and Risks

Temperature trend

Recent climate studies in Nepal continue to show significant changes affecting the region's temperature and precipitation patterns, impacting water security and hydrological systems. The annual maximum temperature in Nepal has been increasing at a rate of approximately 0.056°C per year from 1971 to 2014, with more noticeable warming trends in the high mountains and high Himalayan regions. This has led to an increase in warm days and nights, while cool days have been decreasing across the country. The Climate Division (Climate Analysis Section) of the Department of Hydrology and Meteorology (Ministry of Energy, Water Resource and Irrigation) states in its Nepal Climate Summary 2023 that the country received 91.2% of the normal precipitation which was about 1570.4 mm. The average maximum temperature was 27.9°C (0.6°C above than normal annual maximum temperature) and the average minimum temperature of Nepal was 15.6°C (0.5°C above than normal annual minimum temperature) in 2023.

Precipitation trend

As highlighted above, issues related to changing snow patterns, including in areas bordering Nepal, could significantly affect the country. According to the Observed Climate Trend Analysis of Nepal published by the Department of Hydrology and Meteorology, recent climate data up to 2024 highlights the continuing diverse trends in 2017, there is increase in precipitation across Nepal's various regions. However, there has been a noted decrease in the annual average precipitation, particularly in the high mountain and high Himalayan districts, though specific annual figures are not provided in the latest summaries. Seasonal variations present a complex picture: during the monsoon season, precipitation is on the rise in the mid and central high mountain areas, suggesting a shift toward wetter conditions. Conversely, both the post-monsoon and winter seasons have experienced significant decreases in precipitation across all regions, with the western mid-mountain region being particularly affected.

These trends illustrate the multifaceted impact of climate change on Nepal, affecting water resources and agriculture and highlighting the need for adaptive strategies for future sustainability. Changing snow patterns, particularly in the bordering areas of Nepal, further complicate the situation. Reduced snowfall and altered melt cycles can lead to reduced river flow and water availability in the dry season, impacting both agricultural practices and hydroelectric power generation. Increased glacial melt can contribute to more frequent and severe flooding during the monsoon season. This dynamic exacerbates the challenges faced by the Terai and Siwalik regions, where watershed management is already critical. Addressing these issues requires integrated land and water management strategies to ensure that both highland and lowland areas can adapt to the changing climate and maintain their agricultural productivity and overall environmental health.

Current and future impacts of climate change on livelihood, food security and nutrition

The changing climate conditions exacerbate Nepal's vulnerability, particularly affecting agriculture due to increased frequency and intensity of climate-induced hazards like floods, landslides, drought, forest fire and epidemics. In Nepal, floods impact around 71 % of the population, making it the most devastating hazard, followed by landslides, which affect 9.5 %[25]. The Karnali and Sudurpashchim provinces fall high risk of landslide and flood[26]. These hazards predominantly affect the poor and marginalized populations, the vulnerable groups[27], who suffer most due to limited access to resources and information. Climate change impacts are disproportionately experienced by women and marginalized populations due to longstanding social, economic, cultural, and political inequalities. These disparities often result in limited access to the resources and capacities required to address climate challenges effectively. Furthermore, intersecting factors such as age, class, race, ability, and sexuality further influence the extent of vulnerability. Socially and geographically excluded groups, including Dalits, Indigenous Peoples, persons with disabilities, children, and the elderly, are particularly susceptible to the adverse effects of climate change28.

[25] Ministry of Forest and Environment, 2021, The Vulnerability and Risk Assessment Report

[26] Enhancing Disaster related Statistics in Nepal: Mapping Population Exposure to Flood and Landslide Hazards.

[27] Vulnerable groups/communities include poor, unemployed and food insecure households headed by single women, persons with disabilities, and the households having older people, persons with disabilities, pregnant and breastfeeding mothers, malnourished children etc, and socially marginalized households.

28 MoFE. (2021). Vulnerability and Risk Assessment and Identifying Adaptation Options in GESI, Livelihood and Socio-Economic Sector in Nepal. Ministry of Forests and Environment, Government of Nepal. Kathmandu, Nepal.

The trends of extreme climate events and natural disasters pose significant threats to food security and economic stability. Despite efforts to tackle these challenges, there is a pressing need for more focused strategies to reduce vulnerability and enhance adaptive capacity. The recent Vulnerability and Risk Assessment Report of Nepal[29] indicated that both temperature and precipitation are projected to rise continually through 2100, with estimated increases between 1.3°C to 3.58°C and 7.9 % to 12.1 %, respectively. Climate change is causing a marked reduction in water resources in the hills and mountains of Karnali and Sudurpashchim provinces. Notable, more than 90 % of the households have observed a significant decrease in water level in water sources such as *Padhero/Kuwa*[30]/spring /stone spout. Furthermore, over 70 % of the households have witnessed complete drying up of these water sources over the last 25 years. Almost all the households experienced the decrease in discharge of rivulets and streams over the period. At the same time, most of the households also witnessed the dried up of rivulets and streams over the period. Insufficient rainfall and prolonged drought are the main reason identified for these changes [31].

These changes are expected to affect food security. Communities, mainly farmers, are experiencing limited accessibility to climate services for end-users and a lack of awareness of what kind of information is available, where it can be found and how it can be used in adaptation planning decisions.

Climate projections for Nepal indicate rising temperatures throughout the 21st century, with varying changes in precipitation—ranging from a 10% decrease to a 30% increase. The 2023 NPC-WFP Consolidated Livelihood Exercise for Analyzing Resilience (CLEAR) [i] report highlights significant climate changes, including warming across all seasons, particularly at higher altitudes, leading to earlier glacier melt and altered river flow. Precipitation patterns will vary, with wetter monsoons and drier winters, increasing the frequency and severity of extreme events such as floods, landslides, droughts, storms, heatwaves, and Glacial Lake Outburst Floods (GLOFs). These changes will impact agriculture, water resources, and infrastructure, particularly in Karnali and Sudurpashchim provinces, which are highly vulnerable to climate impacts due to reliance on climate-sensitive sectors like rainfed agriculture, livestock rearing, and forest resources. This underscores the urgent need for effective climate adaptation measures in these areas.

[i] https://www.wfp.org/publications/impact-climate-change-livelihoods-and-food-security-armenia-clear-consolidated

The WFP-GoN CLEAR Report 2022 outlines three scenarios for Nepal's climate in the 2050s, based on regionally downscaled global models under two greenhouse gas concentration pathways (RCP4.5 and RCP8.5). These scenarios are not exact predictions but offer a range of possible outcomes to help understand potential impacts on future food security. They also account for natural variability, which will continue to cause variations in temperature and precipitation annually.

[29] Ministry of Forest and Environment, 2021, The Vulnerability and Risk Assessment Report
[30] *Pandhero and kuwa:* Local terminology for natural spring. It is the source of drinking water at remote Nepal.
[31] National Climate Change Survey 2022

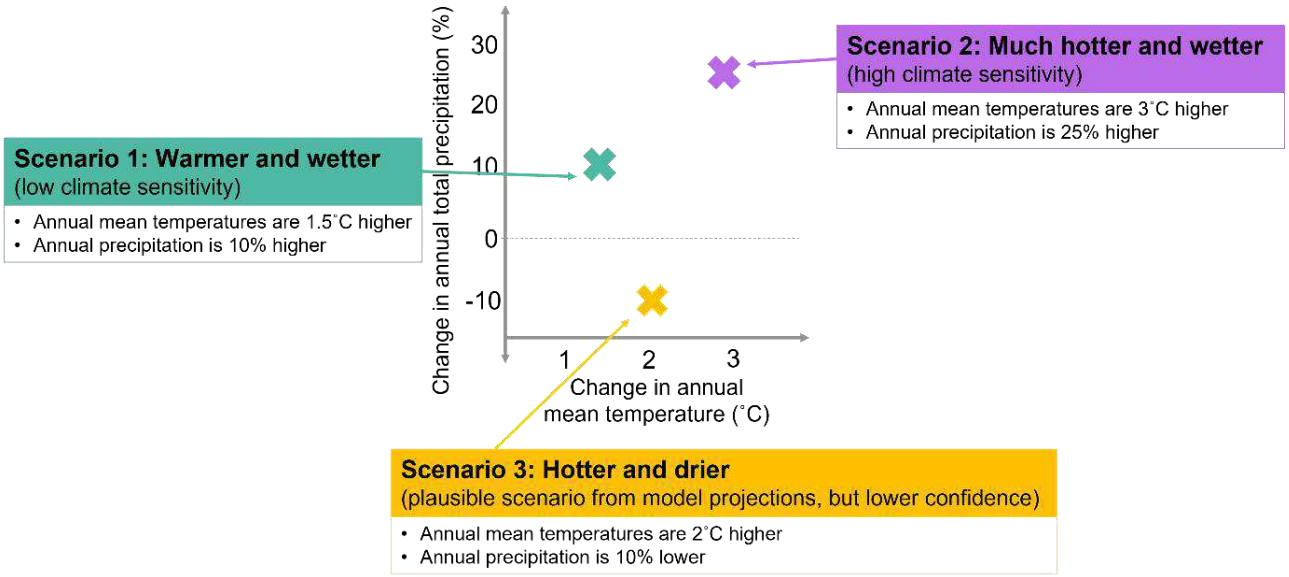


Figure 3: The three scenarios of future climate change for the 2050s considered in CLEAR report.

The heightened risk of drought, landslides, decreased availability of water resources, shifts in plant species distribution/extinction, loss of soil moisture, land degradation, and increasing risks of insect pests is significant in the hills and mountainous districts of both Provinces. These challenges demand the development and adoption of new resistant crop varieties and a focus on increasing biodiversity and crop diversification. Karnali and Sudurpaschim provinces are highly sensitive to the effects of climate change as the livelihood of people is dependent on highly climate-sensitive sectors such as rainfed agriculture, livestock rearing, and the collection and sale of medicinal herbs from forests[32]. Climate change impacts have reduced local food production and income, further deteriorating food and nutrition insecurity and poverty in the prioritized areas. Increasing biodiversity and promoting crop diversification are crucial strategies to enhance resilience against climate change, improve soil health, and reduce dependency on a limited number of crops. Hence, the proposed project will address these major climate risks/impacts by implementing practices that support ecological balance and sustainable agriculture.

<u>Evidence of impacts of climate change/risks on the context particularly on food security, agriculture, and livelihood:</u>

Climate change and extreme weather events are negatively affecting agricultural production and food security. In 2020, climatic events had a direct economic cost for agriculture equivalent to almost 2 % of GDP[33]. Rising temperatures and erratic rainfall affect crop growth, while prolonged droughts result in productivity losses and crop failures. Given the changing snow and rainfall patterns, heavy rains contribute to erosion, landslides, and floods, resulting in the loss of productive land, soil degradation, and reduced fertility. Altered precipitation patterns, including increased rainfall during the monsoon season and decreased snowfall during winter, exacerbate these issues. The shift from snow to rain accelerates snow melt, leading to earlier peak flows in rivers and increasing the risk of flooding. These changes undermine soil stability, promote erosion, and heighten the occurrence of landslides, further compromising the productivity and fertility of agricultural lands. These effects are compounded when droughts are followed by high rainfall. Climate impacts increase the burden on women involved in agriculture. Climate change affects women through the degradation of assets (in Nepal, women own only 20 % of land and other agricultural assets), particularly as male migration leaves women increasingly responsible for agricultural production. Farmers, particularly smallholders, have poor access to technology, inputs, and credit. In Nepal, approximately 50% of households in Nepal own less than 0.5 hectares of land, and 80% of households own less than 1 hectare. 29 % have no land at all, whereas 7 % of households own 31 % of the land[34]. Livestock accounts for over one-quarter of agricultural GDP. Livestock

[32] NPC and WFP CLEAR Report, 2022

[33] GoN, National Accounts Statistics of Nepal (2021–22).

[34] Nepal, R. M. 2019. “Factors Affecting Inclusive Development in Nepal.” *Nepalese Journal of Development and Rural Studies* 16: 66–74.

is the main source of food, nutrition, and cash income for about 70 % of households engaged in agriculture. Women provide much of the labour required for livestock management[35]. The ADS (2015–2035) highlights the role of livestock in agricultural and economic growth, poverty reduction, and improved food security. Climate impacts affect livestock productivity through pasture degradation, heat stress, and changes in reproductive behaviour.

% Agriculture in Nepal contributes nearly half of the country's greenhouse gas (GHG) emissions, with the livestock subsector responsible for approximately 75% of these emissions. Between 1990 and 2014, agricultural GHG emissions increased by 38%, largely due to factors like unproductive livestock, high mortality rates, and inefficient feeding and manure management practices. In 2024, climate vulnerability continues to cost the agriculture sector around 1.5-2% of Nepal's GDP annually. Climate impacts such as rising temperatures, erratic precipitation, and increased pest and disease incidences negatively affect crop growth, while reduced soil moisture leads to prolonged droughts, resulting in productivity losses and crop failures. There is an urgent need to enhance farmers' capacities to adapt to natural disasters, mitigate climate impacts, and strengthen food system resilience during crises. Nepal's cereal production relies heavily on an increasingly unpredictable monsoon season, while the livestock sector faces challenges from climate change, including pasture degradation, disease risks, heat stress, and altered reproductive behaviours, all of which reduce productivity. The agriculture sector presents significant potential to drive inclusive socio-economic development and enhance resilience to climate change and other shocks. Strengthening agricultural returns can improve rural livelihoods and stimulate investment, given agriculture's substantial role in employment. However, while the government's policies aim to integrate green, resilient, and inclusive strategies, challenges remain in implementation and oversight. The Agricultural Development Strategy (ADS) 2015-2035 aims to build a self-reliant, sustainable, competitive, and inclusive agricultural sector by improving governance, increasing productivity, and promoting commercialization and competitiveness. The government is committed to advancing climate-smart agriculture, focusing on improving productivity, enhancing adaptation and resilience, and reducing GHG emissions. Additionally, the National Adaptation Plan (NAP) emphasizes the need for strategic investments to transform the agriculture sector and improve food security.
The resilience of livelihoods across Nepal is very varied, as presented in Figure 4 (as per Government of Nepal/National Planning Commission and WFP: CLEAR report, 2023 (unpublished). Resilience refers to the ability of a system to absorb disturbances without losing its identity (Folke, 2006) and its capacity to absorb perturbations while maintaining essential structures and functions (Holling, 1973). The resilience analysis is defined as the capability of communities to remain food secure concerning access and availability of food, socioeconomic resources, access to infrastructure, and the diversity and sensitivity of livelihoods.

[35] Government of Nepal, Ministry of Agricultural Development. 2015. “Agriculture Development Strategy (ADS) 2015–2035.”

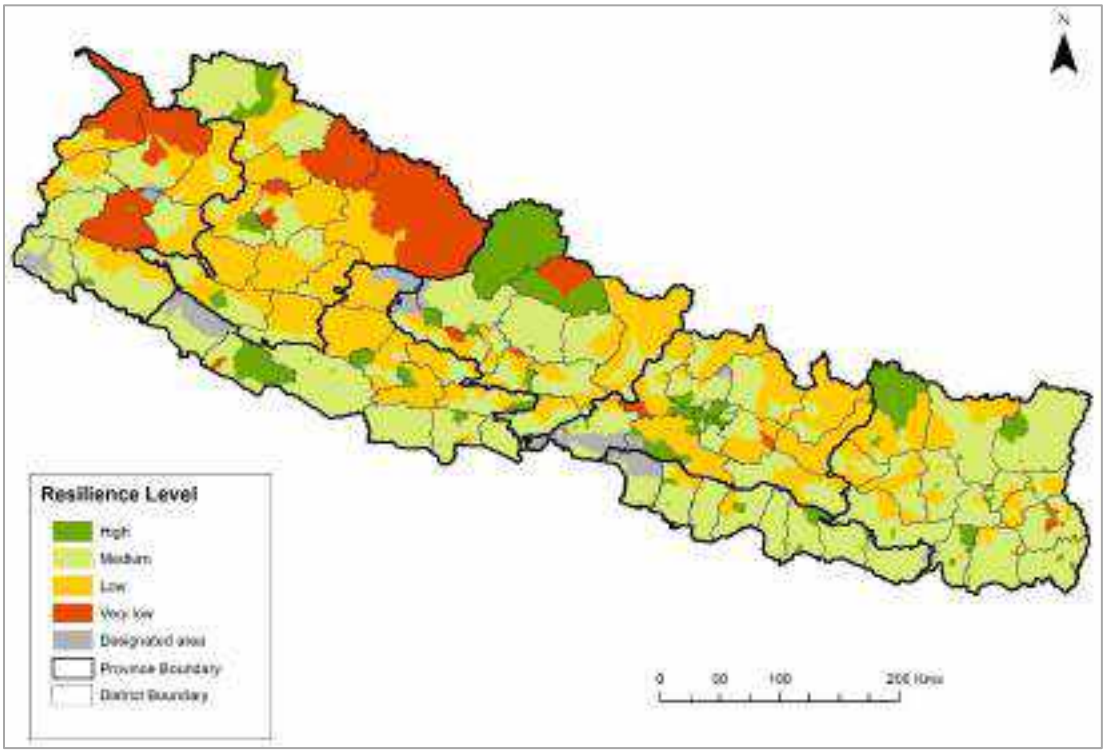


Figure 4: Resilience of the main livelihoods of Nepal

The overview of the key impacts of climate change/risks on food security, agriculture and livelihood enhancement is provided below:

Climate hazards and projected trends	Risks and impacts	Contributing factors	Core Problem and Why
Both temperature and precipitation are projected to rise continually leading to changes in precipitation distribution/erratic rainfall, and drought (all seasons are warmer than the current climate, temperature increases are higher at higher altitudes, and glaciers start to melt much earlier in the season affecting seasonality of river flow and increased melting of snowpack, the pre-monsoon, monsoon, and post-monsoon seasons are wetter or drier, and winter is drier.[36]) and increased evapotranspiration	Decreased availability of water resources, loss of soil moisture, and nutrients due to moisture loss leading to lower incomes, crop loss causing food insecurity, infestation of pest and diseases in the agriculture and livestock sector leading to reduction of agriculture and livestock production and productivity, prolonged dry spells increase the risk of forest fire. Heat stress, wetter monsoon season, risk of landslide and soil erosion in highlands; riverside-cutting and sedimentation in riverbanks and valleys; dryer winter with increased frequency and intensities of drought making winter crops difficult to grow.	Pre-existing high multi-dimensional poverty, chronic food insecurity, low levels of human capital development, geographic remoteness and, challenges in accessibility, ecological fragility, youth outmigration. Discriminatory practices / exclusion, and socio-economic marginalization in accessing and using productive and natural resources, affecting women and other marginalized groups. Human actions, particularly land-use changes and deforestation, contribute to erratic rainfall and drought. Lack of rural enterprises, limited employment opportunities, limited capacity to invest in productive enterprises, low	Communities in poverty and vulnerable to climate change face limited adaptive capacity and skills. Inadequate adaptation measures, such as insufficient water management infrastructure, further constrain agricultural water availability, particularly in mid-hill regions. The impacts of climate change vary across localities and are compounded by intersectional dimensions of oppression, including caste, sex, gender identity, age, disability, ethnicity, and socio-economic status. Structural discrimination, socio-cultural and gender norms, and harmful practices—such as unequal domestic and care work burdens and gender-based violence—further

[36] NPC-WFP CLEAR report, 2023 – Nepal (climate change scenario projections/modelling).

Heavy rainfall events are expected to be more intense than in the current climate, more precipitation falls as rain rather than snow and increased frequency, duration, and intensity of floods/landslides, droughts, storms, heatwaves etc including increased risk of Glacial Lake Outburst Floods (GLOFs) in high hills[37].	Increased soil erosion, loss of crops, property and human life, loss of agricultural land, drying up of water resources and decreasing surface water flow and groundwater recharge affecting water availability and access, reduced water discharge in rivers thus affecting irrigation and energy production and damage of productive/protective infrastructure.	community engagement. "Chaupadi", students dropping out of school, child marriage. Lack of awareness among communities and local governments of tangible impacts from climate change to economies, agricultural productivity, and rural based livelihoods.	restrict access to resources, rights, and means of production. Rural communities have limited capacity to design and implement risk-informed adaptive practices and resilient livelihood strategies. Additionally, there is a lack of capacity to develop and apply tools and sustainable production practices that would enhance the diversification and resilience of production systems against climate change impacts. Last-mile communities have limited access to climate information and lack the capacity to use it for effective adaptation planning. There is also inadequate access to women-friendly and labour-saving tools and practices. Additionally, communities and local governments have low capacity in adaptation planning, and women and marginalized groups often have limited participation in decision-making processes related to local climate adaptation.

Facing overlapping crises like climate risks, unemployment and economic downturns, the Government of Nepal (GoN) and its development partners have adopted the Green, Resilient, and Inclusive Development (GRID) framework. This strategic approach marks a shift from reactive responses to proactive, sustainable, and inclusive recovery strategies for long-term growth and climate action. Officially embraced with the Kathmandu Declaration on September 23, 2021, Nepal is the first country to formally implement the GRID strategy. This initiative focuses on transformative priorities that leverage past successes to alter Nepal's development path, especially as the country prepares for its 2026 transition to Middle Income Country status. The four main priorities of GRID include: creating jobs through sustainable natural resources, developing infrastructure for clean power and resilient services, enhancing environmental cleanliness for urban areas and tourism, and reducing vulnerabilities to build greater resilience. This collective approach aims to shift Nepal towards a green economy beneficial for all citizens.

Project area and target groups

Project location targeting:

The target areas prioritized in the proposed project are highly vulnerable to extreme weather and food insecurity. The project will be implemented in 2 hilly and mountain districts of Sudurpaschim province (Bajhang and Bajura) and 3 districts of Karnali province (Humla, Kalikot, and Mugu). According to the Vulnerability and Risk Assessment (VRA) and Identifying Adaptation Options published by the MoFE in 2021, the proposed districts are highly vulnerable and sensitive to the effects of climate change and have a low adaptive capacity. The findings further show that the capacity to cope or adapt is limited due to socio-economic and technological limitations. All the mid-hills and mountain districts of Karnali and Sudurpashchim Provinces are extremely vulnerable.

Vulnerability in sectors such as agriculture, forestry, health, water resources, energy, transportation, and

[37] ibid

tourism are significant, yet inadequately reflected in Gender Equality and Social Inclusion (GESI) indicators, with women and marginalized groups bearing disproportionate impacts. This project targets districts and local governments in the Karnali River basin watershed for integrated watershed management. While certain climate risks like floods and storms are low in Karnali and Sudurpaschim Provinces, drought, landslides, water scarcity, soil erosion, and pest threats are high, particularly in mountainous areas. These provinces are highly vulnerable due to livelihoods dependent on climate-sensitive sectors. Climate change impacts, including altered rainfall patterns, water shortages, and increased pest and disease threats, have exacerbated food insecurity and poverty. Based on the Ministry of Forests and Environment's 2021 Vulnerability and Risk Assessment, 11 Local Governments across five districts have been selected for targeted interventions.

WFP implemented a previous AF-funded project entitled "Adapting to Climate-Induced Threats to Food Production and Food Security in the Karnali region of Nepal (CAFS-Karnali)" from 2018 to 2022 in seven LGs of Kalikot, Mugu and Jumla Districts from Karnali Province. The Government of Nepal intends to scale up the best practices and successful interventions of the CAFS-Karnali project in other geographic areas which are equally impacted by climate change, are highly vulnerable to climate change risks and have low adaptive capacity. Hence, separate geographic areas within the Karnali and Sudurpaschim provinces have been targeted for the proposed project. The proposed project will build on the best practices and lessons learned from the CAFS-Karnali project and include additional context-specific and need-based interventions that are identified through community consultationDespite some risks like floods and fires being low, drought, landslides, and water resource depletion are significant threats. The project aims to address these vulnerabilities, particularly focusing on gender equality and social inclusion, as women and socially excluded groups are disproportionately affected.

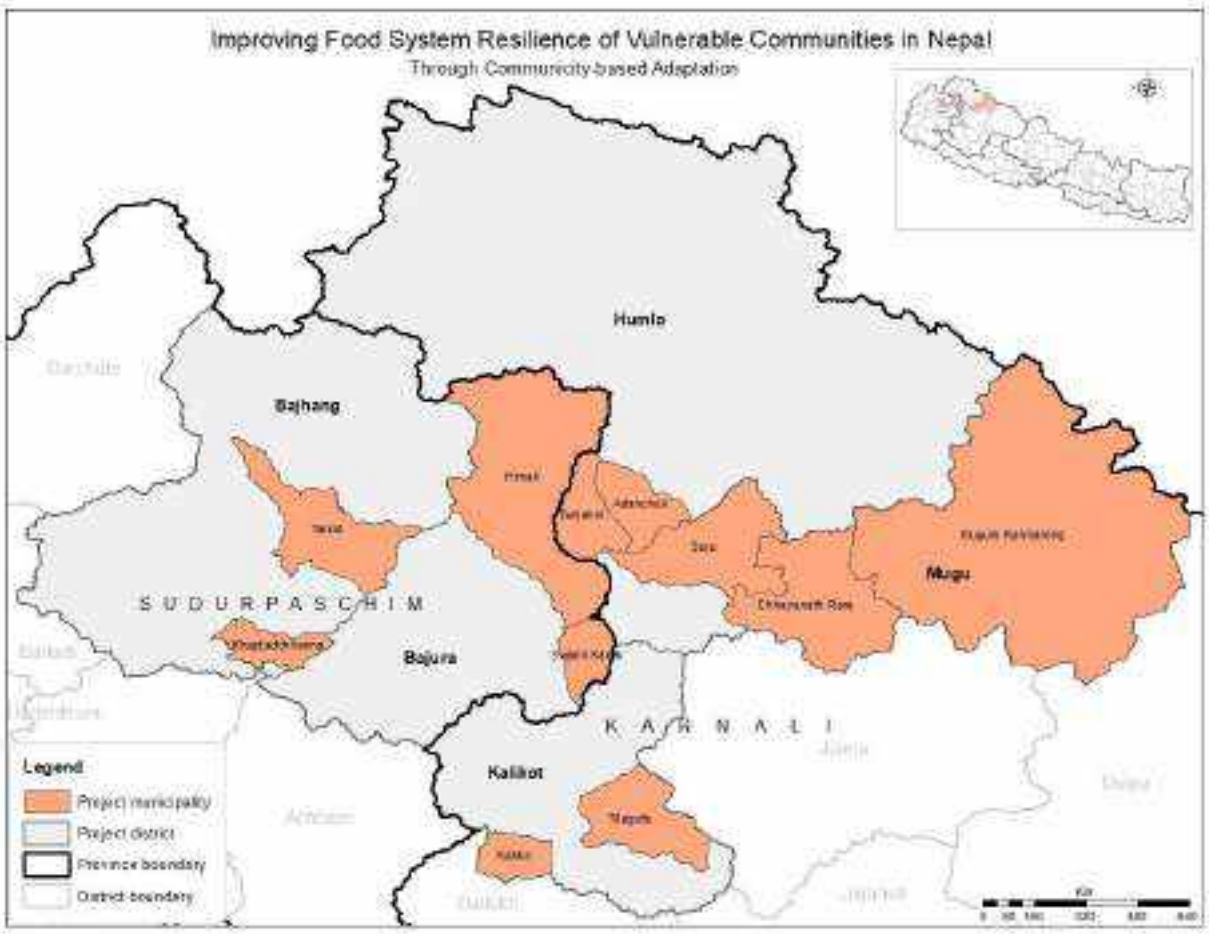


Figure 5: Project location map

Project beneficiaries targeting:

An estimated 12,100 households (with a total of 60,654 population/household members comprising at least 60% women) from 11 Local Governments across five districts of Karnali and Sudur-Paschim provinces will directly benefit from the project. Building on the success of the community-based targeting approach, as recognized by the Decentralized Evaluation of the Adaptation Fund funded first project, a similar strategy will be employed and further reinforced. WFP primarily focused on improving food security and resilience to climate and other shocks by 2030 in vulnerable communities in remote food-insecure areas to improve food security and access to infrastructure thus strengthening their adaptability to climate change. This approach will continue to utilize community-based targeting to identify economically poor, socially marginalized, and highly climate-vulnerable households with priority given to women-headed households, households having vulnerable members including persons with disabilities to uphold the principle of leaving no one behind (LNOB). Hence, the project will apply a targeting approach focused on poor and vulnerable households. In doing so, it will apply a social inclusion approach that ensures that the target group members can be fully involved in and benefit from project activities, in a way that does not exclude other members of the communities who may act as leaders, early adopters, or risk takers whose involvement may also benefit the targeted communities and poor and vulnerable groups within these communities. There will be a particular emphasis on women's participation. Vulnerable communities will be provided with special facilities to ensure their meaningful participation right from the project design phase. If required, separate meetings and group discussions will be organized to ensure that their voices are heard. The project will also focus on both de-jure and de-facto female-headed households with special priority given to poor and vulnerable female-headed households.

Using the Participatory Rural Appraisal (PRA) tools, the vulnerability assessment, and households (HHs) classification will be carried out to identify climate-vulnerable HHs based on well-being and climate vulnerability ranking. The PRA tool will collect information on each HH focusing on i. Income level and wealth ranking; ii. Landholding and type of agriculture practised; iii. Exposure of homestead to climate change-related hazards/disasters; iv. Number of income sources per household; v. Female-headed households and ethnic/caste minorities; vi. Health of head-of-households; and vii. The number of minor members per household. The households will then be grouped into four categories based on their composite scores which include (a) highly vulnerable HHs as V1 (b) vulnerable HHs as V2 (c) moderately vulnerable as V3 and (d) less vulnerable HHs as V4. The categorization will help the project target the right beneficiaries with the right interventions they need based on their vulnerability status. Women will form two-thirds, approximately 60 %, of the project beneficiaries and socio-economically marginalized households i.e., Dalits, Janajatis, persons with disabilities, and the poor, will be specifically targeted for project inclusion (25 % target). The estimation of the project beneficiaries is as below:

District	**Local Government**	**Total HHs**	**Total population**	**Men (%)**	**Women (%)**	**Others (%)**	**0-17 years (%)**	**18-59 years (%)**	**60+ years (%)**	**Persons with disabilities (%)**	**Population of Indigenous people (%)**
Kalikot	Tilagupha Municipality	1,500	7,703	49.4	50.6	0	48.2	43.8	8	2.4	0.15
	Shubhakalika Rural Municipality	1,300	6,483	48.2	51.8	0	51.1	40.3	8.6	3.2	5.09
Mugu	Chhayanath Rara Municipality	1,400	6,937	50.5	49.5	0	47.3	46.4	6.3	2.6	1.27
	Mugum Karmarong Rural Municipality	700	3,174	47.6	52.4	0	40.4	48.1	11.5	2	63.18
	Soru Rural Municipality	1,000	4,950	49.2	50.80	0	37.9	51.9	10.2	2.4	1.16
Humla	Adanchuli Rural Municipality	800	4,468	48.9	51.1	0	51.4	41	7.6	2.9	7.58
	Tajakot Rural Municipality	600	3,156	49.3	50.7	0	47.8	44.2	8	2.8	0.41
Bajura	Himali Rural Municipality	1,000	5,160	49.4	50.6	0	47.2	43.6	9.2	4.5	3.03

	Swamikartik Rural Municipality	1,200	6,389	48.9	51.1	0	49.2	41.6	9.2	2.5	0.63
Bajhang	Khapthad Chhanna Rural Municipality	1,500	6,489	44.9	55.1	0	45.8	41	13.2	3.2	0.30
	Talkot Rural Municipality	1,100	5,745	46.6	53.4	0	49.9	39.9	10.2	1.9	0.98
Total	11	12,100	60,654								

The table below presents a summary of climate change observations, current coping methods, and expected future risks to livelihoods in Karnali, based on the CLEAR report, field-level observations, and discussions with communities during the implementation of CAFS-Karnali and other projects and field consultations carried out for the preparation of the proposed project.

Communities' Perception of Change	**Experienced Impacts on livelihood systems**	**Coping and adaptation**	**Potential future Risks**
Decrease in rainfall and unpredictable onset of monsoon	Overall decline in agricultural productivity	Replacement of rice with finger millet; purchasing rice; barter; improvising with new cash crops; delayed sowing	Increased food and livelihood insecurity
Longer dry spells, in some places drought-like conditions	Drying up of springs; less flow in springs and streams	Rotational use of irrigation systems; traditional water-sharing systems Delayed sowing in irrigated fields at the far end of the channel	Scarcity of water for drinking and agriculture; increase in health problems; increased workload for women and children; children staying away from school. Crop failure
Higher temperatures linked with decreased water availability	Lack of fodder; in some places lack of water for animals Land becoming less productive	Sell off dairy animals, shift to smaller livestock, particularly goats, and barter fodder for manure. Less land under cultivation, more food purchases	Increased risk of malnutrition and drudgery Dependence on cash income; food insecurity
Warmer winters and significantly less snowfall	Increased incidence of pests and diseases Changes in flowering times	Increased use of pesticides and insecticides; use of ash and salt No coping mechanism	Increase food and livelihood insecurity. Degradation of orchards, income insecurity

The differences in how communities adapt to the impacts of climate change are often influenced by their specific local conditions, availability and access to resources and socio-cultural and gender norms. While some communities might have access to alternative income sources that help buffer the impacts of agricultural disruptions, others may not have such options available or accessible. This variance highlights the need for tailored approaches in addressing the challenges faced by each community. However, despite these differences, there is a common thread that runs through all communities: concerns about water scarcity, the viability of traditional agriculture, and the health and economic risks posed by climate change. These shared concerns underscore a universal need for support in adapting to these changes through technology, training and sectoral policy coherence. Understanding these dynamics is crucial for tailoring interventions that not only address the immediate impacts of climate change but also align with the long-term goals and capacities of the communities. This approach ensures that support is both effective and sustainable, addressing the root causes of vulnerability while promoting resilience.

Project Objectives:

The project aims to address key gaps and barriers to adaptation and resilience identified below:

- Due to increasing temperatures, altered precipitation patterns, moisture loss, increased severity and frequency of climate extremes, there is increased loss of production, productivity, and nutrients, shifts in

altitudinal zones, flowering and fruiting times, species composition, and cropping pattern; Infestation of pest and diseases in the agriculture and livestock sector; loss of agricultural land and forests; drying up of water resources; and damage to infrastructure and assets, within the watershed areas under the Karnali river basin in Karnali and Sudurpashchim Province.

- Limited access to climate information for the last-mile communities and their lack of capacity to use it for adaptation planning and taking informed early action for adapted farming practices.
- Limited technical and financial capacity for communities to adapt existing livelihood practices in agriculture and livestock.
- Limited technical and financial capacity to restore and conserve ecosystems.
- Lack of awareness and capacity among communities and local governments on existing and potential impacts of climate change scenarios, to carry out early action and adaptation planning.
- Limited capacity of rural communities to design and implement risk-informed adaptive practices and resilient livelihood strategies.
- Limited capacity in the development and implementation of tools and sustainable production practices to contribute to diversification and improvement of the resilience of production systems to climate change effects.
- Limited capacity of local governments to formulate climate-sensitive and climate-specific policies on climate change adaptation (CCA), particularly in the absence of adequate support for Local Adaptation Plans of Action (LAPAs).

The project aims to enhance the resilience of 12,100 smallholder farming households (around 60,654 people) in the selected watershed areas under the Karnali river basin by promoting community-based adaptation activities, climate-resilient agricultural practices, and access to reliable early warning and climate information adopting integrated watershed management and integrated risk management approach. Utilizing a community-based Adaptation (CbA) approach, the project focuses on community-led adaptation tailored to local priorities, knowledge, and capacities. This strategy specifically targets reducing vulnerabilities among female-headed and marginalized households, empowering them to effectively manage climate change impacts. The project is designed to enhance resilience and environmental sustainability through several core objectives. The specific objective of the project is to:

- Enhance community resilience through community-based adaptation, integrated risk management, resilient natural resource management and strengthened government and community capacities for risk-informed locally-led adaptation.

Project Components and Financing:

Project/Programme Components	Expected outcomes	Expected Concrete Outputs	Amount (US$)
Component 1: Community and ecosystem resilience: Enhancing community-based participatory climate resilient strategies for adapted livelihoods and sustainable natural resource management.	Outcome 1: Enhanced resilience of livelihoods of the vulnerable communities through adapting to climate change sustainably.	Output 1.1: Climate-resilient agroforestry and livelihood improvement actions implemented for coping with extreme events through climate-resilient agriculture, climate-smart villages, and other nature-based solutions.	2,077,275
		Output 1.2: Capacity of smallholder farmers and value chain actors increased for market readiness and access, reducing post-harvest losses, value addition and managing the marketable surplus by applying climate-resilient practices.	1,230,565

Project/Programme Components	Expected outcomes	Expected Concrete Outputs	Amount (US$)
	Outcome 2: Strengthened eco- resilience through nature-based protective and productive climate-smart community assets.	Output 2.1: Restoration-based actions implemented through rehabilitation of the degraded areas (agriculture and forest), climate-resilient, productive, protective, and green recovery assets to enhance communities' resilience to shocks and stressors.	3,332,205
Component *2:* Climate governance and system strengthening: Capacity/system strengthening for improved last-mile climate information services and local adaptation planning to enable early/adapted actions and informed disaster management of climate risks/disasters.	Outcome 3: Strengthened climate governance and institutional system (policies, plans, institutions, and services) to sustain climate adaptation and disaster risk management actions.	Output 3.1: Capacities of key government institutions, local stakeholders and last-mile communities increased to co-produce, deliver/disseminate, and utilize tailored climate information services.	673,245
		Output 3.2: Capacities of local governments and communities increased to plan and implement adaptation solutions and effective climate-induced disaster risk reduction and management through climate-risk-informed local adaptation planning instruments (e.g., Local Adaptation Plan of Action - LAPA) and climate-hazard/disaster preparedness planning and response.	759,800
		Output 3.3: Knowledge and learning on community-based climate adaptation for vulnerable groups, including women, indigenous peoples, and marginalized communities enhanced.	26,8000
6. Project Execution Cost (9.5%)			875,500
7. Total Project/Programme Cost			9,216,590
8. Project Cycle Management Fee charged by the Implementing Entity (8.5%)			783,410
Amount of Financing Requested (USD)			**10,000,000**

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2026
Mid-term Review (if planned)	January 2028
Project/Programme Closing	January 2031
Terminal Evaluation	September 2031

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project/programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

The project focuses on reducing climate risks on agriculture, food security, nutrition, and livelihoods in certain regions of Karnali and Sudurpashchim Provinces. These regions are noted for their fragile, climate-sensitive hill and mountain landscapes and have been severely impacted by natural disasters such as floods, landslides, and droughts, particularly affecting the agriculture and food security sectors. The inhabitants, predominantly dependent on agriculture, are facing reduced livelihood options and are burdened by poorly developed physical infrastructure inadequate to withstand climate-induced shocks. These challenges are further compounded by nutritional deficiencies and low employment rates, which heighten their vulnerability. The physical climate in these areas is evolving, as evidenced by rising temperatures, altering precipitation patterns, and an increase

in extreme weather events. With limited adaptive capacities, the response often hinges on indigenous knowledge and minimal resources. WFP has experience in executing and implementing the CAFS-Karnali project in Mugu, Kalikot and Jumla in the past, introducing innovative ideas to adapt to climate change impacts. The project's remarkable results were sustained through several key measures: funding allocation coordinated with local governments to ensure continued utilization, repair, and maintenance of the developed infrastructure; management training for communities to handle minor and routine repairs; and the handover of the infrastructure to user committees in the presence of local government representatives. This process was further reinforced by deploying highly competent and accountable district-based local service providers, enhancing collaboration and partnerships with local authorities. Building on this experience and leveraging the World Food Programme's insights from previous successful projects, the project wishes to tackle climate vulnerability in targeted areas by introducing community-based adaptation measures to reduce climate risk and enhance resilience. It aims to establish a platform that promotes active participation and benefits for all local inhabitants, including the most vulnerable, thereby creating an equitable food system within the region. The project's theory of change is included as Annex 1 to this Concept Note.

Gender and inclusion considerations:

The project will focus on integrating gender equality, disability, and social inclusion (GEDSI) in its interventions. The project will analyze community dynamics, empower women and marginalized groups, and foster social cohesion. Key strategies to address GEDSI issues, informed by an initial GEDSI analyses, include:

- Empowerment: project aims to empower women, girls, and marginalized groups by addressing their specific needs and vulnerabilities across three interdependent pathways: (i) increasing access to financial, physical, and natural resources; (ii) improving human capital by providing knowledge, skills, and information; and (iii) strengthening social and political capital through better access to social networks, decision-making structures, market systems, and governance institutions, including safety nets.
- Equal Access: the project will ensure equal access to resources by engaging women and marginalized groups in participatory community outreach and sensitization processes to avoid gender bias and social exclusion. Gender and social inclusion modules will be integrated into all training activities. The roles of different social groups in disaster resilience will be analyzed and addressed, focusing on barriers such as access to information, resources, mobility constraints, and influence within associations.
- Mitigating Sexual Exploitation, Abuse, and Gender-Based Violence (SGBV): the project will mitigate SGBV risks through identifying risks and mitigation measures; designing activities that reduce exposure to violence; addressing potential indirect violence (e.g. family disagreements over women's participation); and monitoring gender sensitivity and establishing complaints and feedback mechanism for participants.
- Mitigate Time Poverty: the project will mitigate the negative effects on women's time and balance their participation in project activities through a gender analysis of men's and women's time, the facilitation of understanding and sharing of time-use data between men and women, create a space for dialogue on shared responsibilities and adjusting daily routines, and introduce time-saving technologies like multi-use water systems to reduce women's workload and exposure to violence.

Community Feedback Mechanisms (CFM): project will implement WFP's existing CFM to allow beneficiaries and stakeholders to raise concerns and complaints and ensure a conflict-sensitive approach and "Do No Harm" principle for equitable benefit distribution. A protection risk assessment will be conducted to manage risks.

Building on the climate rationale and the theory of change of this project, the project's two programmatic components, three outcomes and five outputs are described below:

Component 1: Community and ecosystem resilience: Enhancing community-based participatory climate resilient strategies for adapted livelihoods and sustainable natural resource management.

All five districts exhibit a limited adaptive capacity and exceptionally high vulnerability (0.9-1)[38] to the impacts of climate change. These districts are predominantly remote, with most of their populations relying heavily on agriculture and natural resources for livelihoods. Karnali Province boasts 287,962 hectares of cultivable land, while Sudurpashchim Province has 367,649 hectares. However, merely 10 % of Karnali's cultivable land has access to irrigation, with 53.3 % (15.8 % in Bajhang and Bajura) having irrigation facilities in Sudurpashchim Province. The remaining cultivable land relies solely on seasonal irrigation[39]. Karnali and Sudurpashchim

[38] Government of Nepal: Vulnerability and Risk Assessment and Identifying Adaption Options, 2021

[39] Karnali Province Planning Commission, 2020, Nepal Provincial Planning: Baseline and Strategic Options for Karnali Province; and

provinces possess 44 % and 56.9 % of forest land, respectively.

Considering this context, the project aims to enhance resilience of rural communities, strengthen environmental sustainability, and promote integrated and sustainable natural resources management. This will be achieved by implementing an integrated model for rural climate change adaptation (including the initiation of up to 10 new climate-smart villages), by supporting community-led ecosystem restoration using nature-based solutions, and promoting renewable and improved energy solutions.

Component 1 addresses the critical issue of land degradation in the target regions. By implementing sustainable land management techniques, reforestation, and soil conservation methods, and by introducing sustainable agricultural practices, the project aims to restore degraded lands, enhance soil fertility, and improve water retention. This component also focuses on strengthening the adaptive capacity of vulnerable populations and their natural environment to climate-induced disasters through ecosystem restoration and sustainable natural resource management practices through an integrated watershed management approach. It aims to enhance communities' resilience by developing gender and disability-inclusive resilient assets and support livelihood diversification by enhancing their access to markets.

These efforts will not only mitigate the adverse effects of climate change, but also enhance agricultural productivity and food security in targeted areas, and foster a conducive environment for the creation of new employment opportunities across the agricultural value chain. To further consolidate food security and nutrition co-benefits, the project wishes to raise awareness on nutrition among smallholder farmers in marginalized communities through farmer field schools and nutrition field schools. These schools will promote nutrition-sensitive agriculture and drive social and behavioural change, focusing on the production, consumption, and marketing of local nutrient-dense foods. This component also tackles short-term food insecurity through cash transfers, supporting asset creation participants to ensure they meet their immediate food security needs.

To further enhance communities' resilience, this component also promotes risk transfer and risk mitigation strategies. According to the Evaluation Report of the Adaptation Fund's CAFS-Karnali project, past interventions around access to climate risk insurance and agro-advisory services had successfully contributed to transfer and reduce part of the climate risk faced by rural communities. Building on this experience, the project will enhance farmers' access to climate risk insurance, promote the establishment of community banks and raise awareness on the benefits of community-based lending systems and village savings.

This component consists of two outcomes and three outputs as detailed below.

Outcome 1: Enhanced resilience of livelihoods of the vulnerable communities through adapting to climate change sustainably

Under this outcome, the project will support communities that are vulnerable to climate-induced shocks to enhance the resilience of their agricultural production and to diversify their livelihoods. This outcome will promote climate-smart agriculture practices and increase the smallholder farmers' capacity to produce and aggregate marketable surpluses, reduce post-harvest losses, access markets and other financial services for long-term climate adaptation results feeding into resilience gains overall. An integrated approach will be adopted, notably through the support to local governments to establish climate-smart villages.

Output 1.1: Climate-resilient agroforestry and livelihood improvement actions implemented enabling women and marginalized groups to cope with extreme events through climate-resilient agriculture, climate-smart villages, and other nature-based solutions.

This output aims to improve the resilience and food security of rural communities by introducing climate-resilient agricultural practices, by promoting agroforestry, and by enhancing rural farmers' access to agro-advisories, climate insurance and financial services. The output also aims to combine these different interventions in an integrated way, notably by expanding the Climate-Smart Villages approach already successfully implemented

MoLMAC, 2018. Interprovincial dependency for agricultural development. Ministry of Agriculture, Land Management and Cooperative. Department of Agriculture, Retrieved from https://nepalindata.com/resource/interprovincial-dependency-agricultural-development/.

in the previous Adaptation Fund project, to further incorporate integrated climate-smart practices into local governance.

Potential/indicative activities under this output are:

1. Climate-resilient agriculture: Promote climate-resilient and women friendly agricultural technologies and practices including conservation agriculture, drought-tolerant varieties, establishing community seed banks to preserve and improve access to crop seeds of local origin, conducting farmer field schools with participation of diverse group of women farmers to carry out climate-resilient cropping practices such as low tillage, water use efficiency, protecting soil moisture, intercropping systems, varietal selection for resilient alternate crops, precision nutrient management etc. More than 60% of beneficiaries will be women from diverse groups.
2. Agroforestry: Establish climate-resilient agroforestry practices led by women from marginalized groups including medicinal and aromatic herbs, local seed production as a community enterprise, and leaseholds and community forestry to increase income and food availability. The beneficiaries of this activity will be largely women (more than 80%).
3. Agro-advisories: Enhance communities' access to last-mile climate information and advisories with universal accessible means of communication.
4. Financial inclusion: Enhance access to finance for locally viable businesses, including through the promotion of Village Savings and Lending Groups (VSLGs). VSLGs enable members, particularly women and youth, to enhance their financial stability and self-reliance by generating savings and providing access to credit for non-farming income-generating activities.
5. Climate insurance: Raise awareness among farmers and facilitate access to agriculture insurance, including weather-index-based insurance and livestock insurance products, that are already being provided by the government and private sector service providers in Nepal.
6. Climate-Smart Villages (CSV): Establish new climate-smart villages in each targeted local government, scaling up the national initiative that had been already successfully implemented in the previous Adaptation Fund project to further incorporate climate-smart practices into local governance.

Output 1.2: Smallholder farmers and value chain actors have increased capacity for market readiness and access, reducing post-harvest losses, value addition and manage the marketable surplus by applying climate-resilient practices.

This output aims to boost smallholder farmers' adaptive capacity by reducing post-harvest losses in key agricultural value chains, improving farmers' market access and diversify their livelihoods. Interventions will focus on improving agricultural storage, processing, marketing, and training in value addition and packaging. In Karnali and Sudurpashchim Provinces, technologies like solar dryers will enhance local product processing. Special training for marginalized groups will focus on non-timber forest products and small agroforestry enterprises. Financial literacy training will improve farmers' investment capabilities. The project also seeks to promote the consumption of nutritious locally grown products, notably by linking producers with the home-grown school feeding program implemented in the selected local government. Public-private partnerships will be sought to mobilize investments in local processing facilities, while training programs and post-harvest technologies will mitigate losses, supported by crop insurance promoted under Output 1.1.

Potential/indicative activities under this output are:

1. Post-harvest solutions: Increase availability and quality of local foods by introducing improved storage, transformation and marketing techniques, including by harnessing renewable energy solutions.
2. Community food and seed banks: Establish community food banks and community seed banks to enhance preservation of seeds and conservation of crops' genetic diversity.
3. Home-grown school feeding: Support smallholder farmers, especially women and other marginalized groups, to aggregate into farmer groups/cooperatives and sell their produce to the national mid-day meal programme implemented in the community schools. This home-grown school feeding approach will lead to both nutrition gains for schoolchildren, who will receive a regular supply of locally-produced food commodities, as well as for the farmers supported by this output, who will be able to rely on the demand generated by the daily school menu and thus benefit from a stable and reliable market for local agriculture

products. The farmers will also be linked with other structured markets with required market information and marketing skills. For this activity, more than 60% beneficiaries will be women.

4. Capacity strengthening: Organize trainings to demonstrate and promote post-harvest management technologies. Conduct trainings for marginalized groups on non-timber forest products and small agroforestry businesses. Deliver financial literacy trainings to improve farmers' investment capabilities.

Outcome 2: Strengthened eco-resilience through nature-based protective and productive climate-smart community assets.

Climate change impacts, notably increasingly erratic rainfall and snowfall, exacerbate environmental degradation and threaten local biodiversity. Ensuring ecosystem resilience is therefore a crucial prerequisite underpinning sustainable livelihoods for rural communities in Nepal. Outcome 2 aims to address vulnerabilities identified during the community consultations by tackling ecosystem degradation (forest, agriculture etc) and supporting the creation of community assets to restore local ecosystems through nature-based solutions. The project will enhance the adaptive capacity of local communities by restoring natural habitats, improving soil health, and increasing vegetation cover, contributing to climate regulation and water retention. Interventions include reforestation, wetland restoration, and sustainable land management practices. Additionally, the project will engage communities in conservation efforts, ensuring that restored ecosystems provide benefits such as improved water quality, enhanced biodiversity, and stronger natural barriers against extreme weather events. The project will integrate these efforts with other sectors like agriculture, tourism, forestry, water, sanitation, health, and education. Engaging women and marginalized groups in small-scale agriculture and forest-based enterprises will enable sustainable resource use, improving their living standards and adaptive capacity while reducing pressure on natural resources. By supporting the creation of assets, communities will be able to enhance the resilience of their communities while maintaining food and livelihood security thanks to cash-based transfers, without which food-insecure households would struggle to engage in adaptation activities, prioritizing short-term coping strategies.

Output 2.1: Restoration-based actions implemented through rehabilitation of the degraded areas (agriculture and forest), climate-resilient, productive, protective, and green recovery assets to enhance women and vulnerable communities' resilience to shocks and stressors.

Smallholder farmers in target areas face severe food insecurity due to climate hazards. Men often migrate for work, leaving women and children vulnerable. To address this, the project will support local communities to build physical and natural assets, such as irrigation canals and land terracing, through a cash or food-for-assets scheme, thus ensuring their food security for 3-4 months during droughts. The project will also promote sustainable management of water resources, improving water harvesting systems and irrigation techniques.

Potential/indicative activities under this output are:

5. Food Assistance for Assets Plus: Create climate-resilient, productive and protective assets through the FFA Plus modality, with dual objectives of enabling food insecure and vulnerable households40 to meet their basic food security and nutrition needs while creating resilient and productive community assets for long-term resilience. The direct beneficiaries of this activity (wage employment recipient) will be socio-economically marginalized groups, and more than 60% beneficiaries will be women. The assets, which will defined further at the full proposal stage, may include:
    - Small nature-based structures (bamboo check dams, plantation of grass and trees) to reduce impacts of landslides and flash floods.
    - Irrigation canals, water harvesting systems (conservation ponds, water reservoirs, ridge ponds) and other solutions to promote water use efficiency, for instance through drip and sprinkle irrigation and use of wastewater in kitchen/nutrition garden and other farms.
    - Construction and maintenance of water holes in community grasslands to improve water availability.
    - Construct climate-resilient green belts to protect forests, wetlands and grasslands from landslides and floods.

40 Vulnerable households comprise poor, unemployed and food insecure households headed by single women, persons with disabilities, and the households having older people, persons with disabilities, pregnant and breastfeeding mothers, malnourished children etc, and socially marginalized households.

- Apply bio-engineering techniques to provide structural support for erosion-prone rural areas, forests, water sources and cultivated land.
- Support forest resource management through community-based afforestation, fruit farming, establishment of community nurseries etc and restore the biodiversity of vulnerable forests and grassland ecosystems through the removal and re-use (productive) of invasive species.
- Restoration of degraded land.

6. Promotion of renewable energy technology: the project, in link with Outcome 1, will promote renewable energy technology solutions (i.e solar-dryer-based food processing enterprises, improved water mills, solar lighting, improved cooking stoves) mainly targeting women (100% women beneficiaries), to alleviate communities' use of natural resources and therefore tackle root causes for deforestation. The most appropriate technologies would be identified at the full proposal stage.

Component 2: Climate governance and system strengthening: Capacity/system strengthening for improved last mile climate information services to enable early/adapted actions and risk-informed climate-induced disaster management.

This project has a strong emphasis on the capacity strengthening of the provincial and local government agencies through improved last-mile climate information services to enable decision-making and risk-informed and risk-induced disaster management. The project envisages building climate risk-informed and climate risk-responsive policies, plans, and local livelihood through developing the capacity of the key government institutions, local stakeholders and last mile communities to co-produce, access, understand and use tailored climate services information. These climate services will be useful during the preparation of the climate risk-informed, responsive, inclusive and gender transformative local adaptation plans (LAPA) and climate risk/disaster preparedness and response.

The project also builds the capacity of local governments to design tools, technologies, and manuals to effectively deliver the climate-resilient, labour-intensive, small productive infrastructures, and technologies envisaged by this project. The project will also support system strengthening in defining and establishing roles of key actors including public and private to work in partnership with local government, various user groups, and community people, for the design and delivery of services and activities for climate change response, building organizational capacities and leadership strengthening, particularly in areas of increasing farmers access to agriculture insurances, the extension of climate-smart agriculture practices and technologies, value addition, and market linkage.

Outcome 3: Strengthened climate governance and institutional system (policies, plans, institutions, and services) to sustain climate adaptation and disaster risk management actions.

Output 3.1: Capacities of key government institutions, local stakeholders and last-mile communities increased to co-produce, deliver/disseminate, and utilize tailored climate information services.

The project enhances the Ministry of Industry, Tourism, Forests, and Environment (MoITFE) and ten local governments in Karnali and Sudurpashchim Provinces by providing training and resources for climate data management and adaptive strategies. It establishes Provincial Climate Change Management Information Systems (PCCMIS) and Municipal Agrometeorological Information Centres (MAIC) to facilitate informed decision-making and market information services. The project updates Karnali's PCCMIS, creates a new one in Sudurpashchim, and sets up MAICs in 10 municipalities. It supports Local Adaptation Plans of Action (LAPAs) integration, training government staff and farmers, and fosters collaboration for continuous improvement. An online portal and alternative dissemination methods ensure all stakeholders access vital climate information, building agricultural resilience and supporting sustainable development.

Potential/indicative activities under this output are:

1. Support the provincial government in updating/setting up the provincial climate change management information system (PCCMIS) in Karnali and Sudurpashchim Provinces.

2. Support Local Governments in setting up municipal agro-meteorological information centres (MAIC) to enable last-mile climate services to farmers (scaling up of the innovative initiatives piloted through the CAFS-Karnali project).
3. Strengthen the capacity of the local government and its technical staff to produce tailored climate services to the end users.
4. Provide training to farmers to access, understand and utilize vital climate information (agro-meteorological advisories, early warning, forecasting etc).
5. Development of a One-Stop Climate Portal at the provincial level.

Output 3.2: Capacities of local governments and communities strengthened to plan and implement adaptation solutions and effective climate-induced disaster risk reduction and management through climate-risk-informed and inclusive local adaptation planning instruments (e.g., LAPA) and climate-hazard/disaster preparedness planning and response.

The project under Output 3.2 focuses on empowering Nepal's local governments and communities by integrating climate adaptation and disaster risk reduction strategies into their planning processes. It builds on the LAPA framework introduced by the Nepal government in 2019, aiming to enhance local capacity through training, awareness programmes, and inclusive participation with more focus on women, marginalized groups, persons with disabilities, the poor and so on. The activities under outcomes 1 and 2 will also be considered during the mainstreaming of climate and disaster resilience into the local government's planning. The project also supports evidence-based disaster preparedness initiatives by providing reliable information and technical oversight, ensuring effective response mechanisms are in place for potential disasters.

Potential/indication activities under this output are:
1. Support the local government to formulate, mainstream and implement the GEDSI-integrated and climate-risk-informed Local Adaptation Plan of Action (LAPA) and promote locally-led adaptation.
2. Support the local governments for risk-informed, evidence-based and needs-based (specific needs of women, children, persons with disabilities, pregnant and breastfeeding mothers, older people etc) costed disaster preparedness, contingency planning, early actions, and effective response linked with the government's annual planning and budgeting system.
3. Sensitize the local stakeholders and communities on predicted climate change scenarios/impacts and formulate and implement locally-led adaptation strategies/actions.

Output 3.3: Knowledge and learning on community-based climate adaptation for vulnerable groups, including women, indigenous peoples, and marginalized communities enhanced.
This output will enhance knowledge management across all project components, facilitating the replication and scaling of adaptation actions in climate-vulnerable regions of Nepal. Project resources will be allocated to establish a robust evidence base for climate-resilient governance in 11 local governments within Karnali and Sudurpashchim Provinces. This will involve systematic documentation of implementation processes and outcomes, supported by targeted dissemination through knowledge exchange missions, strategic communication initiatives, and the development of an information portal to deliver climate services to the most remote and underserved communities.

Potential/indicative activities under this output are:
1. Document evidence based best practices of the project and produce learning document.
2. Develop a communication material with universal accessible language so as to inform person with disabilities about the climate change adaptation actions.
3. Produce a video documentary to be shared with the global adaptation forums.
4. Hold an exposure visit to the implemented LGs to showcase the adaptation actions.

B. Describe how the project/programme provides economic, social, and environmental benefits, with reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

The project targets remote districts in Nepal's Karnali and Sudurpashchim provinces, focusing on local governments vulnerable and highly susceptible to climate-induced hazards like rainfall variability and drought, with limited adaptive capacity. It combines “soft” support such as awareness-building, planning capacity, and technology transfer with “hard” adaptation actions to enhance community resilience. Using the Food Assistance for Assets (FFA) approach, the project provides income during critical times and engages communities in activities, ensuring food security for households. Community-led efforts aim to increase livelihood resources, boost production, and ensure long-term income and food security. The project adopts affirmative actions for gender equality and women's empowerment, aligning with the Environmental Social Policy and Gender Policy of the Adaptation Fund. The project will generate the following environmental and socio-economic benefits:

Economic benefits

Sustainable livelihoods: The project aims to boost economic sustainability and resilience in communities, with a strong focus on marginalized groups like women and persons with disabilities. It promotes climate-smart agriculture, diversified livelihood options, and improved water resource management practices. Direct cash transfers through the FFA programme and the promotion of non-timber forest products (NTFPs) will bolster sustainable livelihoods. This includes enhancing the agricultural value chain, especially through agroforestry enterprises targeting women, and providing business development services. Training initiatives will empower community members to enhance agricultural productivity and minimize losses, while investments in water management infrastructure will enable two cropping seasons annually. Crop diversification towards high-value vegetables and temperate fruits, alongside income-generating opportunities in local infrastructure work and FFA schemes, will directly benefit households and reduce migration pressures. By strengthening livelihood assets and fostering sustainable income sources, the project aims to support vulnerable communities, reduce negative coping strategies, and enhance overall community resilience. The project also emphasizes supporting agricultural value chains, particularly through agroforestry enterprises targeting women, and providing business development services. Specific strategies and interventions to enhance market access and strengthen value chains include facilitating the formation of farmer groups or cooperatives to increase bargaining power and access to markets. Improvements in post-harvest handling, storage, and processing facilities will reduce losses and add value to agricultural products. Developing market linkages and contract farming arrangements with buyers or processors will ensure reliable offtake for farmers. Training on marketing, branding, and quality standards will enhance product competitiveness. Supporting the development of climate-resilient and sustainable value chains for high-value crops or products will be a key focus. These initiatives aim to create a robust and sustainable agricultural economy that benefits all stakeholders, particularly marginalized groups and enhances the overall resilience of the community.

Skills development and job creation: The targeted vulnerable population will be provided skill development-related training and established micro-enterprises like small bamboo cottage industry, herbal tea and spices small cottage industry, vegetables, fruits, NTFPs processing small cottage industry etc. These cottage industries will create jobs for the local people with the main priority on women and marginalized groups. Further, the implementation of renewable technologies and support for small-scale business development will empower women and marginalized groups to operate businesses and produce goods. This approach will also create a conducive environment for additional groups to invest in these ventures and adopt alternative livelihood strategies. The innovative ideas and the introduction of new technologies and practices, the project will create job opportunities in various sectors, including renewable energy, the agricultural production of the indigenous variety of cash crops like beans and rice, and enhancement of the processing, packaging, and cold storage facilities. Likewise, capacity-building initiatives will be undertaken to equip community members, especially women and youth, to fully capitalize on these opportunities.

Enhanced access to adaptation finance: The project will facilitate greater access to financial resources for vulnerable communities, aiding them to capitalize on climate-smart agriculture technologies. By de-risking investment opportunities, collaborating with financial institutions and leveraging additional funding opportunities, the project will create pathways for communities to secure the necessary funding. Additionally, capacity-building endeavours will be implemented focusing on financial literacy training and nurturing an entrepreneurial spirit. This is anticipated to facilitate the emergence of new business ventures and the expansion of existing enterprises.

Gender and Inclusion consideration and social benefits

The project aims to empower women, girls, and marginalized groups by addressing their specific needs through GEDSI assessments. Empowerment will be enhanced via three pathways: improving access to resources, enhancing human capital through knowledge and skills, and strengthening social and political capital. Community outreach will be participatory to ensure equal access and avoid bias, with gender inclusion integrated into all training. The project will also address barriers to disaster resilience and mitigate risks of sexual exploitation, abuse, and gender-based violence (SGBV). Additionally, the project will apply a conflict-sensitive, "Do No Harm" principle, and conduct a protection risk assessment to ensure equitable benefit distribution and safety. The project's strategies of gender equality, women empowerment and social inclusion are mentioned in Part II -Section A of this document .

Creating an inclusive environment: The project prioritizes women and marginalized groups, including person with disabilities (PWDs) and those from excluded communities. Vulnerability and Adaptive Capacity Assessments (VCAs) will prioritize options using tools developed in the CAFS Karnali Project. Women-headed households, marginalized individuals, and PWDs will be prioritized for project interventions, including income-generating activities like livestock rearing and fruit farming. Income generation programs, including the FFA initiative, will ensure high engagement of women. Community consultations will involve marginalized groups in developing Local Adaptation Plans of Action (LAPAs), and integrating their adaptation needs into annual plans. Equal wages for equal work will be ensured irrespective of caste, sex, or status. Municipality-level information centres will provide technical data and training to increase community capacity to face adverse conditions. This will reduce out-migration, leading to a more equitable distribution of work between men and women. Gender-sensitive adaptation options will include livelihood-based skills development and access to new technologies, reducing the physical labour burden on women and children. Renewable energy technologies will cater to women-centric needs, strengthening their engagement in the planning, implementation, and monitoring of adaptation actions. Project activities will enhance income and household production, reducing the risk of children dropping out of school. Positive health benefits are also expected for women and disabled household members. As the project targets poor and disadvantaged households, largely comprising women and minorities, they will actively participate in the adaptation planning and implementation process.

Breaking the social taboos: the project ensures to strictly prohibit taboos like untouchability at the project site. Social mobilization and sensitization will be carried out to aware the community. This will encourage the participation of Dalits and women during their mensural period.

Capacity building and awareness: The programme intends to build capacity and raise awareness on the climate change impacts on the multiple sectors in their community along with the differential impacts that have been faced by the women, marginalized and other vulnerable groups in their community. The project extends its service to engage them and aware them of the need for adaptation strategies and develop these in a participatory and inclusive approach. In this way, the project aims to develop resilient communities of informed citizens who can actively participate in adaptation and mitigation strategies.

Environmental benefits

Enhanced natural resources and ecosystem services in project target areas:

The project seeks to promote the sustainable management of natural resources through sustainable land, water, and energy management practices, thereby alleviating pressure on the environment and aiding in the conservation of biodiversity. The assets developed under outcome 1, such as slope stabilization and farm fencing, along with afforestation efforts under outcome 2, will reduce soil loss. Forest management activities in Outcome 2 will improve forest biodiversity and create an enabling environment for locals, especially women, to access forest resources for their daily agricultural use. Promoting organic farming and introducing climate-smart technologies to transform areas into climate-smart villages will help reduce dependency on forests, supporting long-term improvements in the biological environment. By increasing resource use efficiency and productivity of existing systems, the project will reduce the strain on surrounding natural land and habitats. Furthermore, the reliance on natural woodlands for energy will be diminished through access to renewable energy sources.

The project also emphasizes strategies to reduce post-harvest losses and enhance sustainability in the value

chain. This includes promoting sustainable and eco-friendly packaging solutions to reduce waste and enhance product shelf-life. Introducing low-emission or renewable energy-based post-harvest processing technologies will further support sustainability. The development of decentralized processing units or value-addition facilities closer to production areas will reduce transportation losses, ensuring that products maintain their quality and value. These comprehensive measures aim to support sustainable land, water, and energy management while promoting biodiversity conservation and economic resilience for local communities.

Climate resilience: By fostering the adoption of climate-resilient agricultural practices and water conservation strategies, the project seeks to build communities that are more resilient to the adverse effects of climate change.

Environmentally, project interventions will contribute to increased water availability and irrigation potential through ground water recharge and water harvesting; improved forest and tree cover through community forestry and agro-forestry; improved soil and slope stability through conservation techniques such as bunds, drains, live fences, and improved biodiversity in terms of plant, animal and microbial life in both home gardens and community forests. These environmental benefits will improve the integrity of the ecosystem services that support community livelihoods. The combination of outputs 1.1, 1.2 and 2.1 is expected to demonstrate: Increased vegetative cover in degraded areas with a focus on catchments of local streams and water sources; Increased assets for landless and disadvantaged communities and therefore building their adaptive capacity; and Improved management of forest fires and resultant degradation of land and water sources.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project.

The proposed project builds on the successful implementation of the Climate Adaptation and Food Security in Karnali (CAFS-Karnali) project (2018–2022) in Karnali Province, which was found to be highly cost-effective compared to other similar climate change projects implemented in Nepal, as highlighted by its final evaluation report. A key achievement was the delivery of over 90% of the Adaptation Fund's funding directly to local beneficiaries, significantly enhancing financial literacy and inclusion among vulnerable groups. The new project will adopt an on-budget, on-treasury execution model in alignment with the Government of Nepal's financial systems, ensuring streamlined fund flows from federal to local government levels. This approach will enhance operational efficiency and accountability. A separate project account will be maintained within the government's financial system, and project activities will be embedded in the government's annual planning and budgeting processes. During the consultations for the development of the concept note, the local governments expressed their readiness to prioritize the implementation of climate adaptation activities identified in their Local Adaptation Plans of Action (developed under output 3.2) and to allocate budget through their annual planning and budgeting process to fund these plans. With that funding, the local governments will replicate successful activities implemented under this project to additional areas and beneficiaries outside the project's scope, and to fund the creation of additional climate-resilient, productive and protective assets identified by the LAPAs. This shows the catalytic effect that this project is set to have in spurring local adaptation, while ensuring long term sustainability of project gains and full alignment with national priorities. ~~This co-financing model will leverage public funds to maximize the impact of key project activities, ensuring ownership, sustainability and alignment with national priorities.~~

The project is cost-effective due to its alignment with national priorities and policy frameworks, efficient use of existing resources, focus on high-impact, low-cost interventions, and emphasis on community-based adaptation and local ownership. Its integrated approach to watershed management, nature-based solutions, and financial sustainability further enhances its cost-effectiveness, ensuring resources are used efficiently to achieve long-term climate resilience and sustainable development. By leveraging existing systems, prioritising high-impact interventions, and focusing on the most vulnerable groups, the project demonstrates strong value for money, delivering equitable and sustainable climate adaptation outcomes that build climate resilience in Nepal's most vulnerable communities. The below elements further justify the project's cost-effectiveness:

Regarding component 1: The project builds on the successful implementation of the previous AF-funded project (CAFS-Karnali), which demonstrated effective climate adaptation interventions. The project will utilize local materials and labour for infrastructure development, further reducing costs and promoting local ownership.

Likewise, the project prioritizes replicable and cost-effective solutions that address the root causes of vulnerability in the target areas. For example, the promotion of climate-resilient agricultural practices, such as agroforestry, conservation agriculture, and drought-tolerant crop varieties, requires minimal upfront investment but has the potential to significantly increase agricultural productivity and food security. A study in Nepal found that agroforestry could result in higher yields (up to 20% more) and better soil quality, translating into long-term economic gains that far outweigh the initial investments[41]. Similarly, the establishment of community seed banks and climate-smart villages provide long-term benefits at a relatively low cost. The technical, financial, environmental and social pre-feasibility study and the cost-benefit analyses of the project activities will be carried out before implementation and only the beneficial and impactful activities will be executed.

Procurement processes for these activities will be done to ensure the most effective use of financial resources. The project will conduct competitive and bulk procurement of construction and training materials, which, based on the previous CAFS-Karnali project, will result in estimated cost savings of 20–25% compared to a no-project scenario where community-driven procurement would not involve a competitive selection. This will allow the project to dedicate additional funds to adaptive measures. Likewise, under a no-project scenario, the climate resilient and adaptation interventions may not be prioritized, and may not typically undergo cost-benefit analysis, often resulting in low impact high-cost interventions.

The project employs an integrated watershed management approach, which is a cost-effective strategy for enhancing ecosystem resilience and reducing the risk of climate-induced disasters such as floods and landslides. By restoring degraded lands, improving soil health, and increasing vegetation cover, the project not only mitigates the impacts of climate change but also enhances the productivity of agricultural lands. Nature-based solutions, such as reforestation and wetland restoration, are particularly cost-effective as they provide multiple co-benefits, including improved water quality, enhanced biodiversity, and stronger natural barriers against extreme weather events. Research suggests that for every U$1 invested in ecosystem restoration, US$ 3-4 in economic benefits (such as reduced disaster risk and increased agricultural productivity) could be generated[42]. In a no-project scenario, without the watershed management approach promoted by the project, local governments and communities might design and plan the interventions in isolation, without having an integrated, layered and sequenced approach considering the interconnected environmental, social, and economic factors. This can result in fragmented conservation efforts, worsening environmental degradation, and unaddressed needs of local communities.

The project is designed to generate significant economic and social co-benefits, which enhance its overall cost-effectiveness. For example, the Food Assistance for Assets (FFA) programme provides immediate food security to vulnerable households while creating long-term community assets such as irrigation canals, water harvesting systems, and green belts. These assets not only improve agricultural productivity but also reduce the risk of climate-induced disasters, providing long-term economic benefits. Additionally, the project promotes gender equality and social inclusion by targeting women, marginalized groups, and persons with disabilities, ensuring that the benefits of adaptation are equitably distributed. Alternatively, community assets would be developed through construction contractors, a model that does not generate local employment and does not guarantee community ownership, promote the use of locally available resources, skills, and technology, or ensure inclusivity. In the no-project scenario, public funds are often allocated to large-scale infrastructure, which is managed by private contractors, leading to limited community participation and no direct benefits for local populations.

The project incorporates risk mitigation strategies, such as climate risk insurance and community-based lending systems, which reduce the financial vulnerability of smallholder farmers to climate shocks. By promoting financial inclusion and access to credit, the project enables farmers to invest in climate-resilient technologies and practices, enhancing their long-term adaptive capacity. With no-project scenario, farmers often continue traditional practices without anticipating extreme events, leading to significant agricultural losses. A recent loss and damage assessment conducted by the National Disaster Risk Reduction Management Authority (NDRRMA) of Nepal reveals that the agriculture and livestock sectors have suffered heavy losses from the

[41] World Agroforestry (2019). "Agroforestry for Nepal: Opportunities and Challenges." ICRAF publication.
[42] Benessaiah, K., et al. (2016). "The Economics of Ecosystem Restoration: A Global Assessment." PNAS, 113(38), 10553–10558. PNAS paper

2024 September flood, with 65,380 hectares of farmland affected and 26,698 livestock lost. This has led to an estimated economic loss of NPR 5,882,812,500, posing a serious threat to food security and the livelihoods of farmers who depend on their land and livestock for income.43

The project promotes environmental sustainability through the adoption of renewable energy technologies, sustainable land management practices, and the restoration of degraded ecosystems. These interventions not only reduce the environmental footprint of agricultural activities but also enhance the resilience of natural ecosystems to climate change. By reducing dependency on forests for fuel and promoting organic farming, the project contributes to the conservation of biodiversity and the reduction of greenhouse gas emissions. In a no-project scenario, communities would depend more heavily on forest resources, leading to greater environmental degradation and challenges in resource conservation and management.

Regarding component 2: The project will enhance national and local capacities to effectively use weather, climate, and hydrological information for both short-term risk management and long-term adaptation planning. Communities will receive timely weather and climate updates before events occur, helping them minimize potential losses. For example, having access to a one-week rainfall forecast during the paddy harvest season will allow farmers to plan accordingly and reduce the risk of crop loss and maximise yield. A study by WMO suggests that Early Warning Systems (EWS) save lives and but also offer at least a tenfold return on investment as evident from a cost-benefit analyses of flood EWS in Karnali River basin 44. . Alternatively, without access to national information systems, farmers often depend on traditional methods that have proven to be increasingly unreliable because of dramatic climate change. Over-reliance on traditional methods is not sustainable for agricultural practices that need accurate weather information.

Additionally, the project also ensures financial sustainability by integrating adaptation measures into local government budgets, reducing the need for external funding in the future. The project will improve local understanding of how climate change impacts food systems and ensure climate adaptation is integrated into provincial and local policies, plans, and programs. Local governments will benefit from more stable and responsive policy frameworks and services that address climate-related shocks and stressors. Alternatively, the local government would plan and implement their actions without considering the climate additionality that requires costly adjustments later. Ultimately, reliable weather information is conducive to maximising agricultural production and, in doing so, improving food security, nutrition and food supply chains. In doing so the economic benefits to households, communities and districts are clear and can be measured by monitoring overall economic activity.

D. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

The project has a direct alignment with Priority Adaptation Programmes defined by the National Adaption Plan (2021-2050) for the agriculture and food security sector. The proposed interventions are within the scope of the below-priority adaptation programmes of the NAP with a particular focus on Sustainable Agriculture, Food and Nutrition Security, and Climate Resilient Health and Hygiene.

The project includes several key initiatives aimed at enhancing climate resilience in rural livelihoods and agriculture in Nepal. These initiatives encompass areas such as commercial animal husbandry, the development of climate-induced risk-sharing models, genetic resource conservation, and promoting climate-smart agriculture in hilly and mountainous regions. Additionally, the project focuses on enhancing agriculture productivity through resilient water management systems, integrated soil, and nutrient management, and strengthening climate services and agriculture information systems. Furthermore, it aims to promote water pumping technology and climate-resilient renewable energy in water-scarce areas to address water stress and

43 NDRRMA, 2024, A Preliminary Loss and Damage Assessment of Flood and Landslide September 2024

44 WMO (2022). Early Warnings for All Executive Action Plan 2023-2027. Available online: https://library.wmo.int/doc_num.php?explnum_id=11426

enhance food security in hilly regions. Similarly, the project contributes to the mitigation and adaptation targets of 2nd Nationally Determined Contribution (NDC) targets (2021-2030). The project specifically contributes to the below mitigation component (target set for the agriculture sector). The project aims to achieve several key targets by 2030, including expanding mulberry and fruit orchard areas to 6,000 hectares, establishing 200 climate-smart villages and 500 climate-smart farms, and promoting practices like intercropping, agroforestry, and conservation tillage. It also prioritizes increasing access to climate-smart agricultural technologies for women, Indigenous People, smallholder farmers, and marginalized groups, while supporting the protection and promotion of climate-resilient indigenous seeds through community and national seed banks.

Furthermore, the project contributes directly to the adaptation component targets of the 2nd NDC. By 2030, it aims for all 753 local governments to prepare and implement climate-resilient and gender-responsive adaptation plans. Additionally, it seeks to increase access to basic water supply from 88% to 99% and improve water supply from 20% to 40% by 2030. Strengthening public weather services, including the Agro-Meteorological Information System, and establishing a Climate Information System by 2025 are also part of the project's objectives.

A brief overview of the project's alignment with WFP Nepal CSP and relevant national policy, plans and strategies is presented below:

Document	Project's Alignment
WFP's Country Strategic Plan (CSP)	CSP (2024-2028) has included climate change adaptation and resilience building as one of the important programme priorities under SO 3: – "Smallholder farmers and climate vulnerable populations in Nepal have enhanced access to climate-resilient and equitable food systems, sustainable livelihoods and climate-proof assets and services by 2028". In the proposed Country Portfolio Budget (CPB) for CSP (2024-2028), the funding from the AF through the proposed project is included as highly probabilistic funding for Nepal CO. WFP has been designated as a lead agency for the climate change and resilience pillar of the UNSDCF (2023-2027) for Nepal, hence, this project is crucial for the CO to continue its footprint and leadership in climate change sector in the country.
Paris Agreement 2015	The Paris Agreement's main goal is to boost global efforts against climate change by ensuring that this century's global temperature rise stays well below 2 degrees Celsius above pre-industrial levels, with an aspiration to limit it to 1.5 degrees Celsius. Additionally, the agreement seeks to enhance countries' capacity to manage climate change impacts and ensure financial investments align with a low greenhouse gas emissions and climate-resilient future. As a party to the Paris agreement, Nepal already developed National Adaptation plan and nationally determined contribution and clearly communicated the adaptation actions and mitigation targets to achieve the resilient society.
National Adaptation Plan (NAP), 2021-2050	The NAP has a specific sector identified as Agriculture and Food Security in which the proposed project aligns. Within the nine priority programs of NAP, the project aims to secure a sustainable agriculture system and food security along with diversifying the livelihood for the people from Karnali and Sudurpashchim provinces. Additionally, it targets to strengthen climate information systems at national and provincial levels and improve last-mile climate services such as agrometeorological advisory systems and the proposed project aims to contribute to this target through the establishment of provincial climate information centres and municipal agrometeorological information centres.
Nationally Determined Contributions (NDCs)	The project contributes to achieving NDC targets for the Agriculture, Forestry, and Other Land use (AFOLU) sectors by supporting activities like increasing soil organic matters, plantation, cattle-shed improvement, rationing fertilizers and establishing 200 climate-smart villages and 500 climate-smart farms. Also, the project planned to support the local government in preparing the climate-resilient and gender -responsive adaptation plans in its targeted local government. In this way, it helps to achieve the target of developing gender-responsive adaptation plans in 753 local governments.
National Climate Change Policy (NCCP), 2019	The project is designed in line with the policies and actions directed in the agriculture and food security theme of NCCP. As envisioned in the NCCP, it aims to address the challenges posed by climate change and promote climate resilience and low-carbon development in the country. The project closely embraces the strategies for improving food security by promoting climate-friendly agricultural systems. Further, it upholds the implementation strategy as suggested by the NCCP to uphold the principle of channelling 80% of adaptation finance to the local level. The NCCP Prioritizes crop diversification, protection of agricultural diversity, agroforestry with species of multipurpose trees in uncultivated agricultural land, and agroforestry to be developed in the slopy and low-grade forest areas. The project supports the development of climate-friendly agricultural systems for food security, nutrients, and improvement in the livelihood of citizens with emphasis on riverbeds affected by climate-induced risks.
National Framework on	The project envisions supporting local government to prepare the climate-resilient and gender-responsive adaptation plan adopting the LAPA framework and steps that are elaborated in the framework. It also

Local Adaptation Plan of Action (LAPA), 2019	penetrates down to the household level as suggested in the LAPA framework while doing the vulnerability analysis and collecting and prioritizing the adaptation options. Further, it ensures sustainability by integrating these prioritized actions into the annual planning of the local government thereby achieving sustainability.
16th National Development Plan (2024-2028)	The project contributes to the 16th National Development Plan in achieving key transformative strategies: climate resilience and inclusive development including local adaptation planning, nature-based solutions, ecosystem based adaptation etc, sustainable forest management for environmental service and green development, biodiversity conservation for resilient ecosystem, mainstreaming and localizing environment and climate change issues, mobilizing climate finance for climate resilience and inclusive development and policy improvement and institutional capacity strengthening. The project will contribute the major programmes – green economy promotion programme, sustainable forest management and commercial utilization programme, sustainable biodiversity conservation programme, climate change risks and loss and damage reduction programme, local adaptation promotion programme, enhancing access to international climate finance programme and policy improvement and institutional capacity strengthening programme, included in the 16th plan under the thematic area of biodiversity, climate change and green economy. Likewise, it supports to achievement of the goals of preparing and implementing the local adaptation plan of action in all 753 local governments by 2028.
Agriculture Development Strategy (ADS), 2015- 2035	The project will contribute to promoting a climate-resilient agriculture system including capacity building of an agricultural extension system for promoting Climate Smart Agriculture (CSA) and implementing early warning systems.
National Disaster Risk Reduction Policy and Strategic Action Plan (2018)	The Policy and action plan aims to enhance the existing efforts to strengthen DRR and reduce loss of lives and assets from disasters and to transition from a reactive to a proactive approach to disaster risk management, to which the project will contribute.
Sustainable Development Goal (2015-2030)	The project will contribute to the target of Goal 13, take urgent action to combat climate change and its impacts, of "establishing 170 climate-smart villages and 500 climate-smart farming by 2030, preparing and implementing climate-resilient and gender-responsive adaptation plans, and a multi-hazard monitoring and early-warning system in all 753 local governments".
Periodic Plan and Annual Programme and Budget of the local government	The project will coordinate with local government plans to ensure that infrastructure developments and market initiatives complement existing or planned projects aimed at enhancing agricultural markets and reducing losses.

E. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

The project will strictly adhere to the Nepal Government's regulatory requirements for environmental and social safeguards during implementation. As the project is in a critical ecosystem or a buffer zone of the protected areas, the project will follow the national standards and laws while constructing community infrastructure. Moreover, WFP, will ensure the Environmental and Social Policy of Adaptation Fund and WFP's Environmental and Social Sustainability Framework (2021) are upheld in addition to the Government of Nepal's technical standards and norms to avoid unnecessary harm to the environment and communities. The project will also follow gender-related legislation and policies for gender-responsive interventions including WFP's Gender Policy and the AF Gender Policy and Action, from concept design to project evaluation. The key applicable national environmental and social standards are listed below.

Applicable national standards	Application to project
Environmental Protection Act (2019) and its regulation (2020)	The infrastructures envisioned to rehabilitate do not need any environmental assessment according to the EPR 2020 guidance.
National Park and Wildlife Conservation Act (1993)	The project will comply with the guidance provided by this act while implementing the forest management activities in the buffer zone area. None of the proposed actions will be carried out within protected areas. To ensure that this is respected, the project will raise community awareness throughout the project on the need to conserve resources in these areas while ensuring that forest resources are only utilized within buffer zones as allowed by the law. Considering that the project's Executing Entity, the Ministry of Forests and Environment, is the responsible authority for enforcing this legislation, the project is well placed to ensure that the project activities will only be planned and implemented in buffer zone areas, without entering in the protected areas. During project implementation, through monitoring activities, the IE and EE

	team will regularly assess whether activities are being implemented in compliance with this Act and the plan.
Buffer Zone Management Regulation (1996)	The project will comply with the standards provided in the regulation while implementing the activities in the buffer zone area. As required by the regulation, in close coordination with the relevant national park authorities, the project will mobilize the existing user committees to carry out the forest conservation activities under Outcome 1 and 2, to ensure the responsible use and management of forest resources. The project team will ensure regular coordination with the national park authority and raise awareness among local cooperating/implementing partners and communities about the provision of this regulation. During project monitoring, the IE and EE team will regularly assess whether activities are being carried out in compliance with this regulation.
Gender Equality Policy (2020)	In line with the policy guidance, the proposed interventions will support the formulation of gender-responsive local climate action plans at the local government level and incorporate the needs of women from different groups in a participatory and inclusive manner. This will contribute to strengthening gender-responsive governance system at local government. Moreover, the project economically empowers women from vulnerable communities in establishing small agri-forest based enterprises. The project will raise awareness on the gender-responsive resilience building initiatives among community and cooperating partners. Additionally, the project team will closely implement gender action plan to be developed at the full proposal stage to ensure that the policy is upheld throughout project implementation.
Water Resources Policy (2020)	The project has been designed considering the key priorities of this policy, including watershed management to reduce water-induced disasters, integrated water resources management and multipurpose uses approach. Key approaches highlighted by the policy, including integrated water resource management, water source protection, bioengineering and muti-use water system (MUS) technologies will be prioritized while planning and implementing the project activities related to watershed management and community asset creation. To ensure the project's full alignment with the Water Resources Policy, a representative of the relevant Ministry will be a member of the project steering committee who will further provide policy guidance to the project aligned with this policy.

In addition, the standards, norms and manuals issued by the Department of Local Infrastructure, Department of Irrigation, Department of Water and Sanitation, Alternative Energy Promotion Centre will be complied with during community assets creation (small infrastructure activities), as well as the guidelines and manuals set by Department of Agriculture. Similarly, the national framework on LAPA endorsed by MoFE and the Local Disaster and Climate Resilience Framework endorsed by the National Disaster Risk Reduction and Management Authority (NDRRMA) will be followed for preparation of the LAPA at the local level.

F. Describe if there is duplication of project/programme with other funding sources, if any.

The detailed mapping of the project/programme was done to assess the duplication and overlap of similar initiatives from WFP itself, other UN agencies and like-minded organizations in climate change adaptation, agriculture development, food security and sustainable livelihood. The coordination and learning sharing meeting with the relevant project executing entities, joint monitoring and review meetings etc will be carried out regularly at the federal, provincial and local level to ensure the coordinated efforts, potential complementary and integrated interventions. The below table elaborates more on it.

Institution	Relevant initiatives	Complementarities, value-added and potential for partnership	Avoidance of duplications
WFP	Local Infrastructure Support Programme (LISP) – technical assistance to local governments for developing climate resilient, green recovery and productive local infrastructure.	The best practices and innovative approaches gained from LISP in the areas of developing climate-resilient, green recovery, and productive and protective/climate-proofing community infrastructure can be scaled -up through the AF project and there is the possibility of complementarity and collaboration between LISP and AF project in resilience assets creation through the Local Governments if both projects are implemented in the same LGs. The project will be benefitted by the climate resilience model of local infrastructure and the co-	• The LGs to be covered by LISP beyond 2024 are yet to be finalized, but LISP supports local infrastructure only not for other intervention areas proposed in the AF project.

		financing of the infrastructure by LGs and the Project implemented by LISP.	
WFP	Pipeline project- Improving Climate Resilience and Food Security of Vulnerable Communities Living in Disaster-prone Areas of Terai in Nepal -GCF	The project aims to build the climate resilience of vulnerable communities in the Terai region through enhanced livelihood opportunities and integrated climate risk management.	• No duplications due to different geography and it's mainly focused on Terai districts.
FAO	Building resilient Churia region in Nepal (BRCRN) funded by GCF	BRCRN aims to build the resilience of the Churia region to climate change impacts, reduce vulnerability, and sustain natural resource management – the project can learn and replicate the sustainable NRM-related best practices.	• No duplications due to different geographic locations and different sectors/themes - forest resource management, Churia land management
IFAD	Value Chain for Inclusive Transformation of Agriculture (VITA)	VITA can be complementary in developing market linkages and improving financial services.	• No duplications due to different geographic locations
IFAD	Agriculture Sector Development Programme (ASDP)	The project can learn about climate-resilient agriculture technologies and market linkage in targeted value chains such as apple, ginger, and goat. The learning and successful climate resilient practices from the ASDP will be scaled up by the project.	• No duplications due to different geographic locations (project will end in July 2024)
FCDO	Nepal Climate Change Support Programme (NCCSP)	The project complements the NCCSP II, which aimed to address four significant climate risks related to infrastructure, agricultural yield, and food security, natural resources and biodiversity targeting the poor and women Project can learn and replicate NRM-related good practices, both the projects can benefit from knowledge and experience exchange. The learning and best practices of this project can be adopted by the project.	• No duplications due to different geographic locations and different timelines, as the project is ending in 2024.
UNEP	Ecosystem-based Adaptation Programme (EBA)	The project can take reference of some activities on natural resource management, and climate resilient agriculture and their experiences and learnings can be useful by the exchange of experience and knowledge sharing.	• No duplications due to different geographic locations and theme–ecosystem adaptation
IUCN	Improving Climate Resilience of Vulnerable Communities and Ecosystems in the Gandaki River Basin, Nepal – funded by GCF	This focuses on reforestation, slope stabilization, nature, and farm-based tourism, establishing habitat corridors, drought and heat tolerant crops, and livestock – the project can learn about drought and heat tolerant crops, and livestock practices.	• No duplications due to different geographic locations and different sectors/themes -ecosystem, biodiversity focus.
SDC	Agriculture and Food Security Project (AFSP)	Aimed at enhancing food security and building climate resilience in Nepal's agriculture sector- the project can learn about any innovative climate-smart techniques/technologies.	• No duplications of efforts, due to different geographic locations
USAID	Nepal- USAID Biodiversity (Jal Jangal)	One of the aims is to focus on climate resilience and addressing environmental issues in Nepal. The learning and best practices of this project can be adopted by the project.	• No duplications due to different geographic locations and more focus on water and forests.

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

The project is designed in a way that the previous knowledge will be applied, and new innovative technologies will be developed and demonstrated in most remote areas of Nepal. In that sense, it can be said that it is a natural lab to demonstrate the best practices and document them for further replication and upscale.

Components 1 and 2 support the implementation of innovative technologies and practices with the prior assessment of the target area which will be documented to replicate and upscale the practices in similar geographical and ecological regions of Nepal. The document will be disseminated to the local government for their prioritization in agriculture, food security and sustainable livelihood after the project adjourned.

The knowledge will be co-created with the federal, provincial, and local governments. The project proposed to establish a climate change information management system within the provincial government, Ministry of Industry, Tourism, Forests and Environment (MoITFE) which is further linked to the local government which is the continuation of the experience from the CAFS-Karnali, AF-funded project. This creates a knowledge management platform at the local level where they can easily access the climate information on climate change impacts, evidence of the climate-induced disasters/shocks and other relevant information and adaptation and mitigation initiatives covering all the twelve themes of the NCCP 2019.

As the area is severely affected by climate-induced disasters, the local infrastructure built to combat these impacts will be documented with detailed elaboration and specifications to facilitate upscaling and replication in other similar areas. Lessons and best practices from the CAFS Karnali-AF funded project will be incorporated, particularly during wider communication and visibility efforts. One key lesson from the CAFS-Karnali final report is that the lack of a communication strategy in the first project negatively affected its visibility. To address this, a comprehensive communication strategy for this project to ensure better visibility and dissemination of its outcomes and impacts will be developed. Regular monitoring and evaluation produced findings and recommendations will be disseminated with the stakeholder and will be incorporated in the project implementation. Additionally, the stories from women and marginalized groups will be collected, documented, and disseminated to a wider audience to spread the message that these groups can also combat climate change impacts if they are given equal opportunities. Several video documentaries will be documented and disseminated to wider audiences. Finally, the lesson-learned report will be prepared with a comprehensive of all the implemented activities with respect to the components.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

WFP has established strong partnerships with Nepal's Ministry of Forests and Environment (MoFE) and Ministry of Agriculture and Livestock Development (MoALD) to advance food security, sustainable agriculture, and climate adaptation. MoFE has recognized WFP’s successful implementation of an Adaptation Fund (AF) project as a model initiative, commending its timeliness, quality, and results. Based on this success, MoFE formally endorsed WFP as the Multilateral Implementing Entity (MIE) for the second phase of the AF project proposal. Actively contributing to Nepal's climate change policies, WFP ensures alignment with national priorities while fostering collaboration with federal, provincial, and local governments to enhance disaster management and resilient food security. MoFE remains committed to sustaining this partnership in climate change and food security initiatives. I.

The previous project ensured gender considerations in its design, incorporating gender-sensitive indicators in alignment with the AF Gender Policy and WFP’s Gender Policy, which emphasize gender equality and women’s empowerment. Building up with this, this project will continue to emphasize women's participation by involving them in enterprise management and ensuring their representation in events and committees. While the previous project faced challenges due to the lack of gender-disaggregated baseline data and the absence of a gender assessment during the inception phase, the project went through the preliminary gender assessment which support to acknowledge the need for continuous GEWE assessments to enhance benefits for marginalized groups. The detail gender assessment will be carried out at the beginning and end of projects. This approach will help establish baselines and track progress more effectively, ensuring better integration and measurement of gender-specific outcomes.

Meaningful participation of women and vulnerable groups, accountability mechanisms, and workload reduction for women will be prioritized in proposal development. Stakeholder and community consultations have already been conducted in targeted provinces to ensure inclusivity. Project beneficiaries will include poor,

climate/disaster vulnerable, food-insecure, unemployed, and marginalized groups, with a focus on households led by women, smallholder farmers, and those most at risk. At the full proposal stage, a range of adaptation options will be designed and assessed based on criteria such as impact, cost-effectiveness, and relevance to targeted communities. A series of discussions were held to set objectives, outputs, and outcomes of the proposed project based on the learnings of the CAFS-Karnali. The MoFE and WFP agreed to upscale the best practices executed in the CAFS-Karnali and extend the geographic area to Sudurpaschim province as well. The formal national and provincial level consultations were held between 2nd and 10th of April 2024.Wider stakeholders including relevant government institutions, non-government institutions, UN agencies, bilateral institutions and private sectors participated in the consultation meeting. The lessons learned from the CAFS Karnali, and the concept of the proposed project were presented, and feedback and suggestions were collected. The main concern was to extend and upscale the climate change adaptation interventions to the most vulnerable geographic areas of Nepal. Moreover, the stakeholders agreed that the climate change adaptation intervention from the government and other development partners like UN agencies is still minimal in comparison to the level of impacts that the people from remote areas are facing. Disasters events and extreme events are frequent, poverty level is reduced at a slow speed. They encouraged to development of an adaptation project with a focus on agriculture, food security and sustainable livelihood ensuring inclusiveness throughout the project cycle.
Since the local governments from the five districts will play a key role in the execution of the activities, the discussions were held with all the proposed 11 local governments and collected their adaptation needs. Further, total of 221 community people including vulnerable and marginalized group were consulted to collect their opinions on the previous intervention and future need to reduce climate change vulnerability. Out of them 31% were female, 8% are the old people and 2 people are PWD. Please see attached the summary of the community consultation in Annex 2. The major concerns raised were:

1. Transition Away from Traditional Agriculture: There's a notable shift away from traditional agriculture towards daily wage jobs due to low crop yields, particularly for indigenous crops like *Phapar* (buckwheat)*, Jau (*barley), quinoa, Kaguno (foxtail millet) and *Chino* (proso millet). This transition is influenced by the need for immediate income and is accompanied by enduring social challenges such as discrimination and gender inequality.

2. Environmental Concerns: Increasing occurrences of natural disasters like landslides and forest fires, exacerbated by changing rainfall patterns and drying water sources, are prominent. Environmental degradation, including soil erosion and declining livestock rearing, further compounds these issues, reducing agricultural productivity.

3. Social and Economic Disparities: Wage gaps between genders, inadequate waste management, and declining land productivity contribute to social and economic disparities. Additionally, issues like early marriage and caste discrimination persist, impacting societal well-being.

4. Climate Change Impacts: Climate change increases the health impacts related to vector borne diseases and reduces the production of indigenous crops, further straining local livelihoods and food security.

5. Call for Action: There's a need for improved infrastructure, better market access, enhanced agricultural technology, and support systems to address these challenges effectively. Initiatives such as advancing agricultural equipment, increasing awareness of climate change, and providing support for vulnerable populations are crucial.

6. Limited Financial Capacity: While there's a strong willingness to collaborate on climate change adaptation activities, local governments have limited ability to co-finance these initiatives. This highlights a reliance on external support for significant infrastructural and technological improvements.

Overall, the findings underscore the complex interplay of environmental, social, and economic factors shaping local livelihoods and resilience in the face of climate change.

The key findings of the community consultations are as below:

1. Agricultural Livelihoods and Challenges: Communities rely heavily on agriculture, cultivating a variety of crops and rearing livestock using traditional methods, including open grazing. Additional income is supplemented through small-scale vegetable sales, masonry, and seasonal migration. Communities face environmental and social challenges such as pest and disease introduction with new crop varieties, significant reduction in forest cover, decreasing wild animal populations, gender discrimination, and wage disparities. The impacts of climate change are evident in changing rainfall and snowfall patterns, increased frequency of landslides, floods, and droughts, alongside drying water sources.

2. Coping Strategies and Community Needs: The community has experimented with different crop varieties to cope with diminishing indigenous crop production and has expressed a need for external support in areas such as irrigation canal rebuilding, climate information management, and the development of irrigation facilities. Suggestions also include the creation of greenhouses for off-season farming, embankments, and vocational training for marginalized groups, along with eco-tourism initiatives to boost local income.

3. Seasonal Agriculture and Migration: In certain areas, agriculture sustains livelihoods only part of the year, forcing locals to purchase food for the remaining months and leading to significant youth migration for work and education. This results in a lack of human resources for agricultural tasks, which predominantly leaves women to manage farming and household chores. The community has turned to cultivating hybrid crop varieties and utilizing media like radio jingles to disseminate climate disaster information. Recommendations focus on promoting commercial and off-season vegetable and fruit farming, enhancing local water sources, and cash crop cultivation suited to the area.

4. Climate Change Impacts and Recommendations: Communities face altered climate patterns leading to decreased agricultural productivity and pastureland. There is a call for support in providing training for vulnerable groups, creating income-generating opportunities to reduce migration, and improving livestock management and market access for agricultural products. No significant coping mechanisms are implemented, with a focus instead on waiting for favourable environmental conditions.

I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Nepal is a mountainous country with a high level of climate change impact on its natural resources and livelihood. This coupled with poverty exacerbates the impact and makes rural livelihood more complicated thereby increasing food insecurity. Over half of Nepal's poor live in the rural areas. 28 % of the rural population are multi-dimensional poverty index poor as compared with 12.3 % in urban areas. The multi-dimensional poverty is mainly concentrated in The Karnali, Sudurpashchim and Madhesh Provinces[45]. The country is also in the process of graduating from the least developed to the developing nation by 2026, which demands enormous investments focused on development goals such as income, employment, education, health, infrastructure and so on. Nepal on the other hand also need more resources to invest in other areas, such as climate change adaptation as well. For this, Nepal targeted to minimize the internal resources to invest in climate change, rather adopted to access international finance as it falls in the least responsible country to cause climate change (it shares 0.056 % of the greenhouse gas emission globally[46]). Geographically, the targeted five districts (Humla, Kalikot, Mugu, Bajhang and Bajura) are fragile and have high exposure to multi-climatic hazards like landslides, floods, heavy rainfall, drought and so on. Every year the cultivated land is swapped away from such disasters in monsoon and becomes unproductive because of prolonged drought during the dry season. It needs an external intervention with a focus on climate change to reduce the impacts and secure the rural livelihood from the multiple impacts of climate change. The local government, despite their mandates, and being frontline to climate change, close to communities, are unable to contribute effectively to climate change adaptation and resilience building due to several reasons like lack of awareness and incentives to focus on the issue of climate change adaptation; an inability to finance the incremental costs of climate change adaptation and a lack of appropriate budgetary allocations from the federal government. Local governments of these targeted districts need additional financial resources to respond to the climate change impacts on agriculture, food security and livelihood to make the society climate resilient.

[45] Government of Nepal, National Planning Commission, 2021: Multidimensional Poverty Index: Analysis towards Action

[46] Ministry of Forest and Environment, 2021, Third National Communication Report to the UNFCCC.

Nepal is committed to addressing climate change and has built an enabling legal and regulatory framework to spur climate action. The Government of Nepal has taken steps to integrate climate change into development planning and budgeting47. The country introduced climate change coding into the national budget and expenditure tracking in 2013/14 enabling tracking of budget expenditure on climate change. Since then, the "highly relevant" climate budget accounted for roughly 5 % of the total national budget due to limited public fiscal space48. To fulfil the climate ambition of Nepal as enshrined in the various policy frameworks and plans, Nepal requires an estimated USD 20.5 billion for resilience/adaptation and USD 46.4 billion for mitigation from now until 203049. The total estimated investment requirement for the implementation of the National Adaptation Programme of Action (NAPA, 2010) was USD 350 million, however, Nepal could only mobilize 21 % of the required budget until now. Historically, Nepal has not fully harnessed the resources available through international climate financing mechanisms. Given the country's climate ambitions and adaptation targets, there is a huge gap in resources.

Nepal faces significant hurdles in directing resources toward climate adaptation due to a complex web of challenges stemming from its low-income status and a series of recent and ongoing crises. These include the devastation caused by the 2015 earthquake, which resulted in the loss of a quarter of the country's GDP that year, along with the need for ongoing recovery and reconstruction efforts in the aftermath of a more recent earthquake in western Nepal. Moreover, Nepal continues to grapple with the enduring effects of a decade-long armed conflict from 1996 to 2006, as well as over two decades of political instability. The socio-economic impacts of the COVID-19 pandemic and the economic repercussions of the Ukraine-Russia war further compound these challenges, significantly limiting the government's capacity to allocate resources toward climate adaptation initiatives. Compounding these challenges is Nepal's relatively weak institutional capacity and the limited scale of private sector investment in the country. This means that alternative funding options for climate adaptation projects are largely restricted to public sources. While Official Development Assistance (ODA) from bilateral or multilateral institutions provides some financial support, it often falls short of meeting the country's extensive climate finance needs. Considering these constraints, the Adaptation Fund emerges as a crucial resource for Nepal's climate adaptation efforts. As a dedicated fund specifically designed to finance adaptation projects and programs in developing countries, with a particular focus on those most vulnerable to climate change impacts, the Adaptation Fund provides a reliable and consistent source of funding. Additionally, as an accredited Multilateral Implementing Entity (MIE), the World Food Programme (WFP) can access and manage funds from the Adaptation Fund, thereby facilitating local capacity building and ownership of adaptation initiatives.

Moreover, the Adaptation Fund prioritizes projects that benefit vulnerable communities, ensuring that those most affected by climate change are supported in adapting to its impacts. This makes it a particularly suitable funding option for mobilizing resources to address climate change in Nepal. Furthermore, the MoFE has expressed confidence in WFP's capabilities by endorsing its submission of a second Adaptation Fund concept note, underscoring the strong support for climate adaptation initiatives at the local level. In addition to seeking support from the Adaptation Fund, WFP intends to explore funding opportunities from the Green Climate Fund (GCF), further aligning with Nepal's climate financing needs. This multifaceted approach to funding mobilization reflects a concerted effort to address the adaptation gap in Karnali and Sudurpashchim provinces, the most rural and vulnerable regions of Nepal. This is the best opportunity to provide oversight and guide them in achieving inclusive and sustainable livelihoods and climate-resilient ecosystems and policies/programs/plans. Once the system is in place, the greater the amount of funding, the greater the number of climate-resilient subprojects that can be done, and the wider their impact can be. The proposed project is well-aligned with the AF's investment priorities, and successful implementation should contribute to the achievement of improved climate resilience as below:

Component 1: Community and ecosystem resilience: Enhancing community-based participatory climate resilient strategies for adapted livelihoods, and sustainable natural resource management.

[47] MoF, 2017. Climate Change Financing Framework
[48] ibid
[49] Nepal's Status Paper for Conference of Parties (COP 26), 2021

Baseline 1: The targeted local governments of the Karnali and Sudurpashchim Provinces are facing a high level of seasonal food insecurity, climate change and climate-related disasters as major food insecurity drivers. This is coupled with employment and the youths and males are forced to migrate to fulfil their family's basic needs to abroad and cities. The existence of many small household production units, lack of aggregation of products, and lack of food system-related technology transfer to farmers (climate resilience, post-harvest management, agro-forestry enterprises etc) limit alternative livelihood opportunities and scope for income diversification is also highlighted in the targeted area. The local governments need additional resources to the annually allocated budget from the federal government to address the additionality of the climate change impacts on the livelihood to establish a climate resilient strategy in a participatory and inclusive way.

Adaptation alternative 1: From the AF intervention, the selected local governments in the Karnali and Sudurpashchim Provinces enhanced the use of climate-resilient practices and technologies in agriculture and food system transformation to increase crop yields and strengthen the resilience of the local food system; enhanced community-led adaptation processes integrated risk management and development of resilient and productive/protective community assets for resilience building. These practices will ensure the poor and food insecure people benefit from the income/job opportunities, increased production, and access to the market. established participatory and inclusive climate resilient strategies and adapted livelihood.

Baseline 2: The target areas are witnessing pest infestation and diseases in the agriculture and livestock sector, loss of agriculture and forest, drying up of water resources and damage of the infrastructure and assets which support in increasing the vulnerability and reducing the adaptive capacity of the natural ecosystem. The dependency of the people on natural resources is high in comparison to the city dwellers, which without the alternative interventions, are not able to fulfil the demand and will move in the path of ecosystem exploitation and over-use.

Adaptation alternative 2: Although the local government has priority on the conservation of natural resources, the investment is not sufficient to address the climate additionality. Thus, the project envisaged support for the promotion of renewable energy technologies mainly to the women to establish a cottage enterprise and reduce their dependency on forests and other resources. The organic farming practices also support to rejuvenate the soil. Intervening all these practices, the project will support building the climate-smart villages. At the end of the project, the funding will support building a resilient ecosystem and society.

Component 2: Climate governance and system strengthening: Capacity/system strengthening for improved last mile climate information services to enable early/adapted actions and risk-informed climate-induced disaster management.

Baseline: Nepal has recently gone through an administrative restructuring in 2018. Under Nepal's constitution 2015, the local government has been given the mandate of formulating and implementing the laws and policies aligning with the federal laws and policies. However, the local government, although in its second tenure after federalization, has limited capacity to formulate and implement the policies with climate change integration. The evidence shows that local governments lack agro-meteorological information within their institution as a result the locals are not able to get information on time. The local governments made some necessary laws and policies, and they are at the stage of implementation, however, the policies have limited integration of climate additionality.

Adaptation alternative: Local governments in the targeted local governments have established a formalized structure for coordinated and vertically integrated CCA planning, increased their understanding of local climate change adaptation, and established new procedures. Climate change adaptation is mainstreamed into the planning and budgeting processes, and the voices of the communities and the most vulnerable inform LGA plans and investments. Likewise, the climate information centres established thereby locally benefitted.

J. Describe how the sustainability of the project outcomes has been considered when designing the project.

The proposed project will ensure the sustainability of the project outcomes during the design and execution phase. The following strategies will be adopted:

Aligning with the organizational strategies and national policies: Through the CSP (2024-2028), WFP aims to bolster the sustainable livelihoods and resilience of vulnerable communities by developing climate-resilient assets, increasing agricultural productivity, and fostering livelihood diversification. This will be achieved through technical assistance and tailored support activities to address the root causes of food insecurity and malnutrition. WFP's role as the lead in environmental sustainability and disaster resilience in the UNSDCF for Nepal (2023-2027) positions it to coordinate UN agencies and government counterparts, scaling up best practices. With a robust track record in climate adaptation interventions, including climate-smart agriculture and local development plans, WFP will leverage its expertise to align with its CSP objectives. WFP Nepal plans to continue with the implementation of similar activities under its new CSP, Strategic Outcome 3, Activity 5. Hence, the project is directly aligned with WFP's mandate, capacity, comparative advantage, and strategic priorities set out in the CSP. Likewise, as described earlier, the project is aligned with the priority programmes of NAP and contributes to achieving the NDC targets from the agriculture sector and integrating climate change into the local-level planning process. The project also envisages contributing to achieving the ADS targets set in different pillars, namely sustainable livelihoods, food security, resilience, and inclusiveness.

The strong foundation within the implementing entity and the executing entity or WFP's presence in Karnali and Sudurpaschim Provinces: WFP actively contributes to climate-resilient infrastructure development, prioritizing a comprehensive and inclusive approach to green recovery. This includes fostering productive and protective assets that strengthen resilience to climate change. WFP's efforts align with the Green, Resilient, and Inclusive Development (GRID) framework, a collaborative initiative with the UK Government and the Government of Nepal. Through the Local Infrastructure Support Programme (LISP) in Karnali Province, WFP partners with Local Governments to enhance ecosystem and community resilience. LISP emphasizes the implementation of nature-based solutions and climate-smart infrastructure to reduce climate-related vulnerabilities while creating green recovery jobs and reinforcing systems for long-term sustainability. WFP's strategic focus extends beyond immediate needs, embedding sustainable practices that prepare communities to withstand future climate shocks. This holistic approach, exemplified by initiatives in Karnali Province, offers replicable models for broader cooperation. The lessons and knowledge derived from these interventions inform future strategies and foster south-south and triangular cooperation, enabling the exchange of best practices and evidence-based solutions. As an accredited entity of the Adaptation Fund since 2010, WFP has mobilized over USD 133 million for climate adaptation across 14 countries. WFP brings extensive operational expertise in food security, agricultural development, climate adaptation, and disaster risk reduction, especially in remote and vulnerable regions. In Nepal, WFP's experience includes leading the first AF-funded project in Karnali Province and conducting thematic assessments like the CLEAR and climate risk studies. These initiatives provide critical insights for designing relevant and effective interventions tailored to local contexts.

WFP works in close collaboration with the Government of Nepal, particularly the MoFE and the MoALD. Together, these partnerships have driven successful climate adaptation projects, such as the Nepal Climate Change Support Programme (NCCSP) and Adaptation for Smallholders in Hilly Areas (ASHA), further advancing climate resilience objectives. As the lead UN agency for environmental sustainability and climate resilience under Nepal's UN Sustainable Development Cooperation Framework, WFP is well-positioned to scale up its impact. By leveraging lessons learned from past projects and working in close partnership with national stakeholders, WFP is committed to enhancing the effectiveness and efficiency of climate resilience efforts. This commitment aligns with broader global priorities for sustainable development, supporting transformative change and resilience-building in vulnerable communities.

Furthermore, the GoN, particularly the MoFE, has recognized and appreciated the successful completion of a recent AF project implemented by WFP and in advancing the goals and priorities of national climate change policy, NAP and NDC including documentation. This project has been regarded as one of the exemplary project executions in terms of timeliness, quality, and results. Moreover, MoFE has conducted its own comprehensive assessment of the first phase of the AF project and considered it a model climate change adaptation initiative. As a result, the MoFE in a formal letter (to be enclosed along with the concept note submission) expressed its endorsement of WFP to continue to be the MIE of the second phase of AF through the submission of the project

proposal. With the lesson learned from the previous CAFS Karnali project, provincial level Climate Change Coordination Provincial government: activation of PC4; provincial climate change management information system hosting, provincial level coordination, linkages between the initiatives from line ministries, overlaps, guidance for the local level policies, providing the oversights and technical inputs for the local government (climate-informed decision making). MoU with local government, implementation tools and system of local government are used to implement the project.

Building institutional sustainability: The institutional sustainability of the project will be ensured by building the capacity of the local government on climate change adaptation in general, securing food security, and building a sustainable livelihood through a participatory and inclusive approach. Further, the local government will be provided with the technical support to develop climate-informed laws and policies so that the climate additionalities will be addressed within the policies which result in integration into the sectoral plans. In addition to this, the local government and community people will be capacitated to fully integrate and implement the actions identified and prioritized in the respective LAPAs of the local government. The absolute demonstration of LAPA actions will ensure climate sustainability within the institutions. The project's best practices and successful adaptation actions will be integrated into the LAPA which will be included in LG's annual plans and budgets, as the LGs receive equalization grant from federal and provincial governments every year and they can allocate the budget for LAPA activities under forest, environment and DRR and infrastructure sectors. The LGs will implement the LAPAs with the public fund utilizing the management and execution experience and model of the project. The environment and disaster management committee within the local government will be capacitated to actively engage in the social forum and advocate and aware the local community on the climate change impacts and its adaptation measures in agriculture and food security theme.

Building economic and financial sustainability: The project will support local governments in practicing a climate-informed planning process, integrating climate change adaptation into their development strategies. Implementing the proposed actions will address local governments' adaptation needs, reducing food insecurity and poverty. Financial sustainability will be ensured by allocating additional budget directly from the country's treasury to the targeted local governments for planned activities. This approach will reduce operational costs and regular investments in local infrastructure, ecosystem restoration, providing alternative livelihood options, and increasing agricultural productivity.

Layering and sequencing activities over the project years in agriculture production, on-farm and off-farm enterprise development, market linkages, and operation and maintenance will ensure multifaceted economic development of the community. This approach will familiarize community members with the processes and steps involved, capacitating them to develop business plans, launch new businesses, and sustain existing ones. Training will equip them to anticipate risks and benefit from their ventures.

The proposal can expand on strategies to ensure the economic and financial sustainability of the value chains and enterprises supported by the project. This includes facilitating access to finance and credit facilities for farmers, processors, and entrepreneurs to invest in value chain infrastructure and operations. Promoting market-driven production and diversification into high-value, climate-resilient crops or products with strong market demand will be emphasized. Establishing sustainable business models and public-private partnerships for value chain development and market linkages will further support the project's goals. These strategies will help build robust, self-sustaining agricultural economies that are resilient to climate change and market fluctuations.

Environmental sustainability: The project aims from its component 2, to strengthen environmental sustainability and resilient natural resources management. This sustainability will be achieved through integrated water management, promotion of renewable energy, and providing support to develop climate-smart villages adopting nature-based solutions. The nature-based solution is proven to achieve environmental sustainability through the restoration of the forest, agriculture, wetland ecosystem; river-basin management. In addition to this, the project encourages to use of local materials as far as possible for building the community assets.

Technical Sustainability: The project's goal is to establish community green infrastructure and showcase nature-based solutions for enhanced ecosystem resilience and livelihoods. It also aims to create a mechanism

for the maintenance and utilization of developed infrastructure by the community. Assets will be transferred to either the community or local government for ongoing maintenance and use. Leveraging its experience from projects like CAFS Karnali and the Local Infrastructure Support Programme, WFP will build upon existing mechanisms for seamless transfer of assets and technology to local entities. The CAFS-Karnali and LISP have supported the LGs to establish local infrastructure repair and maintenance support fund at the LG level along with its operational guidelines, preparing infrastructure repair and maintenance plans at community levels and resilient local infrastructure management directives at the LG level and operational guidelines for agro-forestry enterprises for their sustainability through the government systems. Those LGs are still continuing these policy and operation systems. This project will adopt the best practices and ensure the sustainability of the project's outputs.

Social Sustainability: The proposed project seeks to employ a participatory and inclusive approach, prioritizing the capacity building of community members, particularly women, marginalized groups, and persons with disabilities. Through this participatory process, the project aims to foster an inclusive society within the targeted local governments. It is anticipated that project activities will enhance the access of disadvantaged and marginalized populations to markets, services, and financial resources, thereby showcasing their skills and contributions. By promoting participation, the project aims to broaden access to resources and enable communities to address challenges such as climate change, income generation, and local leadership in climate action, migration, and restoration efforts. Furthermore, awareness and sensitization programs will empower community members to advocate for social accountability and constructive change, facilitating collaboration, innovation, and climate justice initiatives.

K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project.

The preliminary screening for potential environmental and social risks against the 15 principles outlined in the AF's Environmental and Social Policy, as set out in the table below was done. The project is not expected to generate any significant environmental/social impacts or risks with an overall ESS rating of Category B/ medium risk .The proposal prioritizes environmental and social sustainability, aiming to mitigate adverse impacts on project beneficiaries. It promotes inclusivity, ensuring gender, ethnicity, and economic equality. Two components focus on enhancing technical, environmental, and social knowledge while respecting beneficiaries' religion, indigenous knowledge, and rights. Aligned with AF's environmental and social policy, the project underwent screening against 15 principles, ensuring minimal impacts/risks. The preliminary environmental and social risk screening process include a consideration of potential indirect, transboundary and cumulative risks and impacts that could result from the project activities. No foreseeable risks are expected to be identified for the proposed activities and sites, as the proposed activities do not involve any transboundary geographic coverage. Detailed assessment will occur during full proposal development, ensuring comprehensive evaluation.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	**X**	**Low/no risk**: The components planned are highly relevant to the national, provincial and local laws and policies. The project is conceptualized with due consultation with the government agencies and will consult during the proposal development as well to ensure compliance with the relevant laws and policies.
Access and Equity		**Low – no risk:** The project is designed to promote equitable access to activities and assets by women, marginalized groups, persons with disabilities and youth in project areas. They, the most vulnerable group to climate change, are the direct unique beneficiaries of the proposed project. Within this group, it is anticipated that the possible risk of certain leaders from the same group may benefit more than others, as a result of an entrenched system of privilege, access and authority. To mitigate the risk, all relevant community-level stakeholders is/will be consulted during the concept note and full proposal preparation phase. The details of the stakeholder consultation and the discussion agenda are elaborated in section H.
Marginalized and Vulnerable		**Low/no risk**: The project is designed to provide support to marginalized and vulnerable groups. These include households headed by women, people with disabilities, pregnant and breastfeeding women (PLW), Dalit households etc. Project activities will be designed to empower vulnerable groups to make decisions

Groups		on concrete adaptation actions, valuing their traditional and local knowledge. The project aims to increase the availability, quality and access to resources of marginalized groups. Concrete adaptation and value chain activities will be supported in which both women and men can participate, as well as female and male youth. The project will implement livelihood assets, and nutrition-sensitive asset creation targeted to improve the livelihood and nutritional status of poor people and vulnerable groups.
Human Rights	**X**	**Low/no risk**: The project affirms the rights of the people and promotes international human rights.
Gender Equity and Women's Empowerment		**Low risk:** The project ensures that women and men have equal opportunities to participate and receive benefits from community asset building, access to finance, income generation activities, and climate-resilient ecosystem development. A comprehensive gender assessment will be conducted during the full proposal formulation stage. In line with the new WFP Gender Equality Accountability for Results (GEAR) framework, which categorizes activities into Reach, Benefit, Empower, Transform, and Mainstream, the project will go beyond participation and benefits. It will focus on empowering women economically by providing new knowledge, skills, and information. This empowerment will extend to decision-making at the household and community levels, particularly concerning natural resources management. The project will implement strategies to ensure that informal and formal social institutions are transformed towards greater gender equality and social inclusion. This includes developing mechanisms to enhance women's roles in decision-making processes and leadership positions within the community. By fostering an environment where women are actively involved in natural resource management and community planning, the project aims to create sustainable and equitable development outcomes. The project's approach will be to not only reach and benefit women but also to empower and transform their roles in society, ensuring that gender equality and social inclusion are mainstreamed throughout all activities. This holistic strategy will contribute to long-term, sustainable improvements in gender dynamics and community resilience.
Core Labour Rights	**X**	**Low/no risk:** The project will ensure respect for international and national labour laws and codes, as stated in WFP's policies.
Indigenous Peoples		Low/no risk: In Karnali Province, the Raute, who are nomads living in the jungle, are mostly spotted in various districts but are not found in the project targeted locations. Inthe 11 proposed LGs, mainly Magar, Gurung, Tamang, Bhote, Mugal and Byashi/Sauka ethnic groups (Indigenous communities) reside together with other caste/ethnic groups. The population of indigenous communities in 63% in one LG – Mugum Karmarong Rural Municipality in Mugu district. Except this, the population of indigenous communities on other LGs is less than 10% of total population of the LGs. The project will recognize indigenous peoples' rights to consultation and participation and the rights to their lands, territories, knowledge, and resources. Hence, the project will carry out environmental and social risk screening and prepare and implement the Free Prior Informed Consent (FPIC) process at the concept stage, before implementation. The Grievance Mechanism will be established followed while planning the project activities. The indigenous peoples of the project areas were also consulted at the time of community consultations in all 11 LGs while preparing the concept note. The project will also promote nature-based solutions for social, ecological, climate and disaster resilience based on indigenous knowledge and systems.
Involuntary Resettlement	**X**	**No risk:** The project will not lead to involuntary resettlement
Protection of Natural Habitats		**Low/no risk**: By implementing the activities to build the resilience of natural ecosystems such as nursery management, agroforestry, and promoting fruit plantation in the forest, the project will ensure the protection of natural habitats. In addition, consultations with government stakeholders and communities will ensure that the conversion or degradation of critical natural habitats (including those that are legally protected, officially proposed for protection, recognized for their high conservation value, or recognized as protected by traditional or indigenous local communities) is avoided. Component 2: perform social and environmental screening of activities.
Conservation of Biological Diversity		**Low to no risk**: The project will only promote local varieties of the plants during the afforestation and agro-forestry which support biodiversity. However, the introduction of the drought-resistant crop variety may cause the deterioration of biological diversity if species are not correctly selected. It will be assessed during the full proposal development.
Climate Change		**Low risk**: The project will not generate any significant emissions of greenhouse gases. Many project activities will be designed to be low-emissions, as well as adaptive – e.g., the promotion of renewable energy technologies in value chains, and an increase in vegetative cover during afforestation, and agro-forestry practices. As the project area is highly vulnerable to the impacts of climate change, all project components and activities will be designed to contribute to increasing local capacities to sustainably face climate change in the long term and climate variability in the short and medium term.
Pollution Prevention and Resource Efficiency	**X**	**No risk**: The project will not release pollutants. Energy efficiency, minimization of material resource use, and minimization of the production of wastes will be embedded in the project design.
Public Health		**Low/no risk**: The project will not have any detrimental effect on public health. It is designed to be nutrition-sensitive and thus will contribute to tackling the underlying causes of malnutrition through increasing agricultural production and processing, promoting sustainable natural resource management, and supporting nutritious value chains. Particular attention will be given to activities related to water harvesting and storage so that these do not increase vector-borne disease. Communities will be sensitized to using and storing water safely and efficiently.

Physical and Cultural Heritage		**Low/no risk**: The project will seek to understand the role of traditional and local knowledge and how it can be blended with scientific information for climate resilience. Consultations and engagement with stakeholders and communities during implementation will ensure that any physical cultural heritage present on project sites is identified and potential negative impacts are avoided through project design.
Lands and Soil Conservation		**Low/no risk**: Project activities will not pose risks to land and soil conservation, but rather will be specifically designed to address land degradation and promote sustainable land management and erosion control. Afforestation activities will additionally support the protection and enhancement of lands and soil.

PART III: IMPLEMENTATION ARRANGEMENTS

1. Demonstrate how the Project/programme aligns with the Result Framework of the Adaptation Fund

Project Objective(s)[1]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Enhance community resilience through community-based adaptation, integrated risk management, resilient natural resource management and strengthened government and community capacities for risk-informed locally-led adaptation.	▪ Climate Resilience Capacity Score ▪ Global food security index	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percent age of targeted population applying appropriate adaptation responses	2,171,810.00
		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5.1 Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	5,409,480.00
		Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Capacity of staff to respond to and mitigate. impacts of climate-related events from targeted institutions increased	759,800.00
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Project Objective(s)[1]	**Project Objective Indicator(s)**	**Fund Outcome**	**Fund Outcome Indicator**	**Grant Amount (USD)**
Enhance community resilience through community-based adaptation, integrated risk management, resilient natural resource management and strengthened government and community capacities for risk-informed locally-led adaptation.	▪ Climate Resilience Capacity Score Global food security index	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses	2,171,810.00
Outcome 3: Strengthened climate governance and institutional system (policies, plans, institutions and services) to sustain climate adaptation and disaster risk management actions.	- Number of national policies, strategies, programmes and other system components contributing to zero hunger and other SDGs enhanced with WFP capacity strengthening support - Number of Enhanced	**Outcome 5:** Increased ecosystem resilience in response to climate change and variability-induced stress	5.1 Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	5,409,480.00

	Programme Designs, Processes, and Platforms Contributing to Zero Hunger and other SDGs Implemented at Scale by National Organizations Following WFP Capacity Strengthening Support -Proportion of people participating in training with improvement in knowledge/skills contributing to zero hunger and other SDGs.			

A. Management Arrangement

The project will be implemented by WFP including financial oversight, monitoring, and reporting of the progress to the Adaptation Fund. With the technical assistance of WFP, the Ministry of Forests and Environment (MoFE), which is also the Designated Authority (DA) for AF, and the Ministry of Agriculture and Livestock Development (MoALD) will be the co-executing entities, working closely at the provincial level with the the Ministry of Industry, Tourism, Forests, and Environment (MoITFE) and the local governments. The project governance structure will include a national project steering committee housed at the MoFE, provincial-level project implementation and coordination units at MoITFE, and technical support units at targeted project municipalities. All project activities will be integrated into the national budget and programme of government at different levels through theon-budget/on-treasury mechanism adopted by the Government of Nepal for similar projects. The project activities planning, implementation and fund management will be guided by the Project's Standard Operating Procedure. The budget of the project will be managed through a separate bank account maintained by the executing entity ministry. WFP and executing entities may collaborate with local NGOs and work closely with relevant departments of the government for field implementation of project activities and social mobilization. The project management structures and roles of different entities are explained below:

Implementing Entity. WFP is submitting this project as an accredited Multilateral Implementing Entity (MIE) for the AF. In its capacity as MIE, WFP will oversee the project cycle management, overseeing overall project progress, including financial oversight, monitoring, and evaluation support, as well as technical backstopping and reporting to the AF. The project will be coordinated through the support of the WFP Country Office. Further technical support will be available from the WFP Regional Bureau in Bangkok, Thailand, and WFP headquarters in Rome, Italy, as needed. WFP will recruit and deploy the technical assistance (TA) staff to the executing entities and local governments for the execution of the project activities.

Executing Entity: MoFE and MoALD will be the Executing Entities (EEs). They will collaborate with provincial ministries and project-implemented local governments for field-level execution of project activities. The EEs will be responsible for the effective and efficient delivery of the project outputs and ensuring objectives and outcomes are achieved. The EEs will coordinate with government bodies and non-governmental organizations at the national, provincial, and local levels.

Project Steering Committee: The Project Steering Committee will be established under the leadership of the Secretary, MoFE. This committee will consist of members representing key line ministries including the Ministry of Agriculture and Livestock Development, the Ministry of Federal Affairs and General Administration, the National Planning Commission, Ministry of Energy, Water Resources and Irrigation and others. The joint secretary of the Climate Change Management Division (CCMD) of MoFE and other joint secretaries of the MoFE will be the members of the committee. The UN WFP will be invited as a member of the Committee. The committee will steer the project and provide oversight and guidance throughout the implementation of the project.

Project Management Unit: Upon receipt of funding, the Project Management Unit (PMU) will be established to manage all execution responsibilities and be responsible for the progress reporting on all field-level activities. The PMU will be tasked with the day-to-day operations and management of the Project activities under the direct supervision of the National Project Director (NPD), a joint secretary and chief of CCMD of MoFE and National Project Manager (NPM), an Under Secretary level officer assigned from the MoFE. The project coordinator and other relevant officers will be recruited at national and local levels.

Provincial Project Coordination Unit: The project envisaged to establish a Provincial Project Coordination Unit (PPCU) in Karnali and Sudurpashchim Provinces. The secretary of the Ministry of Industry, Tourism, Forest, and Environment (MoITFE) will be the chair of the PPCU in both provinces. The representatives from the line ministries will be invited as members and the chief of the Science, Environment and Climate Change Division of MoITFE will be the member-secretary of the PPCU.

Local Project Coordination Unit: The project also envisaged establishing a Local Project Coordination Unit (LPCU) in all the 11 Local Governments from Karnali and Sudurpashchim provinces. The chairperson/chief of all the Local Governments will chair the LPCU. The section chiefs of the local governments will be the members and the chief administrative officer will be the member secretary of the LPCU. Field project staff will be invited as a member of the LPCU.

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[2]

Name: Mr. Suman Subedi **Position:** Under-Secretary and DNA for AF **Ministry:** Climate Change Management Division, Ministry of Forests and Environment (MoFE)	Date*:* 5 September 2024

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (Nepal Climate Change Policy, 2019; 2nd Nationally Determined Contribution, NDC, 2020; National Framework on LAPA, 2019; and National Adaptation Plan, 2021-2050, Agriculture Development Strategy, 2015-2035 etc) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

B. Implementing Entity certification

Name & Signature Implementing Entity Coordinator: Mr. Robert Kasca Representative and Country Director WFP Nepal	
Date: *05 September 2024*	Tel. and email: +977 5268607/5260316 robert.kasca@wfp.org
Project Contact Person: Mr. Krishna Jogi Deputy Head of Programme and Strategic Outcome Manager for climate change and resilience portfolio WFP Nepal	
Tel. And Email: +977 01-5268607; krishna.jogi@wfp.org	

Government of Nepal

Ministry of Forests and Environment

P.O. Box No. 3987
Singh Durbar, Kathmandu

Ref. No. 59

Date:-

Date: 5 September 2024

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the Country Project- "Improving Food System Resilience of Vulnerable Communities in Nepal through Community-based Adaptation".

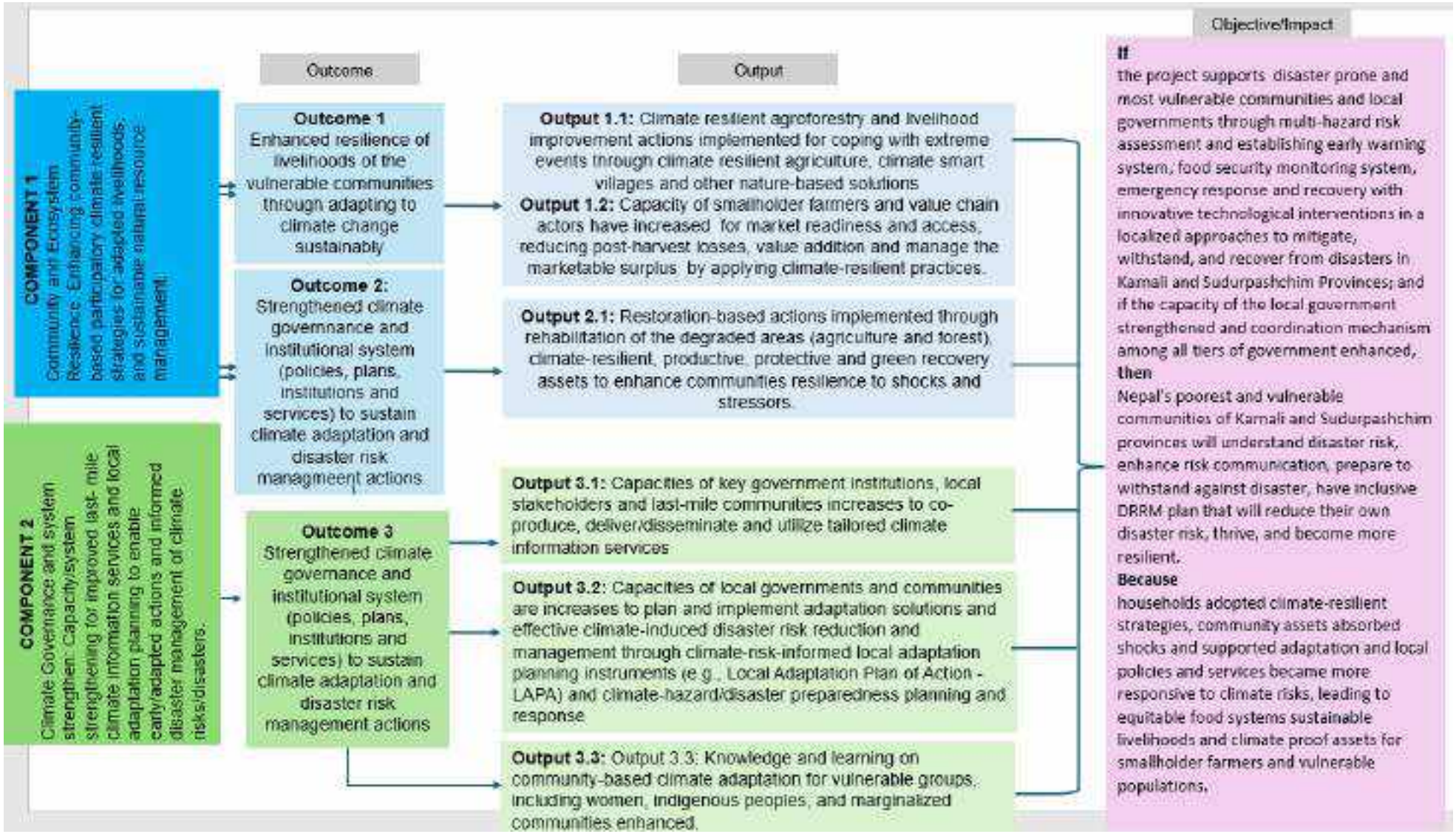
In my capacity as designated authority for the Adaptation Fund in Nepal, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Karnali and Sudurpashchim provinces of Nepal.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by UN World Food Programme (WFP) and executed by Government of Nepal, Ministry of Forests and Environment together with other relevant ministries and WFP.

Sincerely,

Suman Subedi
Under-Secretary
Climate Change Management Division
DNA for AF

Annex 1: Theory of Change



Annex 2: Summary of the community consultations

Background

The World Food Programme (WFP) is assisting the Government of Nepal to develop a project for adaptation to climate change under the Adaptation Fund (AF). The project's overarching goal is to strengthen the climate change adaptive capacity of vulnerable communities in Nepal. Specific objectives, outcomes and activities was developed based on different level of formal and informal meetings, consultations and from the secondary sources. To back up the development of the concept note, stakeholder consultations at various project sites were conducted and the necessary information were gathered as per the requirement of AF.

Community Consultation procedure:

Before conducting community-level consultations, guidelines and questionnaires were prepared to align with the requirements of the Adaptation Fund. Five local governments (LGs) from the targeted districts were selected, and consultations were carried out by WFP Kathmandu staff, supported by WFP field staff. These consultations engaged community members and LG representatives, gathering information based on the established guidelines, which was later compiled for analysis.

The community consultations took place between April 2–10, 2024, and May 8–10, 2024. Five larger groups were engaged to discuss their current environmental and social challenges, perceived climate change impacts, institutional mechanisms in place, and gaps in adaptation efforts. These groups were further divided into smaller groups to facilitate separate discussions with women and men, ensuring their distinct needs were identified. A checklist for initial gender analysis was also used during these discussions.

The consultations were scheduled at appropriate times and locations, minimizing disruption to participants' daily agricultural and household responsibilities. To respect cultural norms and gather intricate viewpoints, consultations with women were conducted by female staff, focusing on the unique challenges, needs, and coping mechanisms women experience. Local Women Development Officers, along with other elected and bureaucratic officials, were also consulted to enrich the process.

The consultations involved a diverse group of participants from vulnerable communities, including women, men, youth, senior citizens, persons with disabilities (PWDs), and socially marginalized groups (SMGs). Given that the entire region is classified as climate-vulnerable, with much of the population experiencing multidimensional poverty, efforts were made to ensure inclusive representation. A total of 227 individuals participated, of which 52.9% were women, and 34% belonged to marginalized groups.

The inclusion of elderly participants provided valuable insights into their unique adaptation needs. Similarly, PWDs highlighted their specific challenges in coping with climate change impacts and shared their requirements for effective support. This inclusive approach ensured comprehensive documentation of the diverse climate change impacts experienced by various groups, their levels of exposure, and their adaptation needs.

Additionally, consultations were conducted with local government representatives, including Mayors/Chairs, Deputy Mayors/Deputy Chairs, Chief Administrative Officers, and officers from rural municipalities. These sessions captured broader perspectives on climate change impacts in their areas and assessed their commitment to taking action. In total, 44 representatives participated, comprising 37 men and 7 women.

Disaggregation of the community people involved in the community consultations:

Date of consultation	District	LGs	Settlements	Male	Female	Total	SMGs*	Elderly people	PWD
3 April 2024	Kalikot	Subhakalika RM, Ward 5	Sukatiya, Khatyawada, Adhikari wada	9	11	20	4	2	
5 April 2024	Mugu	Chhayanath Municipality,	Tali Tuma	16	23	39	1	5	

		Ward 3							
7 April 2024	Humla	Tanjakot RM, Ward 4	Paniwada, Kharra, Pataniwada, Utteseti, Okhareta, Dopke, Nayabasti, Kawla	45	47	92	44	1	1
8 May 2024	Bajhang	Khaptadchanna RM, Ward 4	Baaskatiya tole	12	23	35	10	3	1
9 May 2024	Bajhang	Talkot RM, Ward 6	Gaitola Keutal	25	16	41	18	8	
			Total	107	120	227	77	19	2

***SMG: Socially marginalized Group*

Major concerns and key Findings
The major concerns raised were:

- There is a noticeable shift from traditional farming to daily wage labor due to declining yields of indigenous crops such as buckwheat (Phapar), barley (Jau), quinoa, foxtail millet (Kaguno), and proso millet (Chino). This change is driven by the need for immediate income and compounded by persistent social issues like discrimination and gender inequality.
- Increasing natural disasters, including landslides and forest fires, are worsened by erratic rainfall patterns and drying water sources. Environmental degradation, such as soil erosion and a decline in livestock farming, exacerbates these challenges, leading to reduced agricultural productivity.
- Gender wage disparities, inadequate waste management, and declining land productivity contribute to economic and social inequalities. Persistent issues like early marriage and caste-based discrimination continue to affect community well-being.
- Prolonged dry spells have dried up water sources, increasing the time needed to fetch water and straining daily life. Additionally, there has been a rise in vector-borne diseases, further impacting health. These factors, coupled with reduced indigenous crop production, intensify challenges to livelihoods and food security.
- The community recognizes the need for improved infrastructure, better market access, advanced agricultural technologies, and stronger support systems to tackle these issues. Suggested solutions include upgrading agricultural equipment, raising climate change awareness, and providing targeted assistance to vulnerable groups.
- Although there is strong community willingness to engage in climate change adaptation efforts, local governments face financial constraints in co-financing these activities, emphasizing the need for external support to enable substantial infrastructural and technological progress.

Overall, the findings underscore the complex interplay of environmental, social, and economic factors shaping local livelihoods and resilience in the face of climate change.

The key findings of the community consultations are as below:

Agricultural Livelihoods and Challenges**:** Communities predominantly depend on agriculture, cultivating diverse crops and rearing livestock using traditional practices such as open grazing. Additional income is earned through small-scale vegetable sales, masonry work, and seasonal migration. However, these livelihoods are threatened by environmental and social challenges, including pest and disease outbreaks from new crop varieties, significant deforestation, declining wildlife populations, gender inequality, and wage gaps. Climate change exacerbates these issues with erratic rainfall and snowfall, frequent landslides, floods, droughts, and drying water sources.

Coping Strategies and Community Needs**:** To address reducing indigenous crop yields, communities have experimented with alternative crop varieties and expressed the need for

external support in rebuilding irrigation canals, managing climate information, and developing irrigation infrastructure. Proposed initiatives include constructing greenhouses for off-season farming, creating embankments, providing vocational training for marginalized groups, and developing eco-tourism to supplement local income.
Seasonal Agriculture and Migration: Agriculture supports livelihoods only part of the year in many areas, forcing families to purchase food during off-seasons and driving youth migration for work and education. This labor shortage leaves women managing both farming and household responsibilities. Coping strategies include adopting hybrid crop varieties and using media like radio jingles for climate disaster alerts. Recommendations highlight commercial and off-season farming, water source development, and cash crop cultivation tailored to the region.

Environmental and Social Challenges: The region faces escalating environmental challenges, including frequent landslides, floods, hailstorms, earthquakes, droughts, deforestation, emerging crop diseases, declining indigenous crop yields, increasing pests, and shrinking pasturelands. Social challenges include inadequate waste management, gender discrimination, wage gaps, social marginalization, and the persistence of Bali Pratha—a system where marginalized groups exchange crops for occupational goods due to limited land ownership.

Climate Change Impacts and Recommendations: Changing climate patterns have reduced agricultural productivity and pasturelands, with limited community-led coping mechanisms in place. Recommendations include providing training for vulnerable groups, creating income-generating activities to curb migration, improving livestock management, and enhancing market access for agricultural products, alongside fostering resilience through external support.

Annex - 3: Initial Gender Analysis

Introduction:
As of April 2024, Nepal's population exceeds 29 million, with women comprising 51.13% and men 48.87%. The annual population growth rate is 0.92%. In Karnali Province, women make up 51.2% of the 1.7 million population, while in Sudurpashchim Province, women represent 52.8% of the 2.7 million population. Across the eleven selected local levels, women constitute 51.6% of the population. The life expectancy in Nepal is 73.8 years for women and 68.2 years for men. Nepal continues to face widespread poverty, influenced by gender, ethnicity, caste, and regional disparities. As of recent data, 20.27% of the population lives below the poverty line, while 17.4% (4.98 million people) experience multidimensional poverty, down from 30.1% in 2014. Despite progress in poverty reduction and its commitment to achieving the SDGs by 2030, Nepal remains one of the poorest nations, with a GDP per capita of USD 1,336.5 in 2022. In the 2024 Gender Inequality Index, Nepal ranked 117th out of 146 countries, slightly lower than 116th in 2023. Despite constitutional commitments, gender disparities persist, including a gender gap in unemployment (12% for women vs. 9.8% for men) and limited female representation (33.1% of parliamentary seats as of February 2024). While 88.9% of legal frameworks addressing gender equality exist, challenges remain in unpaid care work, the gender pay gap, and ICT skill access. These issues hinder progress toward inclusion and equality in Nepal’s development efforts.

WFP conducted an initial gender analysis during the community consultation process. The analysis aimed to guide key strategies for addressing gender- and inclusion-related differences in vulnerability and capacity to reduce risks and adapt to climate change impacts among diverse groups of women, girls, men, and boys. The analysis focused on two primary objectives:

1. To identify, understand, and explain gaps related to gender equality and women’s empowerment - considering intersectionality - within the context of climate threats, food insecurity, and resilience in the project areas.
2. To develop key strategies, based on the analysis findings, to address the identified issues of gender equality, disability, and social inclusion relevant to the programme.

Methodology

Based on the Environmental and Social Policy and guidance document for IEs on compliance with AF Gender Policy, 2022; WFP-conducted gender assessment for its CSP (2024-2028), CAFS-Karnali gender impact assessment, and the community consultations in proposed LGs, the initial gender analyses has been carried out applying an intersectional lens with below assessment questions:

- Core/basic gender differences and gender-differentiated impacts and risks for women and girls, men and boys and other project/programme-relevant gender ("do no harm")
- Gender-differentiated activities and divisions of labour (who does what?)
- Opportunities and barriers for equitable access to program resources and information (who has what? Who can use what?)
- What are the issues related to gender-differentiated access and control to resources and decision-making?
- Potential impact on women's and girls' time poverty (How is time used?)
- Informal and formal laws, norms, beliefs, and practices (what is enabling/disenabling environment/influencing environment?)
- Potential exposure to programme specific gender-based violence risks (What are potential GBV risks?)

Since this is an initial gender analysis, a more comprehensive gender assessment will be carried out during the proposal formulation process based on AF's guidance. Additionally, community/stakeholder consultation and free, prior, informed, consent (FPIC) process will be conducted with indigenous communities in the project areas.

Key findings:

Social power dynamics in Nepal are highly complex. While being female often results in multiple layers of discrimination not typically experienced by men, the country's diverse social, religious, and cultural structures require careful analysis when assessing vulnerability. Even within the same household, women face differing challenges, and women from various castes/ethnic and ability groups exert agency in distinct ways. For instance, Janajati women might enjoy greater mobility and opportunities for productive labour, but experience more significant social marginalization compared to Brahmin women, who may hold higher social status but are constrained by strict ritual obligations and restrictions, including limitations on work. Similarly, an indigenous woman with disabilities might face greater marginalization than the other a Brahman woman without disabilities. Indigenous persons with disabilities have no access to or cannot afford technology and modern equipment like a radio, TV, cell phone, or internet[i].

There is disproportionate impact of climate change and disasters on women and children, with women and girls being 14 times more likely to die due to limited access to information, resources, and decision-making power. Approximately 80% of those displaced by climate change are women and girls. In both provinces, women face heightened vulnerability due to their traditional roles, which include caregiving, household management, farming, fetching water and fuelwood, and caring for livestock. These roles expose women more directly to the effects of climate change, leading them to develop adaptive strategies that enhance household resilience. However, socio-cultural norms often result in seasonal male migration for employment, leaving women to manage subsistence farming and household responsibilities, increasing their workload while limiting their access to social networking and learning opportunities within the community. Furthermore, women have limited control over critical assets, resources, and services such as land, financial services, credit, and technology, which restricts their ability to plan for and respond to climate crises effectively. Coping mechanisms also differ between genders: women tend to adopt strategies like cultivating high-yield crop varieties and borrowing resources from relatives and neighbours, while men often resort to seasonal migration to urban areas or neighboring countries like India.

Recommendations:

Based on the findings from the initial gender analysis, the project needs to focus on integrating gender equality, and women's empowerment in its interventions. The project should analyze community dynamics, empower women and marginalized groups, and foster social cohesion. Key strategies to address gender issues, to be further informed by the comprehensive gender assessment, include:

- Empowerment: project needs to aim to empower women, girls, and marginalized groups by addressing their specific needs and vulnerabilities across three interdependent pathways: (i)

increasing access to financial, physical, and natural resources; (ii) improving human capital by providing knowledge, skills, and information; and (iii) strengthening social and political capital through better access to social networks, decision-making structures, market systems, and governance institutions, including safety nets.

- Equal Access: the project needs to ensure equal access to resources by engaging women and marginalized groups in participatory community outreach and sensitization processes to avoid gender bias and social exclusion. Gender and social inclusion modules will be integrated into all training activities. The roles of different social groups in disaster resilience will be analyzed and addressed, focusing on barriers such as access to information, resources, mobility constraints, and influence within associations.
- Mitigating Sexual Exploitation, Abuse, and Gender-Based Violence (SGBV): project needs to mitigate SGBV risks through identifying risks and mitigation measures; designing activities that reduce exposure to violence; addressing potential indirect violence (e.g. family disagreements over women's participation); and monitoring gender sensitivity and establishing complaints and feedback mechanism for participants.
- Mitigate Time Poverty: the project should mitigate the negative effects on women's time and balance their participation in project activities through a gender analysis of men's and women's time, the facilitation of understanding and sharing of time-use data between men and women, create a space for dialogue on shared responsibilities and adjusting daily routines, and introduce time-saving technologies like multi-use water systems to reduce women's workload, exposure to potential violence and allowing time for social networking and learning opportunities in the community.
- Community Feedback Mechanisms (CFM): project should implement WFP's existing CFM to allow beneficiaries and stakeholders to raise concerns and complaints and ensure a conflict-sensitive approach and "Do No Harm" principle for equitable benefit distribution. A protection risk assessment needs to be conducted as part of the in-depth gender analysis.
- Increase agency among women and marginalized community members: Strengthen the importance of women's groups and networks at the local level, including through initiatives such as income-generating programme activities, combined with the provision of leadership and advocacy training. The groups, in turn, provide the structure for the collective action that informs women also from marginalized groups of their rights, which empowers them to take advantage of new opportunities broadening their ability to access other types of skill-enhancing and income generation activities and development programme.
- Expand partnerships with civil society organizations led by marginalized ethnic groups as well as the organization of persons with disabilities to establish enabling environment to engage with marginalized groups for the consultation process, planning, implementation, and monitoring of programme results.

[i] https://www.ohchr.org/Documents/Issues/Racism/SR/RaceBordersDigitalTechnologies/Minority%20Rights%20Group%20International.pdf