ADAPTATION FUND

DATE OF RECEIPT:
ADAPTATION FUND PROJECT/PROGRAM ID:

(For Adaptation Fund Board Secretariat Use Only)

PROJECT/PROGRAMME PROPOSAL

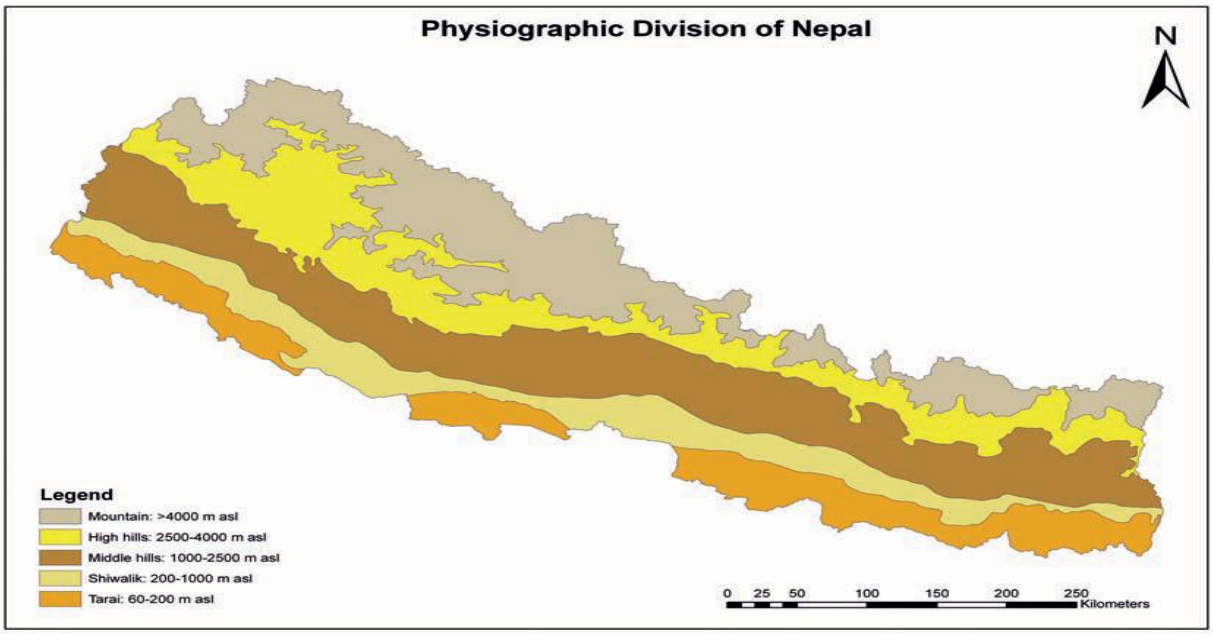
PART I: PROJECT/PROGRAMME INFORMATION

PROJECT/PROGRAM CATEGORY:	PROJECT
COUNTRY/IES:	**NEPAL**
SECTOR/S:	**FOOD SECURITY AND AGRICULTURE**
TITLE OF PROJECT/PROGRAM:	**ADAPTING TO CLIMATE INDUCED THREATS TO FOOD PRODUCTION AND FOOD SECURITY IN THE KARNALI REGION OF NEPAL**
TYPE OF IMPLEMENTING ENTITY:	MULTILATERAL IMPLEMENTING ENTITY
IMPLEMENTING ENTITY:	WORLD FOOD PROGRAM
EXECUTING ENTITY/IES:	MINISTRY OF ENVIRONMENT, SCIENCE AND TECHNOLOGY MINISTRY OF FEDERAL AFFAIRS AND LOCAL DEVELOPMENT
AMOUNT OF FINANCING REQUESTED:	**USD 9,473,637 (over 3 years)**

PROJECT BACKGROUND AND CONTEXT:

Nepal is a landlocked country straddling the Himalayas and Tibetan plateau to the north and the dry Indian plains to the South. Its 147,181 square kilometres of land contain immense geophysical and ethnic diversity.

Based on elevation, geology and terrain the country is divided in to five physiographic regions (figure below). On average it extends 885 kilometres east-west and 193 south-north direction. Altitudinal variation across this 193km is vast; from an average of 80m in the southern plains or Tarai to 8,848 in the northern High Himalayas. The Tarai plains occupy around 17% of the land, the hills around 68% and the high mountains around 15%.[1]



Administratively Nepal is divided into five development regions, 14 zones and 75 districts. In these 75 districts, there are 58 Municipalities and 3,915 Village Development Committees.

Nepal's population of 27 million is ethnically diverse. The major ethnic groups are mosaics of people originating from Indo-Aryan and Tibeto-Burmese races. Two major religions, Hinduism and Buddhism have molded the country's cultural landscape. The population growth rate is over 2.2%, while life expectancy is about 63 years and literacy is around 65%.

Nepal's economy is largely agricultural. Over 80% of the population is engaged in agriculture[2]. However, farming practice is largely at subsistence-level, without advanced technology or markets. Agriculture (33%) and services (39%) are the largest contributors to GDP.

Nepal has made considerable progress towards eradicating poverty in the last 15 years. The poverty rate was 25.2% percent in 2010-11 compared with 41.2%.[3] However, while Nepal is

[1] Marasini Prasad, Sambhu. Country Paper on Disaster Risk Reduction in Nepal, Asian Disaster Reduction Centre, 2008

[2] National Adaptation Program of Action to Climate Change. Ministry of Environment, Science and Technology, Government of Nepal 2010

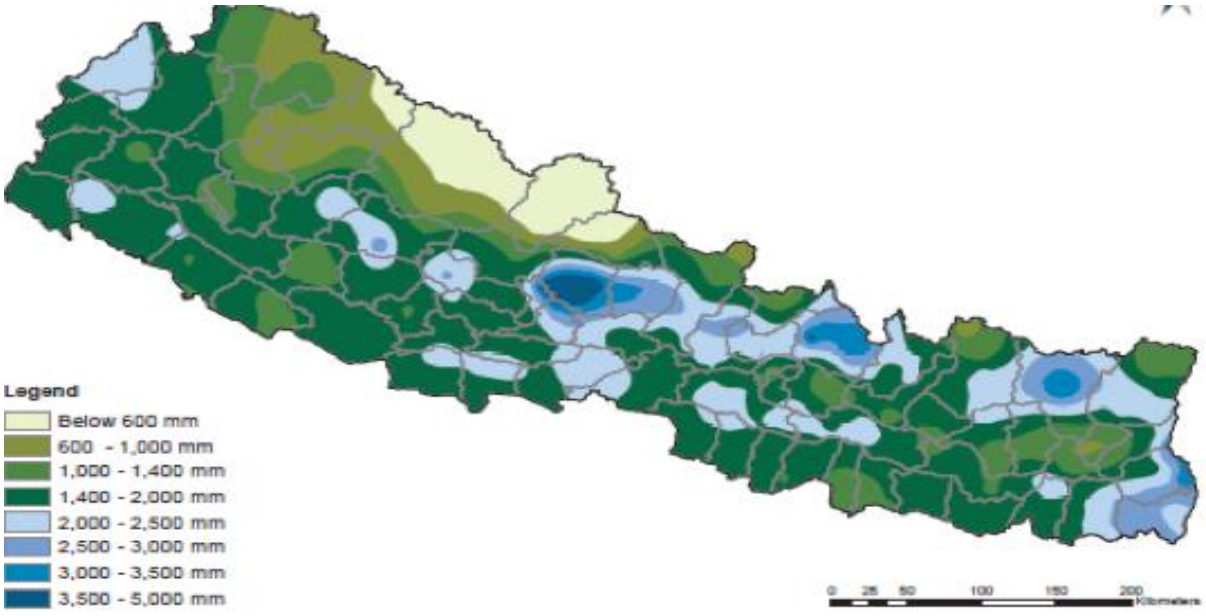
[3] Nepal Living Standard Survey NLSS-111 2010-2011

on track to achieve many of its Millennium Development Goals targets by 2015, it remains one of the poorest countries in the world. The country is categorized as 'least developed' ranking at 157 out of 187 countries in UNDP's human development index. Per capita income is less than US$ 650.[4] A combination of several shocks and crises, including political instability, limited economic growth, high prices and frequent natural disasters combine to keep a quarter of Nepal's population under the poverty line.

Nepal's fragile geology and steep topography makes it one of the most disaster prone countries in world. Flood, landslide, earthquake, GLOF (glacial lake outburst floods) and drought are the most common natural hazards; while regular epidemics, fire, accidents also contribute to its disaster-proneness.

Climate and Climate Change in Nepal

Nepal's climate is influenced by the South Asian monsoon and the country has four distinct seasons: pre-monsoon (March-May) monsoon (June to September) post monsoon (October-November) and winter (December to February). Average rainfall is 1,856 mm, however there is considerable variation across the country. Monsoon rainfall is highest in the eastern flank and gradually declines westwards of the country. Winter rainfall on the other hand is higher on the north western side and declines eastwards. Annually, the heaviest rainfall is received in the mid hills around Pokhara and northeast and east of Kathmandu Valley[5].



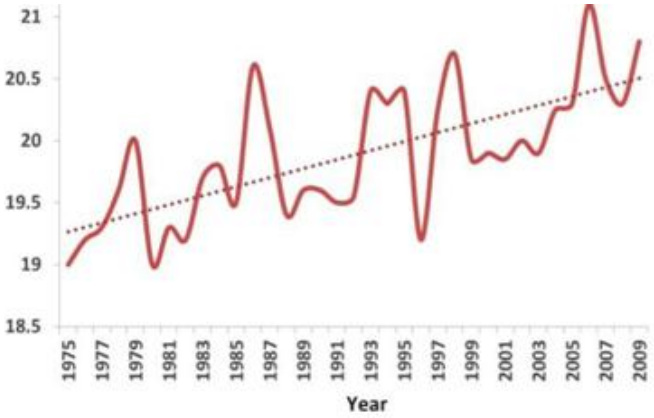
Mean Annual Precipitation

Temperature varies with altitude and season. In the Tarai plains, a sub-tropical and sub-humid climate is found, with summer temperature's climbing to highs of 45 °C. In the middle hills, warm temperatures are prevalent for most parts of the year, but reaching 0°C in winter. In the mountains it is chilly all the year round with below freezing temperatures in winter.

[4] World Bank Country Overview 2012
[5] Practical Action 2009

General circulation models (GCM) and regional circulation models (RCM) both point to a warming trend across Nepal. One study[6] based on the analysis of temperature trends from 1977 to 1994 in 49 meteorological stations indicates a warming trend of 0.06°C per year. A more recent study by Practical Action in Nepal (2009), using data from 45 weather stations for 1996-2005, shows a consistent and continuous rise in maximum temperature. Studies indicate that the warming trend is spatially variable and temperature rise is more evident in the higher altitudes.

According to global models, temperature in Nepal is expected to increase by 1.2°C by 2030 compared to the 2000 baseline, while regional models project a temperature increase of around 1.4°C in the same period. In general, it is agreed that higher temperatures are expected during the winter season, especially in the far western region.



Mean Temperature Trends 1975-2009

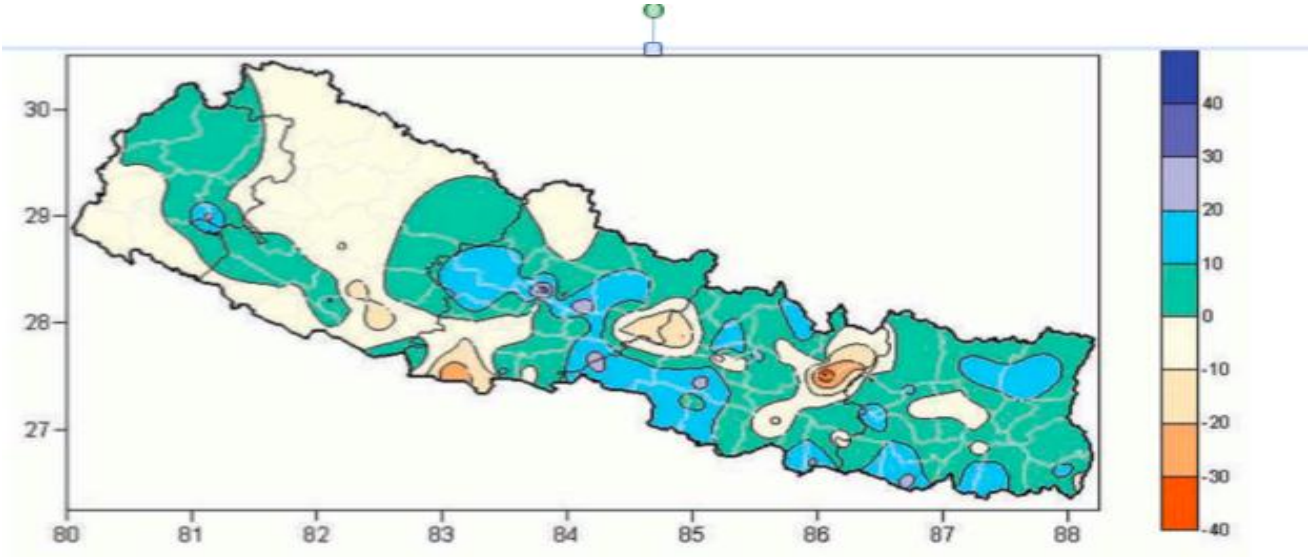
Overall temperatures have increased by around 0.04 degrees Celsius in Nepal over the period 1975-2009. *This trend is not uniform across the year or across the country. The majority of this increase has taken place during the dry season (December through March), especially in the* **Himalayan regions, where average annual temperature has increased by 0.06 °C since 1970.**

Source: McSweeney et al., 2010; DHM, 2010

Himalayan glacial melt and retreat have been well documented. 15 GLOF (Glacial Lake Outburst Flood) events are recorded, the most recent being in 1985 in Dig Tsho lake in the headwaters of Koshi River. The potential damage caused by such disasters to human lives, homes, and infrastructure can be immense.[7]

The inter-annual variation of rainfall, especially the monsoon rains, is large, and this makes it difficult to draw conclusions about long-term changes of rainfall in the country. At the same time, pre-monsoon rains (March-April) show a generally increasing trend across the country except for some pockets in the western, central and eastern regions. Monsoon precipitation (June to August) shows a general decreasing trend in the mid-western and southern part of western region. Post monsoon (October-November) rainfall show a generally increasing trend in these regions and also in southern parts of eastern and central Nepal. Winter precipitation shows a generally increasing trend, except for northern mountainous areas of mid-western, western and eastern Nepal.

[6] Shrestha et al 1999
[7] Ives 2009



Annual Rainfall Trends

Source: Temporal and Spatial Variability of Climate Change Over Nepal (1975-2005) Practical Action Nepal 2009

There have been a number of studies and surveys on local perceptions and observations of climate change. In an annex to the NAPA describing the Transect Appraisal on location specific perceived changes in climate change or variability, local communities speak of increased day and night-time temperature, an upward shift of agro-climatic zones, and changes in precipitation in terms of timing, duration, intensity and form.

Projected Climate Change for Nepal

Temperature: The results of an OECD study[8] using General Circulation Models (GCM) run with the SRES B2 scenario show a mean annual temperature increase of an average 1.2°C by 2030, 1.7°C by 2050 and 3°C by 2100 compared to the pre-2000 baseline. A similar study by NCVST in 2009 using GCM and regional circulation models (RCM) projects a higher annual temperature rise - 1.4°C by 2030, 2.8°C by 2060 and 4.7°C by 2090. Both projections show a higher temperature increase during winter compared to the monsoon months. In terms of spatial distribution, the NCVST study shows a higher increase in temperature over western and central Nepal, with the highest over western Nepal.

Precipitation: OECD projections for precipitation are similar to those presented by the IPCC (2007) and predict a general increase. In winter, the models predict less precipitation for western Nepal and 5-10% increase for eastern Nepal. Over the summer or monsoon months however, the models project an increase in precipitation for the entire country in the range of 15-20%, though much less for Western Nepal. The NCVST study finds an increase in the monsoon and post monsoon rainfall for most parts of the country and a decrease in winter rainfall. Spatially, eastern and central Nepal are projected to experience greater precipitation than western Nepal. Nepal is increasingly experiencing changes in precipitation in terms of intensity, timing and form. The monsoon is often delayed; intensity of rainfall has increased while duration is shorter; and the form of precipitation (rain, snow, sleet, etc.) is changing. Therefore, evidence of climate change is not only manifested as ***increased variability*** but also increased ***uncertainty*** and reduced reliability. As a result, livelihood systems of this largely agricultural country are adversely impacted by crop damage, infrastructure damage and outbreak and infestation of pests and diseases in both animals and plants.

[8] OECD 2003

Poverty, Food Security and the Particular Vulnerability of Women in the Western Hill Area of Nepal (the Proposed Project Area)

Nepal's population is predominantly rural with over 80% engaged in agriculture. Larger numbers of the rural, agricultural population are poorer than their urban counterparts. The poverty level is much higher in rural areas than in urban areas (27.4% compared to 11%).[9] And in rural areas there is a high spatial variation. ***Poverty is highest in the mountains (42%) and the rural hills of the far and mid-western region (36.8%). These areas are developmentally challenged because of their remoteness and difficulties in access.*** Poverty is also correlated with household size and number of young children. Poverty is high among dalits[10] (who have larger families and are caste-discriminated) than non dalits. Most tellingly, poverty rates fall drastically for households with over one hectare of agricultural land. Poverty is also strongly linked to access to public services such as schools, hospitals and health posts, paved roads, bazaars and markets and banks.

Foreign remittances have become a main source of income for rural families, especially in the mid- and high hills. Migration for labor (mostly unskilled) is seasonal, covering the lean rainfall months, as well as semi-permanent. The largest destination for migration is India, however some poor people travel to the Middle East or Southeast Asia.[11]

WFP estimates that 15 per cent of the population is food-insecure. Malnutrition rates in Nepal are very high: the prevalence of stunting is 41 per cent amongst children below five years of age, 29 per cent are underweight, and 11 per cent of children are wasted, a figure that has remained the same since 1996.

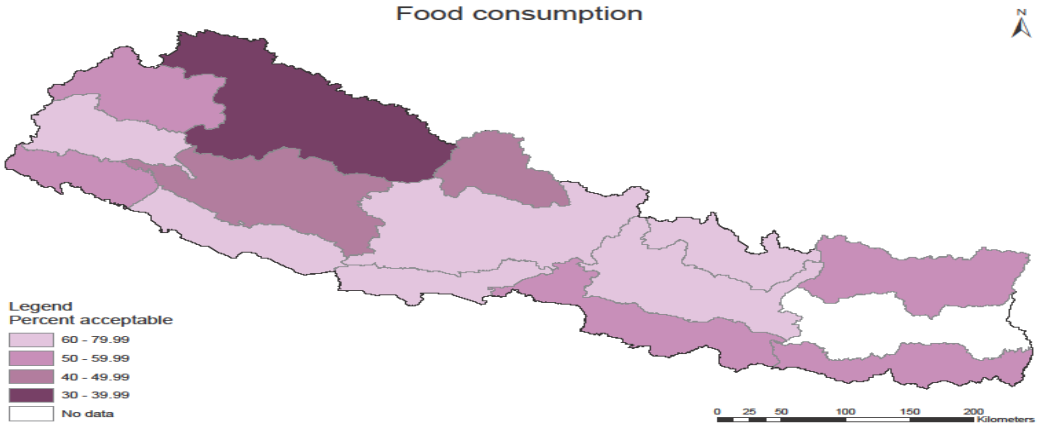
Until 1990, Nepal produced sufficient food for its population. Since then, however, population growth has outpaced food production. Adverse weather conditions and natural disasters undermined advances in production, especially in the late 1990s[12]. In recent years, natural disasters, high food prices and stagnant economic growth have resulted in increased food insecurity of the country's most vulnerable groups. ***The worst impacts are felt in the far and mid-western hills and mountains.***

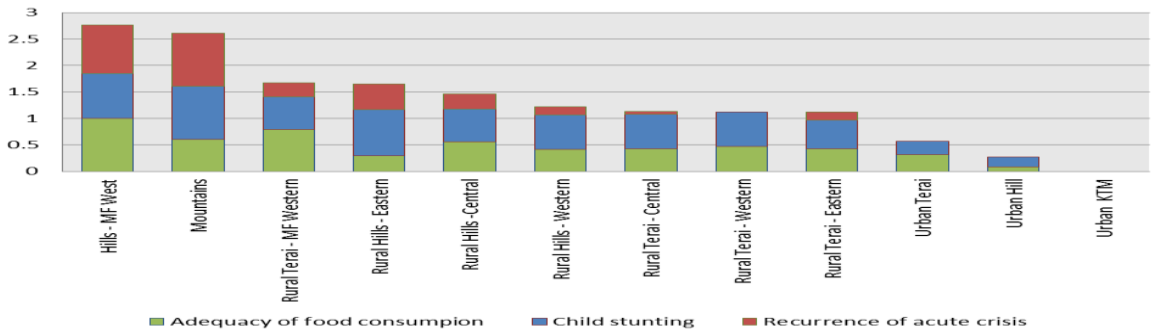
Nepal's three ecological regions have differing levels of food availability and utilization. In the hills and mountains, lack of arable land, roads and markets restrict food availability causing widespread food deficits. ***Food deficits are especially pronounced in the remote western and far-western regions where there is the highest prevalence of hunger (and where the hunger index points to an 'extremely alarming' situation). Indeed, the mid-western mountains of Nepal ranked last in a comparative assessment of hunger (Global Hunger Index) in 88 countries in 2008 (with Nepal as a whole ranking 57 from the top)***

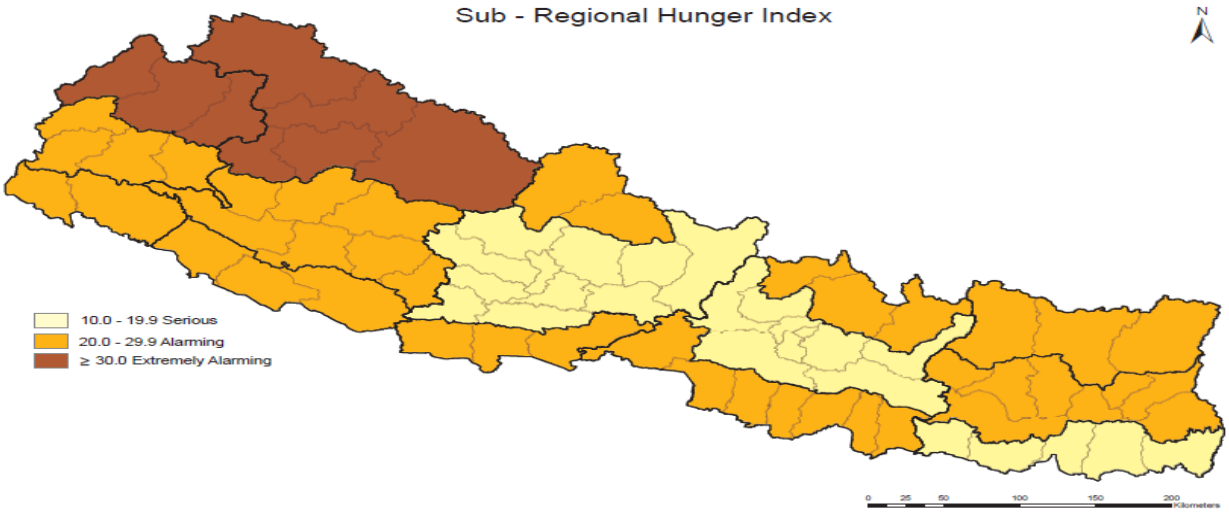
Non-climatic Aspects of Food Insecurity in Nepal: 1. **Food Access**: ability of a household to acquire enough food to meet minimum consumption needs is compromised by low production, disasters, and purchasing power and food stocks. To cope, families generally barter, borrow, out-migrate for employment or look to external food assistance 2. **Food Utilization**: Selection, preparation and food distribution in households is affected by socio-cultural factors such as gender biases even in food supply such as discriminatory feeding favoring male over the women. 3. **Hunge**r: is most directly caused by inadequate food intake manifest in under nourishment and low birth weight and stunting in children.

[9] Nepal Living Standard Survey NLSS-111 2010-2011
[10] A scheduled caste
[11] Passage to India: Migration as a coping strategy in times of crisis in Nepal. World Food Program 2008
[12] WFP Food Security Atlas

Index of Food Consumption, Under-nutrition and Recurrence of Acute Crisis



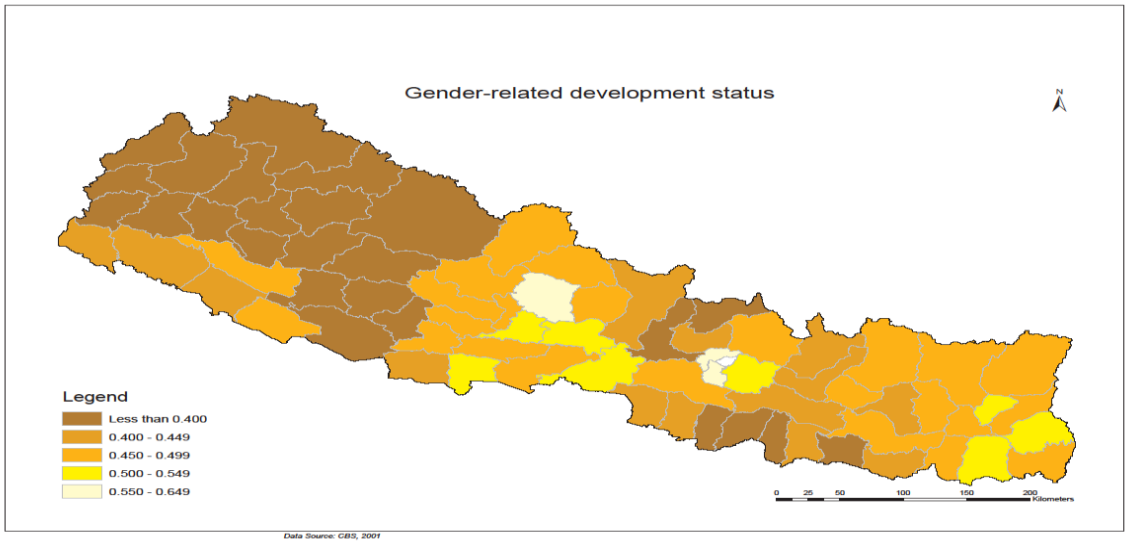




The map above shows the hunger rates in the different regions of Nepal using IFPRI's global hunger index. The results show that the most vulnerable and food insecure communities live in the Western Himalayan region of Nepal. The Global Hunger Index is calculated by combining three factors: (i) proportion of population undernourished, (ii) prevalence of underweight in children under the age of 5, and (iii) mortality rate in children under 5. A higher index score indicates higher hunger risk (IFPRI, 2008). Sources: IFPRI, 2008; WFP and NDRI, 2010

Nepal's Gender Development Index is 0.545, and it places 119 from the top of 155 countries in a global ranking. The gender disparity is more pronounced in rural than urban areas and is manifested in poor access to education, health care and income earning opportunities. ***Districts in the far and mid-west rank the lowest in GDI values.***

Due to cultural and other ingrained practices, women have limited control over household decision-making, but primary responsibility for childcare, agricultural activities and domestic chores such as fetching water. Employment opportunities for women are limited outside of subsistence agriculture. In the country as a whole, 71% of economically active females engage in unpaid agricultural labor and only 6% of them work in non-agricultural sector compared to 21% of men. [13] Women are also discriminated in labor wages, with men earning substantially more for both skilled and unskilled labor.[14] There is general under-valuing of their education and access to health care. As a result, women are more vulnerable during periods of food. Their most common coping is to reduce food intake, -and this in an environment in which women already eat last in a household and generally suffer from low body mass, and often anemia.



The status of women with regard to employment, health, life expectancy and education is the lowest in the hills and mountains of the far and mid-west (see figure above using the GDI, where the average for the country is 0.545). ***The highest prevalence of female-headed households is found in far and mid-western Nepal, caused by out-migration of male members in search of employment.***

Climate Related Impacts on Food Production, Food Security and Livelihoods in Nepal and the Project Area (the Western Karnali Zone)

Nepal's food security is highly sensitive to climate change and climatic shocks.[15] Data from the Central Bureau of Statistics (CBS) show that over the last decade around 31,000 ha of land owned by some 5% of all households, have become uncultivable due to climate related hazards, mostly drought, landslide and flood. In the eastern Tarai unusually low rains in

[13] Ten years and above
[14] Food Security Atlas of Nepal. WFP and GoN 2010
[15] Krishna Krishnamurthy et al: Climate Risk and Food Security in Nepal: Analysis of Climate Risk on Food Security Components 2012. WFP and CGIAR

2005-2006 associated with early monsoon resulted in crop losses of almost 30%.[16] The cold wave of 1997/1998 also had negative impacts on agricultural productivity resulting in losses of up to 38% in chickpeas and lentils and 28% in potato.[17]

A decline in rainfall from November to April has affected winter and spring crops. Wheat and barley are particularly susceptible to winter precipitation. ***Under a lower winter rainfall regime the western parts of Nepal are experiencing declines in wheat and barley yields, and this is exacerbating food insecurity and poverty.***

Climatic trends are expected to have an impact on all aspects of production and food security in Nepal. This includes crop production, seasonal variability of production, food availability, and food prices (especially of staples and livestock) .[18] In terms of food security-aspects such diet quality, calorific intake, seasonality of food consumption could all be impacted by climate-related food prices and production related availability.

According to a recent CGIAR study (see below), rural livelihoods as a whole are particularly vulnerable to climatic changes and shocks. This includes farming, cash cropping, herding and farm laboring. And income has a strong co-relation to food security and food consumption. The combination of low productivity in agriculture and higher food prices due to climate related stresses could undermine gains in poverty reduction and nutrition.

Income source	Climate sensitivity
Cash crops/livestock	Changes in rainfall patterns are expected to decrease both the quantity and quality of water available for crop and livestock production, resulting in lower quality crop yields, as well as lower livestock, meat and milk quality.
Own farm/forest	Agriculture in Nepal might be affected by erratic rainfall patterns, which could reduce growing season and yields.
Agriculture labourer	Agricultural labour is likely to be affected by seasonal and long-term changes in rainfall patterns. Labour availability under climate change is likely to become unpredictable, potentially lowering income for agricultural labourers.

Source: Climate Risk and Food Security in Nepal 2012, WFP and CGIAR

Nepal's mid-western mountainous sub-region, the Karnali, is expected to experience the worst poverty and food security impacts of climate change. At one time the area's location on the trade route between Nepal and Tibet ensured prosperity, when salt from the high Tibetan lakes was traded for grain from Nepal. However, this trade collapsed in the 1970s and low productivity due to climatic factors (mostly drought) and conflict have left the region in poverty.

The area is comprised of five districts- Humla, Jumla, Dolpa, Mugu and Kalikot. Named after the Karnali river, which originates from the Himalayan districts of Mugu and Humla and eventually flows into the Indian Ganges River, it is bordered by Tibet (China), and defined by its mountainous terrain, highly variable precipitation, and high prevalence of natural

[16] Krishna Krishnamurthy et al: Climate Risk and Food Security in Nepal: Analysis of Climate Risk on Food Security Components 2012. WFP and CGIAR

[17] Krishna Krishnamurthy et al: Climate Risk and Food Security in Nepal: Analysis of Climate Risk on Food Security Components 2012. WFP and CGIAR quoting NARC statistics

[18] Krishna Krishnamurthy et al: Climate Risk and Food Security in Nepal: Analysis of Climate Risk on Food Security Components 2012. WFP and CGIAR

disasters. Karnali rates 48.1 on the Human Poverty Index (HPI-1)[19] and as such is the most impoverished region in Nepal.

The terrain in Karnali varies from high Himalaya to river valleys dissecting lower hills. Due to steep terrain, there is very little cultivable land, soil loss and erosion is high, and soils are poor and eroded. Food production, as estimated by WFP in 2010, is sufficient for only 3-6 months of the year. At higher altitudes only one crop is possible for the year. Except in Jumla (a relatively better connected district) irrigation is non-existent.[20] The majority of households rely on subsistence farming as their primary source of livelihood.

Farmers in Karnali commonly sow rice, maize and millet as summer crops, and wheat and barley as popular winter crops. Traditional crops such as native barley and oats are still important. Karnali households depend on a mix of their own subsistence agriculture, the harvesting of timber and non-timber forest products (NTFPs), daily wage labor, seasonal migration to Tarai districts or India, and government and international food aid.

Karnali districts have low population density and are remote and unconnected by infrastructure (roads and bridges). Some higher elevations are habitable only during the summer months. A vulnerability analysis conducted as part of the NAPA (National Adaptation Program of Action) formulation in 2010 shows that the region is highly exposed to changing temperature and precipitation and all districts face the risk of drought. Some are highly exposured to landslides.

All districts show very low adaptive capacity in terms of the robustness of markets and connectivity. Despite low population density, one district (Mugu) ranks “very high” in overall vulnerability to climate change, while two districts (Kalikot and Dolpa) rank high and others (Jumla and Humla) rank moderate. However the moderate districts are still vulnerable to changes in precipitation and temperature, and they are considered to be at risk of severe drought. A full analysis of district vulnerability and risks to different climatic hazards is presented in Annex 11.

The Karnali region suffers chronic food deficits and exhibits alarming rates of hunger.[21] The Government began supplying food to Karnali in 1972 to ease famine, and this temporary measure soon became a long term practice.[22]. The food security situation in the region deteriorated as a result of civil conflict and has been difficult to address because of weather and economic shocks.[23] An assessment of data generated by NekSAP Food Security Monitoring System[24] shows that Karnali communities are more susceptible to drought and food price increases, and that it takes longer for these households to recover from shocks (see below).

[19] The United Nations Development Program’s Human Poverty Index (HPI-1) is measured on the scale of 0-100 where 0 is least impoverished.

[20] National Planning Commission – National Food Security Monitoring Task Force Food Security Atlas of Nepal (NeKSAP)

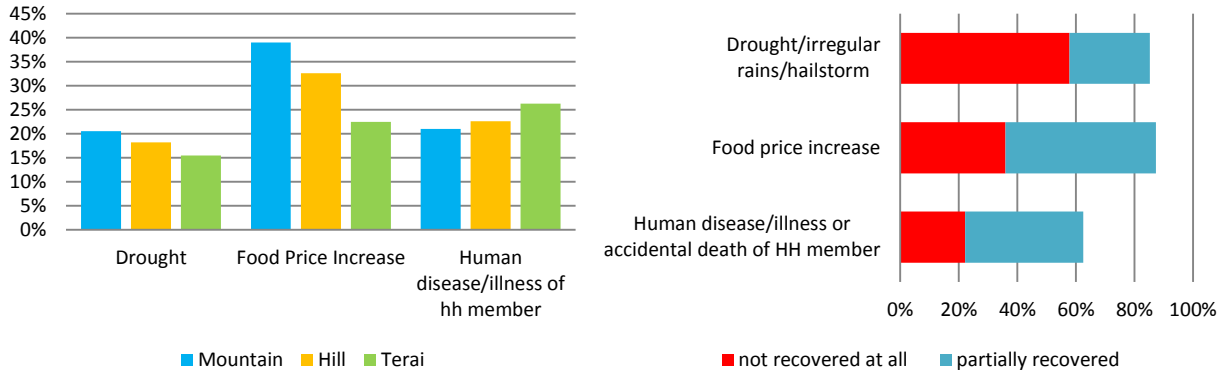
[21] National Planning Commission – National Food Security Monitoring Task Force Food Security Atlas of Nepal (NeKSAP)

[22] Adhikari. Jagannath. Food Crisis in Karnali: A historical and politico-economic perspective (2008)

[23] Adhikari. Jagannath Food Crisis in Karnali: A historical and politico-economic perspective (2008)

[24] NeKSAP *Nepal Khadya Surakchha Anugaman Pranali* in Nepali

Shock Reported by Eco-Belt , and Recovery Rate



Source: Geographical Targeting. Synthesis document for Nepal Country Program 2013-2017[25]

These issues are exacerbated by inaccessibility and low-development. Connectivity to and within the area improved with the opening of the Karnali Highway in 2007 linking the region with the Tarai. However, part of the road is still a dirt track that is impassable during the monsoon and winter. Humla, Mugu and Dolpa are still not connected by road. Food is carried on donkey or sheep caravans to these districts.

The table below presents a summary of climate change observations, current coping methods, and expected future risks to livelihoods in Karnali, based on reports of The Mountain Institute (TMI) [26] and ICIMOD, [27] 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 far end of 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

[25] National Planning Commission – National Food Security Monitoring Task Force Food Security Atlas of Nepal (NeKSAP) and WFP VAM Unit

[26] The Mountain Institute (TMI) conducted an unstructured community perception assessment to climate change in Humla and Jumla in early 2012

[27] Responding to Challenges of Global Change- enhancing Resilience and supporting adaptation of mountain communities. ICIMOD Project Brief 2009

Higher temperature 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, barter fodder for manure Less land under cultivation, buying food	Risk of malnutrition; increased 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

PROJECT OBJECTIVES:

Goal: Increasing adaptive capacity of climate vulnerable and food insecure poor by improved management of livelihood assets in the Karnali mountain districts of Nepal

Objectives

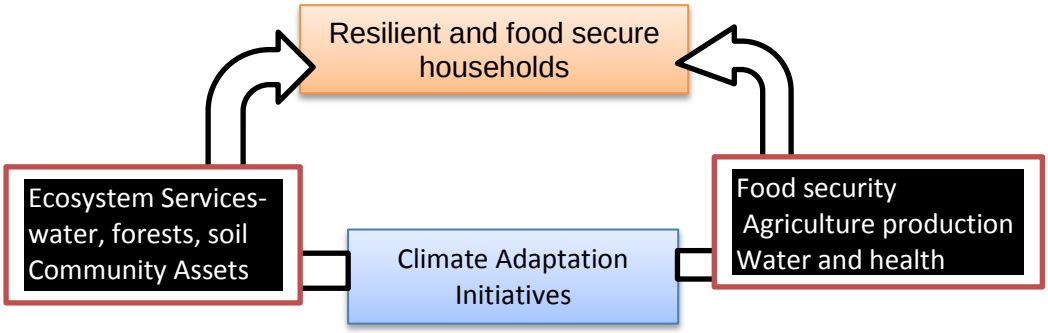
1. Strengthened local capacity to identify climate risks and design adaptive strategies
2. Diversified livelihood and strengthened food security for climate vulnerable poor in target areas
3. Increased resilience of natural systems that support livelihoods to climate change induced stresses

Strategy

Rural agricultural livelihoods in the project area primarily dependent on the health of forest, land and water resources It is therefore vital, in impoverished climate vulnerable communities, to enhance agro-ecosystem services that increase production, reduce food insecurity and also directly generate income and energy for rural people.

The project strategy is to improve household food security and adaptive capacity to current and future climate risks through;

1) Building natural resources and community assets
2) Developing climate resiliency in livelihoods and social sectors



The project will target climate vulnerable poor as defined by 1) low income and consumption; 2) reliance on subsistence agriculture 3) social discrimination and 4) low access to technology and assets - and the capacity of state and non-state service providers supporting these populations.

The project will bring together best practices derived from a number of past and on-going initiatives (described below in F, H and I) to deliver concrete adaptation actions. The delivery mechanism will be an adaptation of the World Food Program's asset creation program which is implemented in 10 districts in the mid-and far western regions. Through this mechanism communities will be compensated for their engagement in asset creation and improvement through food or cash, increasing both household food security and income opportunity during the lean agricultural season.

Particular **activities will focus on easing the burden of rural women** and improving their living and health standards, ultimately contributing ultimately to household adaptive capacity.

Service delivery organizations at the local level - especially extension services related to agriculture, irrigation, livestock and forestry - will be the primary executing agents in implementation and monitoring, thereby developing their capacity to respond to shocks and design long-term adaptive strategies.

An important part of the project strategy will be to **mainstream project learning and outcomes** into regular development processes at VDC, District and Regional levels.

Target Districts and Village Development Committees (VDCs) and Communities

A recent analysis of climate change vulnerability of Karnali VDCs[28] demonstrates a strong relationship c between food insecurity, access infrastructure, irrigation and vulnerability to climate change. In brief, in areas that have better irrigation and access infrastructure, climate change vulnerability is lower; and in areas that are food insecure (which are also the more remote and under-developed regions) vulnerability is higher. The VDC level vulnerability ranking also demonstrates that even in districts which ranked low in the NAPA, there are VDCs that score very high in terms of food insecurity due to their relative remoteness and under-development.

The project will target 21 VDCs in three Karnali districts –Mugu, Kalikot and Jumla.

In Mugu the project will target 12 VDCs with 4,050 households; in Kalikot, 4 VDCs with 3,134 households. In Jumla the project targets 5 VDCs with 2,660 households.

The district of Mugu ranks very high (5 of 75) for overall vulnerability to climate change in the assessment conducted by MoEST as part of the NAPA.[29] Mugu has very low development (especially with regard to women) and food security rankings, and is a district that features high malnutrition.

The district of Kalikot is ranked No 21 in overall climate change vulnerability. However along with Mugu, it is ranked highest in vulnerability to drought.

The district of Jumla (ranked at 31) is relatively better off in terms of production and services, however it has geographical pockets that exhibit deep vulnerability and marginalization. Jumla is the zonal headquarters for Karnali, and more developed markets and research/technology infrastructure available at Jumla's headquarters (Chandannath VDC) will support project interventions knowledge and market access (the idea, articulated further on, is to establish a zonal service center associated with the Nepal Agricultural Research Council (NARC) and the Karnali Technical School to demonstrate and

[28] Through the district-level vulnerability ranking exercise of the Ministry of Environment's NCCSP (National Climate Change Support Project)

[29] National Adaptation Plan of Action for Climate Change of Government of Nepal

disseminate adaptive practices in agriculture, water, and forestry and linked to the entire Karnali zone).

All three districts display high levels of exposure to climatic risks, especially drought. Mugu ranks very high and Jumla ranks high on the drought index, and both districts rank very low on the adaptive capacity and combined sensitivity indices[30] The degree of vulnerability within targeted sub-populations and geographical pockets in the low-ranked districts are oftenvery high due to disparities.

With regard to targeting of ecosystems, Jumla and Kalikot are in river basins[31]; while Mugu is a lake watershed[32]. The project's livelihood strategies, assets and type of intervention will vary depending on the particular ecosystem.

The selected districts will also be among those prioritized in the World Food Program's forthcoming Country Program (2013-2017). Mugu, Kalikot and Jumla are among the ten districts ranked according to a combined vulnerability index for food security developed by WFP Vulnerability Analysis and Mapping (VAM) unit. Sensitivity and adaptive capacity for food security were determined using development data from the NAPA and associated studies. (e.g. WFP food security and production deficit from NeKSAP[33], Nepal Living Standard Survey NLSS-111 2010-2011). Sensitivity was determined by exposure to natural hazards, prevalence of disadvantaged groups, frequency of disease outbreaks, recurrence of acute crisis and the market price of essential commodities. Adaptive capacity measured agriculture productivity, infrastructure availability, education, water and sanitation, gender status and poverty (wealth).

District Targeting

Vulnerability Ranking for WFP Country program	Country Program Districts	Food Security Sensitivity Ranking	Food Security Adaptive Capacity Ranking	Climate Change vulnerability Ranking (NAPA)	Climate Change Adaptation Capability Index
1	Humla	1 very high	71 low	45 moderate	73 very low
2	Mugu	2 very high	72 low	5 very high	75 very low
3	Dolpa	4 very high	67 low	20 high	74 very low
4	Kalikot	3 very high	57 low	21 high	70 very low
5	Bajura	6 very high	68 low	46 moderate	72 very low
6	Bajhang	9 very high	69 low	34 moderate	67 very low
7	Jumla	5 very high	56 low	31 moderate	64 very low
8	Achcham	8 very high	64 low	18 high	68 very low
10	Dialekh	12 very high	63 low	24 high	63 low
12	Doti	16 very high	61 low	41 moderate	62 low

The selection of VDCs involved extensive consultation at district and national level in order to target the most food insecure and climate vulnerable VDCs with production potential. To avoid overlapping with other on-going or planned initiatives, consultations were undertaken

[30] Combined sensitivity index measures human sensitivity and ecological sensitivity together

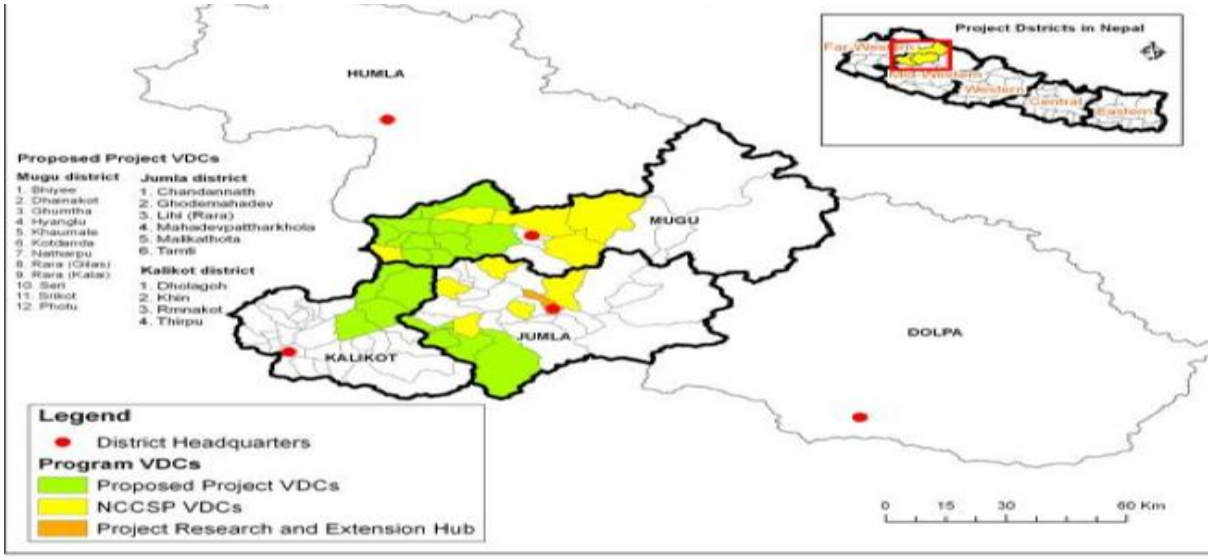
[31] Tila Glacial River Watershed in Jumla and Karnali River in Kalikot

[32] Rara Lake watershed

[33] NeKSAP Nepal is an information system that provides quarterly forecasts of food availability and possible production deficits for early action and response. It is jointly administered by Ministry of Agriculture Development and WFP, through the National Planning Commission.

with the MoEST-led National Climate Change Support Program (NCCSP), which is already developing local adaptation plans for 14 districts in the far and mid-western region. District stakeholders recommended focusing the proposed project in a ***cluster of VDCs*** with geographic proximity, with communities that exhibit similar economic and social characteristics and are vulnerable to similar climatic hazards. This will encourage an adaptive planning approach at landscape level and enhanced delivery of services in a logistically challenging mountainous environment.

Karnali Zone and Project Area



Target VDCs – Population and Gender

SN	Name of Districts	Proposed VDCs for AFB	Total Household	Population		
				Male	Female	Total
1	**Mugu**	Photu	247	694	677	1,371
2		Rara (gilash)	245	874	651	1,525
3		Rara Kalai	226	788	775	1,563
4		Kotdanda	301	919	958	1,877
5		Hyanglu	339	1,041	1,028	2,069
6		Dhainakot	427	1,228	1,194	2,422
7		Bhiyee	226	497	514	1,011
8		Natharpu	278	877	836	1,713
9		Shrikot	649	1,869	1,823	3,692
10		Seri	384	1,212	1,142	2,354
11		Gumtha	433	1,311	1,287	2,598
12		Khaumale	295	951	870	1,821
	Total		**4,050**	**12,261**	**11,755**	**24,016**
1	**Kalikot**	Dholagoa	1,108	**3,692**	**3,605**	**7,297**
2		Khin	531	1,572	1,538	3,110
3		Thirpu	796	2,348	2,270	4,618

4		Ramnakot	699	1,946	1,937	3,883
	Total		**3,134**	**9,558**	**9,350**	**18,908**
1	**Jumla**	Malikathota	535	1,761	1,728	3,489
2		Tamti	750	2,319	2,175	4,494
3		Lihi (Rara)	506	1,365	1,379	2,744
4		Mahadevpattharkhola	498	1,552	1,522	3,074
5		Ghodemahadev	371	1,252	1,185	2,437
6		Chandannath**	-	-	-	-
	Total		**2,660**	**8,249**	**7,989**	**16,238**
	Total		**9,844**	**30,068**	**29,094**	**59,162**

PROJECT / PROGRAM COMPONENTS AND FINANCING:

PROJECT COMPONENTS	EXPECTED CONCRETE OUTPUTS	EXPECTED OUTCOMES	AMOUNT (US$)
1. Develop capacity to plan, implement and monitor climate adaptation and risk reduction actions	1.1 Local food security and climate adaptation planning supported	*Climate vulnerable and food insecure poor actively participate developing climate risk reduction strategies and actions, and ownership and management of climate risk reduction activities and replication of lessons are strengthened in key livelihood sectors*	$283,604
	1.2 Gender and social inclusion are well integrated in to the adaptation planning processes		$41,920
	1.3 Local adaptation plans are integrated in to sector-wide, local and district planning processes		$90,000
	1.4 Community representatives, field coordinators and technicians at village, ilaka[34] and district levels trained and mobilized to design, implement and monitor local adaptation strategies		$480,621
	1.5 Periodic assessments and document project lessons conducted for dissemination at community, district and regional levels		$108,000
	1.6 Climate resilience to planning processes and development projects integrated into key national ministries		$144,000
2. Build household and community resilience and increase adaptive capacity of climate vulnerable poor in 21 VDCs in Mugu, Kalikot and Jumla districts	2.1 Increased income opportunity for vulnerable households, especially during off-season, provided through building physical and natural livelihood assets	*Livelihoods are diversified and strengthened, and livelihood assets and access to food for climate vulnerable households are improved*	$3,397,508
	2.2 Increased local availability of and access to food and nutrition through better storage and value-addition at local level in all target VDCs		$785,000
	2.3 Improved and adapted current crop and livestock management practices to climate risks		$909,201
	2.4 Increased income through livelihood and agricultural diversification using local resources		$849,668
	2.5 Renewable energy based systems introduced to support women-led enterprises		$819,241

[34] This is a service delivery (Government extension) unit which is an aggregation of a number of VDCs with geographic proximity within a district.

Project/Program Execution Cost (9.5%) (see Budget Annex for breakdown)	$822,700
Total Project/Program Cost	**$8,731,463**
Project/program Cycle Management Fee (8.5%) (see MIE Fee Annex 14 for breakdown)	$742,174
Amount of Financing Requested	**$9,473,637**

PROJECTED CALENDAR:
Indicate the dates of the following milestones for the proposed project/program

MILESTONES	EXPECTED DATES
Start of Project/Program Implementation	March 2013
Mid-term Review (if planned)	September 2014
Project/Program Closing	February 2016
Terminal Evaluation	September 2016

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience..

Component 1: Develop local, district and national capacity to plan, implement and monitor adaptation and risk reduction actions

This component lays the foundation on which project interventions will be designed and implemented. Field surveys and stakeholder consultations point to a large gap in awareness of climate risk and adaptation planning capacity at local level, especially pronounced at the Village Development Committee (VDC) and below. The first two outputs under this component were designed to follow the overall guidance for Local Adaptation Plans for Action (LAPA) [35] set out by the Ministry of Environment, Science and Technology to evaluate specific vulnerabilities at local level, use participatory methods to design adaptive actions that will lead to increased community resilience; and implement prioritized actions through local and district level partnerships.

The component will also support mainstreaming adaptation into local and district planning processes. The outputs will deliver training, awareness, facilitation support, knowledge management support, improved extension services, building technical and financial monitoring capacity within relevant institutions and promoting climate resilient practices widely. The knowledge management output included in this component will facilitate lessons and best practices sharing at local, district and regional level.

[35] See Implementation Framework for Local Adaptation Plans for Action (LAPA). MoE ST 2012

Output 1.1: Local food security and climate adaptation planning supported

This output will support detailed analysis of food security and production in relation to climate change risks in each target VDC (and the 9 wards under that VDC), detail the context specific vulnerabilities related to climatic uncertainty and variability, and provide communities with planning tools to design and prioritize adaptation actions. It is expected that trained social mobilizers and VDC-level facilitators will support the planning processes, which will include several seminars and village level consultative workshops and meetings. A participatory approach will ensure plans reflect the urgent and immediate needs of the most vulnerable and food insecure households.

The project will also produce aggregated adaptation plans on a watershed scale covering one or more VDCs. This takes in to consideration that certain livelihood assets (forests and water, primarily) do not neatly conform to village or settlement boundaries, and that their conservation must be considered through a broader lens. In this regard, spatial analysis of land (forests, agricultural land, homesteads etc.) and water resources will be conducted to complement the social analysis of vulnerability and the economic analysis of prioritized adaptive actions.

As evident from field consultations, VDCs do not have medium or long term development plans. An annual development plan is generated on the basis of urgent needs identified on ad-hoc basis by a small number of community representatives. Adaptation planning user the project, in contrast, will use the LAPA framework and tools to identify and prioritize short, medium and long term development priorities, and involve a broad array of community stakeholders. The framework envisions that local adaptation plans are mainstreamed into local planning processes such that the whole planning process becomes a bottom-up, inclusive, responsive and flexible.

Proposed activities under this outcome include;

- Build awareness and sensitize local stakeholders on environment, climate change and energy related issues and encourage community feedback
- Assess community vulnerability and adaptation options using LAPA framework, LAPA manual and tools[36]
- Identify the most vulnerable wards, communities and households in target VDCs; and agree on priority actions and target groups
- Conduct participatory watershed mapping in selected micro watersheds with VDC, Ilaka or district technical officials
- Develop adaptation plans for 21 VDCs and prioritize actions for most vulnerable wards, settlements and households
- Develop master plans for development, integrating climate change risks on livelihood, infrastructure etc in each target VDC

Output 1.2: Gender and social inclusion are well integrated in to the adaptation planning processes

As described above, gender and social disparity in the project area is high. There are a number of ingrained social and cultural practices that discriminate against women, ethnic

[36] A description of LAPA tools, process and implementation could be found in Annex 07

minorities and Dalits. This reduces their capacity to cope with and adapt to impacts of current and future climate change. Therefore, a separate output is introduced to ensure that specific concerns and vulnerabilities of these groups will be reflected in the adaptation plans prepared in Output 1.1. This output will have specific activities to ensure that women and disadvantaged groups participate fully in adaptation planning and implementation in any given VDC, and that they will have equal access to resources, training and income opportunity provided through the project. This output will deliver the following set of activities:

- Mobilize mothers' group/ women's group in 21 VDCs to participate fully in adaption planning and prioritizing actions
- Introduce a special segment (to the local adaptation/food security plan) for women-headed households and minorities as they are considered the most vulnerable within a ward or VDC
- Strengthen local women's savings groups and cooperatives with knowledge and information on adaptation and food security actions
- Avail women of equal opportunity to engage in income generating asset-building activities and build in 'equal pay for equal work' principle in to local adaptation actions

Output 1.3 Local adaptation plans are integrated in to sector-wide, local and district planning processes

This output will firstly develop the project implementation and monitoring systems in each district and each target VDC. This includes the establishment of district technical advisory groups under the District Development Committee (DDCs) and District Energy and Environment Coordination Committee (DEECC). This group will provide technical and monitoring support to project implementing partners and ensure there is no duplication of interventions at VDC level.

Each Village Development Committee (VDC) prepares annual plans through Citizens Forums for general development activities and submits them to the DDC for financing .This output essentially ensures that local adaptation plans become a part of this development formulation process at local level, and that technical support and institutional ownership are assured for the sustainability of interventions implemented through the project. Specifically, it aims to;

- Develop district and VDC level implementing and monitoring mechanisms for climate adaptation. A VDC-level facilitator will be appointed for each target VDC to ensure smooth delivery of interventions and regular monitoring of impacts
- Develop combined watershed level plans to be presented to district plan formulation committees

Output 1.4 Field coordinators and technicians at village, ilaka and district are trained and mobilized to design, implement and monitor local adaptation strategies.

The training component primarily targets local (VDC and ward) representatives and user groups in order to support effective delivery of project activities on the ground. Local resource persons from different fields will be trained to plan, implement and monitor adaptation programs. This includes per VDC:

Representative sector	Number of Persons per VDC (estimated)
Technical (agriculture, livestock, construction, roads, forestry)	5-6
Managerial	2
Social Mobilization	5
Monitoring and Evaluation	2
VDC Facilitators[37]	1
Enterprise development	5
Total per VDC	**20-21**

Training will also be provided to some sub-district and district level officials to provide comprehensive understanding of climate risks in their respective sectors, as well as community assessment and cost-benefit analysis to prioritize local needs. The training will also include a gender sensitivity analysis and a food security analysis at local level; so that decisions are also influenced by the urgent need to address gaps in these areas. The output aims to increase adaptation planning capacity of government officials at Ilaka and district levels.

Sub District Level Officials	**District Level Officials**
Junior technicians	Agronomist
Junior Technical Assistants	Forest Officer
Forest Rangers	Livestock Officer/ Veterinarian
	Irrigation Officer
	Energy Unit Officers
	District Technical Officer/ Engineers
	Women Development Officers
	Cottage Industry Development Officers

A training module will also be developed on adapting to drought in Karnali with the NARC Research Centre in Jumla and agriculture extension office. A total of 3 TOT (Transfer of Technology) sessions for government and NGO representatives on managing drought in agriculture practice will also be conducted. This would benefit extension officers (junior technicians) of non-target districts as well. The project would use training manuals produced by MoEST.

Output 1.5 Conduct periodic assessments and document project lessons for dissemination at community, district and national levels

Continual knowledge sharing between the center, the district and the community will ensure critical feedback and responsive, adaptive planning and management. Also, lessons that emanate both from the adaptation planning process and its implementation would be evaluated, discussed, shared and scaled-up in the output. The interest in evaluating impact - in physical changes, production improvement, social and economic improvement of the target community is something he Government is especially keen to undertake. Also important is the process and system through which planning, implementation and monitoring is achieved, as the project aims to be a model that is replicated in other districts. Indeed, for MoEST and MoFALD the project would provide a demonstration of best practice in development and adaptation planning. (Additional information on this Output is provided below in Section G.)

[37] These are paid staff of the project at VDC level

At VDC level the output will:

- Train 42 key informants (2 per VDC including in Jumla HQ) in gathering and disseminating climate risk and agriculture technology related information.
- Establish 21 VDC level agricultural information centers linked to Jumla zonal NARC and Agro-met stations to deliver climate and technology-related information to farmers. These centers will have audio-visual aides and graphic material to disseminate information from research and extension services down to the VDCs.

At district level the output will support community information exchange through:

- 20 Exchange visits from other VDCs
- 10 community field workshops
- Local/ community FM radio used for dissemination of best practices in 3 districts

At the national level the output will support the climate change unit at MoEST to measure progress against the NAPA's long/short term goals though production of case studies based on:

- Implementation modality, lessons and successes in adaptation practices
- Linkage between food security and improved water, land and forestry management

Output 1.6 Integrate climate resilience to planning processes and development projects of key national ministries

This output aims to support climate-proof development initiatives of project-associated Ministries. The output specifically targets national-level processes relevant to the project- such as the asset building program of MoFALD and climate (drought and flood) resilient agriculture training for extension officials of the MOAD. The output will aim to;

- Improve technical standards of the local asset building program of MoFALD to ensure climate resilience
- Integrate climate risk reduction practices in to national agriculture training program at NARC
- Support the climate change Unit at MoEST

Component 2: Build household and community resilience and increase adaptive capacity of climate vulnerable poor in 21 VDCs in Mugu, Kalikot and Jumla districts

Component 2 will deliver concrete adaptation benefits to the most vulnerable communities. Five outputs have been organized to address specific vulnerabilities and root causes of low adaptive capacity in the targeted districts. The outputs and activities within them have been designed through extensive consultation at national, district and local (VDC and ward) level and include recommendations of sector experts, district representatives of agriculture, irrigation, forestry and livestock, community groups, especially farmers, forest users, mothers groups, and DDC officials, including Local Development Officers. The outputs also consider the lessons and practices acquired by other implementing agencies - IFAD, UNDP, DFID - for more cost-effective delivery. (See section F).

Outputs will be delivered at each locality as per the priorities identified in local level adaptation plans. As such there will be a certain level of 'tailoring' of the adaptation actions

listed in the outputs below to local conditions through the adaptation planning processes described in Component 1.

Output 2.1: Provide increased income opportunities for vulnerable households, especially during off-season, through building physical and natural livelihood assets

This output will deliver income opportunity for both men and women during November to June through an asset building program at each VDC. Assets will be identified at household, ward, VDC and VDC cluster level. These could be focused on physical assets such rural roads or markets, or on production enhancing natural resource conservation such as land terracing, slope stabilization, irrigation canals, water harvesting ponds or tree plantations in catchments.

Lack of off-farm income opportunity during low rainfall seasons and winter has meant that many of the men migrate out of villages looking for work in urban areas, or India. This practice is sometimes interpreted as a coping strategy adopted by households in times of food insecurity. [38] The absence of one or more household members is meant to save grains even if they do not send income back home. However, the practice of leaving women and children back home with limited food and savings during the most climatically-stressed period of the year is likely to exacerbate their vulnerability. During these months income is limited and food is increasingly hard to access. Women in rural villages, especially in mountainous areas such as Karnali, resort to extremely hard manual work to eke out a subsistence living.

The output will increase food security and adaptive capacity through two approaches: first by increasing income opportunity for vulnerable people during off-season months. Around 60 days of work per family ensures food security for 3-4 months during the lean period where drought is common and agricultural activity low. Secondly, building and improving local assets that will contribute to increased local agricultural production and consumption.

At least three of the following assets will be developed in each VDC as prioritized in the local plans of Output 1.1: They are all areas for which there are existing technical standards. [39]

- Increase availability of water through construction of an improvement to ridge ponds, community ponds, irrigation channels, check dams, etc.
- Implement land and soil management techniques - hedgerows, contour drains, bunds, terracing - at household, settlement level
- Improve connectivity of VDC to markets and emergency supplies during disaster and health facilities through strengthened feeder roads, bridges and culverts.
- Protect catchments of drinking and irrigation water sources through community-based forest plantation activities
- Improved structures (houses, community buildings) at local-level for storage, health posts and markets

Output 2.2: Increased local availability of and access to food and nutrition through better storage and value-addition at local level in all target VDCs

Most local and nutritious food crops traditionally cultivated for generations such as buck wheat, maize, millet and potato are least preferred by community over rice as a staple

[38] Passage to India- Migration as a coping strategy in Times of Crisis in Nepal. Nepal Development Research Institute and WFP 2008

[39] Technical Guidelines for Project Implementation and Design for Small Rural Infrastructures. WFP 2011

crop[40]. Problems of processing and using these traditional foods, lack of proper cooking methods and taste or value addition has gradually eroded their popularity. Rice comes at a high price and can cost twice as much in the mountains (due to transport and logistical issues) than in the plains of Nepal[41]. While farmers in the mountains cultivate rice[42] harvests are weak and high water requirements make it a highly risky crop in areas with increasing periods of drought.

The aim in this output is to introduce food value-addition and preservation methods and new recipes for traditionally grown crops, and improve household food storage. The output has a number of activities targeting women who would benefit from convenient cooking methods, information on low-cost and nutritious foods, and growing kitchen garden produce that can be stored for lean periods.

There is very little seed and food storage at village level, leading to food shortages during 4-6 months where market prices inflate and the cost of food escalates. The output aims to develop community seed banks to preserve indigenous/introduced crops that will increase genetic diversit in the mountains. Community-run rustic stores for potatoes are meant to store food buffer stocks and support resilience during periods of climatic stress and short supply. Specific activities in the 21 VDCs include:

- Introduce simple technologies (e.g. milling) for value addition of locally cultivated grain, vegetable and pulses
- Develop and promote easy recipes based on nutritious locally cultivated produce through Mothers' Groups
- Improve local, knowledge, skills and practices related to food preparation and storage
- Build and improve community seed banks to preserve and improve access to crop seeds of local origin and develop kitchen gardens for household needs
- Build community-managed grain/potato stores as food buffer stocks to develop an improved local food markets and food distribution system in each target VDC

Output 2.3: Improved and adapted current crop and livestock management practices to climate risks

Small-scale farmers eking out a subsistence livelihood are most at risk from climate -induced hazards. In the target districts, vulnerability of farmers to climate induced dry spells is pronounced[43] and evident in annual periods of food deficits within districts. Typically, these districts produce only enough food for 3-6 months consumption[44]. Climate change has stacked the odds against food self-sufficiency.

In addition, agriculture (crop and livestock rearing) remains under-developed and under-serviced by government extension services. Farmers lack knowledge, seed and planting

[40] Rijal, DK; RB Rana, PR Tiwari, LP Pant and D. Jarvis (2001). Promoting Local Food Culture as a Method to Conserve Buckwheat Diversity in Agro-ecosystem of Nepal. In. Research & Development on Buckwheat: AN important yet a neglected crop in Nepal. Proceedings of National Workshop, 2001, Kathmandu

[41] More than Roads- Using Markets to Feed the Hungry in Nepal World Food. Program 2009

[42] Jumla grows red rice at an altitude of 2500 meters, reportedly the highest rice growing location in South Asia

[43] Krishna Krishnamurthy et al: Climate Risk and Food Security in Nepal: Analysis of Climate Risk on Food Security Components 2012. WFP and CGIAR

[44] More than Roads- Using Markets to Feed the Hungry in Nepal World Food. Programme 2009

material, fertilizer/manure production, pest control, resilient alternative crop types, low-tillage farming methods and improved livestock management techniques such as corralling and stall-feeding of livestock. While livestock is an important component of household food and income security, free grazing livestock pose a real threat to community forests and crop fields.[45] Drought also affects the availability of fodder for livestock. The activities of this output have been developed with extensive consultations with experts in the Ministry of Agriculture Development (MoAD), District Livestock Development Officers (DLDO) and District Agriculture Development Officers (DADO). Using food and cash for work; and farmer field schools the project will work with all target households to:

- Introduce water efficient technologies and protected agriculture (poly-tunnels)
- Introduce agriculture best practices already developed and field tested such as IPM, organic farming, soil improvement techniques and drought resistant crop species
- Introduce stall feeding, corralling to prevent free-grazing livestock from degrading forests and crops; Introduce improved fodder management techniques for drought periods
- With NARC[46] in Jumla establish 10 farmer field schools with the support of District Agriculture Development Officers 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, etc.

Output 2.4: Increased income through livelihood and agricultural diversification using local resources

During field consultations, a number of income diversification options for women were identified. It was observed that the cottage industry is virtually non-existent in target VDCs due to lack of quality products and markets. Women, especially, were keen to have more skills development and technologies to engage in home-based industries that could have local market potential (candles, pickles, drying herbs etc.). Lease-hold and community forestry were other activities that communities identified for development to supplement rural incomes. Forest based enterprises such as medicinal, aromatic herbs are not well developed in the target areas. Developing such non-timber forest products (NTFP) and their value addition could support families - women mostly - to engage in livelihoods that are less exposed to climatic variability.

The project's target areas also contain large areas of degraded lands which are privately and communally owned. Developing agro-forestry for food, fuel, fodder and timber is necessary in rural mountains due the large scale degradation of forested lands to meet these basic requirements. The outcome will support communities to improve agro-forestry plantations in identified degraded lands supporting increased tree cover and household needs.

This outcome will use cash and food for training/ and material support to establish:

- User/market groups for alternate income sources such as candle-making, pickle-making, growing herbs and mushrooms
- Training and tools for selected user groups within each target VDC to develop market-based produce
- Forest based enterprises including medicinal and aromatic herbs
- Local seed production as a community enterprise

[45] Community and stakeholder consultations in Jumla
[46] Nepal Agriculture Research Council Zonal office in Jumla

- Agro-forestry systems in abandoned arable lands to meet fuel, fodder and food needs
- Leasehold and community forestry for better income and food availability

Output 2.5: Renewable energy based systems introduced to support women-led enterprises

As described above, the comparative social and economic vulnerability of women in the project area is high. The project will discriminate positively towards women and disadvantaged group in the adaptation planning process at VDC-level so that their context-specific issues are identified and prioritized within the plan, as described in Output 1.2.

Women spend much of their time sourcing basic resources for the household, such as firewood, water and fodder for animals. Their technical capacity and skill levels remain low. Within homes they also have to work in unventilated, smoke filled rooms. The lack of water within easy reach (10-15 minutes' walk from the home) and indoor smoke pollution increases drudgery and lessons quality of life. Sanitation remains poor due to lack of adequate water supply and facilities for bathing and washing.

This output will introduce renewable energy systems to ease the burden on women and improve their socio-economic status. This includes providing trialed and tested models of smoke-free stoves, efficient water mills for grinding, milling, solar for lighting, cooking and water heating and Multiple-Use Systems (MUS) for water to increase water use efficiency. The output also plans to establish novel 'service centers' for women in each VDC specifically targeting women with clean, solar heated water for washing and sanitation, clean cooking stoves powered by solar, and facilities for child care. The centers would be established in state-owned or community owned land. They would be managed by women's cooperatives, and also provide local employment to one or two women. The center would also demonstrate multiple-use systems for water to inform and educate rural women on domestic best practices. [47] This component will be executed by the District Environment and Energy and Committees and NGOs.

For 21 VDCs the project will support households to establish:

- Improved water mills for food processing
- Solar dryers for food processing and drying
- Improved cooking stoves and ovens to reduce indoor smoke pollution
- 21 solar-powered service centers to provide essential water-energy related services to local communities, with a focus on women. These centers will provide bathing, washing, toilets, safe cooking and child care facilities. They would be maintained as income generating ventures managed by VDC Women's Groups.

B. Describe how the project / program provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and groups within communities, including gender considerations.

The project will target some of the most climatically vulnerable and at-risk VDCs in three Karnali districts- Mugu, Kalikot and Jumla. The target VDCs have already been ranked by the NCCSP[48] project as being highly vulnerable to climate induced hazards, especially rainfall variability and drought, and they demonstrate low adaptive capacity.

[47] A plan and drawing for the proposed service center and cost estimate included in annex 13
[48] National Climate Change Support Project

The project will deliver both 'soft' support in terms of awareness, planning capacity and technology transfer and 'hard' or concrete adaptation actions that are expected to transform lives of communities at risk. As described in the strategy, the project will use Cash and Food for Work (C/FFA) to deliver income to communities to implement project activities. Throughout the implementation period, every target household will receive food and/or cash ensuring food security for a family of five for 3-4 months of each year. Activities implemented through such community participation will support increased availability of livelihood resources and increase production, ensuring income and food security in the longer term.

In terms of **economic benefits**, the target VDCs will see an increased investment in agricultural production and diversification. The largest share of investment will be in water management. Water tanks[49] will be constructed on hilltops, in farms and at homes to improve water storage and maximize utilization in a variable rainfall regime. Improved irrigation will ensure that farmers have adequate water for cultivation of two cropping season a year. Crop diversification will support high-value vegetables such as local beans, carrot, cauliflower, capsicum, potato and saplings of temperate fruit species, spices and medicinal herbs. Regular extension service delivery will help farmers adjust to adverse impacts of uncertain weather conditions during planting or harvesting. Investment in post-harvest technologies and storage (buffer stock) of potatoes and grain storage will provide village families with income and food during lean agricultural seasons.

Households would, as mentioned earlier, have food and cash- earning opportunity through local infrastructure work related to adaptation (such as irrigation channel construction, water tank construction, soil management, tree planting) during dry season when agricultural activity is low. Women in villages will be given extra opportunity to earn income through this food-cash for assets schemes. This will be the main mechanism through which project funds will flow directly to target households. The outcome will be that both men and women would be engaged in productive, adaptation-enhancing activity during dry months. This is expected to reduce negative coping strategies such as migration and selling off livelihood assets (land, seed stocks).

Socially, the project will demonstrate 'positive discrimination' that supports women and other disadvantaged groups to participate in income opportunity and increased production. Generally the social impacts of marginalization will be ameliorated through better extension services, capacity building measures and project investment in the target VDCs. Village level information centers will connect villagers with technical data on core systems including water, forestry, crops and livestock, and weather related information. Planning and training will combine to increase community capacity to face future adverse conditions and mobilize local and district resources for their welfare and development.

For women the project will deliver some specific, gender-sensitive adaptation options, including livelihood based skills development and access to new technology. This will improve home-based income opportunity and lessened physical labor for women who spend much of their time and energy gathering firewood, water and minding livestock. Special service centers introduced through output 2.5 will cater to women-centric needs, especially energy related technologies, water for sanitation, and strengthen women's groups and mother's groups to engage in planning, implementation and monitoring of adaptation actions.

[49] Of different technical specifications and different capacity

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 ensure integrity of ecosystem services that support community livelihoods. The combination of outputs 2.1 and 2.4 is expected to demonstrate:

- Increased vegetative cover in degraded areas with focus on catchments of local streams and water sources
- Increased assets for landless and disadvantaged communities and therefore building their adaptive capacity
- Managing forest fires and resultant degradation of land and water sources.

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

The project aims to strengthen community resilience to current and anticipated climate change; and to ensure food and income security for poor vulnerable households in mountainous districts of Karnali zone.

These areas remain some of the most inaccessible and remote regions of Nepal. They are often deprived of development intervention on consideration of investment effectiveness and efficiency. The project will invest heavily in building physical and natural assets that promote farm productivity and therefore contribute to food and income security for target households.

Physical assets such rainwater harvesting ponds and tanks, irrigation systems; markets, roads, bridges and service centers are essential to push these households out of their subsistence-level farm practice; and ensure water security in the face of increasingly erratic rainfall. By conserving the natural resources that support farm livelihoods, such soil, water, and forests the project hopes to buffer community against current and future climatic threats, especially rainfall variability and temperature rise all of which will impact water availability and soil quality.

Community asset creation in exchange for cash or food is an already tested system of ensuring household food security in lean periods without scope of agricultural activity; or during a post-disaster recovery.[50] Participating households build critical infrastructure in exchange for food or cash. It is already proven[51] that community asset building has a host of positive impacts upon the receiving community. Infrastructure so built, could link farmers to markets, households to services and provide necessary socials security nets in times of stress. The Government and World Food Program's food for assets (FFA) amounts to 4kg of rice per day per participant. Each household is guaranteed 60 days of work through one member (male or female). The food is programmed to meet the cereal requirement of a household (5.6 people) for at least four months of the year. Cash transfers (CFA) are determined based on the area-specific market rate for the equivalent of rice and pulses.

However, current food and cash for assets interventions are 'stand-alone' projects designed to bring in cash or food to the community. They are not integral to the VDC or

[50] More than Roads- Using Markets to Feed the Hungry in Nepal World Food. Program 2009
[51] More than Roads- Using Markets to Feed the Hungry in Nepal World Food. Program 2009

district development planning process. Often they are not integrated in to sectoral plans managed by technical agencies in charge of irrigation, agriculture, livestock or forestry. As such, the usage and maintenance of such community assets and their contribution to agricultural production and long term food security is rarely monitored as part of an overall plan.

The value addition of the proposed adaptation project is to improve on the existing asset building model, and introduce a host of complementary activities that will ensure that the assets actually contribute to a reduction of household and community vulnerability to environmental and financial shocks.

In order to analyze cost effectiveness, a brief discussion on alternate adaptation options is presented below;

Shift to non-farm livelihoods – Analysis of non-farm income opportunity reveals that migration is a commonly adopted coping strategy. Migration takes many forms- some leave for a few months of the dry season, others stay out for most of the year and yet others return home once every few years. India is the most common destination. Commonly, it is the men who migrate for work, leaving behind families of young and elderly to be looked after by women. Seasonal migrants remit between USD 70-340 annually, depending on the location (India or Nepali cities) and the caste, level of skill of the migrant.[52] However seasonal migration is not a preferred livelihood option, with most villagers preferring to remain home if productive employment is available.[53] In the Karnali region industry or tourism is not well developed. Hence other off-farm income opportunities are non-existent except in some district headquarters. The project offers off-farm employment during the dry season, and between planting and harvesting when household food stocks are leanest.

In highly food insecure areas, the current F/CFW approach demonstrably reduced negative coping strategies and allowed beneficiaries not only to pay-off high interest local loans but also reduced to need for seasonal out-migration.[54]

Large-scale irrigation or change in crop type- The mountains in the project area are the catchment areas of the Karnali and its tributaries which irrigate large areas of the downstream Tarai and Indian plains. However, due to the undulating terrain, large-scale river based irrigation is not feasible in these locations. Feasible irrigation systems are small-scale stream diversions or water ponds on hill tops. Both these options will be pursued by the project.

The Ministry of Agriculture Development through its district offices has been attempting to divert farmers from grain (rice and wheat) cultivation in the dry season; encouraging instead high value vegetables or fruits. The subsistence nature of rural agriculture in Nepal has resulted in households depending on domestic production for household consumption. It is difficult to wean farmers away from grains, especially rice, despite the larger risk of crop failure. The project aims to improve agricultural productivity by introducing drought-tolerant cultivars, and diversified crop and livestock options so that households are able to better manage climatic uncertainty. Technical services and

[52] Passage to India- Migration as a coping strategy in times of crisis in Nepal. Implications for WFP Responses. 2008

[53] Passage to India- Migration as a coping strategy in times of crisis in Nepal. Implications for WFP Responses. 2008

[54] Household and traders CFA survey in 2009 quoted in More than Roads- Using Markets to Feed the Hungry in Nepal World Food. Program 2009

access to markets will increase interest in farmers to cultivate high value vegetables, herbs and fruits.

Permanent migration from high-risk locations: Migration is a culturally and politically sensitive issue and the government does not endorse involuntary migration from high-risk areas. It is expected however, that some areas could become so inhospitable due to climatic factors; and comparatively far behind in development, that villagers will have to move to urban centers where infrastructure facilities are adequately available to manage risk of climate change. However, the project will focus on improving production, livelihood options and adaptive capacity *in situ* so that communities are able to face and better manage climatic hazards in current locations.

The project will generate co-benefits through linking with other climate adaptation and development programs being implemented in the region and districts. Some of the projects implemented there include the DFID support NCCSP, World Bank supported Himali Project, Poverty Alleviation Funds of the World Bank and block grants channeled through Karnali Development Fund (a more detailed review of these projects is presented below). Linking and coordination with other projects also delivering hardware deliverables such as Rural Access Program supported by DFID, Ministry of Federal Affairs and Local Development (MoFALD) and WFP's country program will generate significant aggregated impact to reduce vulnerability in target VDCs.

To increase the cost effectiveness of interventions, the project proposes build on existing practices and structures of key Ministries, the World Food Program, other UN agencies and NGO counterparts. Some of these practices are:

1. Community Asset Building: the Government and WFP have implemented a cash/food for assets program to develop community assets for the past five years. The Country Program 2013-2017 will prioritize asset building as a means of bringing communities out of relief and in to sustainable production. Lessons from these programs incorporated in to project design include:

- Technical standards related to small rural infrastructures
- Delivery mechanism and payment modality for families to engage in cash for assets
- Equal pay for equal work to ensure sufficient access for women to earn food and cash through the program
- Experience in working with non-governmental partners in delivering in some of the most remote locations in Karnali region.

2. Water harvesting structures (hill-top and domestic):
Extensions services of agriculture and irrigation in Mugu, Kalikot and Jumla as well as a number of local and international NGOs have piloted ridge ponds, field ponds, domestic water harvesting tanks, micro irrigation and practices to retain and improve soil moisture. These will be incorporated in to the adaptation plans with the support of technical line agencies at district level, to ensure that the best structural and community-accepted models are used in the project. Water harvesting ponds and irrigation a channels are also part of the asset creation work at community level.

3. Improved management of forests and biodiversity for poverty alleviation: Ithe FAD funded WUPAP (Western Uplands Poverty Alleviation Project) implemented in the far and mid-western region in the last three years have set the ground work for lease-hold forestry as a means of improving income through sustainable agro-forestry. The lessons and practices of this project that will be adopted by the project are:

- Beneficiary targeting for more representation of marginalized households in a VDC
- Species mix and selection to improve year-long income opportunity
- Monitoring mechanism involving District Forest Officers

4. Slope stabilization and soil conservation: The Department of Soil Conservation has a set of practices for effective land reclamation and management in the mountains to ensure soil quality and land productivity. The project will borrow from already field tested practices including SALT (Sloping Land Agricultural Technology) of the Department's district level extension offices. A combined program for crop and land management will be implemented through NARC research center in Jumla to support Output 2.4.

5. Drought resistant crops: The NARC (Nepal Agricultural Research Council) is developing and field testing a number of resistant and high yielding/short field duration varieties in Jumla zonal research station. Seeds and information on such recommended varieties will form the agricultural support package envisioned in Output 2.4.

6. Adaptation planning through LAPA: The National Climate Change Support Project (NCCSP) of the Ministry of Environment, Science and Technology[55] has operationalized LAPAs in selected VDCs of 14 districts in mid and far-west including Karnali Zone. The process, the lessons and the trained facilitators and trainers will be used by the project to generate local plans with validity among both community and local government.

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

Nepal developed and submitted its NAPA to UNFCCC in 2010. The NAPA is set within the country's development objectives. These objectives have been articulated in the national planning strategies and are aimed at addressing the specific economic and socio-political conditions prevailing in the country. Nepal's development goals, and the NAPA framework, have the overriding objective of reducing rural poverty.[56]

Reflecting this, the Tenth Plan/ Poverty Reduction Strategy Paper (2002-2007) and Three Year Plans (2007-2010 and 2010-2013) are aimed to bring about a sustained reduction in poverty level in Nepal. These plans identify four broad development priorities: broad-based sustained growth; improvement in access and quality of infrastructure; social and economic services in rural areas, including targeted programs for social and economic inclusion of poor and marginalized communities; and good governance to improve service delivery, efficiency, transparency and accountability.

The current Three Year Plan follows the rationale of improving the living standard of people and sustainable economic growth as a means to poverty reduction.

[55] Funded by DFID and UNDP

[56] National Adaptation Program of Action to Climate Change. Ministry of Environment, Government of Nepal 2010

Project Alignment with NAPA Outcomes and Outputs

The project is aligned with the priority profiles (see annex 5 for a full list of NAPA Profiles) 1 and 2.

Profile 1: Promoting Community Based Adaptation through Integrated Management of Agriculture, Water, Forests and Biodiversity

Profile 2: Building and Enhancing Adaptive Capacity for Vulnerable Communities through Improved Systems and Access to Services related to Agricultural Development

Project Objective(s)	**NAPA Long Term Outcomes**
1. Strengthened capacity to identify climate risks and design adaptive strategies	Profile 1 iii. Climate adaptation modality involving public and private sector developed vi. Climate adaptation in development plans and programs integrated and mainstreamed
2. Diversified livelihoods and strengthened food security for climate vulnerable poor in target areas	Profile 1: i. Food sufficiency for poor marginalized, and disadvantaged farmers in water stressed areas attained iv. Livelihoods of the Climate vulnerable including local poor and indigenous communities improved by increasing income from natural resource based employment Profile 2 i. Changes in agricultural production in response to observed climate change ii. Agriculture based rural livelihoods in climate vulnerable areas sustained
3. Increased resilience of natural systems supporting community livelihoods to climate change induced stresses	Profile 1: ii. Climate resilient communities created within the project area and impacts demonstrated to other areas
Project Outcome(s)	**NAPA Outputs**
Climate vulnerable and food insecure poor actively participate developing climate risk reduction strategies and actions	Profile 1 iv. Community adaptive capacity and decision making power enhanced xi. Community-driven adaptation projects implemented in demonstration sites Profile 2 i. Action (LAPA) increased
Ownership and management of climate risk reduction activities and replication of lessons	Profile 1 xi. National and local capacity strengthened to develop climate resilient communities x. Climate friendly infrastructure developed

are strengthened in key livelihood sectors	Profile 2 i. Climate smart agricultural extension and advisory related services strengthened
2. *Livelihoods are diversified and strengthened, and livelihood assets and access to food for climate vulnerable households are improved*	Profile1 i. Food security for climate vulnerable enhanced ii. Option for on-and-off farm income generation widely adopted v. Sustainable resource management with focus on watershed and water conservation vii. Climate resilient soil and water conservation measures availed for wider adoption Profile 2 i. Climate smart agricultural extension and advisory related services strengthened v. Use of climate adaptive crop varieties and livestock breeds increased

In addition project outputs impact on Priority Profiles 3, 5 and 8 of the National Adaptation Program of Action. NAPA profiles are summarized in annex 5. Apart from its clear linkage to the priorities identified in the NAPA, project activities also have strong synergy with policy elements set out in the government's 10th Year Plan and development policies of National Line Ministries such Agriculture, Forestry and Irrigation.

Project Elements	Consistency with National Policies and Plans
Food Security and Agriculture	**Nepal's Tenth Plan placed high priority on this sector and this trend is continued in the current Three Year Plan. The Tenth Plan envisaged agricultural growth increased by 4.1% per annum and livestock by 4.9% per annum. Reduction of food insecurity and malnutrition were high priorities as well. In terms of Strategy; the Plan identifies –diversification and commercialization, enhanced irrigation, and improved markets.** **The Agriculture Perspective Plan (1995) recommended stronger role for private sector and communities, farmer groups and cooperatives iin the management of infrastructure and assets**
Irrigation and water resources management	**The Tenth Plan emphasized on increased irrigation through rehabilitation and creation of public and community-based irrigation systems. The use and scaling up of best-practices related to non-conventional micro-irrigation schemes and new technologies were also recommended. The Plan also attached high priority to drinking water supply and rural sanitation. Strategies aimed to mainstream community based approaches in decision-making, benefit sharing and cost recovery**
Community /Leasehold Forestry	**Forest management was also prioritized in the Tenth Plan due to its role in promoting rural livelihoods and providing environmental services. It was recognized that the community and lease-hold forestry systems contribute to the rural economy and agriculture systems and made forest products available to**

	the local and regional markets. Similarly forestry sector was prioritized for the contribution to ecosystem services and its livelihood benefits for the poor and marginalized rural people.

E. Describe how the project / program meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc.

The major portion of the project's investment will be directed to building and rehabilitating community assets. These are generally small-scale structures that do not require detailed approvals such as Environmental Impact Assessments. However, as structures such as irrigation channels, ponds and rural roads could have some impacts on downstream communities and on the local geology, especially in fragile mountainous terrain, VDC level asset building projects will produce an 'environmental assessment' as part of the feasibility assessment elaborating possible impacts and some mitigation measures.

All local NGOs implementing Government supported- asset building projects in districts have to conform to certain minimum technical standards set out by the agency.[57] In this guidance technical standards are set out for all types of commonly built community assets such as water harvesting ponds, small surface irrigation channels, foot rails and foot bridges, rural roads, school and market buildings, vegetable collection centers and land improvement/slope stabilization.

The guidance further provides minimum standards for project management, planning, feasibility, surveys, design and a good review of all alternative options including quality assurance, social mobilization to involve and engage women and disadvantaged groups and future maintenance of structures.

In addition to these guidelines, the project will conform to government standards set out by different Ministries as described in the table below.

[57] Technical Guidelines for Project Management and Design for Small Rural Infrastructures. World Food Program 2011

Technical Standards Applicable to the Project

Activity	Applicable Standards	Application to Project	Monitoring
1. Local/small infrastructure • improved irrigation systems; - **ridge ponds,** - **community ponds,** - **check dams** etc • land and soil management techniques; - **contour drains,** - **bunds,** - **terracing** • Construction; - **rural roads,** - **bridges and** - **culverts** • Community- - **plantation/forestation** - **nursery management and seedling production** • Infrastructure works; - **market and collection center at local-level for storage,** - **health posts** - **community center**	Technical specifications of the Department for Local Infrastructure Development and Agricultural Roads (DoLIDAR)/ Ministry for Federal Affairs and Local Development Technical Norms of DoLIDAR. Guidelines and Action Plans by the Ministry of Environment for enhanced climate resiliency of these infrastructures. Bioengineering Manual and Handbook, Department of Roads, Ministry of Physical Planning and Public Works, Nepal Geotechnical Guidelines and Manuals, Department of Roads, Nepal. Guidelines and Manuals of the Department of Water Induced Disaster Prevention (DWIDP), Nepal	District Technical Officers of the District Development Committees Project Management Offices of the respective Infrastructure Projects. Through implementing NGOs in VDCs	National Project Manager and WFP Project Coordinator External/Third Party Monitors assigned by the Implementing Agencies.
Agriculture and Food Consumption • Simple technologies for value addition of locally cultivated grain, vegetable and pulses • Recipes for nutritious locally cultivated produce through mothers groups • Local, knowledge, skills and practices related	Guidelines and Manuals as set by Department of Agriculture Cash for Work norms and standards applied by WFP	Project Management Unit and DSD Extension Officers	Natural Resources Management Division of the Department of Agriculture

to food preparation and storage • Food buffer stocks to increase community resilience to climate-related shocks • Community seed banks to preserve local genetic diversity • Community managed grain stores and rustic potato stores to develop local food markets during off-season		Project Management Unit	National Project Manager and WFP Project Coordinator
• Improved agronomic practices including; - **organic farming,** - **low-tillage agriculture,** - **integrated pest management (IPM)** • Introduce protected agriculture; - **poly-tunnels/house** - **and water efficient technologies (drip irrigation, MUS)** • Introduce stall feeding, corralling to prevent free-grazing livestock from degrading forests and crops • Introduce improved fodder management techniques for drought periods • With NARC in Jumla establish field trials for water use efficiency, soil moisture, varietal selection of drought resistant crops in project areas	Guidelines and Manuals as set by Department of Agriculture and Livestock	Project Management Unit Project Management Unit	Irrigation Department and Forest Department through Divisional Project Monitoring Unit
• Participatory Adaptation Planning in VDCs	Framework for Local Adaptation Plans of Action (LAPA) of the Government of Nepal	Local NGOs, community mobilisers and technical assistance by DDC/VDC officials	National Project Manager, District Coordinators and WFP Project Coordinator
• Develop user/market groups for alternate income sources such as candle-making,	Local enterprise Development Guidelines	Implementing NGOs, Local	

pickle-making, growing herbs and mushrooms • Training and tools for selected user groups within each target VDC to develop market-based produce • Develop forest based enterprises including medicinal and aromatic herbs • Develop local seed production as a community enterprise • Agroforestry systems introduced in abandoned arable lands for diversified production • Develop leasehold and community forestry for better income and food availability	FECOFUN guidelines on Forest Based Enterprises Forest Department Guidelines and technical recommendations on leasehold and community forestry	Resource Persons,	

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

There are several donor-funded projects that also focus on Karnali due to its low development status. In designing this project care has been taken to avoid duplication of geographical targeting. In all cases, discussions were held with project implementing agencies and donor agencies on complementarities, lessons learnt from existing projects and means of harmonizing interventions.

The Nepal Climate Change Support Project (NCCSP), funded by DFID and the EU, project supports the Ministry of Environment, Science and Technology to operationalize the LAPA (Local Adaptation Plan of Action) on the ground. 14 districts of the far and mid-western development regions have been selected for the first phase (2012-2015). The district vulnerability profiles and VDC-level vulnerability rankling developed by NCCSP for Karnali districts supported the selection of target districts and VDCs. In each district, NCCSP will conduct and implement LAPA in five VDCs. The proposed adaptation project will not target these five VDCs in the three target districts.[58]

Three other projects focus on livelihood development in Nepal in the same Karnali districts as the proposed project. There are clear areas of complementarity where these projects, and the market linkages, private sector enterprises and supply chains developed will complement and support the household level production-related activities envisaged through the proposed project. The three other projects are implemented or coordinated through district development committees (DDCs). In this regard, to avoid duplication on the ground, the project envisages that the district coordinating mechanism for climate change and environment (District Energy, Environment and Climate Change units or DEECCs) will draw in sector-wide representatives from all relevant agencies and their district implementing structures. The project provides a budget to coordinate meetings of the DEECC through output 1.1, which is expected to streamline the activities of different projects for synergistic delivery at VDC level.

In addition to the livelihoods based projects, the ADB-funded PPCR (Pilot Project for Climate Resilience) takes an ecosystem -based view of climate change and adaptation taking watershed as planning units. Implemented through the Ministry of Forests and Soil Conservation, the PPCR has conducted a vulnerability assessment of 136 watershed areas in Nepal and mapped the entire river basins of three important cross-border rivers- Koshi, Gandaki and Karnali with technical support from IWMI (International Water Management Institute). This study also showed that the Karnali river basin is the worst affected by current and predicted climate change. PPCR will fund some environmental restoration-type activity in selected mini-watersheds of threatened river basins. The program will establish a technical consortium at district level to advise the DDC on watershed management for climate change adaptation and the key officials in the proposed program will be a part of that team.

A summary of some projects in the same districts:

High Mountain Agribusiness and Livelihood Improvement (HIMALI) Project : Nepal	Economic growth Environmental Sustainability Private Sector Development	Humla, Mugu, Jumula, Dolpa, Mustang, Manang, Rasuwa, Dolakha, Solukhumbu and

[58] See Map above depicting NCCSP VDCs separately to the VDC clusters targeted by the project

Funded by ADB		Shankhuwashava Districts
High Value Agriculture Project IFAD and Ministry of Agriculture Development (MoAD)	• Renewable Energy Water, Sanitation and Hygiene • Agricultural and Forest Products • Pro-poor Sustainable Tourism	The project will be implemented in nine Mid-Western districts namely Surkhet, Salyan, Jajarkot, Dailekh, Jumla, Kalikot, Dolpa, Humla, Mugu, and Achham of Far-Western region.
Western Uplands Poverty Alleviation Project (WUPAP) Government of Nepal (GoN) and IFAD	• Small Infrastructure Development – District Development Committee (DDC) • Leasehold Forestry and NTFP – District Forest Office with support from NGO, Dabur Nepal, HPPCL and ICIMOD • Agriculture and Livestock – District Agriculture and District Livestock Services Office with support from NARC • Micro-Finance and Marketing – Local Development Fund Board (LDF) • Institutional Development – Local Development Fund Board (LDF)	Humla, Jumla, Bajhang and Bajura Mugu, Dolpa, Jajrkot and Kalikot, Dailekh, Rukum and Rolpa
Pilot Project for Climate Resilience (PPCR) funded by ADB through Ministry of Forests and Soil Conservation	Environmental restoration and land, forest management activities carried out by communities, NGOs and National Agencies	Not yet finalized

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

The project targets selected VDCs in three districts of the most climatically vulnerable and food insecure region of Nepal. It is assumed therefore that project learning will be of interest and relevance to other regions and districts. The knowledge management elements in Component 1 are dedicated to analyzing project impact through social and economic lenses and disseminating this information to other areas of the same districts; and other mountain districts.

The list of activities includes case studies on;
1. Analysis of adaptation planning process at local level and institutional capacities to support such actions
2. Evaluation of the implementing process from center (national ministries) to district DDC (LDO and DEEU) to VDCs and wards; and documentation of the roles and responsibilities of each actor involved

3. Impacts and results of adaptation activities on food security and income for target households
4. Feedback from field implementation to policy; testing out the strategies and actions listed out in the NAPA

These lessons and case studies will be disseminated through district workshops, one national workshop, policy briefs, media exposure visits, publications and community exchange visits.

For the Ministry of Environment, Science and Technology the project's knowledge management component is of special importance as it will enable them to track progress against Profile 1 of the National Adaptation Program of Action which is on 'Promoting Community Based Adaptation through Integrated Management of Agriculture, Water, Forests and Biodiversity'.

For the Ministry of Federal Affairs and Local Development the knowledge management component would support the integration of local adaptation priorities and local development planning processes in other VDCs and other districts in the country.

For World Food Program the project would provide invaluable information on best practices in a project approach that combines the short term approach of food supply and longer term objective of increased production and food availability in vulnerable local areas.

For other technical agencies, the project would generate information on best practices in agriculture, water resources including irrigation, community development and lease-hold forestry.

Above all, for communities in similarly vulnerable locations, the lessons of this project would pave the way for similar interventions in their localities. Exchange visits and community radio programs generated through knowledge management activities will ensure that lessons, personal stories and case studies are disseminated widely in local languages. For some of these visiting communities it may be their first time out of their own settlement or ward. Financing adaptation through normal development budgets will be another aspect of lessons learnt through the project.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations.

Project development involved a high level of consultation at national, district and local level. This included key government ministries, agencies, technical and scientific organizations, non-governmental organizations, international organizations implementing development projects in Karnali and elsewhere in the mid-and far western hills and mountains regions, research institutes, district agencies and community groups, especially farmer, forest-user and mothers' groups. Consultations were conducted in Jumla, and Humla (Karnali region) with communities and officials, especially VDC representatives, LDOs and district agriculture officers.

In July the Secretary of Environment, Mr. Krishna Gyawali called a meeting of key national partners to review the project framework and provide comments on the project target areas

and activities. The comments were incorporated in the document, and several key outputs were revised accordingly.

National Stakeholders

Organization	Persons consulted	Outcome
Ministry of Environment, Science and Technology (MoEST)	Prakash Mathema Joint Secretary (Climate Change) Mr. Batu Uprety Joint Secretary (former) Mr. Lava KC Project Manager NCCSP Mr. Naresh Sharma Agri Economist	Agreement on proposal framework, alignment with government NAPA program profiles and recommended actions, implementation arrangements that can deliver the fastest results on the ground, priority regions/districts for project intervention
Ministry of Agriculture Development (MoAD)	Deepak Mani Pokhrel, Ph.D Senior Horticulturist	Agriculture related vulnerabilities and suitable interventions in mid hills and mountains, agriculture extension services that could support project implementation, agriculture research and on-going developments that could be field tested in farmer fields schools in selected districts
Ministry of Federal Affairs and Local Development (MoFALD)	Reshmi Raj Pandey Joint Secretary	MoFALD is the implementing arm for Local Adaptation Plans and well as WFP's focal ministry for its community asset creation program. The discussions focused on integrating these programs through the ministry's district and local level development planning process.
National Planning Commission (NPC)	Purushottam Ghimire Joint Secretary	Discussions on national planning priorities that could be addressed through project interventions; especially the reduction of food insecurity in target districts which receive annual food aid
Department of Soil Conservation and Watershed Management	Bharat Prasad Pudasaini Director General	Integrating the project's interventions on soil conservation with on-going programs of the Department and the District Soil Conservation Offices. Discussions on avoiding duplication with the ADB-funded project on watershed management in the western

		mountain and mid-hill regions
Institute for Social and Environmental Transition - Nepal (ISET-Nepal)	Ajaya Dixit Executive Director Tyler McMahon Representative ISET International Jayendra Rimal COO	ISET has produced a number of knowledge products on climate vulnerability and is a leading researcher in the area. Discussions focused on the lessons and findings of concluded research and ability to carry out identified risk reduction activities in the field through project
The Mountain Institute (TMI)	Brian J. Peniston Director, Himalayan Programs	The Mountain Institute is an international NGO working with mountainous communities with special focus on gender and poverty. TMI is an implementing partner working with WFP Nepal and have conducted a number of field surveys on climate-related emerging local issues with communities. Discussions focused on building on existing consultations and project implementation support, especially in gender related activities
Scott Wilson Nepal Pvt. Ltd.	Shuva Kantha Sharma CEO	Scott Wilson is an engineering consultancy firm that developed the extensive guidelines for community asset creation used by WFP Nepal and MoLD to design and carry out these projects in VDCs. Discussions focused on integrating disaster and climate resilience to the guideline and conducting related capacity building through the project
National Trust for Nature Conservation (NTNC)	Siddhartha Bajra Bajracharya, Ph.D Program Director, Mountain Environment	Integrating lessons of on-going research programs related to biodiversity and natural resource management in the high Himalaya to project outputs.

International and Multilateral Organizations

Organization	**Persons consulted**	**Outcome**
ICIMOD	David James Molden, Ph.D	Climate modeling for Eastern

International Organization for Mountain Development	Director General Ouyang Huwa, Ph.D Program Manager Water and Hazards Neera Shrestha Pradhan Hazards and Community Adaptation Specialist Water and Hazards	Himalaya; lessons and strategies adopted by on-going community projects; lessons of assessing carbon stocks in community forests and developing a sustainable financing mechanism for forestry programs
DFID	Ms.Sabita Thapa, Ph.D Climate Change and Natural Resource Adviser	Coordinating with and learning from the NCCSP project which is currently putting to test the LAPA framework in 14 districts of mid and far western Nepal. The selection of project target VDCs was based on the vulnerability assessment done at district level; and some activities are based on developed Local Adaptation Plans (LAPAs) in adjacent VDCs
IFAD	Bashu Aryal Country Program Manager	Discussion on IFAD's experience in community and lease hold forestry models and a poverty reduction strategy. Improved agro-forestry model emerges from the lessons of their implemented projects in the mountain districts of Karnali and Far-west.
UNDP	Mr. Vijay Singh Team Leader, Energy Environment and Climate Change UNDP Nepal Mr. Man Thapa Program Manager Disaster Risk Reduction	UNDP is supporting the delivery of the NCCSP project through a technical assistance package for capacity building. UNDP's Disaster Risk Management Program is rolling out a comprehensive risk reduction program for 5 years. Through this they would be mainstreaming CBDRM approach including community early warning systems in all districts through district committees. The project's district level implementation unit will have linkage with these district committees

District Consultations		
Agency	**Officials**	**Outcome**
DDC Chairman, Local Development Officer of Jumla, Humla	Shalik Ram Sharma Chief District Officer, Jumla. Arjun Thapa, Local Development Officer, DDC, Jumla Naresh Kumar Dhakal Local Development Officer, DDC, Humla	Some key area for improving economic status of the rural poor are; Linking with RCIW (Ministry of Local Development) road corridor with effective collaborative work, Potential of commercial agriculture, NTFPs and addressing drought and hazards affected VDCs. District Development Committee (DDC) will coordinate all stakeholders to develop effective implementation mechanism in the district. Some key area to be focused are; weak public resource, possibility of lift irrigation, pond irrigation (plastic pond, rain water harvest tank), promotion in energy sector and development of interconnection road in the district, infrastructure development (school / health post)
DADO (District Agriculture Development Officer)	Aita Singh Gurung, District Agriculture Development Officer, Jumla Bauwa Lal Chaudhary Sr. Agriculture Development Officer, Humla	District Agriculture Development Office in the district is one of the key sectors for the promotion of livelihoods of the poor people. Some of the key area for the program intervention are; rain water harvesting/pond irrigation, plastic pond for the vulnerable group of farmers, sprinkle irrigation, drip irrigation, introduction of drought resistant varieties (red bean of local variety is drought resistant), promotion of cellar store for apple grower farm families, rustic store for potato, possibilities for the intercropping (bean some year) with apple and walnut, plantation and domestication of some key NTFPs in the lease- hold forest, livestock improvement (small ruminants), poultry farming, bee keeping, vegetable seed production (Carrot, Rayo, Corriander, Pea, Radish and local Bean) and linkage and coordination with local resource person (LRP).
DFO	Bharat Babu Shrestha District Forest Officer, Jumla	Total community forest user group in the Jumla district are 152 (19786.36 ha) and total lease hold

	Shyam Prasad Neupane District Forest Officer, Humla	forest 127 (1916.30 ha). There are 2500 to 3000 leasehold forestry in Humla. The major area for the improvement of the forest sectors are; plantation, control of forest fire and open grazing, fencing in the lease hold forestry, promotion of NTFPS and aromatic medicinal herb, agroforestry management, forest seedling production, promotion of forage and fodder crop species, watershed management, construction of green house for medicinal high value species, rain water harvest in water scare area.
District Statistic Office ,Jumla	Om Paudyal	Statistical information available from the district statistic office.

Local NGOs/ Community Organizations

Location	Name of Organization/ Group	Outcome
Nepal Red Cross Society Local Initiative for Biodiversity Research and Development (LiBIRD)_both in Jumla and Humla	Lok Darshan Shrestha, Chairperson from Nepal Red Cross Society, Jumla Jagadish Chaulagain, Nepal Red Cross society, Jumla. Sandesh Neupane (LiBIRD) District Coordinator (Jumla) Aasha Ram Gurung (LiBIRD) District Coordinator (Humla)	Karnali is one of the most vulnerable zone in the far and mid-western region therefore focus will be on existing programs such as; developing livelihood options, water availability, fruit farming and seed production Awareness and skill development programs are important at all levels. Small-scale enterprise development, management of drinking water supply system, irrigation and intervention of hydropower, complementary of software and hardware are recommended. Development of VDC level adaptation plan through LRPs, and in coordination with the multiyear and annual plan of DDC. Coordinating committee with private sector, regional, district (LDO) and VDC level (secretary) and village level is necessary for smooth implementation.

Local Communities VDC Name	No of Community and Gender	Outcome
Talium VDC_Jumla Community already involved in the LAPA process through NCCSP.	24 people (W=9, M=15)	Interaction with community at Talium VDC they are already involved in the LAPA preparation process, some of important points are; to promote and protect environment, make natural balance, natural resource management, use and distribution of resource, create awareness for the people. Some of potential areas for development are; apple orchards, off- season commercial vegetable farming and fruit farming. Reducing emphasis on cereal crops and promotion of fruit farming with intercrops, promotion of NTFPs and aromatic medicinal plants and herbs are identified as important livelihood avenues. LAPA process: Every three wards within a VDC are one group led by VDC secretary. Identified hazards drought, torrential rainfall, flooding, landslide, delay and infrequent snowfall, disappear of water source, hail storm, conflict among group of people (resource sharing),
Haku VDC _Jumla	25 W=11, M=14)	HAKU is a very vulnerable VDC in Jumla, with a number of issues such as crop production decrease, crop diseases, hail storm, untimely and inadequate rainfall, deforestation and lack of farm yard manure are major problems. Some others are; soil moisture in the farm, insect/pest and disease infestation, out of 150 household 100 are food insecure, poor, with inadequate supply of drinking water, dried water source, poor infrastructure (school), lack of awareness and poor adaptation capacity, production of NTFPs and medicinal plants have decreased.
Dandafaya VDC of Humla	People 15 (W=5, M10)	Community perception of climate change and its impacts are; delay and reduced frequency of snowfall, untimely and erratic rainfall, prolonged dry spells that affects winter

		crop, water stress (irrigation and drinking water), scarcity of drinking water sources, increased pest and disease incident both crop as well as livestock, early maturity of crops, decrease in crop production, limited seed availability, local crop varieties (low production), lack of fodder and forage crop species, low production, short duration of sun/day light, Change pattern in the qualitative and quantitative yield of vegetation types in community forests.

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

Component 1: Baseline without AF support

In the baseline scenario village development planning would follow the traditional route, excluding women, lower castes and other disadvantaged groups. Climate risks would not be taken in to consideration in the planning process and financing would be allocated for projects with elite bias.

In many villages the current asset building program operates without any climate risk assessment. This approach compromises the sustainability of village infrastructure such as rural roads, foot/suspension bridges, irrigation canals, water ponds and even community buildings. Further, there are the 'creeping and slow' disasters such as dry spells and drought, shifting of timing of precipitation, and food security situation are not captured in the current local development planning process. Women in general and households belonging to minor ethnic groups and socially excluded castes wield very little power to influence policy decisions at village level.

This component also addresses issues of mainstreaming and coordination with the normal development processes at local and national levels, information sharing and training. The baseline without AF support is a situation where adaptation priorities would not be elaborated in the target VDCs and these priorities are not financed through normal village development planning. Technical agencies delivering support in districts and Ilaka would not be aware of the specific climate risks faced by the VDCs in their area; nor of the adaptation-based development priorities of these communities. These agencies would conduct standard programs for the area without tailoring technical information, seed supply or marketing programs to the specific adaptive needs. In turn, the viability of these programs and their long-term sustainability would be compromised. Local level officers and NGOs working for development programs in districts have very little awareness on climate change issues and even less training on how to deal with grassroots problems stemming from climatic changes. There is no methodology to assess the comparative risks faced by VDCs and initiate mitigation actions in order to protect livelihoods. District development plans and budgets do not integrate climate change risks to production and food access. At national level, Ministries such as MoFALD, MoAD and MoFSC (Ministry of Forests and Soil

Conservation) manage sector-specific research and development program with minimal integration of climatic foresights; which could cause serious setbacks to their own development outcomes.

In the baseline scenario, there is no mechanism to generate and share information on risks, best practices and implementation modality.

Adaptation alternative: Adaptation planning is the first and most important step of the project. While the planning process will follow broad guidelines set out by the LAPA Manual[59] there will be specific activities that will address the discrimination towards women and disadvantaged groups that prevent them from actively participating in village decision-making. Each target VDC will have a local plan for adaptation, which can be easily integrated in to village development plans. This local adaptation plan will identify vulnerable households and groups (women-headed households and very poor) within a VDC and specify adaptive actions for core systems such as water, agriculture, livestock, forestry, infrastructure. Therefore, each VDC will have its own plan for adaptation ***and*** development which could be updated locally as necessary. Importantly, the planning process will increase community capacity to identify climatic hazards, analyze trends and anticipated impacts. Even more, the community would be able to plan adaptation actions that combine science and technical know-how of the supporting agencies. This would enable the community to take proactive decisions to increase their collective and individual capacities to face climate risks; and facilitate a number of autonomous adaptation measures beyond the project scope.

The adaptation alternative in this component also seeks to address the knowledge and training gaps that exist in the district and local planning sphere. The component seeks to support replication of the adaptive practices in other VDCs and districts, and integrate adaptation needs and climate change risks in to plans and programs of VDCs, DDCs, line agencies and ministries etc.

Through Output 1.3, the project seeks to elevate the local adaptation plan to the development process and incorporate adaptation priorities in the funded development projects of the VDC. In addition to the local plans, the projects seeks to develop adaptation plans for a 'cluster' of VDCs at a watershed level so that eco-system based priorities (water, forestry) could be implemented through technical line agencies. These plans and specific projects would then be discussed at stakeholder meetings at Ilaka level and at the DDC, enabling coordination with other initiatives and government programs with similar focus.

Through Output 1.4 the project seeks to develop the capacities across all local, Ilaka and district levels to plan and deliver adaptation benefits. These training programs would incorporate climate risk assessments, incorporating gender and food security concerns, participatory approach to planning and tools recommended by LAPA for prioritizing adaptation needs.

Through Output 1.5 the project seeks to generate and share information on adaptation practices and delivery mechanism with communities at risk, policy makers and district

59 National Framework on Local Adaptation Plans for Action (LAPA). Government of Nepal, Ministry of Environment Climate Management Division 2011

planners. This knowledge management component is described in more detail above, and is targeted to generate interest and awareness on cost-effective adaptation practices in the area and nationally.

Output 1.6 is specifically designed to work with national Ministries to mainstream climate change risks and adaptive practices into areas that have direct impact on rural livelihoods, including rural infrastructure development programs (design and guidelines); and research on climate resilient crops and cropping systems (including agro-forestry, protected agriculture and high value crops).

Component 2: Baseline without AF Support

In the baseline scenario, activities such as community asset building and community lease hold forestry would be carried out in these VDCs without alignment to the general village development plan or being designed to manage climate risks. Agriculture production and availability of water resources would continue to be impacted by climate variability and uncertainty, resulting in lower yields and water scarcity for crops, animals and people. Lower yields means less food availability, and less income for the most vulnerable households. As a result people tend to shift towards negative coping strategies such as consuming less food, buying more on debt, selling off livestock and other assets, migrating out for labor, and consuming seed stocks preserved for the next season. Vulnerability would be highest among women and communities minor ethnic groups and socially excluded castes along with decreased income earning opportunity, access to technology and level of skill.

Mountainous regions have fragile ecosystems and food insecurity at household level is further exacerbated by environmental change and stresses.[60] The livelihoods of mountain communities are more strongly linked to the availability and management of natural resources such as water, soil and forests. While people realize the intrinsic linkage between forests as watersheds and the availability of water, there is little incentive to protect and preserve watersheds against the more urgent needs for timber or firewood. Gradual depletion of the natural resource base combined with rainfall variability will impact on productivity and availability of water. There will also be adverse impact on the environmental services rendered by the mountain eco-systems contributing to downstream impacts in valleys and the Tarai.

Adaptation alternative: The five outputs of component 2 are designed to deliver concrete adaptation actions that can transform the current practices related to production and natural resources management in mountainous villages. The actions relate to the strategy of providing two-pronged support: 1) income and infrastructure improvement for higher adaptive capacity at community and household level; and 2) better management of soil, water and forests for ecosystem integrity. Every household will benefit from cash for work programs that will result in the construction of community infrastructure –water retention ponds, small irrigation channels, suspension bridges and roads connecting to markets and towns and community buildings. Community infrastructure needs will be prioritized during the adaptation planning exercise for its effectiveness in delivering adaptation benefits versus the costs. The improved model of lease-hold forestry that will be introduced through the

[60] Responding to Challenges of Global Change- enhancing Resilience and supporting adaptation of mountain communities. ICIMOD Project Brief 2009

project will support landless families to own and improve degraded forests for their income. This model is already tested out by IFAD in their WUPAP (Western Uplands Poverty Alleviation Project) and will contribute to added tree cover (through fruit, timber and other perennials) in the VDC. Soil management, slope stabilization and improved production methods (such as drought tolerant varieties, short duration grain types, high yield vegetables etc), and livestock keeping will increase farm incomes. Women are especially targeted through this component to develop their skill level and initiate small-scale cottage industries that are climate proof. In other words, families would have an income source that is not impacted by climate shocks and variability. Women will also have equal access to cash-for-asset programs and other agricultural training programs that will be initiated through the project. Disadvantaged groups would have equal access to income and training opportunity and access to communal land.

Overall, the project outputs relate directly to problems identified through stakeholder consultation and secondary data analysis (see the table below). The outputs are designed to provide income and food security short term (during project duration), medium term production benefits and long term capacity improvement (planning, skills and social organization) for at-risk communities by following the LAPA framework and using district and VDC coordinating structures for project support.

Problem Analysis	Solutions Proposed by stakeholders National, district, community	Related Project Outputs
1. Low yield due to lack of timely rain and irrigation for crops	- Improved irrigation - Improved water storage - Better local water source protection - Drought/ disease resistant crops - Shift to perennials - Forest production increased - High value crops and medicinal crops - Soil conservation/ terrace improvement - Promote IPM, low input, organic agriculture - Strengthen farmer-farmer seed system - Promote agro-forestry to enhance ecosystem services important to agriculture - Promote multiple use of water	-improved water management including irrigation channels, ponds and other. -improved soil management -Local farmer seed banks -Increased agro-forestry produce -increased income from NTFP especially herbs and mushrooms -farmer field trials for drought resistant crops and high yielding intercropping systems -Farmer field school for production related training and tools including MUS, IPM .
2. High level of seasonal food insecurity	- income opportunity increased - access infrastructure improves - markets and market networks improved	Increased income – cash or food for assets Food storage, value addition,

	- production increased - food buffer stock storage increased - more local varieties, drought resistant crops promoted - agro-forestry and intercropping promoted	utilization, local markets Increased agricultural production
3. Lack of community access to information on new livelihood technology	- Improve extension services with information and training	Key informants in VDCs and wards connected to regional agriculture resource people, and district extensions services VDC-level information center established
4. Lack of community access to quality services	- Increase diversity of livelihood - introduce cottage industry, high value vegetables and NTFP - Create local markets	Training for TA staff and local NGOs
5. Access to income, financial services and marketing	- Improved local markets - Greater access to regular, sustainable income sources - Access to credit and technology	Cash and food for assets Creating local food markets NTFP promotion Livelihood diversification for women
6. Lack of access to climatic information & knowledge	- Regular awareness programs - Participatory planning and prioritizing	Adaptation planning and prioritizing according to LAPA

J. Describe how the sustainability of the project/program outcomes has been taken into account when designing the project.

For target communities the project will deliver both short-term income opportunity and longer-term production related impacts. Sustainability of these interventions are assured through their cost-effectiveness, a delivery mechanism that will strengthen community management of assets, and implementation and monitoring support by local government bodies that will ensure greater ownership and maintenance support. Moreover, the project will be implemented through the mainstream service delivery mechanism with strong technical assistance from the World Food Program, which has a strong presence in Karnali.

The project aims to work closely with key mainstream players of research and development, and also share responsibility for service delivery with these key players. This approach is anticipated to ensure that the system will operate after project activities are concluded. Project activities and adaptation planning are mainstreamed into local and district level planning through implementation; and mechanism are put in place to draw down resources from district development to fund adaptation measures.

One of the key outputs of the project will be to increase the access of households, communities and local institutions to service and service delivery mechanisms locally, and through the demand for their services to build the capacity of service providers to continue to provide services when the project closes.

The sustainability of specific outcomes is described below:

Output 1.1: The exercise of community adaptation planning will provide a number of capacity building opportunities for local communities. Firstly, the meetings and workshops associated with the process will increase community understanding of climate change, its local impacts on life and livelihood and future challenges.[61] Secondly, the process will influence decisions that households make on crop types, livelihood choices, water usage, livestock rearing etc. It will trigger autonomous or spontaneous adaptive practices outside of those that will be promoted and funded through the project. The process will develop planning and envisioning capability among community, especially local user groups, and networks.

Output 1.2: Mothers groups and local women's cooperatives will be developed and strengthened through this output leading to increased participation in development decision making and productive activity

Output 1.3: By mainstreaming adaptation plans, the project ensures longer term sustainable financing for identified priorities through decentralized budgets

Output 1.4: Training and skills development for identifying, planning and delivering climate change adaptation will facilitate wards, VDC and DDCs to integrate resilience in to regular development planning. A trained cadre of extension officers able to undertake risk assessment and recommend adaptive actions would benefit government service delivery. Trained trainers will support development projects and climate adaptation projects that would follow,

Output 1.5: Dissemination of lessons will support replication at ward, VDC, district and national levels. The agriculture technology information center will be developed in to small-scale local business by the third year, where the center would be providing information, seeds and equipment for a nominal profit to farmers.

Output 1.6: Climate adaptation will be reflected in key national plans and standards relating to livelihood sectors especially those adopted by MOFALD, MoAD, MoFSC. These will be owned and updated by the technical line ministries

Output 2.1: Community physical and natural assets built through this output will be managed by the community user group (farmer, irrigation) and technical divisions of the VDC/ District authorities. The NGO/ CBO contracted to design and build these assets will be working with technical agencies at Ilaka or district level, and with WFP's support teams in country or regional sub-offices. The community asset score tool will be employed to monitor the functionality and usage of these structures and natural resources.

[61] Lessons from LAPA exercise conducted by NCCSP project in 14 districts of mid and far-west. March to July 2012

Output 2.2: Community food stores, seed banks and local value addition will be sustainably managed by local user groups, especially women focused user groups mobilized in Output 1.2. It is expected that these ventures would create local employment and income for women-led cooperatives in addition to creating food availability and access.

Output 2.3: All interventions leading to increased and cost-effective agricultural production will be sustainable because a high anticipated rate of adoption by farmer groups the ensuring economic rewards Agriculture and livestock extension officers trained and mobilized through Output 3.2 would support NGO, CBO activities in the field increasing local government/ technical agency ownership of the initiatives.

Output 2.4: Income diversification for women and disadvantaged households will be sustainable provided markets and credit facilities are available to develop their full potential. Alternate income generation will be supported by local level market development through Women's Service Centers and local cooperatives envisioned in output 2.5 and 2.2 respectively.

Output 2.5: The project will deliver skills and information enabling women to adopt renewable energy that directly support livelihoods and household needs. The direct adoption of these will be complemented through material provision. The maintenance and up-keep will be in the hands of trained user/ community groups and local technical resource people trained in 3.2. The women's service center will be run as a business venture by local women's cooperatives.

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PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project implementation.

The Ministry of Environment, Science and Technology (MoEST), as the overall project implementing agency will establish a Project Steering Committee under the Secretary. This committee will consist of members representing key Ministries; especially Ministry of Federal Affairs and Local Development (MoFALD) as the main implementing entity. The UN World Food Program will be invited as a member of the Committee.

Joint Secretary, Environment and Municipal Management Division of the MoFALD will be a member of the Steering Committee and head the Project Coordinating Committee (PCC). The PCC is established at MoFALD to coordinate all climate change related activities implemented through MoFALD in DDCs. Project management and administration support will be provided to Environment Management Division of the MoFALD through which all implementation activities would be conducted.

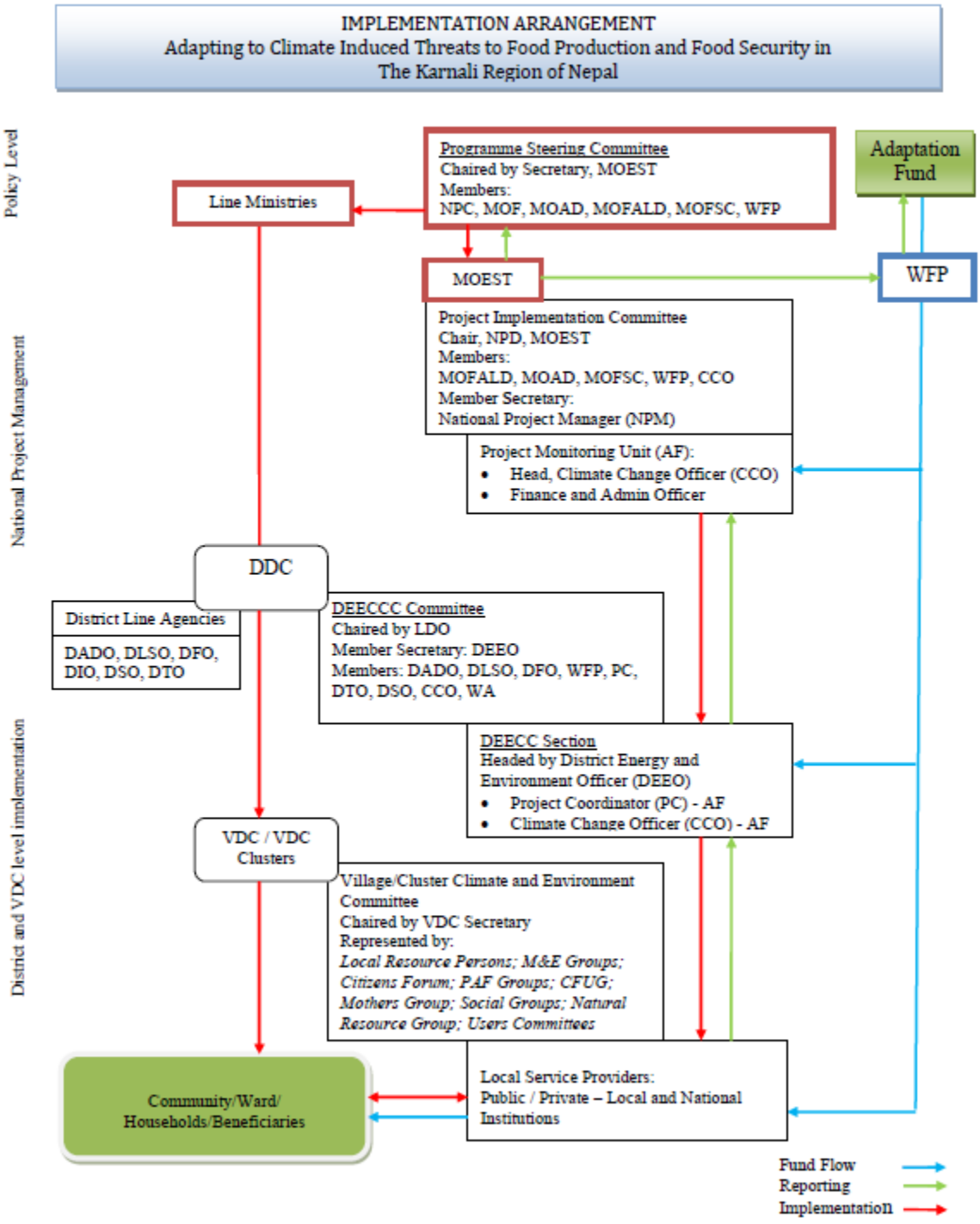
At District level, the project will support a coordinator based in the DEECC Section (District Energy, Environment and Climate Change Section) to support implementation through national and non-government partners. Mechanisms already established for the NSCCSP project would be utilized to avoid duplication and improve synergies between the projects in the target districts.

At village level it is envisioned that there would be a separate mini-VEECC (Village Energy, Environment and Climate Change) Committee in the VDC to coordinate activities of climate change projects including AFB, NCCSP and other. This village committee would be represented through citizens groups, local technical extension officers, village leaders, local experts, VDC Secretary etc.

A WFP project coordinator would be supported through the project execution budget to liaise between the Project Coordination Committee and the Project Support Unit. The coordinator would be entrusted with budget monitoring; provide implementation and logistical support to the districts, and ensure the quality and timeliness of monitoring and reporting activities related to the project. The coordinator would also be responsible, along with the Project Manager, to ensure that field implementation reports are reviewed by the PCC quarterly and bi-annually and suggest any remedial actions for problems and issues in implementation.

The Environment Management Division at MoFALD will support regional cluster officers to provide climate adaptation support to the DEECCs as well the Ministry. These officers will be the M&E focal points between the WFP Coordinator and DEECCs.

The Implementation Structure is presented below:


IMPLEMENTATION ARRANGEMENT
Adapting to Climate Induced Threats to Food Production and Food Security in The Karnali Region of Nepal
Policy Level
National Project Management
District and VDC level implementation
Programme Steering Committee
Chaired by Secretary, MOEST
Members:
NPC, MOF, MOAD, MOFALD, MOFSC, WFP
Adaptation Fund
Line Ministries
MOEST
WFP
Project Implementation Committee
Chair, NPD, MOEST
Members:
MOFALD, MOAD, MOFSC, WFP, CCO
Member Secretary:
National Project Manager (NPM)
Project Monitoring Unit (AF):
Head, Climate Change Officer (CCO)
Finance and Admin Officer
DDC
District Line Agencies
DADO, DLSO, DFO, DIO, DSO, DTO
DEECCC Committee
Chaired by LDO
Member Secretary: DEEO
Members: DADO, DLSO, DFO, WFP, PC, DTO, DSO, CCO, WA
DEECC Section
Headed by District Energy and Environment Officer (DEEO)
Project Coordinator (PC) - AF
Climate Change Officer (CCO) - AF
VDC / VDC Clusters
Village/Cluster Climate and Environment Committee
Chaired by VDC Secretary
Represented by:
Local Resource Persons; M&E Groups; Citizens Forum; PAF Groups; CFUG; Mothers Group; Social Groups; Natural Resource Group; Users Committees
Community/Ward/ Households/Beneficiaries
Local Service Providers:
Public / Private – Local and National Institutions
Fund Flow
Reporting
Implementation

B. Describe the measures for financial and project risk management.

Financial and project risk management measures will be assessed as an on-going process throughout the project as below.

Risks and Responses

Risk		Response Measure
Lack of awareness among participating NGOs and CBOs on climate change and potential impacts	Low	The project has built-in awareness and capacity building programs for local NGOs and CBOs who will be delivering the project. This will not be a one-off intervention. Given that there is high staff turn-over rate in many of these local organizations, it is planned to provide them regular (annual) programs on climate risk and adaptation.
Delivery of interventions in logistically challenging mountainous areas with no road access	Medium to High	The World Food Program targets districts with high prevalence of nutrition and food security. These are in the most difficult areas of the country to access, and they overlap with the project areas. Thus, delivery mechanisms are already on the ground. The project would further strengthen the current delivery modality of working through NGO partners by strengthening government service delivery and extension mechanisms.
Changes in decentralized district and VDC structures in the next three years negatively affect the project	Low	Envisioned constitutional changes are meant to strengthen and further bolster devolution of power to the districts. It is hoped that these changes will result in greater political autonomy at local level. In view of this, the project supports both adaptation and development planning with participation of women and disadvantaged groups building their capacity to fully engage in VDC planning.
Local government in project implementation areas fail to prioritize climate change policies in their strategies and plans.	Low	The project will work closely with Citizens Forums at Wards, VDC secretaries, and LDOs to ensure that adaptation priorities remain on top of the developmental agenda. This will be done through training, capacity building, and their engagement in supervising the implementation and monitoring of the project
Community are incapable of managing and maintaining assets and structures built through the project	Low	Community user groups will be strengthened and formed (where unavailable) to maintain the assets and infrastructures created through project intervention. A recent survey of WFP asset building program found that functional and productive assets are sustainably managed by both community and local government.
Market access and financial assistance for alternate livelihoods and crops are unavailable in the target VDCs at required time	Medium	By linking target VDCs to the regional center Jumla's headquarters, the project hopes to create sustainable linkages with markets, marketing networks and financial services

C. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan. Include break-down of how Implementing Entity's fees will be utilized in the supervision of the monitoring and evaluation function.

Overall responsibility for monitoring and evaluation will rest with the Under Secretary, Environment Management Section (EMS) of the MoFALD and the Project Coordinator at the World Food Program.

In the districts, the DEECC will be the focal points for monitoring and evaluation, supported by a dedicated coordinating officer and a finance and administrative assistant; it will have corresponding project-supported staff to oversee implementation and monitoring.

The project will conduct a sample baseline assessment in each VDC to establish necessary detailed baselines to measure indicators set out in the results framework. The survey will be based on household questionnaires administered by project partners or Field Monitors attached to NeKSAP Food Security Monitoring Network.

M&E will be carried out concurrently with project execution. Quarterly technical reports will be collated from each district's technical agencies. Semi-annual Progress reports will be generated by the DEECC-based coordinator collating reports from all VDC-level project staff.

Annual Progress Review will be coordinated and produced by the WFP Project Coordinator and National Project Manager, with inputs and guidance from MoFALD and MoEST. The data for monitoring will consist of financial, procurement and physical progress reports as well as compliance with the requirements of the environmental and social assessment and management frameworks, along with financial audit reports. The issues to be reviewed by NPSC on monitoring and evaluation would include the efficacy, efficiency, sustainability, acceptance by the stakeholders of project actions. Quantitative targets will be supplemented with narrative reports. Such reports would be made available in time for NPSC to review and discuss during its meetings.

Type of M&E Activity	**Responsible Parties**	**Budget (US$) does not include staff time**	**Time Frame**
Project Inception Workshop (IW)	Project Manager and WFP Coordinator	30,000	Within first three months
Inception Report	Project Manager and WFP Coordinator	2,000	Two weeks after IW
Household survey for results monitoring- income, coping strategies, consumption and assets	Project Manager	43,900	At beginning (Quarter 1) and end of project (Quarter 4/year 3)
Quarterly Technical Reports from District Implementation Committee	District Coordinator	20,800	End of each quarter

Semi-annual Progress Reports (SAPR)	Project Manager	6,000	End of every Six Months
Annual Progress Reports (APR)	Project Manager/ WFP Coordinator/ JSUS, EMS, MOFALD	7,500	End of each year
Meetings of Project Steering Committee	Project Manager/ WFP Coordinator/ JS MOFALD	5,000	First after IW and thereafter to review SAPR
Meetings of Technical Advisory Panel at MoFALD	Project Manager/ WFP Coordinator/ JS MOFALD	2,500	At least six monthly to review divisional and basin reports
Technical Reports	Technical Consultants	0	As required
Mid-term Evaluation (MTE)	External Evaluator/ Technical Consultants/ Project Coordinator	27,900	At midpoint of project execution- 18-20 months
Final Evaluation (FE)	External Evaluator/ Technical Consultants/ Project Coordinator	45,000	End of project cycle
Final Report	PPD MoE, Project Coordinator, WFP Coordinator	0	At least two months before project cycle ends
Financial Information Audit	WFP	18,000	Yearly
	TOTAL	**208,600**	

D. Include a results framework for the project proposal, including milestones, targets and indicators and sex-disaggregate targets and indicators, as appropriate. The project or program results framework should align with the goal and impact of the Adaptation Fund and should include at least one of the core outcome indicators from the AF's results framework that are applicable[62].

[62] Please refer to the *Project level results framework and baseline guidance* for the Adaptation Fund's results framework and guidance on developing a results framework and establishing a baseline [add link here].

Alignment with AFB Results Framework

Project Objective(s)[63]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator
1. Strengthened local capacity to identify climate risks and design adaptive strategies	Percentage target population aware of predicted climate change impacts; and of appropriate responses	**Outcome 3 Strengthened awareness and ownership of adaptation and climate risk reduction at local level**	**3.1 Percentage of target population aware of predicted adverse impacts of climate change and of appropriate responses**
2. Diversified and strengthened livelihoods, livelihood assets and improved access to food for climate vulnerable households.	No of households with increased income Percentage decrease in negative coping strategies	**Outcome 6. Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas**	**6.1 percentage of targeted HH and communities having increased access to livelihood assets**
3. Increased resilience of natural systems supporting community livelihoods to climate change induced stresses	Natural assets maintained and improved -soil quality -agricultural and domestic water availability -district forest plantations	**Outcome 5: Increased ecosystem resilience in response to climate change and variability induced stress**	**5.1 No and type of natural resource assets created, maintained or improved to withstand conditions of climate variability**
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**
Climate vulnerable and food insecure poor actively participate developing climate risk reduction strategies and actions, and ***Ownership and management of climate risk reduction activities and replication of lessons are strengthened in key livelihood sectors***	No and type of climate adaptation strategies identified and implemented at local level Targeted institutions and community groups have increased capacity to reduce climate change risks in development practice	**Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities** **Output 2.2 Targeted population groups covered by adequate risk reduction measures**	**3.1.1 No and type of risk reduction actions or strategies introduced at local level** **2.1.2 Capacity of staff to respond to, and mitigate impacts of climate related events from targeted institutions increased.**
2. *Livelihoods are diversified and strengthened, and livelihood assets*	No of households with increased income	**Output 6. Targeted individual and community livelihood**	**6.1.1 No and type of adaptation assets created in**

[63] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

and access to food for climate vulnerable households are improved	Percentage decrease in negative coping strategies	**strategies strengthened in relation to climate change impacts**	**support of individual or community livelihood strategies** **6.1.2 Type of income sources for households generated under climate change scenario**

Project Results Framework

Goal:	**Increasing adaptive capacity of climate vulnerable and food insecure poor by improved management of livelihood assets in Karnali mountain districts of Nepal**				
	Indicator	Baseline	Target	Means of Verification	Risks and Assumptions
Objective 1 : Strengthened local capacity to identify climate risks and design adaptive strategies	Percentage target population aware of predicted climate change impacts; and of appropriate responses	Less than 5% of target population aware of CC impacts and are able to devise appropriate adaptive strategies	80% of all target households display greater awareness on impacts and adaptive strategies	-Adaptation plans -Community feedback survey -DDC budget reports	Community development priorities and adaptation priorities are easily combined to one plan Current and immediate climate risks do not undermine planned improvements in production Livelihood diversification efforts are complemented by markets and technology
Objective 2: Diversified livelihoods and strengthened food security for climate vulnerable poor in target areas	Percentage of target households with stable and climate resilient sources of income	Livelihood and income insecurity is high. Over 25% of household income comes from uncertain sources such as wage labor. Exact baseline to be established through survey	At least 60% of target households report greater livelihood security compared to baseline	-Project end survey -Mid-term and end of project impact review	

Objective 3: Increased resilience of natural systems that support livelihoods to climate change induced stresses	Natural assets maintained and improved - No of households with improved access to water for agriculture and drinking -No of households engaging in Multi-Use Systems (MUS)[64] technology - No of households have access to forest products in soil quality -Status of forest resources	Natural resource base is severely depleted due to climatic and population stresses	At least 50% of the target households report better and greater access to natural resources	-Forest user groups annual reports -Mid-term and end of project impact review	
Outcome 1 *Climate vulnerable and food insecure poor actively participate developing climate risk reduction strategies and actions*	No and type of climate adaptation strategies identified and implemented at local level	Adaptation strategies are not identified or implemented	>80% of target households have skills and knowledge to adopt adaptation strategies such as; • Greater and more stable livelihood diversity • Increased food storage and consumption • Improved soil management • Improved water management • Post- harvest technologies • Resistant crop varieties • Knowledge of climate risks and adaptation strategies • Responding to early warning and forecasting	-Project quarterly and semi-annual progress reports - Midterm and end of project impact reviews - DEECC section reports on project progress to Under Secretary, EMD, MoFALD	All section of community participate in identifying and designing risk reduction strategies The prioritizing of adaptation options are free of elitist bias but have concurrence of all groups in VDC
Output 1.1 Local food security and climate adaptation planning at Settlement, VDC and watershed	Adaptation plans available for all target VDCs available Adaptation plans identify	No adaptation plan is available at VDC level	21 plans are prepared through community participation	-Adaptation Plans -VDC Development Plan	

[64] MUS systems are commonly applied to improved efficiency of water through technologies that promote recycling, reusing and conservation

level supported	most vulnerable wards and settlements and priority adaptive actions				
Output 1.2 Gender and social inclusion are well integrated in to the adaptation planning processes	Marginalized groups participate in adaptation planning process Each VDC adaptation plan identifies the **most** vulnerable HH including women-headed households	Considerable exclusion of women and some ethnic-caste minorities from development decision making process at local level	All scheduled castes and communities participate in workshops Women's groups have 50% participation 21 VDC plans with vulnerable households and specific adaptive actions identified	-Adaptation Plans -VDC Development Plan	
Outcome 1 *Ownership and management of climate risk reduction activities and replication of lessons are strengthened in key livelihood sectors*	Targeted institutions and community groups have increased capacity to reduce climate change risks in development practice Type of Institutions: • Local (VDC and below) • District (DDC and agencies) • Regional and National National Capacity Assessment conducted	None of stakeholders interviewed report adequate capacity to respond to climate risks and formulate strategies Adaptation plans are not integrated or funded by DDC development plans	Capacity developed of all types of mentioned institutions. Capacity for adaptive action planning, design, implementation and monitoring increased. 40% of the priority actions remaining by year 3 of project are funded by regular development program	-DDC development budget discussion minutes - Mid term and end of project impact reviews	Local governments recognize and prioritize climate risks as a development threat
Output 1.3 Integrate local adaptation plans process with sector-wise, VDC and district planning process	VDC and DDC plans prioritize adaptive actions identified	VDC and DDC plans do not consider climate resilience	21 VDC and 2 DDC annual development plans incorporate climate risks and adaptive actions	-DDC plans -DEECC section reports –project annual progress reports	
Output 1.4 Train and mobilize officers and community representatives at village and district to design, implement and monitor local adaptation strategies	No of CBO/User groups trained No of community mobilisers trained No of VDC/DDC officials trained	No specialized adaptation training exist	- 200 community leaders and CBOs trained including user groups -50 community mobilisers trained in two districts -250 officials (agriculture,	Training program evaluations -annual evaluation reports of NGO/CBO performance - Project quarterly and	

	No of technical staff trained		livestock, forestry, irrigation) trained in two districts -Climate resilient agriculture manual available -NARC conducts 03 TOTs for regional agriculture extension officials	semi-annual progress reports	
Output 1.5 Conduct periodic assessment and document project lessons for dissemination at community, district and national levels	Knowledge products generated No of dissemination programs for community	None None	-10 case studies generated -02 economic, social and environmental impact analysis conducted -20 community exchange visits organized -10 community workshops organized -04 media field tours organized -Community radio programs developed in 02 districts	Project annual reports -media reports -community exchange programs feedback reports	Results dissemination ensures a greater profile for adaptation actions
Output 1.6 Integrate climate resilience to planning processes and development projects of key national ministries	No of sectoral projects and plans updated with climate risk information in key line ministries	Low level of support for climate risk integration in national programs	-Revised design standards for small rural infrastructure available -Regional and national agriculture research stations invest more in climate resilient models and their dissemination -At least two demonstrations of forest carbon stock measurements and carbon financing established in two districts	Project annual reports - Mid-term and end of project impact review	Ministries provide their fullest cooperation to the tasks identified
Outcome 2 *Livelihoods are diversified and strengthened, and livelihood assets and access to food for climate vulnerable households are improved*	No of households with increased income Percentage decrease in negative coping strategies	Household food and income sources threatened by climate variability Households engage in a number of negative coping strategies such	> Target population report food and income availability improved by 40% >75% of target households report reduction in number and frequency negative coping	-Project quarterly and semi-annual progress reports -Household survey at start and end of project[65] -VAM survey report on	Asset creation and production increase will result in greater incomes Increased income will reduce the need to engage in uncertain livelihoods

[65] Household survey is a part of the monitoring and evaluation framework

		as; -labor migration -selling assets -consuming less -consuming seeds	strategies	coping strategies	
Output 2.1 Increased income opportunity for poor households, especially during off-season, provided through building physical and natural livelihood related assets	Community Asset Score	VDCs have no sustained program to build and improve livelihood-related assets	Each VDC implements at least 03 priority (as per prepared plan) asset building program within project period These assets directly improve livelihood opportunities	- Project quarterly and semi-annual progress reports -Asset score report in every VDC at start and end of project	
Output 2.2 Increased access to and local availability of food through better storage and value-addition at local level in all target VDCs	Food Gap reduced No food preparation and storage technologies introduced	Villagers have no access to technology and information on value addition and storage Seed banks are not available	-HHs consume more food types, locally available food -Food processing centers in 21 VDCs -Local food markets created in 21 VDCs -Local seed banks created in 21 VDCs	- Project quarterly and semi-annual progress reports - Household survey at start and end of project	Local people are willing to modify food habits Local women cooperatives are able to initiate and manage seed banks, milling centers and food storage
Output 2.3 Improved model of lease-hold forestry implemented in target cluster VDCs/ for sustained income and food through agro forestry	Increased income from forestry sources No of women/ disadvantaged groups participating in leasehold forestry programs	Target VDCs have no lease-hold forestry program	Income from forest based NTFP increased by 30% in target VDCs	-DFO reports -DEECC section reports - Household survey at start and end of project -Project progress reviews	Department of Forests is able to identify suitable landholdings within target VDCs and provide technical back stopping for forest user groups
Output 2.4 Adapted current agricultural practices to new climate risks by improving crop management and animal husbandry practices	Key informants established in each VDC Field Trials conducted Improved agricultural and livestock management practices established	No such information dissemination system exists	At least 42 key informants trained and established Field trials and field extension conducted 85% target farmer households trained/ equipped (approx.. 7200 households)	- -Project quarterly and semi-annual progress reports - Agriculture extension office (ilaka level) annual progress reports - Household survey at start and end of project	Farmers apply knowledge from training program to the field Productivity increase is visible in the short duration of the project

Output 2.5 Increase adaptive capacity of women and disadvantaged groups through access to services and skills	Gender Participation in user groups and C/FFA Increased Women's well-being increased	Gender disparity high Women's skill level low and level of drudgery high	Women's groups formed for livelihood and income generating activities 21 women's service centers established.	- Project quarterly and semi-annual progress reports - Household survey at start and end of project	Women's engagement is guaranteed at all levels Women actively participate in service center facilities

E. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

(See Budget Annex 15 and Budget Notes Annex 16

F. Include a disbursement schedule with time-bound milestones.

(See Annex 13 for an Implementation Schedule)

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

A. RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT[66] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/program, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/program proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/program:*

(Enter Name, Position, Ministry)	Date*: (Month, day, year)*

B. IMPLEMENTING ENTITY CERTIFICATION *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/program contact person's name, telephone number and email address*

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 (……list here…..) and subject to the approval by the Adaptation Fund Board, understands that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/program.	
Name & Signature Implementing Entity Coordinator	
Date: *(Month, Day, Year)*	Tel. and email:
Project Contact Person:	
Tel. And Email:	

6. Each Party shall designate and communicate to the Secretariat the authority that will endorse on behalf of the national government the projects and programs proposed by the implementing entities.