ADAPTATION FUND

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 (available to NIEs only): 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: Click or tap to enter a date.

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 per cent 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,

[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.

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 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 percent 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 per cent to 8–12 per cent 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

[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

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 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.

Socio-Economic Characteristics

Population, economy and poverty

Nepal's population (April 2024) is over 29 million comprising 51.13 per cent female and 48.87 per cent male population with an annual growth rate of 0.92 percent 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[10]. More than 45 per cent of the population resides in hills and mountains with fragile and remote physiography and low economic productivity. Likewise, 66 per cent 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[11]. About two-thirds of the population is employed by the agriculture sector itself. It is remarkably higher in comparison to other South Asian Countries[12].

Nepal's economy largely relies on agriculture (57.3 per cent of the country's population)[13] 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 per cent of the gross domestic product (GDP) of Nepal in 2022/23. The service sector is the highest contributing sector (62.7 per cent) 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 per cent to the country's GDP[14]. Nepal is highly dependent on imports, including food, medicine, petrol, and other essential goods, overwhelmingly from India[15]. Moreover, males (91.5 per cent) 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 per cent of the female workforce) in addition to the household chores and other social responsibilities[16].

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 percent of the population who lives under the poverty line[17]. According to the government, 4.98 million people in Nepal live in multi-dimensional poverty, accounting for 17.4 per cent of the population, a significant decrease from a previous 30.1% in 2014. This decline represents a significant number 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[18]. 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[19], which is a slight improvement of its position from 143rd 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

[10] 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.
[11] National Statistics Office, Nepal 2023, National Population and Housing Census 2021 (National Report)
[12] Biodiversity, Climate Change and Adaptation, Nature Based Solutions from the World Bank Portfolio, World Bank, 2008.
[13] National Statistical Office, 2023, National Population and Housing Census 2021: National Report
[14] Nepal Rastra Bank's Annual Report of Fiscal Year 2022/23 published in November 2023.
[15] World Bank. 2024. Crisis Preparedness Gap Analysis (CPGA), Nepal
[16] MoLESS 2020 retrieved from National Adaptation Plan report of Nepal 2023.
[17] National Statistics Office, 2024, Nepal Living Standard Survey IV 2022-23 1707800524_89.pdf (giwms.gov.np)
[18] The World Bank Data (https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=NP)
[19] UNDP, Human Development Report 2023/2024

Province with 51.2 per cent and the third highest in Sudurpashchim Province with 33.6 per cent of the population experiencing multi-dimensional poverty[20], though there are significant pockets of poverty nationwide (28.6 per cent). 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[21]. 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[22].

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[23]. 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 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

[20] Government of Nepal National Planning Commission, The 15th Five Year Plan (Fiscal Year 2019-2020, 2023-2024)
[21] National Climate Change Survey 2022
[22] ibid
[23] Statistical Information in Nepalese Agriculture 2021/22

government, non-government entities, and the private sector (ie micro, small medium agroentreprises).

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 programmess (%)	18.2	26	20% in FY 2017/18. No estimation was found thereafter

In alignment with the goals of the ADS, effective watershed management in the mountainous region of Nepal is crucial due to their unique geographical and climatic conditions. The degraded land on the mountainous land heavily depends on the proper watershed management to maintain agricultural productivity, prevent flooding, and deforestation. Community forestry programs have involved local communities in forest management and conservation, leading to increased forest cover and reforestation efforts that stabilize soils and enhance water retention. Soil and water conservation measures, such as terraces, conservation ponds and check dams aim to reduce erosion and increase groundwater recharge. Integrated watershed management projects supported by government and international agencies promote sustainable land use practices and enhance resilience to climate change. Despite these efforts, rapid urbanization and infrastructure development in the hills and mountains have led to significant land use changes, reducing arable land and increasing flood risk. Deforestation for agricultural expansion and fuelwood collection remains a challenge, contributing to soil degradation alongside unsustainable agricultural practices. Climate change intensifies these challenges, with altered precipitation patterns and rising temperatures increasing the risk of floods, landslides, and water scarcity. Poor watershed management in the hills and mountains can result in sedimentation in rivers, raising flood risks in the downstream area.

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 per cent of people are moderately food-insecure and 1 per cent is severely food insecure. Especially in the Karnali Province, 31.5 per cent of the population is in a state of moderate or severe food insecurity, with 5.1 per cent 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 per cent) than urban residents (11 per cent)[24]. Furthermore, WFP data shows that approximately 36 per cent of Nepali children under 5 are stunted, 27 per cent are underweight, and 10 per cent suffer from wasting due to acute malnutrition[25]. 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.

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

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

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 per cent of the population, making it the most devastating hazard, followed by landslides, which affect 9.5 per cent[26].The Karnali and Sudurpashchim provinces fall high risk of landslide and flood[27]. These hazards predominantly strike the poor and marginalized rural groups, who suffer most due to limited access to resources and information. 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[28] 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 per cent to 12.1 per cent, respectively. In the Terai and Siwalik regions, the relationship between temperature increase, precipitation changes, snow melt, glacier retreat, and droughts manifests in various significant ways. These regions, which are heavily dependent on agriculture, face unique challenges due to their geographical and climatic conditions.

Climate change is causing a marked reduction in water resources in the hills and mountains of Karnali and Sudurpashchim provinces. Notable, more than 90 per cent of the households have observed a significant decrease in water level in water sources such as *Padhero/Kuwa*[29]/spring /stone spout. Furthermore, over

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

[27] Enhancing Disaster relatedStatistics in Nepal: Mapping Population Exposure to Flood and Landslide Hazards.

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

[29] *Pandhero and kuwa:* Local terminology for natural spring. It is the source of drinking water at remote Nepal.

70 per cent 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 [30].

These changes are expected to affect food security. Communities, mainly farmers, are experiencing limited accessibility of 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 model projections for Nepal indicate high confidence in rising temperatures throughout the 21st century, though there is less certainty about changes in precipitation, with projections varying from a 10% decrease to a 30% increase from 1981 to 2010 levels. The NPC-WFP Consolidated Livelihood Exercise for Analyzing Resilience (CLEAR)[31] report for Nepal in 2023 projects significant climate changes, including warming across all seasons, especially at higher altitudes, leading to earlier glacier melt and disrupted river flow seasonality. Precipitation will vary, with wetter or drier conditions during monsoon seasons and drier winters. Increased heavy rainfall will heighten the frequency and severity of floods, landslides, droughts, storms, heatwaves, and Glacial Lake Outburst Floods (GLOFs). These changes will impact agriculture by altering flowering times, species composition, and cropping patterns, and increasing pest and disease infestations. Water resources will be threatened by reduced surface water flow and groundwater recharge, affecting availability and access. Climate-related events will likely result in the loss of agricultural land, and forests, and damage to infrastructure. These environmental changes threaten the food security, nutrition, livelihoods, and resilience of people in Karnali and Sudurpashchim provinces, particularly those dependent on climate-sensitive sectors such as rainfed agriculture, livestock rearing, and the collection and sale of medicinal herbs from forests. These areas are characterized by high vulnerability and sensitivity to climate impacts, combined with low adaptive capacity, making the need for effective climate adaptation measures critical.

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.

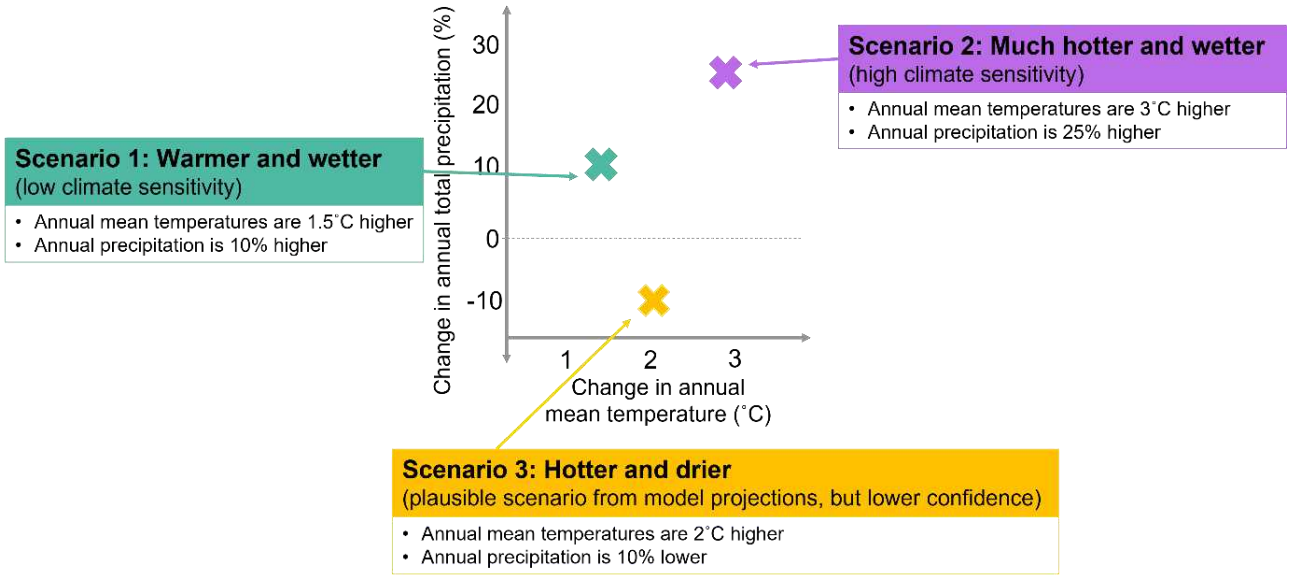


Figure 3: The three scenarios of future climate change for the 2050s considered in CLEAR report.

[30] National Climate Change Survey 2022

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

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.

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

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 per cent 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 per cent 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 per cent have no land at all, whereas 7 per cent of households own 31 per cent of the land[34]. Livestock accounts for over one-quarter of agricultural GDP. Livestock is the main source of food, nutrition, and cash income for about 70 per cent 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 is responsible for nearly half of Nepal's greenhouse gas (GHG) emissions, with the livestock subsector accounting for about three-quarters of these emissions. Agricultural GHG emissions increased by 38 per cent between 1990 and 2014. Factors such as unproductive animals, high mortality rates, and inefficient feeding and manure management practices contribute significantly to these emissions. The latest data from 2024 shows that climate vulnerability costs the Nepalese agriculture sector about 1.5–2% of the country's GDP annually. Climate impacts like rising temperatures, erratic precipitation, and increased pest and disease incidences adversely affect crop growth. Soil moisture reductions can lead to prolonged droughts, causing productivity losses and crop failures. There is a pressing need to enhance farmers' abilities to cope with natural disasters, mitigate climate change effects, and strengthen food systems resilience during crises. Nepal's cereal production heavily depends on increasingly unpredictable monsoon seasons. In the livestock sector, climate change contributes to pasture degradation, heightened disease risks, heat stress, and altered reproductive behaviours, all affecting productivity. The agriculture sector holds substantial potential for driving inclusive socioeconomic development and bolstering resilience

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

against climate change and other shocks. Increased agricultural returns can strengthen rural livelihoods and encourage investment and growth, given agriculture's significant role in employment. Although the government's agriculture sector policies and programs aim to integrate green, resilient, and inclusive strategies, implementation and oversight challenges remain. The Agriculture Development Strategy (ADS) 2015–2035 seeks to foster a self-reliant, sustainable, competitive, and inclusive agriculture sector by enhancing governance, boosting productivity, and increasing commercialization and competitiveness. The government's commitment to climate-smart agriculture aims to increase productivity and incomes, enhance adaptation and resilience, and reduce GHG emissions. The National Adaptation Plan (NAP) identifies critical adaptation programs for agriculture and food security, emphasizing the need for prioritized investments to transform the sector.

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.

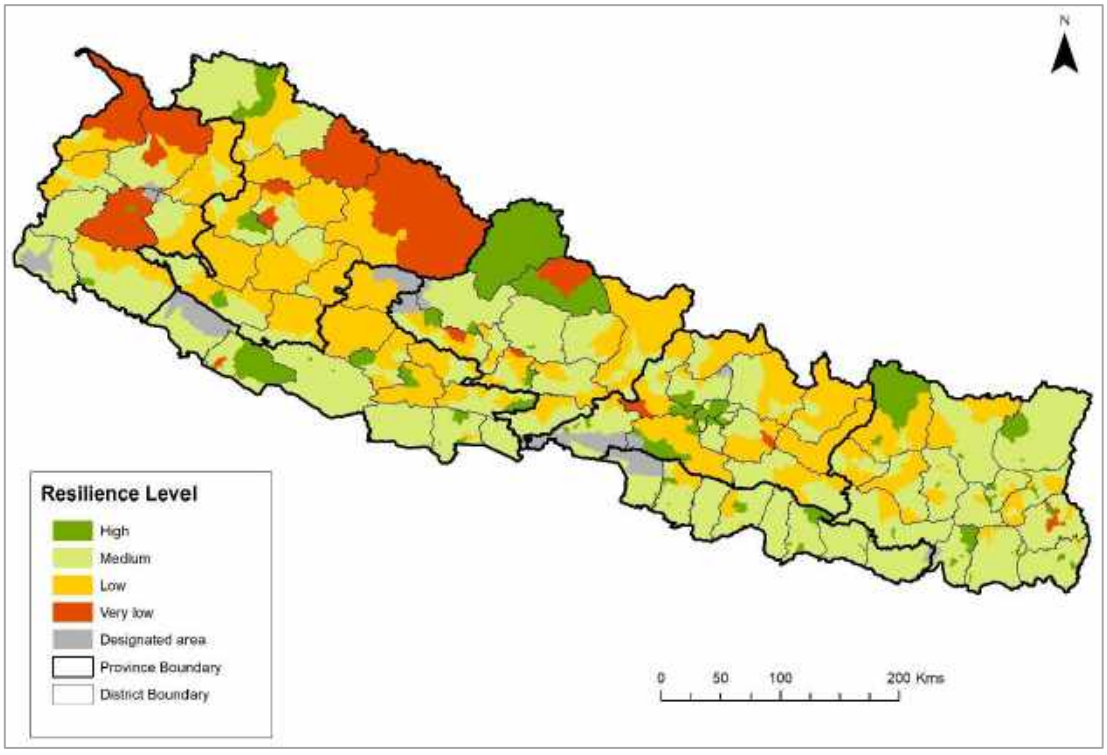


Figure 4: Resilience of the main livelihoods of Nepal

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	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	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.	Limited skills and adaptive capacity of people living in situation of poverty and vulnerability to climate change, limited adaptation interventions i.e.- inadequate water management

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	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.	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 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.	infrastructures that limit the availability of water for agriculture especially in mid-hills. Differentiated impacts of climate change between different localities, intersectional dimensions of oppression, namely caste, sex, gender identity, age, disability status, ethnicity, socio-economic status that restrict access to means of production, and other rights based on structural discrimination, socio-cultural and gender norms and harmful practices (i.e domestic and care work, GBV). Limited capacity of rural communities to design and implement risk-informed adaptive practices and resilient livelihood strategies, and 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 access to climate information for the last mile communities and their lack of capacity to use it for adaptation planning. Inadequate access to women friendly and labour-saving tools and practices Low capacity of communities and local government in adaptation planning. Lack of meaningful participation of women and other marginalised groups in decision-making with
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.		

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

			regards to local climate adaptation planning.

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 is high in sectors such as agriculture, forestry, health, water resources and energy, transportation, and tourism. However, it is often inadequately addressed in Gender Equality and Social Inclusion (GESI) indicators, despite the fact that women and socially excluded groups are disproportionately affected. The project has targeted the districts and local governments considering the watershed areas under the Karnali River basin to implement the integrated watershed management interventions. Despite the high level of vulnerability, some climate change-induced risks i.e., floods, fires, windstorms, and hailstorms appear to be low in the Karnali Province and Sudurpaschim Province. However, the risk of drought, landslides, decreased availability of water resources, plant species distribution/extinction - demand for new resistant varieties (loss of local varieties), increased soil erosion, loss of soil moisture, land degradation, and increasing risks of insect pests is high in the hills and mountainous districts of both Provinces. Karnali and Sudurpashchim 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. Climate change impacts, particularly changes in rainfall patterns (longer and more frequent droughts, storms, and frequent downpours in monsoon, shortening of monsoon season), water shortage and drying of water sources due to temperature rise, faster snow-melting, and intrusion of new kinds of pests and diseases to crops and livestock has reduced local food productions and income further deteriorating food and nutrition insecurity and poverty in the prioritized areas. Hence, as per the MoFE 2021 VRA report, districts with the

highest vulnerability, sensitivity, risk, and lowest adaptative capacity in the Karnali and Sudurpashchim provinces have been identified. A total of 11 Local Governments (LGs), two from each of the five districts targeted, have been selected.

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.

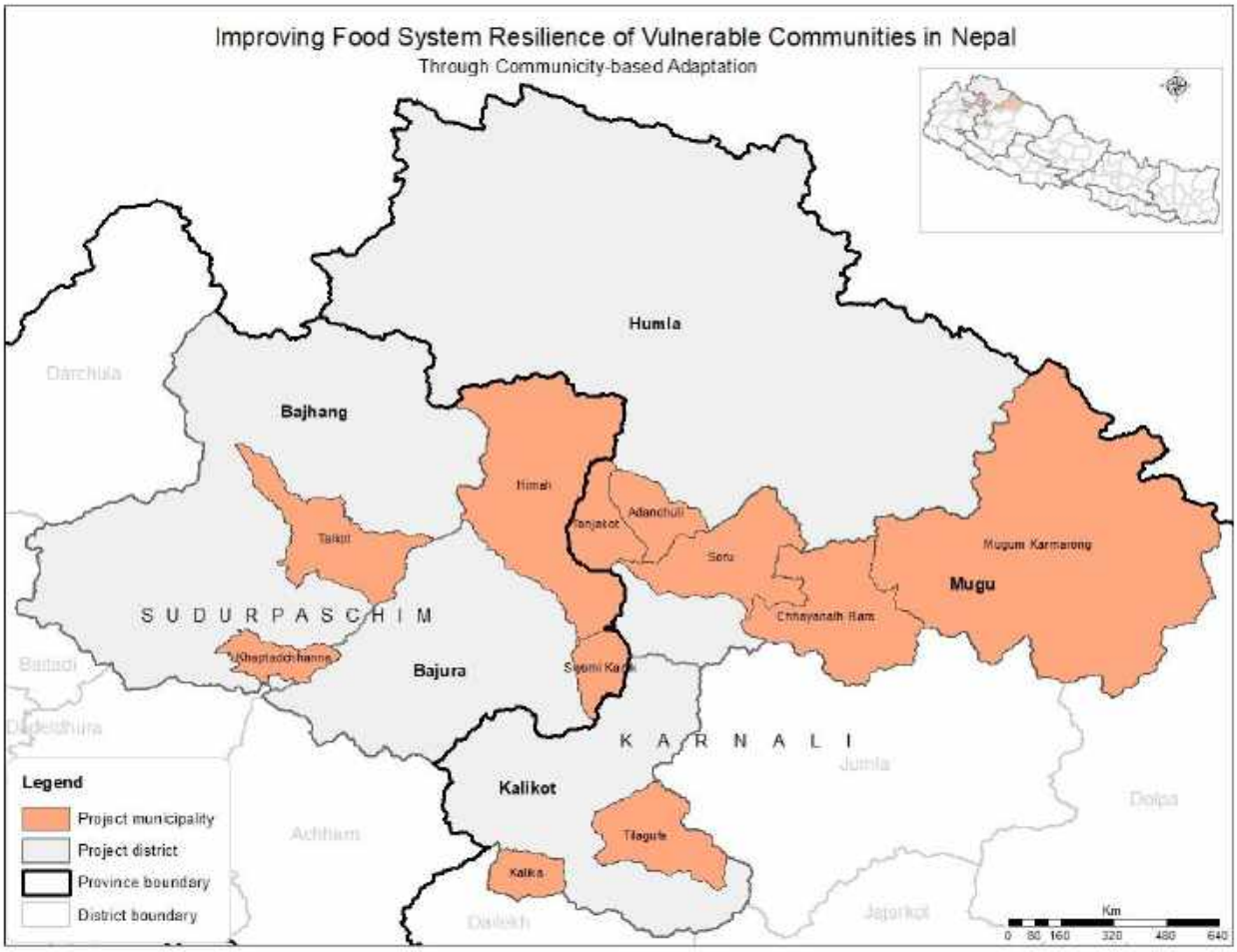


Figure 5: Project location map

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 per cent, 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 per cent 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 (%)
Kalikot	Tilagupha Municipality	1,500	7,703	49.4	50.6	0	48.2	43.8	8	2.4
	Shubhakalika Rural Municipality	1,300	6,483	48.2	51.8	0	51.1	40.3	8.6	3.2
Mugu	Chhayanath Rara Municipality	1,400	6,937	50.5	49.5	0	47.3	46.4	6.3	2.6
	Mugum Karmarong Rural Municipality	700	3,174	47.6	52.4	0	40.4	48.1	11.5	2
	Soru Rural Municipality	1,000	4,950	49.2	50.80	0	37.9	51.9	10.2	2.4
Humla	Adanchuli Rural Municipality	800	4,468	48.9	51.1	0	51.4	41	7.6	2.9
	Tajakot Rural Municipality	600	3,156	49.3	50.7	0	47.8	44.2	8	2.8
Bajura	Himali Rural Municipality	1,000	5,160	49.4	50.6	0	47.2	43.6	9.2	4.5
	Swamikartik Rural Municipality	1,200	6,389	48.9	51.1	0	49.2	41.6	9.2	2.5
Bajhang	Khapthad Chhanna Rural Municipality	1,500	6,489	44.9	55.1	0	45.8	41	13.2	3.2
	Talkot Rural Municipality	1,100	5,745	46.6	53.4	0	49.9	39.9	10.2	1.9
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.

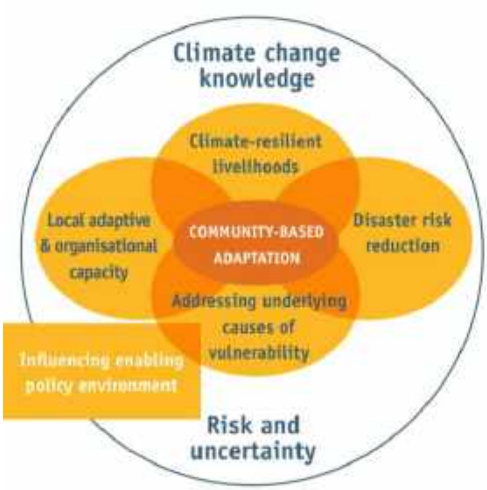
Project Objectives:

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
	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.	3,500,205
Component *2:* Climate governance	Outcome 3: Strengthened climate	Output 3.1: Capacities of key government institutions, local	673,245

Project/Programme Components	Expected outcomes	Expected Concrete Outputs	Amount (US$)
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.	governance and institutional system (policies, plans, institutions, and services) to sustain climate adaptation and disaster risk management actions.	stakeholders and last-mile communities increased to co-produce, deliver/disseminate, and utilize tailored climate information services.	
		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.	859,800
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 presented below:

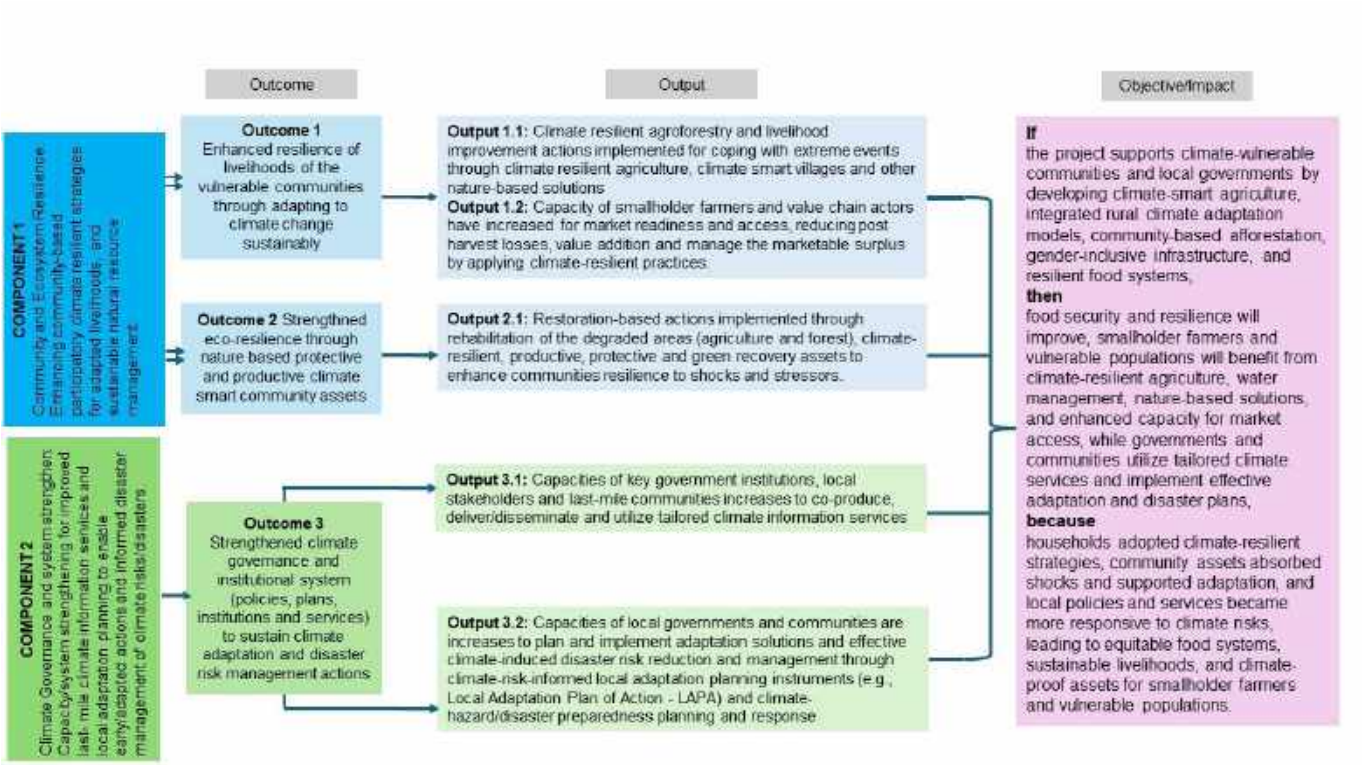


Fig: Theory of Change of this proposed project

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 per cent of Karnali's cultivable land has access to irrigation, with 53.3 per cent (15.8 per cent in Bajhang and Bajura)

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

having irrigation facilities in Sudurpashchim Province. The remaining cultivable land relies solely on seasonal irrigation[39]. Karnali and Sudurpashchim provinces possess 44 per cent and 56.9 per cent 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 for coping with extreme events through climate-resilient agriculture, climate-smart villages, and other nature-based

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

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 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 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 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.
2. Agroforestry: Establish climate-resilient agroforestry practices including medicinal and aromatic herbs, local seed production as a community enterprise, and leaseholds and community forestry to increase income and food availability.
3. Agro-advisories: Enhance communities' access to last-mile climate information and advisories.
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.

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 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:

1. 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 households to meet their basic food security and nutrition needs while creating resilient and productive community assets for long-term resilience. 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.
- 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.

2. 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, 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 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 and evidence-based 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.

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.

Social benefits

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.

This project builds upon the successful implementation of CAFS-Karnali from 2018-2022 in the Karnali province, demonstrating effective climate adaptation interventions. A key finding was the commendable delivering over 90% of the Adaptation Fund directly to local beneficiaries. This mechanism enhanced financial literacy and inclusion among vulnerable groups. The proposed project will adopt an on-budget, on-treasury model of Government of Nepal for execution of the project, streamlining the flow of funds from the federal to local government levels to enhance effectiveness. Top-up grants will be disbursed as part of local governments' regular budgets, incentivizing the integration of adaptation measures into local development plans. The government will maintain a separate account for this project and manage it through its existing financial system.

The project prioritizes replicable and cost-effective solutions, leveraging existing government services and administrative platforms. It emphasizes economy, efficiency, and effectiveness throughout the project cycle. Target districts face logistical challenges, hindering development support effectiveness. To address this, investments in physical assets like rainwater harvesting systems and markets will boost farm productivity and ensure water security. The project identifies high-value commodities and invests in skill development and local industries to capitalize on market opportunities. It aligns infrastructure development with climate adaptation, enhancing livelihoods and income. Community asset creation through cash-for-work programs ensures food security during lean periods and post-disaster recovery. The project enhances this model by linking food-for-assets benefits to concrete adaptation outcomes, addressing both short- and long-term needs and reducing household vulnerability to environmental and financial shocks.

The table provides an alternative analysis of the proposed project components.

Component	Tangible adaptation benefits	Alternative interventions
Component 1: Community and ecosystem resilience: Enhancing community-based participatory climate resilient strategies for adapted livelihoods, and sustainable natural resource management.	The project will enhance 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. It supports enhancing the community-led adaptation processes, integrated risk management, and development of resilient, and productive/protective community assets for resilience building thereby contributing to building the adaptive capacity of the ecosystem and livelihood. This component is strictly focused on improving the ecosystem services and the sustainable use of resources. It promotes the integrated model of rural climate change adaptation and nature-based solutions for resilience building whereby development supports a climate-smart village envisioned by Nepal's Nationally Determined Contribution. To reduce the dependency on the forest, the project intends to promote renewable energy technology as well. It reduces the environmental cost.	The level of poverty is high in the targeted area and climate change impact is high. The employment opportunities for the women and marginalized are minimal. The local community is living with the climate change impacts and adapting based on the level of financial, natural, and physical assets that they have within their community. The government has a very minimum budget allocation to address the impact of climate change that they are facing. The locals are practising community forestry management through the involvement of the community people; however, the need and utilization of the resources are high. The risk of flowing down the slope lands due to the frequent landslides and floods is high.
Component 2 Climate governance and system strengthening:	The project intervention will strengthen national and local capacities to utilize weather, climate, and hydrological information for short-term (informed	Availability and access to hydro-met information is a major gap which causes the damage of life, property and crops from unprecedented rain,

Capacity/system strengthening for improved last mile climate information services to enable early/adapted actions and risk-informed climate-induced disaster management	decision-making to minimize/manage the risk) and long-term (local adaptation planning) strategies. Strengthened local understanding of climate impacts on food systems and mainstream climate change adaptation into provincial and local level policies, plans, and programmes. Local governments' livelihoods and climate change-related policy frameworks and services are more stable and reliable and respond to shocks and stressors	and extreme events. The awareness level regarding the understanding of the climate impacts and its effects on the food system is low. The local government is not allocating and disseminating the resources in those priority areas due to limited resources.

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 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 (2024-2028) has included climate change adaptation and resilience building as one of the important programme priorities under SO 3: – "Smallholder farmers and climate

(CSP)	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 Local Adaptation Plan of Action (LAPA), 2019	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 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 comply with the Environmental and Social Policy of the Adaptation Fund. All activities will adhere to the Environmental and Social Principles of the Fund. It will also adhere to WFP's Environmental and Social Safeguards 2019, which aims to enhance the sustainable benefits of UN work and avoid unnecessary harm to the environment and affected communities. The project will strictly adhere to the Nepal Government's regulatory requirements for environmental and social protection during implementation. As the project is in a critical ecosystem or a buzzer zone area of the protected areas, the project will follow the national standards and law before the implementation of the project especially while constructing the community infrastructure. It will also follow gender-related legislation and policies for a gender-responsive agenda. The project will follow the WFP's gender policy from concept design to the project evaluation phase.

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 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 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.

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.	• 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.	• 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.	• 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 a strong and collaborative working relationship with the Ministry of Forests and Environment (MoFE) – DA for AF, and the Ministry of Agriculture and Livestock Development (MoALD) in Nepal. WFP has closely partnered with both ministries to actively contribute to the achievement of food security, promotion of sustainable agriculture, and addressing the adverse impacts of climate change. WFP, as a multilateral implementing entity, implemented the AF national projects in collaboration with MoFE, the Designated Authority for the AF. The GoN, particularly the MoFE, has recognized and appreciated the successful completion of a recent Adaptation Fund (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 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 expressed its endorsement of WFP to continue to be the MIE of the second phase of AF through the submission of the project proposal.

WFP has actively participated in Nepal's climate change policy formulation and priority-setting discussions, ensuring alignment with national and sectoral priorities. The project directly contributes to the mission of Nepal's Climate Change Policy by addressing climate change impacts and improving livelihoods.

Consultations with federal, provincial, and local governments during the concept note phase explored opportunities for their co-financing to strengthen disaster management and resilient food security. The Ministry of Forests and Environment (MoFE) is keen on sustaining partnerships with WFP in climate change and food security sectors, actively engaging in project design and formulation.

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. Affirmative actions such as equal labour pay for women and men, direct payments through banks, and the introduction of renewable energy-based systems to support women-led enterprises were adopted, significantly contributing to the economic and social empowerment of women. The new 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 design will acknowledge the need for continuous GEWE assessments to enhance benefits for marginalized groups and recommend conducting gender assessments 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. Please see attached the summary of the community consultation in Annex 1.

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, community people were consulted to collect their opinions on the previous intervention and future need to reduce climate change vulnerability. 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 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 per cent of the rural population are multi-dimensional poverty index poor as compared with 12.3 per cent in urban areas. The multi-dimensional poverty is mainly concentrated in The Karnali, Sudurpashchim and Madhesh Provinces40. 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 per cent of the greenhouse gas emission globally41). 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.

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 budgeting42. 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 per cent of the total national budget due to limited public fiscal space43. 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 203044. 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 per cent 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

[40] Government of Nepal, National Planning Commission, 2021: Multidimensional Poverty Index: Analysis towards Action
[41] Ministry of Forest and Environment, 2021, Third National Communication Report to the UNFCCC.
[42] MoF, 2017. Climate Change Financing Framework
[43] ibid
[44] Nepal's Status Paper for Conference of Parties (COP 26) 2021

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 Ministry of Forests and Environment (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.

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's involvement in climate-resilient infrastructure development extends beyond mere construction. It emphasizes the broader concept of green recovery, which encompasses both productive and protective assets aimed at enhancing resilience to climate change. This approach, known as the Green, Resilience, and Inclusive Development (GRID) approach, is a collaborative endeavour between WFP, the UK Government, and Nepal's government. Through initiatives like the Local Infrastructure Support Programme (LISP), WFP actively engages with selected Local Governments in Karnali Province to fortify ecosystem and community resilience. LISP focuses on implementing nature-

based protective measures and climate-smart infrastructure to mitigate the adverse impacts of climate change on livelihoods. By integrating green recovery elements, such as the creation of green recovery jobs and the strengthening of systems, WFP ensures that its interventions not only address immediate challenges but also lay the groundwork for sustainable, long-term resilience. This comprehensive strategy aims to build a climate-resilient society that can withstand future climate-related shocks and stresses. WFP's successful initiatives in Karnali Province serve as a blueprint for replication and cooperation on a wider scale. The knowledge gained from these projects is invaluable for informing future endeavours and promoting knowledge exchange through south-south and triangular cooperation. By sharing experiences, best practices, and evidence-based insights, WFP strengthens its capacity at the country level and contributes to transformative change initiatives globally. In addition to its operational expertise, WFP brings extensive experience in addressing food security, agricultural development, climate change adaptation, and disaster risk reduction in remote mountainous regions. Accredited by the Adaptation Fund (AF) since 2010, WFP has mobilized a total of USD 133 million in funds from AF across 14 countries, leveraging its strong ground presence and diverse expertise in vulnerability assessment, engineering, and climate-resilient livelihoods. Within Nepal, WFP's involvement in the first Adaptation Fund project in Karnali Province, along with thematic assessments like the Consolidated Livelihood Exercise for Analyzing Resilience (CLEAR) and Climate Risk studies, has provided valuable insights into the local context. This deep understanding informs the design and implementation of future projects, ensuring their relevance and effectiveness in addressing climate-related challenges. Collaborating closely with the Government of Nepal, WFP has successfully implemented climate change adaptation activities in the western hills and mountains. As the lead agency for environmental sustainability and climate resilience within Nepal's UN Sustainable Development Cooperation Framework, WFP plays a pivotal role in steering adaptation and disaster risk reduction interventions. Leveraging lessons learned from past AF-funded projects, WFP is well-equipped to effectively design and implement the second phase of the project, enhancing efficiency and effectiveness. Furthermore, the Ministry of Forests and Environment (MoFE) has a legacy of implementing climate change adaptation projects, such as the Nepal Climate Change Support Programme (NCCSP) and Adaptation for Smallholders in Hilly Areas (ASHA). With strong government ownership and collaborative partnerships with ministries like MoFE and the Ministry of Agriculture and Livestock Development (MoALD), these projects further contribute to building climate resilience in Nepal.

Furthermore, the GoN, particularly the MoFE, has recognized and appreciated the successful completion of a recent Adaptation Fund (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 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. Past experiences, particularly from CAFS Karnali, have laid the groundwork and established protocols for effective handover to the community or local government.

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 proposal prioritizes environmental and social sustainability, aiming to mitigate adverse impacts on project beneficiaries. It promotes inclusivity, ensuring gender, ethnicity, and economic equality. Three 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. 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 Groups		**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 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	**X**	**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. The largest ethnic group in Karnali is the Chhetri, followed by the Kami, Magar, Thakuri, Hill Brahmin, Damai, Sarki, and Sanyasi. In Sudurpaschim Province, the Chhetri are also the largest group, with other significant groups including the Tharu, Hill Brahmin, Kami, Thakuri, Damai, Magar, Sarki, Lohar, and Sanyasi. The project will ensure that all ethnic groups benefit equitably from the activities also incorporating their practices in the project...

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

A. 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. Percentage of targeted population applying appropriate adaptation responses	8,341,090.00
		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	
		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	
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Outcome 1: Enhanced resilience of livelihoods of the vulnerable communities through adapting to climate change sustainably.	-Climate Adaptation Benefit Score -Proportion of people engaged in Income generating activities (IGA) as a result of skills development training	**Output 6:** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies 6.2.1. Type of income sources for households generated under climate change scenarios	3,307,840.00
Outcome 2: Strengthened climate resilience of ecosystems through nature-based protective and climate-smart community assets and restoration of natural ecosystems.	- Percentage of the population in targeted communities benefitting from an enhanced livelihood asset -Proportion of the population in targeted communities reporting environmental benefits	**Output 4:** Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale). 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale).	3,500,205.00
Outcome 3: Strengthened climate governance	- Number of national policies, strategies, programmes and other	**Output 7:** Improved integration of climate-resilience strategies into	7.1. No. of policies introduced or adjusted to address climate change risks (by sector).	1,533,045.00

and institutional system (policies, plans, institutions and services) to sustain climate adaptation and disaster risk management actions.	system components contributing to zero hunger and other SDGs enhanced with WFP capacity strengthening support - Number of Enhanced 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.	country development plans.	7.2. No. of targeted development strategies with incorporated climate change priorities enforced.	

B. 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, 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.

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

B. Implementing Entity certification

for.

Name & Signature Implementing Entity Coordinator: Mr. Robert Kasca Representative and Country Director WFP Nepal	 Niels Balzer, DCD and OiC.
Date: *05 September 2024*	Tel. and email: +977 5260607/5260316; 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 01-5260607; krishna.jogi@wfp.org	

Annex 1: Summary of the community consultations

Date	Place	Participants	Primary Livelihood and Other Income Sources	Major Agricultural Practices and Patterns	Significant Environmental and Social Challenges	Detailed Perceived Impacts of Climate Change	Specific Support Needed from External Agencies	Coping Mechanisms and Strategies	Community Recommendations
3.4.2024	District: Kalikot, Subhakalika Rural Municipality Ward # 5, Sukatiya, Khatyawada, Adhikari wada	Total participants: 20 Female: 11 Male: 9 Elderly people (59+)- 2	Agriculture (rice, wheat, millet, maize), Seasonal migration for work, small businesses, Shops	Farming of rice, wheat, millet, maize; Cultivation of fruits (oranges, apples); No use of nutritious feeds for livestock	Water scarcity, Crop production decrease, Extinction of Indigenous crops, social marginalization	Severe droughts, Changes in snowfall and rainfall patterns, Soil erosion, new crop diseases	Construction of community infrastructure, Water source reclamation, Support for crop diversification	Cultivating hybrid varieties, Radio jingles for climate disaster awareness	Support for off seasonal and commercial farming, Rainwater harvesting, Vocational training
5.4.2024	District: Mugu, Chhayanath Rara Municipality Ward # 3, Tali Tuma	Total: 39 Female: 23 Male: 16 Elderly People (59+): 5	Agriculture (rice, millet, beans), Livestock (sheep, goats, cows), Selling vegetables, Masonry, Seasonal migration	Cultivation of Darmi, Juge, Jaau, Khacche; Only farm-based fertilizers used; Increasing use of insecticides	Introduction of new crop diseases, Deforestation, Waste management issues, Gender discrimination, Wage differences	Low agricultural yields due to altered rainfall and snowfall, Increasing droughts, Landslides	Reconstruction of irrigation canals, Climate information management systems	Trying new crop varieties, Wait and watch for favorable conditions	Irrigation facilities, Greenhouses, Skill-based training, Eco-tourism promotion

Date	Place	Participants	Primary Livelihood and Other Income Sources	Major Agricultural Practices and Patterns	Significant Environmental and Social Challenges	Detailed Perceived Impacts of Climate Change	Specific Support Needed from External Agencies	Coping Mechanisms and Strategies	Community Recommendations
7.4.2024	District: Humla, Tajakot Rural Municipality, ward #4, Paniwada, Kharra, Pataniwada, Utteseti, Okhareta, Dopke, Nayabasti, Kawla	Total: 92 Female: 47 Male: 45 Elderly People (59+): 1	Agriculture (rice, millet, wheat, maize), Seasonal Migration to India, Wage labour, Local carpet weaving	Only farm-based fertilizers; No other manure or insecticides used; Cultivation of various vegetables	Landslides, Irrigation problems, Decreasing pastureland, Less production from indigenous crops	Changes in snowfall and rainfall patterns, Rapid drying of water sources, Increased floods and landslides	Managed water sources, Drinking water systems, Weaving machine supply, Early warning systems	Wait and watch for favorable conditions, No specific coping mechanisms	Livestock management training, Income generating activities, Marketization of products
8.5.2024	District: Bajhang, Talkot Rural Municipality, ward #6, Gaitola Keutal Gaon	Total: 40, Female:16, Male 24, Elderly People (59+): 8, PWD: 1	Agriculture (wheat, maize, millet, Barley, rice, buckwheat), Livestock (cow, buffalos, Goat) Seasonal Migration to India; Dalits due to less land practice bali pratha (exchange of crops with occupational products such as metal products)	Farm-based fertilizers, no chemical fertilizers, no new crop varieties used	Landslide, drought, hailstorm, flood, increasing temperature, increasing pest in crops and vegetables	Low agricultural yields due to altered rainfall and snowfall, drying water sources	New agriculture practices in changing weather patterns, Irrigation facilities, water source protection and management, pest management techniques, soil testing for better agriculture production,	Depends on weather conditions, Radio messaging however, sometimes prediction does not work so rely on sky for possible rain, seasonal migration to India (whole family) for daily wages	New techniques on agriculture practices, Irrigation facilities, water source protection and management, pest management techniques, soil test, Influence Local Government to provide support protecting water source

Date	Place	Participants	Primary Livelihood and Other Income Sources	Major Agricultural Practices and Patterns	Significant Environmental and Social Challenges	Detailed Perceived Impacts of Climate Change	Specific Support Needed from External Agencies	Coping Mechanisms and Strategies	Community Recommendations
9.5.2024	District: Bajhang, Khaptadchhanna Rural Municipality, ward # 4, Baaskatiya tole	Total: 30 Female:18, Male 30, Elderly People (59+): 3, PWD: 1	Agriculture (paddy, wheat, maize, vegetables), livestock (cow, buffalos, Goat), wage labourers	Seasonal agriculture practices, farming depending on rain, farm-based fertilizers	Flood, landslide, earthquake, flood, drought	Change in rain patterns, increasing pest in vegetables and crops, farming patterns, rise in temperature, no/less snowfall, decreased in river discharge	water source protection, pest management, protection and supply of drinking water, sanitation, agri-based support, irrigation system	Depends on weather patterns, wage labour, seasonal migration to India	pest management, modern agriculture technology, protection of water source, drinking water and sanitation facilities, irritation facilities, prevalent Gender-based violence at the household level and never reported to concerned authorities although aware of reporting to police.