REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	PROJECT
Country/ies:	LESOTHO
Title of Project/Programme:	Improving Adaptive Capacity of vulnerable and food insecure populations in the low-lying areas of Lesotho
Type of Implementing Entity:	MULTILATERAL IMPLEMENTING ENTITY
Implementing Entity:	WORLD FOOD PROGRAMME
Executing Entity/ies:	Ministry of Energy and Meteorology; Ministry of Agriculture and Food Security; Ministry of Forestry, Range and Soil Conservation;
Amount of Financing Requested:	USD **9,801,608** (4 years)

Project / Programme Background and Context:

Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

General context

Geography and Climate[1]**:** Lesotho is a landlocked country, surrounded by the Republic of South Africa (RSA), with an area of 30,355 square kilometres. Lesotho is located between latitudes 28° and 31°S, and longitudes 27° and 30°E. The landscape is a rugged terrain with elevation from 1,388m to 3,482m. Only 10 percent of the country's land is arable. Lesotho is segregated into four (4) distinct agro-ecological zones/regions, namely, the Lowlands (17 percent), Foothills (15 percent), Mountains (59 percent) and Senqu River Valley (9 percent). These zones are characterized by significant climatic and ecological differences. The geo-morphological and topographic conditions have largely confined favourable socio-economic conditions to the lowlands, the foothills and the Senqu River Valley, leaving the mostly barren and rugged mountain region mainly for grazing. The country's territory is mostly highland with its lowest point sitting at 1,400m above sea level (making it the highest base altitude in the world).[2]

[1] Second National Communication to the UNFCCC
[2] World Bank

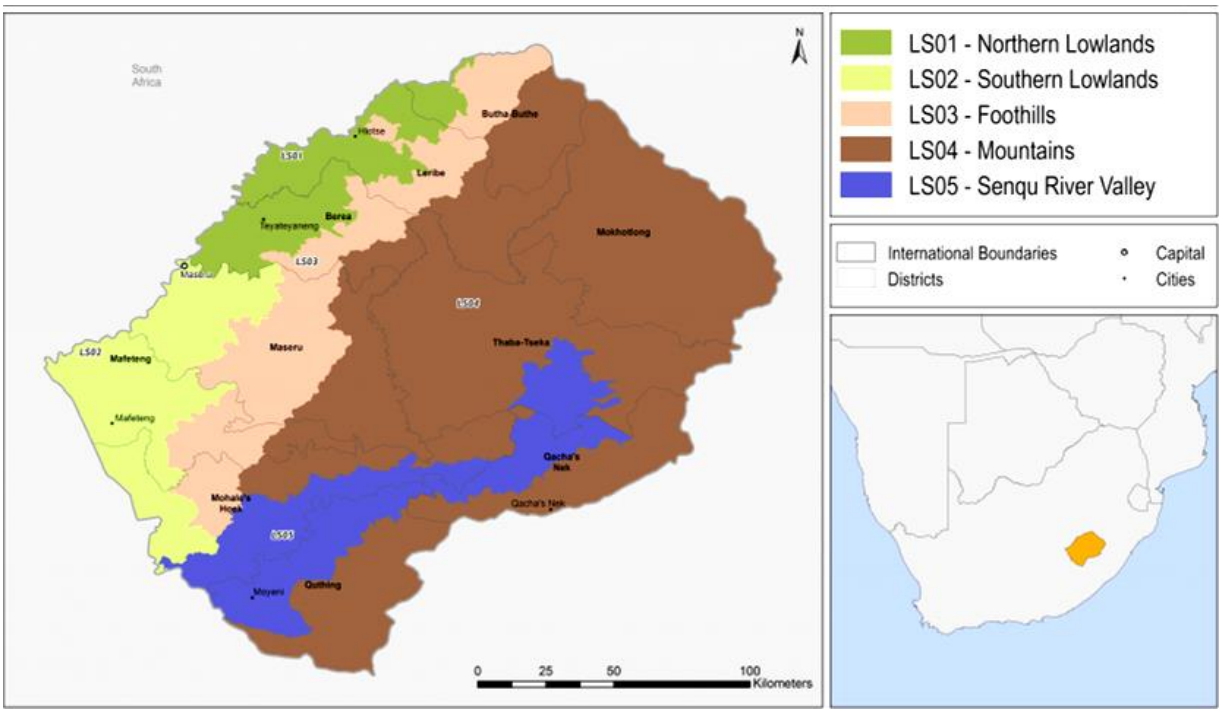


Figure 1: Lesotho districts and Livelihood zones (source: LVAC 2011).

The climate of Lesotho is generally classified as temperate with alpine characteristics. The country experiences hot summers and relatively cold winters. Air temperatures tend to be lower than in other countries at similar latitudes mainly due to greater elevation above mean sea level. The main characteristic of the country's climate is that it has four distinct seasons with huge fluctuations in temperature and erratic rainfall.

Economy: Lesotho is classified as a lower-middle-income country. More than half (57 percent) of Lesotho's people live on less than one dollar per day. The national poverty head count ratio, at purchasing power parity (PPP) US$1.25 a day, has increased and currently stands at close to 56.2 percent. Most of the poor population reside in rural areas, where livelihoods are heavily dependent on agriculture, whose viability is deeply threatened by climate change and land degradation. Lesotho's GDP currently stands at US$2.2 billion while its national gross income per capita is US$1,500 (World Bank). Revenue from the Southern African Customs Union (SACU) contributes a significant proportion to Lesotho's national budget. Agriculture, which contributes seventeen percent to the GDP, is a major source of livelihood for 80 percent of the population living in rural areas, although drought has decreased agricultural activity which has seen a rise in food insecurity among the rural population. Lesotho's climate has always been characterized by high variability, erratic rainfall, heavy rains, and mid-season dry spells. However, in recent decades there has been an increase in year-to year variability that has reduced capacity of farmers to plan ahead of the season. Despite the impacts of climate variability, it should be noted that crop yields from a comparative environmental context in the Free State Province (FSP) of South Africa, just across the border from Lesotho's drier Mafeteng and Mohale's Hoek districts, surpass the crop yields in Lesotho by 2.5 to 9 times. Agriculture in Lesotho is predominantly traditional, characterised by rain-fed cereal production and extensive animal grazing, with the contribution of the livestock subsector roughly double that of the arable subsector. Agricultural growth range has decreased

leading to a decline in incomes due to unfavourable weather, declining and poor soil fertility, mismanagement of land and lack of application of modern agricultural methods. The distinct contrast with FSP could be attributable to widely differing crop, livestock and natural resources management, and efficient use of agricultural inputs, access to climate information and underlines the scope for adaptation in Lesotho.[3]

Lesotho's economy remains intricately linked to that of its regional and international partners, especially South Africa. Revenue from SACU, which forms a significant portion (over 60 percent in 2008-2009) of the Government's budget, had reduced to about 32 percent in 2015 with a further reduction to 17 percent in the 2016/17 financial year. Poverty, inequality, and unemployment remain major development challenges facing Lesotho despite high literacy rates and high investment in social sectors over the years. Over 50% of the population remains unemployed and inequality, as measured by a GINI coefficient of 0.5, is considered unacceptably high and is increasing.[4]

Lesotho imports 70 per cent of its annual food consumption, therefore soaring prices and the global economic downturn have hit Lesotho hard. Most crops and livestock are produced in small villages distant from the major roads. The products are consumed locally with the surplus shipped for sale and profit in outside markets

Women occupy only one in three jobs outside of agriculture and whilst women represent a large share of those employed, women earn less and have less employment security than men. Women tend to have less access to a range of savings, credit, money transfers, insurance, and information. Consequently, they tend to borrow only in emergency situations and are less likely to seek loans to develop businesses or invest in their farms. Long geographical distances separating women from financial institutions and unfavourable terms and conditions make it difficult for them to access reliable and secure saving facilities.

Lesotho has the second highest HIV prevalence rate in the world, with one in every three adults estimated to be living with HIV/AIDS. The high prevalence of HIV/AIDS has inevitably led to higher morbidity and mortality rates, and the increasing burden of orphans and other vulnerable children (including child-headed households) has further exacerbated already weakened livelihoods and coping strategies, and further entrenched vulnerable groups living in poverty.[5] Life expectancy stands at 53 years.

The population's high vulnerability is further fuelled by recurring climate-related hazards, including droughts and recurrent early frost that damage maturing crops. Additionally, a low performing economy has resulted in underemployment with an estimated 29 percent of people below the age of 35 years said to be unemployed. These factors further added to the increased impact of climate change exacerbate the vulnerability of households often leading to a high risk to food insecurity.

[3] FAO: Strengthening Capacity for Climate Change Adaptation in Agriculture: Experience and Lessons from Lesotho
[4] AFDB Lesotho Economic Outlook
[5] Lesotho NAPA

Climate change vulnerabilities, impacts and risks

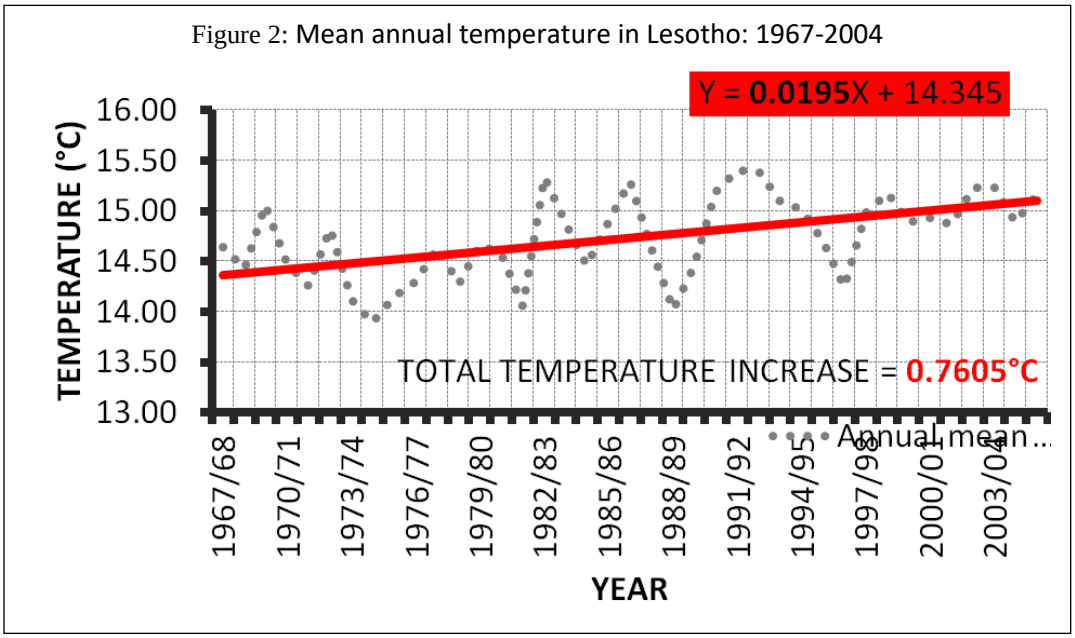
a. Climate trends and projections

Climate trends

In recent years, Lesotho has been experiencing an increasing frequency of natural disasters and erratic weather conditions such as drought, snowfall, hailstorms, strong winds, localised floods and early frost[6].

According to Lesotho's Intended Nationally Determined Contribution (INDC), the trend analysis of temperature over most areas of the country (Fig. 2) show increases in both annual maximum and minimum temperatures between 1968 and 2006 with minimum temperatures warming more than the maximum temperatures with the most rapid warming in the early 1980s . In 2016, the country experienced the worst El Niño related drought in 30 years.

Figure 2: Mean annual temperature in Lesotho: 1967-2004



Climate projections

The projected climate change scenarios for Lesotho include increasing temperatures, changes in rainfall patterns, decreasing summer precipitation[7], increasing intensity and frequency of extreme weather events such as drought, heavy rainfall, hail storms, prolonged mid-season dry spells, and late start and early termination of the rainy season[8].

The projected changes in climatic conditions for 2030, 2050 and 2080 are summarised below[9]:

[6] National Communications
[7] FAO: Strengthening Capacity for Climate Change Adaptation in Agriculture: Experience and Lessons from Lesotho
[8] Studies by the Intergovernmental Panel on Climate Change (IPCC) and Lesotho Meteorological Services (LMS)
[9] Studies by the Intergovernmental Panel on Climate Change (IPCC) and Lesotho Meteorological Services (LMS)

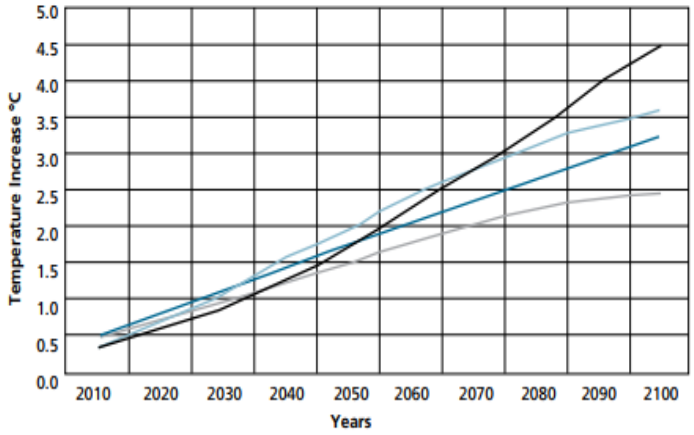


Figure 3: ***Annual temperature scenarios for Lesotho (source: Lesotho Meteorological Service***

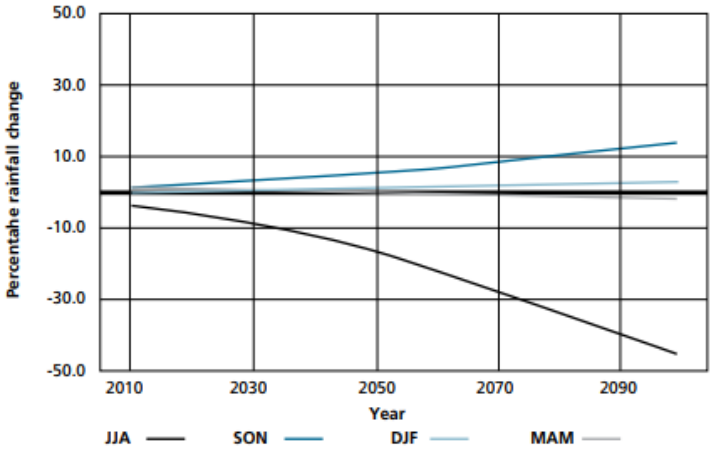


Figure 4: ***Seasonal rainfall projections for Lesotho (source: Lesotho Meteorological Service)***

- **Increasing climatic variability, and frequency and intensity of extreme weather events**: this includes droughts and heavy rainfall and captures the magnitude of non-average climatic events over short timescales rather than direction of change.

- **Gradually changing mean**: this shows the general direction of change, with reasonable levels of confidence, and the magnitude or rate of change. For temperature changes, an increase in annual mean temperature of approximately 1.0°C by 2030, 1.5-2.0°C by 2050, and about 2.5-3.5°C by 2080 (Figure 3) is projected. For rainfall, a drying in winter is expected and moderate increases in summer rainfall, with stronger wetting towards the end of the century (Figure 4).

These projections are in line with the simulation modelling performed as part of the IPCC Fourth Assessment Report (Christensen et al., 2007, Boko et al., 2007).

b. Observed/future effects of climate-related shocks and stresses on livelihoods, food security and nutrition

The climate variability of Lesotho has resulted in the population developing livelihoods coping systems which in the past could ensure food security but are increasingly inadequate in the existing and projected climate-related stresses. The apparent increase in the frequency, magnitude and duration of climatic shocks in recent times is leaving local communities little or no time to recover from one event to the other, thus progressively eroding their capacities to cope with such events[10].

The trend of increasing temperatures has resulted in increased heat stress for crops, pasture and people. The 2016, El Niño-induced drought resulted in 49 percent of the rural population requiring emergency food and livelihood protection interventions.

[10] Lesotho Vulnerability Assessment

Climate change affects food systems as well as all dimensions of food and nutrition security including availability, access, utilization and stability. Smallholders are vulnerable to the slightest change in climate and it is crucial to create more awareness and action amongst policy-makers about the implication of changes in temperature and rainfall to the country's food security and well-being in the coming decades.

Changes in climatic conditions have already affected the production of some staple crops, and future climate change will continue to threaten and exacerbate the situation. Higher temperatures and changes in rainfall patterns will negatively affect both crop quality and quantity. Climate scenarios project high chances of a water stress by 2019, a situation which is expected to worsen by 2060 and will add more stress on agriculture. Increase in temperature and climate variability would induce further challenges in the form of increased pest and disease attacks, destruction of crops and increased spoilage. The probability of increased flooding places food transportation infrastructure and community assets at higher risk of damage. Further, poor access to relevant climate information limits ability of people to plan ahead in dealing with climate variability. Thus, for most farmers, climate change means lower agricultural outputs, which in turn means lower incomes.

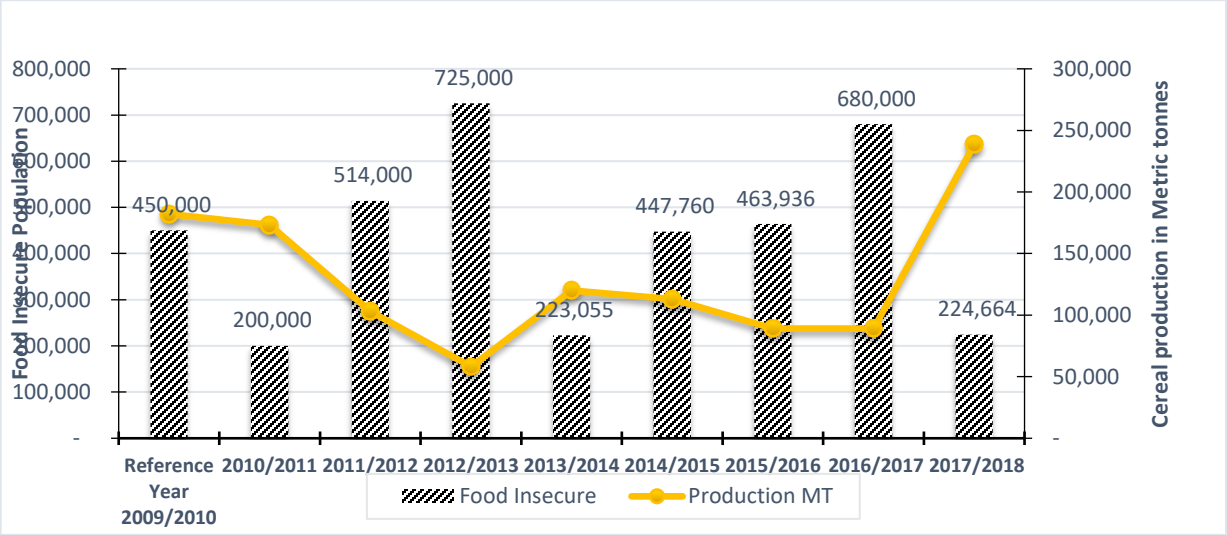
Climate change affects nutrition by influencing people's food security, dietary diversity, disease levels and patterns, water and sanitation environments, and choices about how to allocate time to their livelihoods and to caregiving. In turn, people's nutrition status and diet choices are affected by increased vulnerability to shocks and climate change impacts. For the poorest groups, the seasonal cycles of food availability, infection, and time use remain a significant challenge to nutrition security and provide a stark indicator of the vulnerability of populations to climate risk[11].

From the market perspective, climate change could increase the prices of major crops in Lesotho, exerting upward pressure on food prices of basic cereals. Under these conditions, the poorest people — who already use most of their income on food — typically sacrifice additional income and other assets to meet their nutritional requirements, or resort to poor coping strategies like skipping meals. This would have serious implications, particularly in the case of female-headed households, which generally have fewer assets than male-headed households.

According to the Lesotho Vulnerability Assessment Committee (LVAC 2016), the trend of food insecurity (Figure 5) is inversely correlated to production. In years of drought or dry spells such as 2012 and 2016, food production was observed to drop significantly and the population at risk increased. The trend, though fluctuating, indicates an increase in the food insecure population in most years. Climatic variability will thus result in more frequent unpredictable seasonal performance that will upset the stability of communities by creating fluctuations in food availability, access and utilization.

[11] Thomson, Madeleine; Fanzo, Jessica. 2015. Climate change and nutrition. In Global Nutrition Report 2015: Actions and accountability to advance nutrition and sustainable development. Chapter 6. Pp. 74-84. Washington, DC: International Food Policy Research Institute (IFPRI).

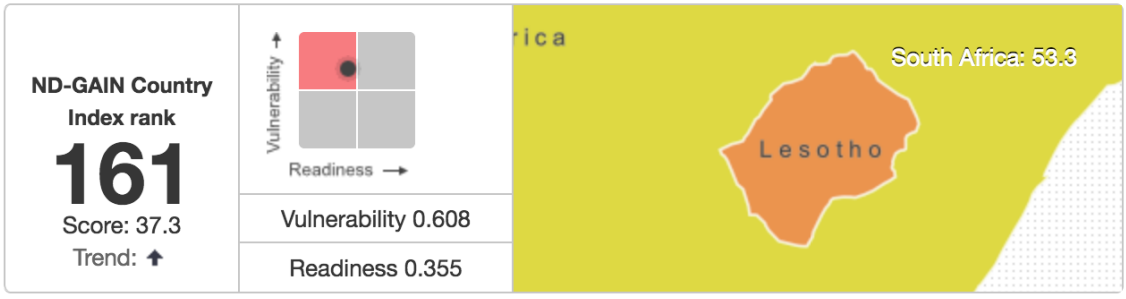
Figure 5: LVAC food insecure population trends



c. *Factors that exacerbate vulnerabilities to climate change effects and limit adaptation*

The ND-GAIN Country Index, (Figure 6), positions Lesotho in the upper-left quadrant of the ND-GAIN Matrix, indicating that it is among the countries that are most susceptible to the negative impacts of climate change, and signals both a greater and more urgent need for investment and innovations to improve readiness and urgency for action. The index ranks Lesotho as the 14th most vulnerable and the 51st least ready country.

Figure 6: The ND-GAIN Country Index



Lesotho's vulnerability to climate change is compounded by several factors, including degraded land resources, high levels of poverty, gender inequality, scattered settlement (which makes service provision and access difficult), a high HIV prevalence rate and the existence of vulnerable groups such as orphans and vulnerable children. Structural factors in the local political economy such as gender inequality and disability construct 'social vulnerability'.

The loss of biodiversity, environmental degradation and depletion of the country's natural resource bases compound the vulnerability of the agricultural sector to climate change.

Lack of arable land: The agricultural sector, which accounts for about 17 per cent of GDP, is the primary source of food and cash income, or an important supplementary source, for more than half of the population in rural Lesotho. Despite the critical role of agriculture in local livelihoods, only about 10 per cent of the country's land area is classified as arable. Lesotho has experienced heightened competition for arable land due to population growth, traditional gender roles and migration to the lowlands, competition for land between crops and livestock, lack of resting of the land and progressive loss of vegetative cover, rapid soil erosion and depleting water resources, declining opportunities for off-farm income generation, and deepening poverty all-round. The majority of small-scale are subsistence cultivators, farming on an average of less than 1.5 ha of land, from herding livestock on grazing land that is increasingly and severely degraded, or on occasional income from other sources such as casual labour or remittances.

Low-lying areas of the country, additionally, have faced land degradation due to a combination of repeated droughts, poor land management practices, and increased resource competition with population and livestock increasing impacts on the land (Figure). Consequently, the limited and decreasing availability of arable land is a critical factor that increases vulnerability.

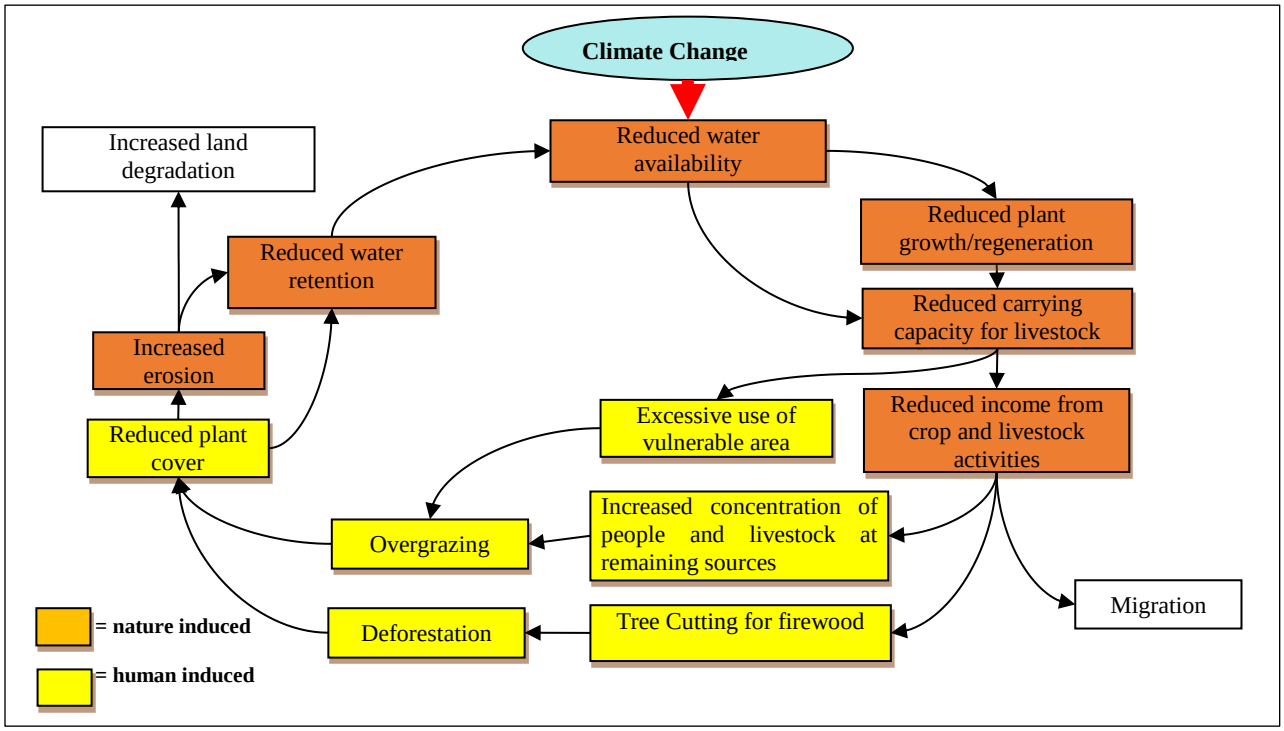


Figure 7: Causes of increased land degradation in the southern low-lying regions of Lesotho

Lack of water resources: In the recent years, water resources in Lesotho have waned, and perennial springs have run dry; even previously robust rivers have been greatly diminished and many dams remain dry for most of the year.[12] Since water mediates much of the climate change impacts on agriculture, increased water scarcity in Lesotho presents a major challenge for climate adaptation. Addressing the implications of future

[12] Lesotho Climate Change Policy 2017

water availability for food security is therefore paramount. A report recently published by the World Bank, (Lesotho water security and climate change assessment: sector Study. World Bank 2016) found that integrated targeted water infrastructure investments, can increase water security, improve irrigation potential and enhance food security. Investments in expanding and improving irrigation are key to increase incomes and enhance food security for the future. Declining water resources particularly in the lowland areas, whilst affected by climate change, can be mitigated if investments in Lesotho Lowlands Water Supply and Sanitation and other potable water supply infrastructure investments are made[13].

Poverty: Poverty in Lesotho is deeply entrenched in rural areas, where about 70 percent of the people live. More than half of rural people are poor, and more than one quarter of them are extremely poor. Poverty is closely linked to lack of income and unemployment, as well as to severe degradation of natural resources on which the livelihoods of many rural poor depend in varying extents. Gross national income per capita in Lesotho is relatively high for sub-Saharan Africa, but there is high level of inequality in income distribution. The dramatic drop in remittances from migrant labourers in South Africa has pushed many rural households even deeper into poverty. As demand for migrant labour declined and unemployed migrant workers returned to Lesotho, remittances shrank from about 60 percent of gross domestic product (GDP) in the 1980s to about 20 per cent in 2005; and in 2016, their contribution to the GDP was estimated to be less than 20% (IFAD, 2008). People in search of wage employment migrate from rural to urban and peri-urban areas within the country, unless they find an opportunity to work in South Africa or elsewhere. Some people, especially younger women, have been able to find employment in the country's new industries, mainly the textile industry. But demand for employment out-weighs available job opportunities.

Gender inequalities: The fact that most of the approximately 30 per cent of rural people living in extreme poverty are women, indicates their relative vulnerability compared to male counterparts. Women are even more vulnerable to the decline in productive land than men, and while the Land Act 2010 provides for equal title to land for both women and men and introduces lease hold in rural areas, customary law still states that an adult woman is considered a minor and not entitled to inherit land. This has serious impacts on women's access to productive land and active participation in profitable agriculture, increasing vulnerability to climate change-induced effects.

Disease and malnutrition: Nearly a quarter of the population is infected with HIV, with women being disproportionately affected due to gender-based violence. Around 80 percent of those living with HIV also have tuberculosis (TB). Lesotho loses more than 7 percent of its GDP to chronic malnutrition, and according to the 2014 Demographic and Household Survey (DHS), approximately 33.2 percent of Lesotho children under the age of 5 suffer from low height for their age (stunting), which remains high despite a noticeable reduction from the 39.2 percent reported by DHS in 2009. The prevalence of underweight children has also marginally improved, from 13.5 percent to 10.3 percent. During the same period, the level of low birth weight prevalence in children has remained steady, at around 9.4 percent.

[13] World Bank Lesotho Water Security and Climate Change Assessment

Current barriers to climate change adaptation

The initial assessment showed that there are several gaps that hinder successful implementation of adaptation interventions:

At the government level

- Lack of tools linking climate trends and future climate forecast
- Safety nets not shock responsive
- Lack of technical capacities and resources at district level (knowledge and resources)
- Lack of interconnectedness of climate interventions because of a project-based approach
- Integration of climate information in programmes and policies is slow paced

At the community level

- Lack of awareness and knowledge of climate change and its impact on livelihoods
- Mismanagement of natural resources and lack of awareness of unsustainable practices that results in widespread land/environmental degradation
- Superstitious beliefs often trump scientific information
- Lack of adaptation options and practices that reduce vulnerability and strengthen preparedness to climate related hazards
- Non-diversified livelihoods increase vulnerability to climate impact
- Lack of access to information and knowledge to better manage increased climate variability and recurrent climate shocks.

Project Area and Target Groups

WFP seeks to build the resilience of rural, food insecure communities in Lesotho. The targeted area lays in Zone I (Southern Lowlands across the Senqu River Valley and Mountains) for Mohale's Hoek and Quthing districts, and in Zone III (Lowlands and Foothills) for Mafeteng district. These zones are under high climatic risk and with poor socio-economic status which denotes chronic vulnerability. The proposed implementation activities are going to be implemented at varying levels. Activities under component 1 will be implemented at national level. Activities under component 2 and 3 will be implemented in Mohale's Hoek, Quthing and Mafeteng districts, in 21 targeted community councils (80% of total councils) identified as most vulnerable to climate change in the NAPA document. A target of 33% (149,218 people - 49.6% male and 50.4% male) of the population in these councils will directly benefit from activities in this project. This population was identified as chronically vulnerable and most at risk of climate change by the 2015 Integrated Context Analysis (ICA) and includes poor and very poor socio-economic groups such as female-headed households, whose poverty prevalence is 64%, according to AFDB, 2005. The physical actions on adaptation asset creation will be implemented within the estimated 18.7% (549 km2) of the total area that falls within the moderate to highly degraded environment category to address to the underlying challenges of environmental loss.

The identification of these project area and targeted beneficiaries was carried out using two complementary frameworks: the *2015 Integrated Context Analysis* and the National

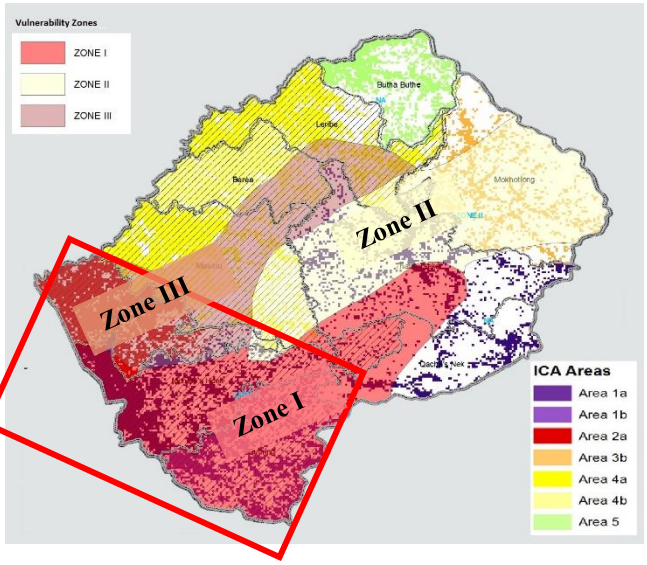
Adaptation Programme of Action (2007). The Integrated Context Analysis (ICA) involves the creation of maps which use overlays of relevant information to identify patterns of vulnerability. Historical trend analyses of food security, natural shocks, and land degradation (as an aggravating factor heightening the risk of natural shocks) are overlaid on to each other to identify areas of convergence. These are then used to identify and discuss the most appropriate programmatic strategies in specific geographical areas - including resilience building, disaster risk reduction, social protection, and emergency preparedness - between government and partners. The map presented below is the main output of the ICA carried out in Lesotho in 2015[14], highlighting food insecure, at risk and densely populated geographic areas, along with the suggested project area (in the red rectangle).

ICA Categorization

CATEGORY 1	High recurrence of food insecurity prevalence above 20% High/ Moderate exposure & risk to natural shocks
CATEGORY 2	Moderate reoccurrence of food insecurity above 20% High/ Moderate exposure & risk to natural shocks
CATEGORY 3	High/ Moderate recurrence of food insecurity prevalence above 20% Low exposure & risk to natural shocks
CATEGORY 4	Low reoccurrence of food insecurity above 20% High/ Moderate exposure & risk to natural shocks
CATEGORY 5	Low reoccurrence of food insecurity prevalence above 20%. Low exposure & risk to natural shocks

Source: Integrated Context Analysis (WFP, 2015)

ICA Lesotho overall map (2015



Additional climate-related analyses will be carried out in the frame of this project to complement insights from the ICA and the NAPA and further refine the project locations. Some of these analyses will build upon the 2015 ICA and further strengthen climate change-related aspects in it.

[14] In the 2015 Integrated Context Analysis, food security and natural shocks data were collected at livelihood zone level and at district level, respectively. The food security analysis was carried out using data from the vulnerability assessment reports where sampling was conducted at livelihood zone level. Natural shock data were sourced from the Disaster Management Authority (DMA) as well as other government reports.

Project / Programme Objectives:

The overall goal of the project is to enhance the adaptive capacity of vulnerable communities to the effects of climate change on food security. The project will achieve this by pursuing the following objectives: (a) strengthening government capacities to generate climate information and use it to forecast risks of climate shocks, mobilise early action, and co-develop tailored and locally relevant climate services for communities (component 1), (b) increasing knowledge and awareness of communities and youth on the impact of climate change, the importance of adaptation and the use of climate information for seasonal planning and climate risk management (component 2), and (c) designing and implementing with the communities adaptation plans focusing on robust asset creation schemes and income diversification for increased adaptive capacity and household resilience (component 3).

The project will build the capacity of national stakeholders to define their own thresholds and correspondent triggers to inform the development of government integrated action plans. In addition, the project will enhance the awareness of rural communities in Lesotho on the impacts of climate change and will empower them to make informed decisions and develop solutions to adapt to climate change and build resilient food secure livelihoods. A particular focus will be on ensuring the participation of women, youth and marginalised people.

The proposal will be designed on a solid scientific basis of the Intergovernmental Panel on Climate Change (IPCC) and lessons learned from existing project experiences from the field. The design will be sufficiently broad to be adapted to the situation of local communities and include a solid, practical gender and do no harm approach.

Project / Programme Components and Financing[15]:

Project/Programme Components	Expected Outcomes	Expected Concrete Outputs	Amount (US$)
Component 1 – Institutional capacity and systems building to support national and community adaptation and management of climate risks	1.1 Increased knowledge and technical capacity at national and district levels to forecast, plan, and anticipate responses to climate change risks. 1.2 Strengthened access to tailored	Output 1.1.1: Strengthened Early Warning Systems (tools, triggers, actions, and training manuals) to trigger early action through government safety net programs.	1,305,000
		Output 1.1.2: Capacities strengthened through development of standard operating procedures in response to climate shocks	450,000
		Output 1.1.3: Supporting studies developed to inform government on adaptation needs	270,000

[15] This is a tentative budget based on preliminary consultations with stakeholders at the local, regional, national and binational levels. In the full project development phase, the exact project activities, expected results, participant numbers and budget will be defined with key stakeholders

	climate services by vulnerable communities to improve decision making for food security and livelihoods.	Output 1.2.1: Climate services tailored to the needs of vulnerable communities developed and shared through culturally-appropriate channels.	405,000
		Output 1.2.2: Enhanced capacity of media houses and reporters to effectively write and publish climate change stories.	150,000
Component 2 - Awareness raising of vulnerable communities on climate change impacts and adaptation	2.1 Strengthened awareness of climate change impact on food security amongst vulnerable communities and youth and knowledge of adaptation actions.	Output 2.1: Communities understand and use climate information and are aware of climate change threats and impacts on food security, nutrition and livelihoods and use information in short-term and longer-term planning.	1,200,000
		Output 2.2: Raised awareness of children through integration of climate change in school curricula at all levels and training of teachers on climate change impacts.	450,000
Component 3 – Strengthening resilience at community level through community-based concrete adaptation measures and improved food systems	3.1 Increased adaptive capacity of communities and households to respond to droughts and water related hazards.	Output 3.1: Community resilience and adaptation plans developed through community-based participatory approaches.	181,800
		Output 3.2: Community productive assets and other livelihood resources developed to support climate risk reduction and adaptation measures.	3,309,080
		Output 3.3: Well established market linkages for sustained income generation activities.	529,111
		Total Operational Cost	**8,249,991**
		Project/Programme Execution cost (9.5%)	783,749
		Total Project/Programme Cost	9,033,740
		Project/Programme Cycle Management Fee charged by the Implementing Entity (8.5%)	767,868
		Amount of Financing Requested	**9,801,608**

Projected Calendar:

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2019
Mid-term Review (if planned)	January 2021
Project/Programme Closing	January 2023
Terminal Evaluation	June 2023

PART II: PROJECT / PROGRAMME JUSTIFICATION

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

The Government of the Kingdom of Lesotho recognizes the importance of climate change adaptation and understands that to have effective sustainable interventions, it is vital to improve the level of awareness and knowledge about climate change and its impact. In its Climate Change Strategy (2017) as well as the NAPA (2007) document, the government has prioritized improvement of early warning systems, awareness raising and improved water resource management in the face of climate impact. This project will address climate change, climate variability, and build systems to respond to shocks before they take place. A vital component of the project will also be awareness generation – a prerequisite to adaptation in communities where superstitions and traditional knowledge can contradict scientific facts. Such an approach will be linked to participatory community methods and messaging based on gender and age responsive and sensitive modalities, to ensure equal participation.

Components

Component 1 – Institutional capacity and systems building to support national and community adaptation and management of climate risks

This component aims at building capacities of the Lesotho Meteorological Services (LMS) to generate national and subnational seasonal forecasts and long-term climate outlooks, link them with impact on food security, and develop triggers and actions to minimise the impact of climate related shocks, such as frequent droughts (due to combination of high temperatures and little and poor distributed rainfall); heavy snow fall in mountain areas; hail and strong winds; and early frost which affect already vulnerable livelihoods.

Tailored climate information (both seasonal forecast, shorter-time lead forecasts and long-term climate outlook) generated by the LMS will reach communities in an accessible, culturally-appropriate and timely manner, to support improved decision making and build resilience by: (i) strengthening understanding and capacities to plan, prepare for and manage seasonal variability; (ii) strengthen capacities to manage, prepare and respond to potential climate related shocks; and (iii) support long-term adaptation planning by enabling a better understanding of expected climate trends and impacts.

Under this component, the analytic and skills base of Government technical services at decentralized levels will be improved to enable them to mobilize and support communities to undertake their own analysis of climate change impacts and prepare detailed adaptation plans – including harmonized plans for livestock, land and water management and the overall use of natural resources. In addition, this component will bridge the knowledge gap at the national level by developing studies to help understand the level of awareness, losses and cost and benefits of engaging in adaptation related interventions.

Training of media practitioners will enhance appropriate coverage and effective communication of climate change stories that highlight impact of climate change through studies and forecasts and available adaptation options for communities.

Output 1.1.1 Strengthened Early Warning Systems (tools, triggers, actions, and training manuals) to trigger early action through government safety net programs

The project will improve LMS' historical database in generating spatially and temporally complete gridded climate data series going back over 30 years by combining LMS station observations with satellite rainfall estimates (for rainfall) and climate model reanalysis products (for temperature). The Enhancing National Climate Services (ENACTS) approach focuses on the creation of reliable climate information that is suitable for national and sub-national decision-making. This activity is complementary to the UNEP-led LDCF project (proposal under development) that will be focusing on the physical infrastructure (equipment e.g. additional automated stations) and staff capacity to operate the system within the LMS. This proposal will focus on the use of generated information in strengthening the Integrated Earning Warning and Early Action (EWEA) system which uses forecast and outlooks as inputs to trigger early action and adaptation measures.

A national climate and food security analysis will be conducted to better understand what the impacts of future climate change will be on food security and nutrition to inform national level policy and support the proactive implementation of key measures and programmes to reduce vulnerability to climate change. In addition, the analysis will help to better understand the current disasters (e.g. drought, frost) strategies of multiple stakeholders at multiple time scales, in order to provide information supporting the long-term development of Lesotho in the face of climate change, and preparedness in the face of year-to-year variability through a seasonal forecast driven trigger system.

The project will develop a seasonal forecast and trigger system for drought related shocks in target areas, downscaled from regional and national forecast and will build the capacity of the national stakeholders to define their own thresholds and triggers to inform the development of integrated action plans. Forecasts tailored to the identified climate shocks will be developed by LMS, with the appropriate engagement from the International Research Institute for Climate and Society (IRI) of Columbia University. Map rooms (mapping service) will be co-developed with LMS and other stakeholders to disseminate the climate forecast and all relevant other contextualizing data and information, such as food security vulnerability. Regardless of which variables will end up in the tailored seasonal forecasts for food security, it will be a probabilistic forecast, allowing for the development of a forecast-based trigger system. The Map rooms will allow to tailor such triggers with user-defined shock severity and confidence levels. The way the information is presented and the interface option for choosing thresholds and triggers will be co-developed with the partners. A certain level of flexibility will remain so that the system can be used at national and sub-national level.

The project aims also at developing locally relevant shorter-time lead forecasts to support planning and decision making of local communities during the season. These will complement information that will be shared with vulnerable communities before the season through the seasonal forecasts.

Output 1.1.2 - Capacities strengthened through development of standard operating procedures in response to climate shocks

The project will conduct a scoping study of the relevant local actors and the existing systems in place, such as Standard Operating Procedures, to monitor food security, anticipate and communicate crises, and coordinate and implement anticipatory response action. On this basis, the identified stakeholders, operational partners and other relevant actors will plan the anticipatory response based on a two-layer decision making process:

1) Seasonal climate forecasts and;
2) Available national food security monitoring systems and other relevant non-climatic socio-economic indicators to develop context-specific action plans with activities for different alert scenarios.

A capacity building plan for national institutions, both at central and district level, will be developed specifying cost and duration of its implementation. The plan will be based upon key stakeholders' existing capacity and systems currently in place to respond to emergencies. Partners will also be provided with appropriate guidance material and all produced information will be adapted to local contexts (e.g. translation into Sesotho if necessary). As a result, it is expected to raise awareness and build capacity of local governments to include information on climate variability and change in local planning and action.

The project will work with the following 8 institutional divisions from 4 government ministries: Ministry of Energy – ***Lesotho Metrological Services***; Ministry of Agriculture and Food security- departments of ***Crops***, ***Livestock***, and ***Field services***; Disaster Management Authority - ***National Early warning unit***, ***District Disaster Management Teams***, and ***Village Disaster Management teams***; and Ministry of Forestry, Range and Soil Conservation - ***Department of rangeland management.***

Potential to link with social protection

When policymakers consider the use of social protection systems to address seasonal needs or humanitarian crises, there are several strategies that can be employed to scale up the overall level of support provided to vulnerable people. For example, policymakers could graft an entirely new emergency response programme onto existing social protection administrative systems, such that the targeted households and the support provided are completely different, but the delivery channels are the same, thereby offering improvements in efficiency.

Lesotho's National Social Protection Strategy 2014/15-2018/19 for shocks sets a vision for 2025 stating that "It is essential that the social protection system is used to build the resilience of Basotho families and to provide support in the face of shocks.[16]" It plans to achieve this by developing a comprehensive national disaster management and shock responsive framework. In this area, the Integrated Watershed Management Programme is operated by the Ministry of Forestry and employs 10,000 people per month to plant trees and carry out other environmental conservation work at the village level.

The programme is not targeted and works on a first-come, first-served basis, with the condition that only one household member can participate in a year. Despite the fact that the programme is fully

[16] Government of the Kingdom of Lesotho: National Social Protection Strategy

funded by the government with an annual budget of US$ 4 million (FAO 2016), there are currently no records on the type and number of beneficiaries, or evaluations of the program's impact.

Through Component 1, the project will aim to link the forecast and triggers created with the government's social safety net programme on integrated watershed management (fato-fato). As such, based on forecasts and subsequent triggers, communities will engage in tree planting and soil conservation activities to withstand the climate stress. When linked successfully, Component 1 can be nationally scaled through the 'fato-fato' programme and help strengthening asset creation schemes within national productive safety nets/public work programmes.

Output 1.1.3 - Develop supporting studies to inform government on adaptation needs

Most Basotho attribute climatic extremes and disasters to natural variability, but a significant number attribute these events to religious or cultural beliefs.[17] This was confirmed during the project scoping mission in July-August 2017 when several stakeholders and community members indicated how important religion and traditional beliefs are in their lives[18]. Discussions with LMS revealed that warnings aired during recent years were ignored due to faith in god and indigenous priests who promised to deliver rain. These individuals also tend to be opinion leaders often appearing on radio shows and have an important influence on the livelihoods of the communities. However, these leaders can be used as vehicles for change if they are involved in delivering information and solutions to the people.

Understanding that information is accessed differently by men, women and the elderly, this activity will utilise information gathered from communities from participatory planning methods and recognises that improving basic education, climate literacy, and public understanding of the local dimensions of climate change are vital to public engagement and support for climate action[19].

Another challenge identified by the government was the lack of specific information on post-harvest losses (PHL) currently being faced by the communities. PHL increases with humidity and temperature – forecast for Lesotho in future climate scenarios and declines with better market access and possibly improved storage practices. Subsistence farmers also suffer from food insecurity if PHL are at high levels. Preliminary discussions at the Ministry of Agriculture (See Annex 1) revealed that the extent and impact of PHL has not been assessed to take viable action. A stocktaking on this subject, especially in the project target areas would help the government plan their resources in future in a more efficient manner and contribute to future NAP process.

[17] FAO 2011. Strengthening Capacity for Climate Change Adaptation in Agriculture: Experience and Lessons from Lesotho

[18] In the Climate Change Policy (2017) of Lesotho, traditional healers and faith-based organizations are listed as key stakeholders. Traditional Healers are defined as a group of stakeholders who are responsible for protecting the traditional and cultural practices and embrace the indigenous systems of health care. They are normally trusted for solving life's problems with their supernatural powers. They are also trusted for predicting the future. Churches and Faith-Based Organizations leaders are given the responsibility of looking after the welfare of the people.. Partnering with churches to influence adaptation among the communities can yield desired results on the response towards the changing climate.

[19] Tien Ming Lee et al. 2015. Predictors of public climate change awareness and risk perception around the world.

Activities under output 1.1.3 will contribute to the government's understanding of how climate change is felt by the communities from the socio-economic perspective including how gender and age may exacerbate how climate change is experienced, especially in relation to increased gender related work loads and opportunity cost associated with these workload changes. It will develop recommendations on engaging community leaders, opinion formers as well as vulnerable communities in a more productive and sustainable manner and will inform output 1.2.1, which aims at co-developing seasonal and shorter time lead forecasts and translate them into agromet advisories tailored to the needs of communities. Participatory consultations at community level will also allow the identification of the most suited, culturally-appropriate channels to share information with a particular attention given to how most vulnerable people in communities access information (e.g. women, elderly, illiterate people, etc). A variety of ICTs and other channels could therefore be used depending on communities' preferences (i.e. mobile phones, tailored radio programmes, churches, school, etc.).

Activities under output 1.1.3 can be summarized as follows:

Challenges	**Activities**	**Participants**
Community members superstitious, religious leaders wield heavy influence, have no scientific backing to claims, irresponsible risk-taking behaviour despite warnings. Women, the elderly and disabled may not have access to modalities used for information sharing.	Engaging with key stakeholders at village level for adaptation planning using culturally sensitive approaches. Study on indigenous knowledge and understanding on climate patterns and beliefs.	Community leaders, religious leaders, and traditional healers
Lack of information on levels of PHL faced by subsistence farmers.	Assessment of current and future post-harvest losses and its impact on food security of communities in the targeted communities	Farmers (men and women), local market retailers
Lack of understanding of financial/technical viability of priority adaptation measures.	Cost Benefit analysis of proposed adaptation measures in targeted communities.	District authorities, community members

Output 1.2.1: Climate services tailored to the needs of vulnerable communities developed and shared through culturally-appropriate channels

Activities under this output will be informed by and based on results from outputs 1.1.1 and 1.1.3, lessons from other projects implemented in Lesotho and synergies with other LMS projects. This output is also strongly linked with Component 2, which aims at increasing awareness of the communities on expected climate change impacts and build their capacities to take adaptive measures.

Improving LMS data by itself may not be sufficient in Lesotho. Vulnerable communities need to have access to reliable information that they can easily understand and act upon,

both before the season (so that they start planning ahead) and during the season to make further adjustments to their practices. Analyses under output 1.1.3 and community consultations will be key to better understand what type of information are people receiving at the moment (and who receives it), whether they trust the information they have access to, how they use it, and how people make decisions ahead of the season. The studies will also help to understand how people want information to be communicated to them, with specific focus on how different people in a community are able to access climate and weather information. This will be used to tailor both LMS data and relevant climate information into meaningful and easy to understand messages that communities can use to plan ahead of and during the season. Government partners will also be supported in developing tailored climate services and ad-hoc dissemination channels that meet the needs of different members of communities such as women and elderly.

To ensure continuous improvement on the information received, a mechanism to enable a two-way dialogue between producers of information (national met Services) and local communities will be established to allow Met services to better understand needs and refine products to ensure greater usefulness for local communities as the project is implemented. The cost indicated in the budget is to support the Participatory Integrated Climate Services for Agriculture (PICSA) approach and includes the development, with LMS and with support of the Ministry of Agriculture, of climate information that is meaningful and easy to understand for smallholder farmers, and its dissemination through channels that meet the needs of different members of communities such as women and elderly. These channels will be defined through community consultations such as the CBPP or studies under component 1.

Component 2, with its strong focus on awareness raising and training, will then ensure that the information is effectively used by communities to adapt to climate variability and change.

Output 1.2.2: Enhanced capacity of media houses and reporters to effectively write and publish climate change stories

Activities under this output are to enhance the effective communication of results of output 1.1.3 and output 1.2.1. To maintain further reach and understanding of climate information through the media. The media is a central part in disseminating information and provides a platform to reach a broader readership. Building on previous work by LMS the print and electronic media personnel will receive training on climate sensitive reporting including interpretation of key messages from studies and creation of stories that highlight the various climate and adaptation information for communities. An expert will be engaged to develop and produce a media reporting manual and training programme on climate change for use by journalists in the country. The aim of activities in this output is to strengthen the role of media in providing appropriate information to enhance better understanding among community listenership, readership and viewership. This will also ensure the climate change issues maintain prominence in the media to facilitate action among citizenry.

Component 2 – Awareness raising of communities on climate change impacts and adaptation

Climate change is a new concept in Lesotho, especially at grassroots levels. Lesotho's NAPA (Lesotho, Ministry of Natural Resources 2007) highlights that a key barrier to implementing programs for climate change adaptation is the lack of awareness of the potential impact of climate change on people's livelihoods and the adaptation options available. During the project stakeholder consultations in July 2017, it was observed that most community members were still unaware of climate change and its impacts and often relied on indigenous knowledge and practices. Raising awareness on climate change and environmental issues is fundamental for any future intervention to be successful in Lesotho. The Second National Communications to the UNFCCC also prescribe awareness raising as a key ingredient of adaptation activities across all sectors. Activities under this component will focus on improving a general understanding of climate change and its impact on food security amongst youth and vulnerable communities through a multi-pronged approach. In this project this information will inform actions taken by households and those supported under component three that will link the adaptation planning to the selection of appropriate community assets that will reduce the identified impacts.

Output 2.1: Communities understand and use climate information and are aware of climate change threats and impacts on food security, nutrition and livelihoods and use information in short-term and longer-term planning

This output aims to raise awareness and understanding of climate change impacts on livelihoods. Under this output, a mix of ICT and other gender and age sensitive communication strategies will be used to raise awareness of climate change and its impact on livelihoods in Lesotho. For example, radio could be used as it is a key source of information for all Basotho including the urban and rural population. It has the potential to form opinions, raise awareness on key issues affecting lives and livelihoods. A curriculum will be developed around topics of concern including existing malpractices contributing to degradation of natural resources, food insecurity and malnutrition. The linkage between climate change, food security and environmental degradation will be made. The aim of this activity will be to disseminate scientific information in a culturally sensitive manner for the listeners.

Radio and other media/dissemination campaigns will be reinforced at the local level in selected communities through training sessions (especially for women) and district/community theatre using local folklore and indigenous stories. Extension services of the Ministry of Agriculture at the district level will be involved in the development of this curriculum. They will also be trained on new themes such as climate change impacts on natural resources as well as food security. Trained extension officers will, in turn, organize awareness raising sessions with key village leaders such as village chiefs and chief farmers, religious leaders and women's representatives. The project will work with a total of 80 agriculture extension workers in 22 agriculture resource centres in the three districts. The catchment population for each extension worker is estimated at an average of 25 farmers which gives a total reach of 2000 farming households to be reached by the

extension workers each year for three years during the project life giving a cumulative direct total of 6000 households.

When communities are aware of climate change threats and its impacts on their lives and livelihoods, they will be trained to use and interpret the climate information that will be shared with them through this project's output 1.2.1, but also in the frame of other LMS-driven projects related to climate information. Training and awareness raising will aim to enable communities to develop their own solutions for adaptation, based on the information they receive, for both short-term and longer-term planning.

Output 2.2: Raised awareness of children through school curricula and training teachers on climate change impact

According to 2011 statistics[20], 33 percent of Lesotho's population is below the age of 15, 11 percent between the age of 15-19 and 10 percent between the ages 20-24. The survey also revealed that 67.1 percent of the population up to the age of 24 was still attending school. However, gender still plays an important role in the attainment of education in Lesotho with an overall higher enrolment of boys at primary level, except for grades 6 and 7 where more girls are represented, with 23,242 females compared with 18,339 males. There are also urban and rural trends with more boys than girls enrolled at primary level in urban areas, whereas the opposite can be found in mountainous rural areas of Qacha's Nek and Mokhotolong districts. This is considered to be related to the number of boys leaving school to herd cattle and sheep and is related to specific vulnerabilities experienced by boys in these areas due to accepted gender related responsibilities. Knowledge of climate change and its impacts, if embedded in educational curriculum, can have a big impact on the understanding and behaviours of the youth in embracing adaptation techniques for their livelihoods.

At present, climate change is not fully addressed as an isolated component in Lesotho's educational system, rather it is treated as subsections in Geography and Science, with some aspects under Development Studies. Natural Sciences and Social Studies are two areas presented at Primary School education level in which issues of climate change could logically be addressed. At secondary education level, environmental protection issues are included in the curricula of subjects on Geography, Development Studies, Science and Agriculture. In senior schools, climate change issues are discussed during Biology and Geography lessons. Lesotho's tertiary education institutions offer varying levels of training in climate change-related topics although there are no full-fledged formal programmes on climate change per se. There is a need to build capacity both for teachers and teacher training institutions to adequately promote environmental education, including climate change. [21]

With regards to food insecurity (which will be exacerbated by climate change), an LVAC 2016 assessment showed that education played an important role as poor food consumption was recorded more in households headed by those with either no education (25.9%) or primary education (19.8%). Although 20 percent of households headed by university graduates recorded poor food consumption, the majority in this category (60%)

[20] 2011 Lesotho Demographic Survey
[21] Second National Communications to the UNFCCC

and graduates from technical college (75%) had acceptable food consumption. Households headed by those with higher education also had high dietary diversity compared with households whose heads had no or low education.

This output will aim at scaling-up the pilot implemented by the Lesotho Meteorological Services in 56 schools on using a climate change information toolkit for teachers in order to enhance dissemination of knowledge and educational material on climate change. The scale up will be from 56 schools to include 120 schools across the three districts. The scale up is meant to build a critical mass of practice centres which will form the basis for a national take up of the climate change toolkit to be included as part of the formal educational curriculum. At the tertiary level, the project proposes holding annual symposiums focusing on climate change and food security for two years. By generating interest in the subject, climate change and its impact on food security can be mainstreamed in various subjects in schools and universities.

Component 3 - Strengthening resilience at community level through community-based concrete adaptation measures and improved food systems

This component is a critical pillar for ensuring that communities and vulnerable households become more resilient to withstand shocks and less damaging of the ecosystem that supports them. Where an adaptation or livelihood diversification activity has been selected by a village, and is found feasible in the specific village context, many different intervention types (and their combination) will be used to achieve the desired target of full community ownership and self-reliant sustainment of the activities in question. This will include training, coaching, asset investments and learning by doing. With respect to investments, the project will ensure that the assets created represent the most appropriate choice of technology, allowing the desired production, storage and marketing outputs while being fully mastered by villages and households themselves. The asset building approach will also include strong gender and age analysis to ensure that asset creation links to the reduction of work load of women and contributes to women's access and active participation in the market. This will ensure future sustainability, including repair and replacement with local know-how and resources. Each training for IGAs will be accompanied by a sufficient budget for asset investments.

In order to address climate vulnerability across the food system, issues such as production, storage, transformation and consumption will also be looked at and specific activities identified in order to create truly sustainable and resilient food systems in Lesotho. Market systems that are not resilient can collapse or become highly distorted in the event of a shock, leading to dire long-term consequences for populations whose livelihoods depend on selling to, buying from and/or obtaining employment in those markets. To be resilient, individuals and households must engage with market systems and those systems must have the capacity to withstand, adapt and transform in face of shocks and stresses.

Output 3.1: Community resilience and adaptation plans developed through community-based participatory approaches

Community-based participatory planning (CBPP), which brings together community representatives, Government staff and Partners, will be used in targeted communities to

further strengthen the understanding of local contexts and issues and to develop community-based resilience and adaptation plans tailored to local priorities. Such community-based planning approaches represent an essential programming platform to promote community participation, enhance community ownership and empowerment, mobilize local stakeholders, and help delivering sustainable benefits.

Through CBPP, communities identify their priorities and the most needed and relevant assets for their resilience building and adaptation to climate change. They also prioritize the assets, plan for their creation over a period of 2-3 years, and agree upon a range of implementation details at community level. The result of a CBPP exercise is a multi-year community-based plan that can then be used by communities themselves and any actor supporting the community in its development and adaptation efforts. As part of the CBPP process, there will also be exchanges, information-sharing and sensitisation activities with communities on a range of resilience and adaptation planning aspects related to a) climate change issues and adaptation; b) communities' needs in terms of better climate and weather information and how this information should be communicated to them; c) project implementation modalities (timing, targeting, establishment of community user groups, complaint and feedback mechanisms, etc.); d) environmental and social safeguards and potential impacts from project activities; and e) labour division, tenure and maintenance aspects in the frame of asset creation schemes, among other.

Output 3.2: Community productive assets and livelihood resources developed to support climate risk reduction and adaptation measures.

This output will create small scale agricultural and rural infrastructure assets that help enhancing livelihood resilience and addressing environmental and land degradation. The assets will be designed to strengthen resilience to withstand climatic shocks and sustain livelihoods and food security. During project design stage, stakeholder consultations were conducted at both the national and community level to identify the main vulnerabilities, gaps and needs for effective adaptation action. At the community level, consultations helped identify a number of asset types to help enhance livelihood resilience and address environmental degradation thereby responding to communities' vulnerabilities and needs.

Based on the preliminary analysis, community consultations, and lessons learned from previous projects, the following assets and techniques are anticipated to represent key adaptation measures under this output:

Examples of activities under output 3.2

Adaptation challenge	***Solution***	***Expected impact***	***Notes***
Shortage of water for livestock and crops has resulted in lack of food for consumption and sale as well as loss of livestock. Climate change will lead to increased rainfall variability. Scarce and ground water sources will	Rooftop water harvesting, water tanks for spring/ground water harvesting. Enhanced awareness and appreciation of low cost drip irrigation techniques	Proper storage of water coming from ground water springs – where available – and storing of excess rain water for use in subsequent months will help communities during drought. This has been proven through during the	*Environmental risks related to the harvesting, storage and use of water will be screened at activity design stage. Any identified risk will be avoided or*

be negatively affected by shortened rainfall seasons.	and technologies in rural communities in the lowlands regions	recent El Niño induced drought.	*mitigated. Close collaboration with DWA will be ensured.*
Lack of income, land degradation and deforestation due to overgrazing and demand for firewood. Rural communities depend on biomass fuels as a major energy source. The resilience and regenerative capacity of forest resources are negatively affected by extreme climatic conditions.	Agroforestry and tree planting for fruits, soil and water conservation schemes, and fuel using native and indigenous species, Fuel efficient cooking methods	-Availability of firewood for fuel, soil conservation and rehabilitation of degraded land through trees and nitrogen fixing plants, diversified income sources, multiple positive impacts on women's (particularly young women in the household) livelihoods and time -Contribution to national food security and poverty reduction in the target areas -Capacity building and skills development for use of irrigation technologies - Improved management of village plantations -Strong horticultural sector in targeted communities	*Environmental risks such as inadvertent introduction of invasive species will be screened at activity design stage and will be mitigated in collaboration with Min. of Forestry by, for example, carefully selecting native varieties adapted to current and expected soil and climate conditions.* *Communities will be trained on sustainable land use and harvesting cycles, use of fuel efficient cook stoves etc.*
Lack of diversified income source	Less climate sensitive IGA activities such as poultry, bee keeping (complemented by agroforestry), in addition to skills enhancement of women and men.		

In the frame of this proposal, the Community Based Participatory Planning (CBPP) approach will be implemented progressively in all communities targeted by the project. The CBPP will be used to tailor asset creation activities to local contexts and refine programme activities, building upon the main types of asset creation activities identified through preliminary consultations with communities. Through CBPP, communities will further identify relevant assets for their resilience building and adaptation to climate change and agree upon a range of implementation details at community level, including for instance the location of assets, tenure and maintenance aspects, and the required technical support. The result of a CBPP exercise is a multi-year community-owned plan and processes that will help strengthening programme ownership, appropriateness, impact and sustainability of created assets.

The assets that can will be created through the FFA modality are small-scale in nature and do not require complex construction efforts. They are created by the communities and aspects such as labour conditions, health and safety of communities, gender and most vulnerable groups are discussed during programme planning and taken into consideration at the design stage of the activities. For example, the scheduling and sequencing of activities and the type of work to be performed is respectful of different people's needs and capabilities

Important note vis-à-vis asset creation schemes:

- Community-based adaptation planning processes will be used to complement the resilience and adaptation measures included in the above table.
- Information from climate change impacts on food security and livelihoods shared with communities will benefit communities in the planning process
- The project will pay significant attention to the technical quality of the developed assets, paving the way for long-term, sustainable asset benefits.
- Assets identified by the community will be screened for environmental and social risks during community planning processes. Avoidance or mitigation measures will be planned when necessary.
- Integrated asset creation schemes, which address local issues and land degradation in a comprehensive manner, will be promoted in the frame of this project.
- Project activities will represent an opportunity to help enhancing the capacities of the Government and technical services in planning for, implementing and monitoring robust asset creation schemes.
- As much as possible, the project will promote complementary efforts in targeted communities by additional Partners to help addressing the underlying causes of vulnerability and the adaptation gaps. This can be achieved through use of seasonal programming approaches.

Output 3.3: Well established market linkages for sustained income generation activities

Lack of stable market demand affects the potential to earn a stable income and can make food security volatile. In the absence of a defined market, farmers (both men and women) often sell excess produce to their neighbours or along the highways, often at below market prices. This output will explore the potential to link smallholder producers with buyers in Lesotho. Specifically, the project will collaborate with the Government of Lesotho to link its nationally funded school meals programme with local producers and help catalyse the creation of a market for communities and stimulate local production and purchase as prescribed by the National School Feeding Policy. While local purchases for school feeding may appear to be an ambitious undertaking, results of a pilot project in 2014 and 2015 have demonstrated that with systematic planning involving several stakeholders, the country's smallholder farmers can produce for the market. Where possible, the block farming approach will be considered to generate volumes and ensure uniformity of production for the buyers. Activities under this output will support value chain development, particularly with respect to training on post-harvest handling and commodity quality as well as training on group marketing to exercise economies of scale

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

Economic & Social benefits

The implementation of activities under Component 1, 2 and 3, will result in additional economic benefits, namely:

- **Reduced losses**: Generating forecast-based triggers using scientific data is an innovative way to indicate elevated risks and respond early before disaster strikes. Component 1 of the project will create tools that will enable the LMS to forecast impending climate shocks and, based on that, inform the safety net program to implement preparatory action at the community level. This will also ensure that natural resources are utilized more effectively. In addition, through this project, rural communities will be mobilized and empowered to make better decisions related to their existing livelihoods, and as a result, will be able to use their inputs (including labour allocation) more efficiently. **Government resources**: Estimates indicate that climate induced extreme events caused economic losses totalling US $80,000,000 over the last decade. Most of the climate risks affect the rural vulnerable populations more due to the lack of accurate information and early warning. Enabling the government administration to shift investments from risk recovery to preparedness and development will avoid losses for the rural population.
- **Resilient incomes:** In the short-term, skills will be developed (practical and activity based) for diversification of livelihood activities and awareness raising. Increased incomes for men and women will result from alternative livelihoods through cultivation of high value crops, reforestation/afforestation activities, and ensuring market linkages. Water harvesting, and agroforestry activities will ensure that their livelihood sources like crops, fruits and livestock rearing are strengthened especially in the face of climate variability. Transfers will be provided to households in the project communities to enable their participation in activities to build physical infrastructure and livelihood assets as identified in Component 3. Transfers shall be structured to government-approved rates and implemented during minor rainfall season when most rain-dependent farmers are without employment and income. The transfers shall be provided as targeted seasonal cash assistance to participating households during lean season from November to March (about 5 months), when the food gap is most severe as a consequence of exhausted food stocks and high food prices. Such transfers are planned for 3 years, with a graduation from year 4. Compared to many other organizations, WFP targets the most vulnerable rural households, who fail to meet their daily food needs. These people are the ones who are most vulnerable to the impacts of climate change. Transfers are therefore a necessary enabling condition for these populations to participate in the creation of adaptation assets. In practical terms, without food assistance, the most vulnerable people would need to use their time and efforts to provide food for their families to meet their current needs, rather than participating in the creation of adaptation assets to address climate variability and shocks in the future. This means that without the enabling element of an initial transfer, those who are in greatest need of adaptation services would be excluded

from the opportunity to restore land and create their own climate change adaptation assets. This, in turn, would undermine the sustainability of the project.

Transfers associated with asset creation also contributes to transformational change as it brings some of the most vulnerable people from a subsistence to a sustainable livelihoods level by, (1) reducing pressure on landscapes and the natural environment (e.g. avoiding negative coping strategies such as deforestation); (2) gradually increasing adaptive capacity through training, creation and management of climate adaptation assets and (3) by improving productivity and building economic protection from shocks, thereby preventing relapse into poverty. In terms of sustainability, participants are gradually phased out of the conditional transfer, once the identified community adaptation assets are completed. Based on several other experiences with this type of intervention, rural populations can maintain and replicate the assets created thanks to the establishment of community level structures.

In the medium-term, new value chains will create demand for the commodities produced by rural communities as well as create post-production employment opportunities, such as packaging, storage and processing. In the long-run, the project aims to create local economies that are self-sustaining through linkages with regional markets.

- **Embedding culture and tradition**: The project will ensure that community and religious leaders are part of the solution to create awareness and contribute to adaptation interventions. The project will contribute to gender equality, through strategies to empower women and girls with concrete commitments to ensure equal rights, access and opportunities for participation and leadership in the project and in community decision-making. In empowering women, the project will ensure that men and women are informed on the need to improve women's involvement in decision making as well as the benefits of women's progress to the family. Activities under Component 1 will capture traditional practices through a study whilst Components 2 and 3 will ensure that the project will deliver its results with those sensitivities. New economic opportunities will be created through Component 3 which will ensure prosperity for the rural communities who are often the most vulnerable people in Lesotho.

Gender

While on the decline, customary Basotho law has meant that women in rural areas of Lesotho are often disadvantaged. They have less access to information, training, and credit, and women-headed households lack sufficient labour power (UNICEF, 2011). The 2012 gender inequality index ranks the Basotho women at 162 out of 187 countries. Women have low access to resources and low decision-making power. Women whose husbands are migrant labourers also have additional farming and livestock burdens. On the other hand, women carry out a large portion of the farm work and provide household food supplies from vegetable gardens. The growing number and severity of disasters triggered by climate change will further increase the burden on women and communities

that are already vulnerable at present. Frequent crop failure will seriously affect their livelihoods. Women and children may be forced to contribute even more to household income, without being released from their domestic responsibilities. Education and health outcomes for children will be affected negatively. Assistance is therefore clearly needed to build the resilience of women to the impact of climate change while attempting to change prevailing gender inequalities. Through this project, women will be trained on the importance of nutrition as well as skill development in order to generate income through provision of inputs, seeds and water for irrigation and drinking. They will benefit from training in numeracy, literacy and business. This project will aim to contribute towards gender equality and women's empowerment by allowing for increased decision making, educational attainment, economic integration as well as improved autonomy related to work load and health. Training both men and women will also improve the nutrition of their children. Last but not least, community-based adaptation planning represents also a powerful vehicle for women empowerment.

Environmental benefits

Low-lying districts of Lesotho are vulnerable to the over use and degradation of soils. Generally, the trees are stunted because of the severity of the climate and more, importantly, long-term over-exploitation. In dry low-lying and undisturbed or protected areas, low bushland and scrubland no higher than 5m can be found[22].

Thus, ecosystems are more vulnerable to climate threats and increasing climate variability through: 1) reduced absorptive capacity of ecosystems during extreme rainfall events; and 2) lowered ecosystem service provision of degraded ecosystems. Through agroforestry, soil conservation and efficient storage and use of water, Basotho communities will see the following benefits:

1. Reduction in erosion and soil loss due to extreme climate events

2. Soil conservation through planting native species and nitrogen fixing plants resulting in increased plant cover, improved plant diversity and reduced deforestation for firewood

3. Rehabilitation of grazing areas threatened by environmental degradation

4. Increased availability and quality of water for household use, animals and irrigation through the watershed management efforts and improved irrigation.

Avoiding or mitigating negative impacts

The following measures will ensure that project activities are designed and implemented in a way that does not cause negative social or environmental impacts:

- Strong collaboration with relevant ministries, both in activity design and implementation (e.g. Ministry of Forestry, Range and Soil Conservation, Ministry of Agriculture and Food security, Ministry of Local Government and Chieftainship, Ministry of Water, Ministry of Tourism, Environment and Culture);
- Engagement with community leaders and opinion formers such as religious leaders and traditional healers;

[22] FAO Global Forest Resource Assessment 2010

- Consultation and engagement with beneficiary communities, including vulnerable groups;
- Set up of complaint and feedback mechanisms to enable beneficiaries to raise their voice and report any irregularities and allow for pre-emptive operational adjustment;
- Overall (i.e. at project level) environmental and social screening and categorization against AF's Environmental and Social principles at full project formulation stage;
- Activity-level environmental and social screening for component 3 activities (output 3.2) at project implementation stage;
- Planning, implementation and monitoring of necessary mitigation measures as identified by the activity-level environmental and social screening.

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

The cost effectiveness of the project is evident when compared with the status quo. The impact of the recent climate variability on the economy of Lesotho has been enormous. Lesotho has been facing water scarcity and rain deficits which led to delays or failure of the planting season and caused a sharp decline in food production. Water shortages in Lesotho do not only affect agricultural activities but also industrial production, access to basic services that are unable to function normally (e.g. health centres and schools) as well as household consumption patterns. In 2016, the funding requirement of the government to respond to the drought was estimated at USD 36.5 million.[23]

It is important to highlight the significance of awareness raising in the rural areas. During the recent droughts, despite warnings from LMS to avoid plantation of crops, rural farmers continued planting at the reassurance of traditional and religious leaders and faced financial losses. The community consultations revealed that indigenous means of forecasting weather (for e.g. shape of the moon) failed to be reliable. In 2016-17, not only were the rural communities affected by loss of inputs, reduced agricultural production also meant that commodity prices increased. This led to people migrating in search of casual labour opportunities in South Africa. As part of its social protection programmes, the Integrated Watershed Management programme (fato-fato) operated by the Ministry of Forestry was estimated to cost the government USD 4 million in 2016[24]. Despite tree planting and soil conservation activities prescribed, the programme is poorly targeted, and the impacts of such activities are not measured.

The proposed project aims at filling some of the key existing gaps. Component 1, when linked with the government safety net programme 'fato-fato' could be scaled up beyond just the three districts of Quthing, Mohale's Hoek and Mafeteng and deliver adaptation results at a national level. Key studies conducted under component 1 will ensure that project interventions under component 2 are culturally sensitive while also giving the government useful data to plan interventions in future (for example quantifying post-harvest losses), and giving access to the communities to relevant and timely information

[23] UNDP 2016

[24] Lesotho News Agency, 2015 Forestry Ministry is hiring over 10 000 people per month, 24 June 2015.

for better decision making. Component 2 will ensure that farmers (both men and women) are more informed about current environmental malpractices, impacts on food availability and nutrition as well as the impact of climate change on their lives and know how to interpret climate information they have access to. An improved awareness and understanding will ensure that activities under component 3 are fully owned by the communities as well as managed and maintained in the long run beyond the project. Component 3 aims at asset creation and income diversification activities. This will ensure that losses faced due to water scarcity are avoided while at the same time diversify income from staples to high value crops such as fruits and vegetables. Community empowerment and linkages with school feeding programmes will ensure sustainability of project intervention in the medium-long run.

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

This project is consistent with the National Strategic Development Plan 2012-2017, the recently adopted 2017 National Climate Change Policy and NAPA which outlines adaptation and climate resilience as priority areas in development planning and implementation. In addition, the recently launched national resilience framework has four strategic pillars which the project will help achieve. These include (a.) Strengthening Preparedness Capacity, (b.) Strengthening Absorptive Capacity, (c.) Strengthening Adaptive Capacity, and (d.) Strengthening Transformative Capacity. Other key policies aligned to this action include the Integrated watershed management which is an environmental ecosystems management program that uses public labour to maintain and adapt environmental viability for supporting livelihoods.

An exhaustive list of these policies and strategies are provided in Annex 4.

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

The interventions will adhere to the Environmental Quality Standards as well as Environmental Management protocols as outlined in the Environment Act, 2008. Any asset construction will be done in line with existing national building standards that will inform the design and construction.

The proposed interventions will be compliant with all national technical standards particularly those relating to concrete adaptation measures, including reforestation, water conservation, and crop loss and integrated watershed management. Specifically; the Planning and Implementation Guidelines for Public Works Programme will provide guidance on the technical design and implementation standard for FFA activities in ecosystem management. Additionally, the Standard Operating Procedures on Disaster Management related to the early warning and early action will inform the implementation of activities on communication and response protocols and standards. Ongoing

consultations with the following entities will take place at all stages of project design and implementation to ensure that all project activities comply with the relevant national technical standards:

- Ministry of Forestry, Range and Soil Conservation
- Ministry of Agriculture and Food security
- National Environmental Council
- Ministry of Energy and Meteorology
- Ministry of Public works
- Department of Water Affairs
- Lesotho Metrological services
- Disaster Management Authority

The necessary safeguards will be incorporated into project design and implementation. The project will also comply with the Environmental and Social Policy of the Adaptation Fund and WFP's environmental policy.

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

Whilst there are multiple projects concurrently active in Lesotho, they have been functioning in silos with most beneficiaries becoming reliant on project interventions for their own sustenance. This project will build upon the experiences of GEF-funded and other relevant projects in the Southern part of the country and scale up successful practices to new areas and communities. The project will lay heavy emphasis on community engagement and sensitization from the start and ensure that expectations and commitment of the community members are managed before an operational intervention is made. Where the project sites overlap previous or ongoing projects, the project will ensure that overlaps are avoided, and complementarities are strengthened. The following projects will be complemented:

Project name	**Dates**	**Complementarity**
Improvement of Early Warning System to Reduce Impacts of Climate Change and Capacity Building to Integrate Climate Change into Development Plans	2011-2015	Component 1 will ensure that existing EWS capacities are built upon for generation of triggers and use of forecasts.
Wool and Mohair Promotion Project (WAMPP)	2013 – ongoing	Component 2 and 3 will use lessons learnt from community consultations as well as understanding of livelihoods in common locations. This will especially be noted for the income generation activities. In addition, Components 1 and 2 will build on results and synergies with the Participatory Integrated Climate Services for Agriculture (PICSA)

		approach that will be introduced in all the districts by WAMPP.
Strengthening Capacity for Climate Change Adaptation through Support to Integrated Watershed Management Programme in Lesotho	2015-ongoing	Where locations are common, Component 3 will build upon the work done by FAO in soil and water management as well as livelihood diversification activities.
Reducing Vulnerability from Climate Change in the Foothills, Lowlands and the Lower Senqu River Basin	2015-ongoing	Component 2 will complement activities of mainstreaming climate risks in land rehabilitation programmes.
Strengthening climate services in Lesotho for climate resilient development and adaptation to climate change (2nd phase of the LMS/GEF/UNEP LDCF NAPA Early Warning Project)	Approved CN 2017	Component 1 will complement the improved use of generated climate information to inform adaptation actions and capacity of communities to anticipate, plan, forecast and respond climate impact/risks.

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

The Government views this project as a learning model that will give the national government and local communities the opportunity to review context specific approaches, establish best practice and scale up successful activities to achieve climate change resilience at scale. Many activities in the proposed project, especially in component 1 and 2 include knowledge and learning for the government as well as communities. Under Component 1 (Output 1.1.3), studies on issues such as capturing indigenous knowledge and ways to embed science in traditional practices will be vital for all government departments to learn. During stakeholder consultations, the Ministry of Agriculture mentioned that even though Post Harvest Losses was an issue, it was not quantified and hence was hard to allocate resources to. Component 1 will also include a study on climate change impacts on post-harvest losses to quantify losses faced by communities and its cost to the government. A cost-benefit analysis of adaptation to climate change will be done for government departments to understand how vital it is to engage in adaptation interventions. Component 2 focuses on learning and awareness raising for the communities.

The project will develop a robust Monitoring, Evaluation and Learning (MEL) system which focuses on application of evidence-based lessons in improving or influencing activity implementation within the project and among actors in similar work. The MEL will form the basis for the active creation, sharing, and use of gained knowledge and information during this project implementation. Specifically, this will be achieved through the following processes; (i) Inception SWOT analysis on similar projects to generate and document lessons from previous projects and identify what the project can apply in the different activities building on this experience. (ii.) During the first 2 years of implementation, the program will facilitate quarterly programme reviews and in the last two years, bi-annual reviews to identify project gaps to then inform program improvement

(iii.) On an annual basis the project will document lessons learned and improvements to the implementation for review with stakeholders to inform the following year planning and implementation improvements. (iv.) In the last year of implementation, as part of evaluation, a learning document will be produced to building on yearly exercises that will form a basis for replication and scale-up of activities to other districts. The generated knowledge will be shared with stakeholders and donors working in the climate adaptation space in Lesotho. Regarding the studies and other knowledge generated:

- The studies on indigenous knowledge and ways to embed science into traditional practices will inform some of the activities design and will be shared with government partners and other stakeholder for future projects and policies;
- The media reporting manual is for training journalists in appropriate coverage and reporting of climate change to generate a culture of maintaining media attention and therefore public awareness and knowledge on climate change information, impact and solutions. The knowledge generated will be managed through the media editors forums and journalist associations;
- Through the agriculture resource centres, the generation of the bad and good practices will be used as part of the extension services by the Ministry of Agriculture and the Ministry of Forestry and Land Reclamation to promote adoption of practices that reduce or stop degradation within communities. The developed curriculum will be the training content for extension services across the country;
- Finally, the climate change toolkit will be basis for integration of climate information into school curriculum and have this as part of the education system. This is expected to be used to improve/ strengthen the education policy in the country. The dissemination will be through advocacy activities with policy makers.

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

A wide stakeholders' consultation with government, NGOs and UN agencies took place in July-August 2017. Findings from the discussions and lessons learned shared by the consulted stakeholders informed the design of the proposed project. Communities consultations also took place during that period. The consultations were done through Focus group discussions (FGDs) at village level in Taung council (*Siloe village*), Qibing council (*Ha Lekhari village*) Mashai council (*Makunyapane village*) and Linakeng council (*Ha Tokho and Maputsoe Village*). A total of 5 FGDs were conducted in the 5 Villages visited during the consultation process. The participants included; men, women, community leaders and farmers.

In the proposal development stage further consultations will be extended to other districts targeted in this proposal to cover one community council for each livelihood zone giving a total of 6 councils to be consulted in addition to the district level consultations to further develop the proposal in line with local priorities and needs.

See Annex 1 for National Stakeholder consultation and Annex 3 for a Summary of Community consultations.

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

Component 1: Institutional capacity and systems building to support national and community adaptation and management of climate risks

Baseline scenario

The Lesotho Meteorological Services (LMS) was created in 1974 as a division within the Department of Hydrology and Meteorological services. It was finally upgraded to the status of a fully-fledged department under the Ministry of Natural Resources on the 1st August 2000, which is now the Ministry of Energy and Meteorology. The LMS provides weather forecasts for special services such as airline pilots, public weather forecasts through LMS website, national radio stations, TV, and newspapers in English and Sesotho languages. LMS also passes climate information to the Ministry of Agriculture and Food Security who is mandated with generation of farmer advisory. Weather forecasts and warnings are also provided to Disaster Management Authority for preparedness and early warning purposes. However, beyond this transmission of information, there is no framework in place that can trigger action on the ground by the government bodies. Currently, the capacity to predict high resolution temporal and spatial distribution of rainfall and precipitation remains a challenge for LMS. There is a need for high resolution weather and climate prediction models/tools, in-season dry spell detection (frequency, duration and intensity) and interpretation, as well as onset/offset of rains and frost. There is no climate atlas nor agro-ecological zoning. Vulnerability maps exist for one community council in three districts, namely Thaba-Tseka, Mafeteng and Quthing.

Under the current scenario, LMS is able to generate forecasts for the short term (same day, next day, next 4 days, 7 days) as well as near term (3- as well as 6-month forecasts) via WMO's Southern African Regional Climate Outlook Forum (SARCOF). However, these forecasts are not accurate and hence have lower probability levels. In addition, these are not based on Lesotho specific trends.

Communities currently have limited to no access to climate information, which makes it increasingly difficult for them to plan ahead of the season as they continue to rely on traditional knowledge and practices that do not reflect the current climate patterns. In general, they do not trust nor understand scientific-based evidence around climate trends and climate change, including seasonal and weather forecasts.

Additionality

The project will improve LMS historical database in generating spatially and temporally complete gridded climate data series going back to over 30 years by combining LMS station observations with satellite rainfall estimates (for rainfall) and climate model reanalysis products (for temperature). The Enhancing National Climate Services (ENACTS) approach focuses on the creation of reliable climate information that is suitable for national and sub-national decision-making.

The project will develop a seasonal forecast and trigger system and will build the capacity of the national stakeholders to define their own thresholds and corresponding triggers to inform the development of integrated action plans. Map rooms (mapping service) will be co-developed with LMS and other stakeholders to disseminate the climate forecast and all relevant other contextualizing data and information, such as food security vulnerability. Regardless of which variables will end up in the tailored seasonal forecasts for food security, it will be a probabilistic forecast, allowing for the development of a forecast-based trigger system. The Map rooms will allow to tailor such triggers with user-defined shock severity and confidence levels. The way the information is presented and the interface option for choosing thresholds and triggers will be co-developed with the partners. A certain level of flexibility will remain so that the system can be used at national and sub-national level.

The information generated will then be used to co-develop different time-lead forecasts that are locally relevant and complemented by agro-met advisories through a process of co-production. To ensure that vulnerable communities will have relevant information when they need it, forecasts will range from seasonal to short-time lead (i.e. 1-5 days). Studies and consultations with communities in components 1 and 3 will ensure the format, content and means by which the information is disseminated corresponds to communities' needs, is culturally-appropriate and gender and age sensitive. Awareness and trainings in component 2 will ensure that this information is understood, correctly interpreted and that the communities have the knowledge to make informed decisions in order to manage climate risks and adapt to the changing climate.

Component 2: Awareness raising of vulnerable communities on climate change impacts and adaptation.

Baseline scenario

Whilst there have been climate change adaptation projects in Lesotho in the past, there is still a big void in terms of general awareness of the people (especially the vulnerable poor) with regards to the causes and impacts of climate change. Most community members met outside of Maseru showed little or no awareness of climate change during the stakeholder consultations. There was an observation that weather patterns have changed – mainly because of the recurrent droughts in the past years due to El Niño but very little to no understanding of the long-term pattern of climate change. Community members have often heeded the advice of traditional healers and priests to challenge scientific advice by government meteorological services. Under such levels of understanding, projects who have aimed at providing climate services have often found it difficult for an uptake of the same by community members.

Going forward, lack of awareness will make project sustainability difficult and often create aid dependency at the community level. In order to have sustainable interventions, communities must be sensitized and there must be a sense of ownership. This cannot happen unless they understand the reality of climate change in the lives.

At the district level, extension service providers are overstretched and tasked with the responsibility of training communities on sustainable environmental practices but without

community buy in, it often is a uni-dimensional project intervention. The educational system also lightly mentions climate change as a sub section of a chapter in Geographic studies at university level.

Additionality

AF resources would support the integration of scientific knowledge into livelihoods bearing in mind the indigenous beliefs and practices. Efforts will be made to collaborate with local chiefs and religious leaders and use them as vehicles for passing such information to address climate change and food security and nutrition risks at the local level. The proposed project would facilitate this process by involving communities, particularly youth, elders and women, in planning and designing local solutions and collecting traditional practices for environmental management and food security and nutrition.

Through this project, youth and communities will be made aware of the impact of climate change, especially focusing on the impact of climate change on food security and nutrition and gender. Community sensitization campaigns will precede preventive adaptation. Sensitization and awareness will also precede any asset creation activity. Special focus will be paid to women (gender differentiated approach for asset creation and income generation activities) and children (children will be informed about the impact of climate change through educational curricula and hence be change agents within communities). A strong awareness of the causes and effects of climate change will be followed up with community adaptation plans and concrete adaptation activities which will have full community ownership. This will not only make project implementation effective, but ensure that interventions are sustainable beyond the project life.

In addition, the project will produce studies on indigenous knowledge and understanding on climate patterns and beliefs; and an assessment of current and future post-harvest losses and its impact on food security of communities in the targeted communities. Such information will then be used by the government for existing and future plans.

Component 3: Strengthening resilience at community level through community-based concrete adaptation measures and improved food systems

Baseline scenario

Without concrete adaptation actions proposed in this project, the baseline scenario would see continued negative impacts of climate change including shortage of water for livestock and crops as rains fail. This has resulted in lack of food for consumption and sale as well as loss of livestock. With climate change, rainfall will be unpredictable and scarce and ground water sources negatively affected by shortened rainfall seasons. Lack of income, land degradation and deforestation due to overgrazing and demand for firewood will continue to exacerbate. The resilience and regenerative capacity of forest resources will continue to be negatively affected by extreme climatic conditions. Due to over reliance on a single income source (staples), earning capacities will fall and lead to outmigration of youth and rural population.

Also, food and market systems that are not resilient can collapse or become highly distorted in the event of a shock, leading to dire long-term consequences for populations whose livelihoods depend on selling to, buying from and/or obtaining employment in those

markets. To be resilient, systems need to have the capacity to withstand, adapt and transform in face of shocks and stresses.

Additionality

AF resources would be used to sensitize the communities on the need for adaptation before embarking upon adaptation interventions.

Communities will be made aware of the negative impact of existing practices, how these impacts might be exacerbated by climate change and how to protect the surrounding ecosystems. Community members will engage in concrete adaptation interventions such as agroforestry activities to ensure not only fuel wood but also incomes through sale of crops and fruits. In addition, smallholder farmers will be linked with local school feeding programmes so that there is an ongoing demand for their produce. This will ensure that there is some degree of crop diversification as well as sustainable income sources to prevent outmigration.

To promote food security and nutrition, promotion of diversifying native species production and consumption including through the introduction of organic and agro-ecological crop production practices; reforestation and natural resource conservation measures; and water conservation for agriculture will be supported. Water harvesting and storing activities (both rain water and spring ground water) will be done in collaboration with technical experts to ensure there is no negative environmental impact and provide communities with access to water during dry spells.

These interventions will promote food security and nutrition by enhancing ecosystem quality, improving community resilience, agricultural productivity and the diversification of local incomes, taking into consideration both short-term and longer-term climate threats. Livelihood diversification, income generation as well as market linkages will ensure that beneficiaries are self-reliant and have sustained livelihoods beyond the project intervention. In order to address climate vulnerability across the food system, issues such as production, storage, transformation and consumption will also be looked at and specific activities identified in order to create truly sustainable and resilient food systems in Lesotho.

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

The project has considered sustainability as a core requirement before an intervention would be made. Capacity building and coordination at the national and district levels will provide many benefits after the project end-date, including trained government and community leaders in EWS management and early preparedness and response actions. After the project end-date, trained officials will be able to transfer their knowledge to other officials at national and district levels.

During community consultation, it was realized that a project-based approach could have several unintended results. If communities do not understand the need for the project intervention (climate change adaptation), they may potentially think of it as a short-term

income generating scheme without long-term benefits[25]. In addition, once a project creates assets, maintaining those needs strong community ownership. Community-based participatory planning (CBPP) approaches are key planning tools paving the way for community ownership and sustainable benefits. Related discussions on asset maintenance and tenure aspects are essential to ensure the sustainability of asset creation schemes.

In relation to assets maintenance, under the proposed project, two types of assets will be created: household- and community-level assets. For the community assets, three concurrent sustainability paths will be implemented. (1) At the beneficiary level, a significant amount of effort and resources will be devoted to the development of community-level management committees. These will come in several forms (e.g. community asset management committees such as, community based environmental management teams, water point committees, community council development associations, livestock management committees, farmers associations) depending on specific asset and its location. Each one of this entity is trained and becomes responsible for the maintenance of the assets after project completion. Both in Lesotho and other countries where WFP operates, such entities have been showing positive results in ensuring that assets built or rehabilitated are appropriately maintained over time, replicated and access is ensured to every member of the community. (2) At the community level, asset tenure and maintenance are discussed and agreed upon during the Community-Based Participatory Planning (CBPP) process. (3) At the institutional level, adaptation plans developed under Output 3.1 (including the assets creation interventions under Output 3.2 and their maintenance) will be integrated into District Development Plans whereby District Development Committees will ensure maintenance of the assets after project completion (through community-level management committees under point 1 above).

Without these elements, projects will not be sustained, and assets will not be maintained beyond the project life. Components 2 and 3 particularly contribute to sustainability as described below:

Challenge	**Output**	**Sustainability outcome**
Deterioration of natural resources due to climate change and malpractices by communities.	**Output 2.1**: *Communities understand and use climate information and are aware of climate change threats and impacts on food security, nutrition and livelihoods and use information in short-term and longer-term planning.* **Output 3.2**: *Community productive assets and livelihood resources developed to support climate risk reduction and adaptation measures*. The assets will contribute to better	Natural resources like soil, water, forests managed better. Communities are informed about climate change and its impacts and make informed decisions even beyond the purview of the project. Communities are aware of which practices degrade the environment and modify their habits accordingly.

[25] Whilst the government social safety nets are intended to involve communities for public works and provide wages, they are poorly targeted, and communities tend to consider these as income generating activities with little concrete results achieved.

	management of natural resources and halting land degradation.	
Youth unaware of climate change impact and hence future generations are unaware	**Output 2.2**: *Raised awareness of children through school curricula and training teachers on climate change impact*.	By embedding climate change in school curriculums, children will grow up to be more informed and aware of the threats posed by climate change and ensure that natural resources are managed responsibly.
Lack of ownership and maintenance of adaptation activities and assets after project.	**Output 3.1:** *Community resilience and adaptation plans developed through community-based participatory approaches*. Adaptation plans will be developed with and by communities and communities will be informed on the project approach and their roles.	Communities understand the need of the project, why they were selected, how the project impacts their lives and why it is important to maintain the continuity of the activities after the project is over.

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

Components 1 and 2 mainly include capacity building activities, data and systems improvements, awareness raising activities and studies. These types of activities do not entail environmental risks. On the social side, alignment with the AF social principles of Access and equity, Marginalized and vulnerable groups, Human rights, Gender equity and women's empowerment, and Indigenous peoples will be guaranteed by ensuring that any awareness raising or training activity with communities targets at least 50% of women and includes marginalized and vulnerable groups such as elderly, youth, and disabled. WFP and LMS will ensure that the most vulnerable and food insecure groups and people have access to and are included in these activities.

For Component 3, activities under Output 3.1 and Output 3.3 are essentially community consultations and capacity building which won't have any negative environmental impact. The same precautions as for activities of components 1 and 2 described above will be taken to ensure compliance with AF's social principles.

Activities under Output 3.2 – creation of productive assets at the community and household levels – however, might present a risk for the environment. Such activities are not totally defined at project concept or project formulation stage, but rather during project implementation together with the beneficiary communities. During project design stage, community level consultations were conducted in order to identify the main vulnerabilities, gaps and needs for effective adaptation action. These consultations helped identify a number of asset types to help enhance livelihood resilience and address environmental degradation thereby responding to communities' vulnerabilities and needs. These include the installation of rooftop water harvesting, water tanks, agroforestry, fuel efficient cooking methods as well as training on alternative, less climate sensitive IGAs.

Under Output 3.1, Community-Based Participatory Planning (CBPP) processes will take place in all the communities targeted by the project. The CBPP will be used to tailor asset creation activities to local contexts and needs, building upon the main types of assets identified through preliminary consultations with communities. Through CBPP,

communities agree upon a range of implementation details at community level, including for instance the prioritization and location of assets, tenure and maintenance aspects, the required technical support, etc. In addition, the CBPP approach has proven to contribute to the community empowerment and to the strengthening of programme ownership, appropriateness, impact and sustainability.

WFP has strict rules on work norms and on the type (and size) of assets that can be created through the Food assistance for Asset (FFA) methodology. The assets are built by the community, so they are small-scale and do not require engineering expertise nor machinery. For example, construction activities – school kitchen, large warehouses, roads for vehicle use – cannot be created through FFA. WFP has a list of assets that can be created through FFA with a preliminary categorization – low, medium, high – of environmental risk (see table below). This is just an indicative categorization used internally for sensitization and training purposes that always needs to be verified through asset-level screening and confirmed based on the local context and the asset specific design.

Food Assistance for Assets Activity Areas	**Potential Environmental Risk *** (low, moderate, high)
SOIL AND WATER CONSERVATION	
Physical soil and water conservation:	
Level soil bund	Low
Stone bunds and stone-faced soil bund	Low
Level Fanya Juu	Low
Bench terracing	Low
Conservation tillage using local plough	Low
Broad bed and furrows maker (BBM)	Low
Hillside terraces	Moderate
Hillside terrace with trenches	Low, Moderate
Water harvesting:	
Hand-dug wells	Low
Low-cost water lifting	Low, Moderate
Low-cost micro-ponds	Low, Moderate
Underground cisterns (hemispherical, dome cap, bottle shape,	Low
Percolation pit	Low
Percolation pond	Low, Moderate
Farm Pond construction	Low, Moderate
Spring development	Low, Moderate
Family drip irrigation system	Low
Roof water harvesting system	Low

Food Assistance for Assets Activity Areas	Potential Environmental Risk * (low, moderate, high)
Farm dam construction	Low, Moderate
River-bed or permeable rock dams	Moderate
Small stone bunds with run-on and run-off areas	Low
Narrow stone lines along contours (staggered alternatively)	Low
Stone faced / soil or stone bunds with run-on/ runoff areas	Low
Conservation bench terraces(s)	Low
Tie ridge(s)	Low
The Zai and planting pit system	Low
Large half-moons (staggered alternatively)	Low
Diversion weir design and construction	Moderate
COMMUNITY and SOCIAL INFRASTRUCTURE	
Soil fertility management and biological soil conservation:	
Compost making	Low
Fertilization and manuring	Low, Moderate
Live check dams	Low
Mulching and crop residues management	Low
Grass strips along contours	Low
Stabilization of physical structures and farm boundaries	Low
Vegetative fencing	Low
Ley cropping	Low
Integration of food/feed legumes into cereal cropping systems	Low
Strip cropping	Low
Crop rotation	Low
Intercropping	Low
Other activities:	
Footpaths, tracks and trails	Low
Bricks making	Low, Moderate
Thatching and roofing	Low
Grain stores, dryers, mini-warehouses	Low, Moderate
Fuel efficient stoves	Low
** The indications of 'low, moderate and high' are qualitative estimates of the risk level for the activity. Depending on the scale, intensity, location and other factors, the actual risk level may be higher or lower.*	

A preliminary social and environmental risk assessment was performed based on the 15 Adaptation Fund's environmental and social principles outlined in the AF related policy. As mentioned above, compliance with the principles will mainly be integrated into project design. In-depth consultations and engagement with stakeholders and communities throughout project design and implementation will ensure that the project is culturally, socially and environmentally appropriate.

For asset creation activities (Output 3.2), a social and environmental risk screening will be performed at asset level during project implementation. The process and tools used will be WFP's ones, slightly adapted to align with national environmental legislation and expanded to include AF's social principles. The screening process is further detailed in section x, page y.

Because of the asset creation activities that are not totally defined and the subsequent environmental and risk screening process that will be used, the project is categorized as medium risk, Category B.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	X	**Low/no risk** Relevant national, regional and district authorities will be consulted during the proposal development process to ensure compliance with all relevant laws.
Access and Equity		**Low/no risk** Through in-depth consultations with communities and stakeholders during the proposal development process and throughout project implementation, and through the engagement of community leaders, this project will ensure that no activity will interfere with access to basic services or exacerbate existing inequities. This project will promote the equitable access to activities and assets by youth, elders and women in targeted communities. Component 1, 2; Outputs 3.1, 3.3: When designing and planning the activities, ensure that any activity with communities targets at least 50% of women and includes marginalized and vulnerable groups such as elderly, youth, and disabled. Output 3.2: perform social and environmental screening of assets during CBPP.
Marginalized and Vulnerable Groups		**Low/no risk** Marginalized and vulnerable groups – especially women - will be consulted during the proposal development process to ensure that their identified threats, priorities and mitigation measures are reflected. This project will empower vulnerable groups to make decisions on concrete adaptation actions, valuing their traditional and local knowledge. This project will create a space for women, elders and youth to choose adaptation activities in a transparent and participatory manner. Additionally, this project will consider traditional belief of the Basotho as well as land, property and customary rights. Component 1, 2; Outputs 3.1, 3.3: When designing and planning the activities, ensure that any activity with communities targets at least 50% of women and includes marginalized and vulnerable groups such as elderly, youth, and disabled. Output 3.2: perform social and environmental screening of assets during CBPP.
Human Rights	X	**Low/no risk** This project affirms the rights of all people and does not violate any pillar of human rights.

Gender Equity and Women's Empowerment		**Low/no risk** Through targeted consultations with Basotho women, project design and implementation will ensure that gender considerations are integrated in each activity. This project will promote women leadership in public spaces and decision-making power for climate change adaptation and food security and nutrition. In project formulation, gender experts will be consulted to ensure that the project effectively responds to the unique needs of women and girls and promotes gender equity. Component 1, 2; Outputs 3.1, 3.3: When designing and planning the activities, ensure that any activity with communities targets at least 50% of women and includes marginalized and vulnerable groups such as elderly, youth, and disabled. Output 3.2: perform social and environmental screening of assets during CBPP.
Core Labour Rights	X	**Low/no risk** The project will ensure respect for international and national labour laws and codes, as stated in WFP's policies.
Indigenous Peoples		**Low/no risk** Extensive consultations and participatory planning events will ensure that the project appropriately incorporates the priorities and needs of this population in all activities. These consultative events will include women, elders and youth as well as traditional and religious leaders. Component 1, 2; Outputs 3.1, 3.3: When designing and planning the activities, ensure that any activity takes into consideration priorities and needs of indigenous peoples and includes them in any participatory approach and in project activities. Output 3.2: perform social and environmental screening of assets during CBPP.
Involuntary Resettlement	X	**No risk** The project will not lead to involuntary resettlement.
Protection of Natural Habitats		**Low/no risk** By implementing ecosystem-based adaptation activities such as agroforestry and water conservation efforts, the project will ensure the protection of natural habitats. In addition, consultations with government stakeholders, community leaders and communities will ensure that conversion or degradation of critical natural habitats (including those that are legally protected, officially proposed for protection, recognized for their high conservation value, or recognized as protected by traditional or indigenous local communities) is avoided. Output 3.2: perform social and environmental screening of assets during CBPP.
Conservation of Biological Diversity		**Low to moderate risk** Agroforestry and tree planting activities could lead to a deterioration of biological diversity if tree species are not correctly selected (e.g. inadvertent introduction of invasive species) and diversified. To ensure this risk is addressed, this project will prioritize local species and multi-species plantations and avoid the use of non-native and invasive species. Additionally, these activities will be designed in close collaboration with the Ministry of Forestry. By working with local leaders and village chiefs to rescue traditional and native plants and crop species, this project will support the conservation of biological diversity and increase ecosystem resilience. Output 3.2: perform social and environmental screening of assets during CBPP.
Climate Change	X	**Low/no risk** The project will not generate any significant emissions of greenhouse gases and will not contribute to climate change in any other way. All project components and activities contribute to increasing local capacities to sustainably face climate change in the long-term and climate variability in the short and medium terms. Output 3.2: climate change related impacts are assessed by the standard WFP's social and environmental screening tool and will therefore be verified/re-assessed during CBPP.
Pollution Prevention and	X	**No risk**

Resource Efficiency		The project will not release pollutants. Energy efficiency, minimization of material resource use, and minimization of the production of wastes will be embedded in project design. Output 3.2: pollution and resource efficiency impacts are assessed by the standard WFP's social and environmental screening tool and will therefore be verified/re-assessed during CBPP.
Public Health		**Low/no risk** The project will be designed and implemented in a way that avoids any negative impact on public health. Particular attention will be given to activities related to water harvesting and storage and communities will be sensitized on how to use and store the water in a safe and efficient way. The project will ensure that the targeted populations will not face restrictions to their access to public healthcare. Output 3.2: perform social and environmental screening of assets during CBPP.
Physical and Cultural Heritage		**Low/no risk** Under component 1 and 2, traditional and local knowledge will be understood and enhanced with scientific information for environmental management and food security and nutrition. Consultations and engagement with stakeholders and communities (components 2 and 3) will ensure that any physical cultural heritage present on the project site is identified and potential negative impacts are avoided through project design. Output 3.2: perform social and environmental screening of assets during CBPP.
Lands and Soil Conservation		**Low to moderate risk** Through the adaptation activities in component 3 (output 3.2), this project will aim to rehabilitate lands and restore degraded soils through natural regeneration, planting of native nitrogen-fixing plants, agroforestry and water harvesting. Some activities, however, could have negative impacts on lands and soils conservation if not designed properly. In addition, increased agricultural production and livelihoods may lead to increased investment in livestock which may have an unintended effect on the environment, mostly on soils and water resources. Sensitization and trainings in component 2 will ensure these issues are well understood. The project will identify mitigation and monitoring measures to ensure that unintended negative impacts resulting from its activities are avoided or minimized. Output 3.2: perform social and environmental screening of assets during CBPP.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

The project will be executed by the Lesotho Meteorological Services (LMS) under the Ministry of Energy and Meteorology; Ministry of Agriculture and Food Security; and the Ministry of Forestry**,** Range and Soil Conservation. Where needed at grassroots level, execution of some activities will be undertaken by NGO partners or community organizations after receiving training, and with assistance from Government and WFP as needed.

LMS is the coordinating agency charged with the responsibility of monitoring and reporting on weather, climate and climate change issues. In addition, LMS is the focal point in the planning and co-ordination of activities for Lesotho's commitments under the UNFCCC. Component 1 will be directly executed by LMS. Early Warning Systems will be established with inputs from the International Research Institute for Climate and Society, whilst studies will be undertaken in coordination with expert consultants. Tailoring climate information to communities' needs and disseminating it in a culturally-appropriate, gender and age sensitive way, as well as awareness raising campaigns under Component 2 for community and youth will be executed by LMS in collaboration with NGOs (for e.g. ActionAid) for community outreach as well as national universities (for e.g. the National University of Lesotho), whilst integration of climate change in school curricula will be done in coordination with the Ministry of Education, where necessary. For Radio and other media and information dissemination campaigns, LMS will collaborate with the Lesotho Telecommunications Authority and Community Based organisations (CBOs) where necessary (when working through community and religious leaders, for example).

The Ministry of Agriculture and Food Security is tasked with participatory development and implementation of policies and programs with farmers, provision of expert advisory agricultural services to the farming community and agro-businesses leading to sustainable agriculture for the achievement of food security. The Ministry of Forestry, Range and Soil Conservation is responsible for protecting and rehabilitating the physical environment through forestry, management of rangeland resources and control of soil erosion and harvesting of water in order to enhance means of livelihoods of local communities.

Studies on post-harvest losses will be undertaken by expert consultants in direct collaboration with the Ministry of Agriculture. In addition, extension services at the district level are part of the Ministry of Agriculture and will be responsible for provision of knowledge and training at the community level. Activities under Component 3 such as tree planting, agroforestry, asset creation activities etc. will be executed by the Ministry of Agriculture in close coordination with the Ministry of Forestry, Range and Soil Conservation.

The World Food Programme, Lesotho Country Office will facilitate and supervise overall project implementation; oversee monitoring and evaluation; provide technical support; and report to the Adaptation Fund. WFP's principal role is fiduciary, supervisory, supporting, coaching, providing technical knowledge, monitoring and disseminating lessons learned.

Execution of most activities will be undertaken by community organizations after receiving training, and with assistance from consultants. More specifically, community organizations will undertake the following tasks:

- Community mobilization and organization of awareness activities and field training (C2 and C3)
- Supervising asset creation schemes (C3)
- Soliciting help and technical assistance when needed on behalf of the community (C3)

Collaboration will be forged with Institutions of Higher Learning in the area, such as National University of Lesotho, Lerotholi Polytechnic, National Health Training College, Lesotho College of Education, Limkonkwing University of Creative Technology which can be in a position to provide expertise needed for awareness raising campaigns as well as the technology adaptation/transfer process.

The table below maps roles of various entities per project output:

Output/Entity	**Ministry of Energy and Meteorology (Executing Entity)**	**Ministry of Agriculture and Food Security; and the Ministry of Forestry, Range and Soil Conservation (Executing Entities)**	**NGOs, external consultants & Academia (collaborating partners)**	**WFP (MIE)**
Output 1.1.1: Strengthened Early Warning Systems (tools, triggers, actions, and training manuals) to trigger early action through government safety net programs.	LMS to provide data and support to incorporate tools and triggers across government entities and programmes.	Ministries of Agriculture and Forestry to provide necessary data for triggers (e.g. crop requirements, etc.)	Tools and triggers developed by IRI	Manage funds, recruit international and local experts, provide technical assistance where needed.
Output 1.1.2: Capacities strengthened through development of standard operating procedures in response to climate shocks	Improve response procedures and enhance existing procedures to respond to drought and other climate shocks		Conduct scoping study to understand relevant systems in place and develop SOPs to respond to forecast and triggers	Manage funds, provide FSN information, recruit international and local experts, provide technical assistance where needed.
Output 1.1.3: Supporting studies developed to inform government on adaptation needs	Provide policy and advisory support to develop study.	Ministry of Agriculture to collaborate on development of studies	Experts and consultants to develop studies to inform government policy and support and learn from interventions.	Manage funds, recruit international and local experts, provide technical assistance where needed.

Output 1.2.1 Climate services developed and shared through culturally-appropriate channels	Provide climate data and information generated and create easy to understand messages. Building on the PICSA approach and work done by the WAMPP project, tailor climate information to beneficiaries' needs and communicating it in a simple, timely and appropriate manner.	Ministry of Agriculture to contribute with agricultural information and advice	Support with the creation of easy to understand messages and the identification of dissemination channels	Manage funds, recruit experts if needed, provide technical assistance where needed.
Output 1.2.2 Enhanced capacity of media houses and reporters to effectively write and publish climate change stories.	Provide training in interpretation and simplifying climate information to enable effective writing of climate change impact and adaptation options	Ministry of Agriculture to contribute with agricultural advisory	Support with generation of technical studies that can be translated for publication	Manage funds and in collaboration with LMS identify local or international technical assistance as might be required
Output 2.1: Communities understand and use climate information and are aware of climate change threats and impacts on food security, nutrition and livelihoods and use information in short-term and longer-term planning	Provide policy and advisory support to develop content. Collaborate with relevant partners to disseminate knowledge.	Extension services to provide training and awareness raising at district levels.	NGOs to support awareness raising campaigns at grassroots level.	Manage funds and provide technical assistance and coordination support where necessary.
Output 2.2: Raised awareness of children through school curricula and training teachers on climate change impact.	Coordination with relevant government entities to update curricula. Provide policy and advisory support to develop curriculum.			
Output 3.1: Community resilience and adaptation plans developed through community-based participatory approaches	Synergies with the PICSA approach will be sought to strengthen resilience among the communities	Community consultations facilitation, and technical and operational support	Community mobilization, field organization support and community consultations facilitation	Manage funds and provide technical assistance and coordination support where necessary.

Output 3.2: Community assets and livelihood resources developed to support climate risk reduction and adaptation measures.		Technical and operational support.	NGOs could be contracted for activities related to training on subjects like horticulture, income diversification, small-scale drip irrigation	Manage funds, recruit experts, provide technical assistance where needed.
Output 3.3: Well established market linkages for sustained income generation activities.	Advocacy support for enabling smallholders	Technical and operational support.		Advisory support

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

Risk	Ranking	Response Measure
Political risk	**Medium to low**	In view of the risk that political volatility and civil unrest could interrupt the project, WFP will seek to reduce the effects by establishing strong operational partnerships with various national organizations and engaging in advocacy. WFP will strive to establish a sentiment of full ownership amongst government stakeholders.
Environmental risk	**Low**	Localized and/or temporary risks during construction phases are site-specific and will be addressed through adequate planning.
Technical Capacity of government partners	**Low**	Because unexpected constraints relating to the capacities of national partners could result in delays in implementation, WFP will continue to develop partnerships with a broad range of development organizations to ensure sustainability and to limit risks.
Natural disasters like drought in project sites	**Medium to low**	As a matter of routine, WFP prepares contingency plans in close collaboration with Government to detect and address risks early on.
Coordination among government agencies will be ineffective due to the large number of government institutes involved, capture by sectoral interests, and multiple reporting lines.	**Low**	This risk will be mitigated by strong leadership from senior government officials. Since the concept stage, the NDA and its technical advisors have been involved in project planning. Information will be broadly shared to identify synergies and opportunities for cooperation, and minimize the risks of competition and duplication. Further multi-stakeholder discussions will focus on identifying common issues, and finding pathways towards common goals and actions.
People cut down planted trees for fuel wood (other than community forests)	**Low**	Community ownership and protection of natural resources as well as having alternative sources of income will reduce this risk. In addition, Government is pursuing the strategy of replacing wood with natural gas in urban centers, which are the most important market for fuel wood from rural areas.

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

Activities under Components 1 and 2 and activities under Outputs 3.1 and 3.3, as mentioned above, do not represent an environmental risk. To avoid social risks, the Implementing Entity, together with the project team, will ensure that AF's social principles are taken into consideration during activity design and that any activity with communities targets at least 50% of women, includes marginalized and vulnerable groups such as elderly, youth, disabled, and indigenous populations, and ensures that the specific needs and priorities of these populations are taken into consideration. In addition, close collaboration with a wide range of governmental entities during project design and implementation will ensure that the project is aligned with national legislation.

For activities under Output 3.2, a revised version of the WFP's screening tools will be used. WFP has a process in place which aims to screen each asset creation activity for environmental risks. During full project formulation stage, the existing environmental risk screening process and tools will be extended to cover also the social principles of the Adaptation Fund. Further consultations with the Lesotho Government will ensure that the revised tools will also align with the national environmental legislation. **The final tools to be used will be attached to the full project proposal.**

The screening will take place during the CBPP process, together with communities, once the assets to be created are identified and their exact location and design are defined. At that stage, potential environmental impacts are discussed with communities and a checklist is filled in by the entity/partner facilitating the CBPP. If risks are identified, a more detailed analysis (and another checklist) is performed to better qualify and quantify the potential impacts and to be able to categorize the activity as low, medium or high risk. The risks are then managed differently, depending on the categorization result: low risk activities are implemented without further assessment or special measure; for medium risk activities, avoidance or mitigation measures are planned and recorded in an Environmental Management Note (which also indicates how these will be monitored); and for high risk activities, an Environmental Impact Assessment is required with subsequent Environmental Management Plan.

Project partners and stakeholders involved in asset creation activities will be trained on the use of the screening tool. They will be capacitated to identify environmental risks, quantify them, and identify and plan for avoidance or mitigation measures. Technical support from a governmental partner or WFP, where needed, will be provided to deal with medium and high-risk activities and manage them properly.

From experience, it is expected that most asset creation activities will be low risk, with some possibly being medium risk. It is not expected that asset creation activities will be high risk because of the usual type, size and nature of assets that are eligible for the FFA modality. Nevertheless, the screening will be mandatory for all asset creation activities and filled-in checklists will be kept and recorded as part of the monitoring system.

Finally, a grievance and complaint mechanism will be set up to enable beneficiaries to raise their voice and report any irregularities in project/activity design and implementation. Awareness will be raised among communities, targeting especially vulnerable groups such as women, to inform them of their rights and use of the complaint mechanism.

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

Project monitoring, reporting and evaluation will be carried out in accordance with WFP established procedures and standards and will be based on WFP's internal "Evaluation Quality Assurance System" (EQAS). Financial monitoring and accounting by the Multilateral Implementing Agency will follow WFP standards that are based on the International Public-Sector Accounting Standards (IPSAS).

Key monitoring, reporting and evaluation activities will include:

Inception workshop will be held at project up-start, under the chairmanship of the Ministry of Forestry and with involvement of all major stakeholders, in particular the project steering committee, as well as centralized and decentralized government entities. The inception report to be provided on the basis of the workshop will form the basis for the first detailed annual work plan.

An in-depth baseline (to be developed within 4 months of project start) and regular follow-up reports concerning all indicators included in the project results framework form an integral part of the project, which has a strong learning dimension.

Short quarterly progress reports will keep the project stakeholders at decentralized and national level abreast of the most recent developments and events, including project activities, implementation of any risk mitigation measure, results achieved, problems encountered and plans to overcome these. Every fourth quarterly report will provide additional input to the project annual report (as will be defined by the project coordinator who will take into considerations the requirements of the national monitoring system under establishment for adaptation programs under the Climate Adaptation Strategy including the Independent complains and feedback mechanism system already set-up for WFP programs).

Detailed annual reports will provide full information on activities carried out, outputs produced and – to the extent possible – tendencies towards foreseen outcomes observed. The annual reports will be presented and discussed at an annual workshop – at which the advisory group and other identified stakeholders will participate - that will provide recommendations / endorsement for the proposed next annual work plan.

An **external mid-term review** will be carried out half way through project implementation. A **final report** will summarize all project activities and results. A **final evaluation** is foreseen to be completed within six months after project termination.

E. Include a results framework for the project proposal, including milestones, targets and indicators.

Project strategy	**Objectively verifiable indicators**				
Goal	*To enhance the adaptive capacity of vulnerable communities to the effects of climate change on food security.*				
Impact: To reduce food and nutrition insecurity due to climate shocks through climate change adaptation measures.	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
	Reduced climate change vulnerability for low lying districts	Ecosystems rated as highly vulnerable	Reduced ecosystem vulnerability	Ecosystem baseline scenario and follow-up study at end of project	Climate change measures are long-term, and the project captures all changes in ecosystem vulnerabilities
	Strengthened awareness of climate threats and risk-reduction processes	Male- or female-headed households in the targeted area do not have information about climate threats and adaptive measures. Belief in superstition and traditional practices.	At least 80% of targeted households are aware of climate threats and implement adaptive measures	Gender and age sensitive household surveys	Communities are interested to learn more on the subject.
	Dietary diversity score	4 food items in household diet	Increased dietary diversity to 6 items in household diet	Household surveys	Communities have access to diversified nutritious foods
	National capacity strengthening score	Adaptation and climate risks not in local plans	Institutions strengthened to incorporate adaptation and risk reduction measures in plans	Focus groups Final project report	Capacity-building is long-term, and the project captures all changes in institutional capacity

Objective 1: Strengthening government capacities to forecast climate shocks and take early action					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Outcome 1.1: Increased knowledge and technical capacity at national and district levels to forecast, interpret, plan, disseminate and anticipate responses to climate change risks	Zero Hunger Capacity Scorecard	-National authorities have limited tools and capacities to forecast climate shocks	-LMS has enhanced capacity to forecast climate shocks.	Project reports	National authorities are interested in strengthening their capacities related to climate change adaptation to support local populations
Output 1.1.1: Strengthened Early Warning Systems to trigger early action through government safety net programmes.	-Number of people trained. -Number of capacity development activities provided. -Number of social protection programmes informed with early forecast	-District authorities have little to no technical resources to support communities to adapt to climate change. -District authorities do not receive climate forecast in advance. -There are no plans for early action to respond to a climate shock at district level. -Social safety net is not shock responsive	-500 (*50 per district)* officials at district level trained (50% women) -Number of early warning information systems established at district level. -At least one early action plan established at each district. -At least one safety net programme is climate informed.	Pre- and post-training assessments Project reports	Local authorities are interested in strengthening their capacities related to climate change adaptation to support local populations
Output 1.1.2: Capacities strengthened through development of standard operating procedures in response to climate shocks	- Number of government staff trained at national level, disaggregate by sex - Number of SOPS developed and applied	-National staff have limited technical capacities to understand forecast and prescribe early action	- 100 officials at national level trained (50% women) - 3 SOPS developed (*Early warning and Early action, Community Climate Action and Disaster Management Plan*)	Pre- and post-training assessments Project reports Project Reports	National authorities are interested in strengthening their capacities related to climate change adaptation to support local populations

Objective 1: Strengthening government capacities to forecast climate shocks and take early action					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Output 1.1.3: Supporting studies developed to inform government on adaptation needs	-Number of studies on post-harvest losses -Number of methodologies -Number of cost-benefit analyses	-No studies on post-harvest losses -No documented understanding of indigenous beliefs and responses to climate variability -No existing research on cost or benefits of adaptation to climate change	- By end of the project, at least one developed on post-harvest losses, one methodology developed to link scientific knowledge with traditional practices to be accessible to government. -By the end of the project, cost-benefit analyses implemented for each adaptation measure, at watershed level	-Monitoring system through community-level interviews -Baseline and final project evaluations	Traditional and religious leaders are willing to collaborate in developing studies. Data can be collected to measure post-harvest losses. Information from CBA is used by governments in measuring adaptation benefits.
Outcome 1.2: Strengthened access to tailored climate services by vulnerable communities to improve decision making for food security and livelihoods	- % of people reached by climate information	- No climate information reaching the targeted communities	At least 90% of community members (50% male and 50% female) in target villages have access to climate information	- Project reports - Baseline and final project evaluations	
Output 1.2.1: Climate services tailored to the needs of vulnerable communities developed and shared through culturally-appropriate channels	- % of people understanding the information - Number of different information dissemination channels used	- Community members in targeted villages do not understand nor rely on climate information - Climate information does not reach communities	- At least 90% of the people having access to climate information can understand and interpret it - At least 2 different channels used, based on gender, age and cultural preferences	- Project reports - Baseline and final project evaluations	Communities are sensitized and trained to understand messages and take informed decisions. Religious leaders participate in conveying the messages.

Objective 1: Strengthening government capacities to forecast climate shocks and take early action					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Output 1.2.2 Enhanced capacity of media houses and reporters to effectively write and publish climate change stories.	- Number of Journalists trained on climate change reporting - Number of climate change impact and adaptation stories published	- Climate change rarely appears in mass media	-Climate change reporting guidelines for Journalists developed - At least 2 climate change impact and adaptation stories covered per quarter for each media platform (Radio, TV, and Newspapers)	Training Reports and Media Reports	Media editorial policy places an importance on climate change reporting.

Objective 2: Increased awareness and knowledge of communities and youth on the impact of climate change and the importance of climate change adaptation.					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Outcome 2: Strengthened awareness of climate change impact on food security amongst vulnerable communities and youth and knowledge of adaptation actions	% of targeted community members (male and female) receiving key messages on climate change adaptation, food security and nutrition Number of people having knowledge/awareness, attitude and practice in climate adaptation initiatives	Community members often do not understand the objectives of projects and do not take ownership over adaptation plans Very few communities/households have knowledge about climate adaptation and are practising good adaptation actions	At least 90% of community members (50% male and 50% female) in target villages are sensitized. At least 90% of community members have knowledge and are practising climate adaptation actions	-Baseline and final project evaluations KAP survey in baseline and final evaluation	

Objective 2: Increased awareness and knowledge of communities and youth on the impact of climate change and the importance of climate change adaptation.					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Output 2.1: Communities understand and use climate information and are aware of climate change threats and impacts on food security, nutrition and livelihoods and use information in short-term and longer-term planning.	% of targeted people disaggregated by sex received key messages related to health and nutrition risks resulting from climate change % of people in targeted villages, disaggregated by sex, who were trained on interpreting climate information % of trained community members, disaggregated by sex, using climate information to take decisions and plan	Communities and youth are not informed about climate change Community members cannot interpret climate information and do not know how to plan accordingly	At least 90% of community members (50% male and 50% female) in target villages are trained and apply knowledge. At least 90% of community members (50% male and 50% female) in target villages are trained At least 90% of trained community members use climate information to take decisions	-Baseline and final project evaluations	Demand for climate change awareness and adaptive strategies among communities Demand for climate information and adaptive strategies among communities
Output 2.2: Raised awareness of children through school curricula and training teachers on climate change impact.	Number of students exposed to climate change topics in schools. Number of teachers trained on climate change topics in schools.	School curricula do not cover topics on climate change.	80% of enrolled students are exposed to climate change topics in schools. 60% of primary school teachers trained on climate change topics in schools.	-Baseline and final project evaluations	Students are interested in learning about climate change.

Objective 2: Increased awareness and knowledge of communities and youth on the impact of climate change and the importance of climate change adaptation.					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
	Number of schools which added climate change in regular curriculum		50% of school add climate change topics in regular curriculum.		

Objective 3: Asset creation and income diversification for increased household resilience					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
Outcome 3: Strengthening resilience at community level through community-based concrete adaptation measures and improved food systems	Resilience Capacity Index/Resilience score OR Proxies Food Consumption Score Coping Strategy Index	Resilience capacity index/ Resilience score at baseline TBA. 58% of Households (49% for rural 68% for urban) have acceptable food consumption 41.5% of households use stress, crisis and emergency coping strategies	30% increase in resilience index/ score for targeted population Increased acceptable food consumption score to at least 75% of households even in drought periods Reduce the proportion of households who use stress, crisis and emergency coping strategies to below 20% even during drought periods	Resilience measure based on climate and food security analysis Household Surveys	Communities have access to diversified nutritious foods and develop
Output 3.1: Community resilience and adaptation plans developed through	- Number of community-based adaptation plans in the targeted areas	No CBPP carried out so far in targeted areas	At least half of the villages targeted by the project have a	List of CBPP/community-based plans	There is a risk that communities may consider asset creation activities as

Objective 3: Asset creation and income diversification for increased household resilience					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
community-based participatory approaches			community-based adaptation plan		social safety net programme and not take much interest in its continuity beyond the project.
Output 3.2: Community productive assets and other livelihood resources developed to support climate risk reduction and adaptation measures.	% of target households with natural and physical livelihood assets created and improved Number of assets created through the project Number of ha of fruit and vegetable trees planted for income generation and revenue gained from them % increase in household income (IGAs pursued and incomes earned)	Limited water harvesting and storage facilities. Limited soil management activities resulting in xx hectares classified as severely degraded	# of water harvesting structures established. 3000 ha degraded land recovered using agro-forestry and nitrogen fixing species	Project reports, site visits and attendance records.	Adequate monitoring oversight and fiscal control mechanisms in place for effective payment delivery through existing village service delivery and farmer organizations.
Output 3.3: Establishing market linkages for sustained income generation activities	-Number of smallholder farmers supported/trained -Quantity of fortified foods,	Small holders do not have steady income and linkages with buyers.	20% Increase in income of small holder farmers 10% increase in food procured from local	-Baseline and final project evaluations	Farmers are able to cooperate in order to generate volumes to meet demand.

Objective 3: Asset creation and income diversification for increased household resilience					
Outcome/Outputs	**Indicator**	**Baseline**	**Target**	**Source of verification**	**Risks and assumptions**
	complementary foods and special nutrition products purchased from local suppliers	Schools feeding implementers import food from other regions or countries	producers for school feeding projects		

F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

Project Objective(s)[26]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Strengthening government capacities to forecast climate shocks and take early action	Zero Hunger Capacity Scorecard	Outcome 1: Reduced exposure to climate-related hazards and threats Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	1. Relevant threat and hazard information generated and disseminated to stakeholders on a timely basis 2.1 Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	2,580,000

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

Increased awareness and knowledge of communities and youth on the impact of climate change and the importance of climate change adaptation	% of targeted community members (male and female) receiving key messages delivered through WFP-supported messaging and counselling	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1 Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses	1,650,000
Asset creation and income diversification for increased household resilience	% of target households with natural and physical livelihood assets created and improved	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets 6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	4,019,991
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**
Outcome 1.1: Increased knowledge and technical capacity at national and district levels to forecast, plan, and anticipate responses to climate change risks.	Zero Hunger Capacity Scorecard	Output 2: Strengthened capacity of national and regional centers and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts, of climate-related events 2.1.2. No. of targeted institutions with increased capacity to minimize exposure to climate variability risks	2,025,000
Outcome 1.2: Strengthened access to tailored climate services by vulnerable communities to improve decision making for food security and livelihoods.	% of people reached by climate information	Output 1.2: Targeted population groups covered by adequate risk reduction systems Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	1.2.1. Percentage of target population covered by adequate risk-reduction systems 3.1.1 No. of news outlets in the local press and media that have covered the topic	555,000

Outcome 2: Strengthened awareness of climate change impact on food security amongst vulnerable communities and youth and knowledge of adaptation actions.	% of targeted community members (male and female) receiving key messages on climate change adaptation, food security and nutrition	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. of news outlets in the local press and media that have covered the topic	1,650,000
Outcome 3 Increased adaptive capacity of communities and households to respond to climate shocks.	Resilience Capacity Index/Resilience score OR Proxies: Food Consumption Score Coping Strategy Index	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies 6.2.1. Type of income sources for households generated under climate change scenario	4,019,991

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

	Upon Agreement signature	One year after project start	Year 2	Year 3	Total
Scheduled date	November 2018	November 2019	November 2020	November 2021	
Project Funds	1,216,530	2,393,245	3,549,757	1,874,208	**9,033,740**
Implementing Entity (WFP) Fee (8.5%)	103,405	203,426	301,729	159,308	**767,868**
TOTAL	**1,319,935**	**2,596,671**	**3,851,486**	**2,033,516**	**9,801,608**

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

A. Record of endorsement on behalf of the government[27] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Mabafokeng Mahahabisa, Director, Ministry of Energy and Meteorology	Date*: December, 15, 2017*

B. Implementing Entity Certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme 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 and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
…… *Mary NJOROGE, WFP Country Director* Implementing Entity Coordinator	
Date: *January 22, 2017*	Tel. +266 2232989 Email: mary.njoroge@wfp.org
Project Contact Person: Nkopo Matsepe	
Tel. +266 2232989 Email: Nkopo.matsepe@wfp.org	

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

Annex 1 – Stakeholders consulted during the formulation of this concept note

Between July 19, 2017- August 03, 2017, WFP conducted a national level stakeholder consultation with UN partners, NGOs, Government entities as well as academia to understand the existing challenges, experience and lessons learnt by various organizations in addressing the impact of climate change in the country. The findings of the stakeholder consultations are summarized below. The stakeholder consultations were complemented by field visits to existing adaptation projects to understand the effectiveness of the interventions and opportunities and lessons learnt from them.

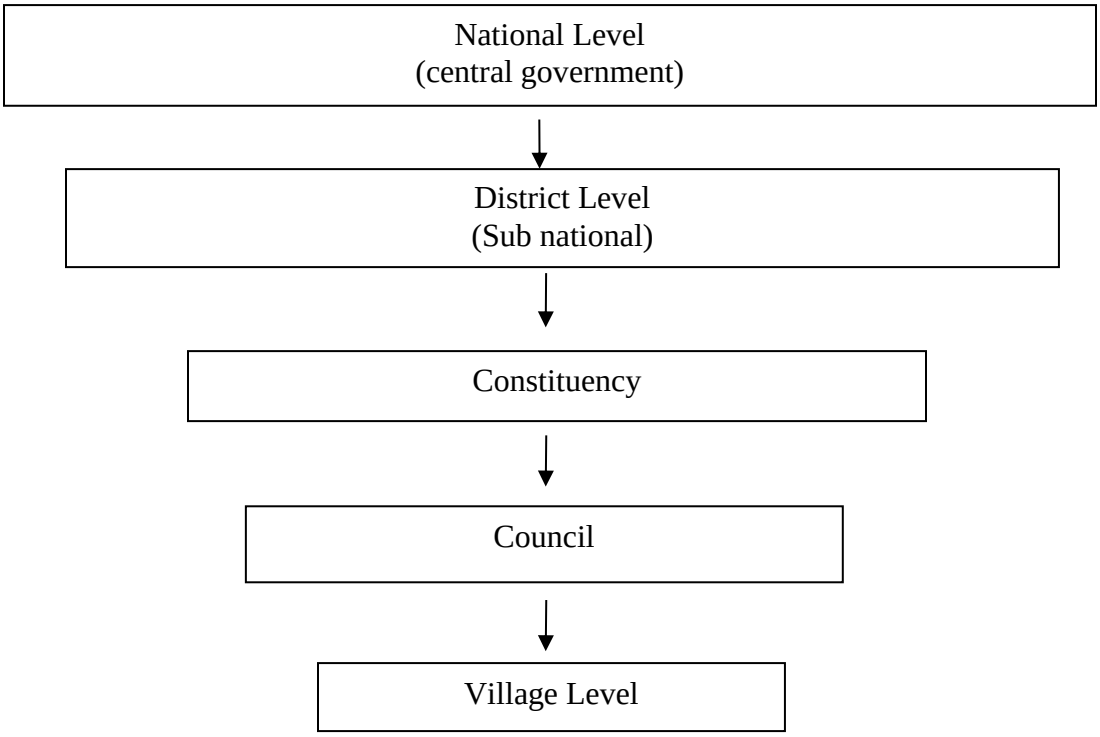
List of Stakeholders Consulted and Meeting Results

Organizations	Topics discussed
UN AGENCIES	
UNDP	Implementing 2 projects focusing on sustainable land management (IGA, overgrazing solutions); Energy projects include solar systems (maintenance and battery recycling is a challenge) Baselines are missing, and M&E is challenging nationwide NAP process is extremely slow while most projects align with the NAPA. Communities need incentives to be mobilized; seasonal labour; high unemployment. Weak government capacities #Cooking fuel a challenge across the country
FAO	Potential to complement existing FAO/UNDP projects (closely linked with SP policy 'fato-fato') in 4 districts and scale-up to other districts. Currently engaging EU project on Integrated Catchment Management (ICM) with the Dept. of Water Affairs. Current project interventions include soil conservation, water management, Livelihood diversification, mapping climate risks, solar powered IGAs, VCD, CSA. Multiple projects operate in silos and approach is not coordinated. #mountainous areas more vulnerable to climate impact Sustainable intensification of agriculture could be done using #greenhouses/small #drip irrigation Soil fertility is a challenge and investing in soil and #water management is key (high potential for #irrigation) #Post-harvest losses are high. Most fruit trees ripe at the same time. Community vulnerability should be key entry point over other criteria
NGOs	
World Vision	Key challenges: Land degradation, gender, unemployed trained youth, outmigration Rain patterns have noticeably changed. There exists a gap in met services to provide rainfall info Early #frost is a challenge even if rainfall is timely. Hence challenges multi-fold #Drought persists even outside the El Niño phenomenon August is no longer planting season. #Cropping calendars need to be revised. FAO promotes Conservation Agriculture Farmer managed natural regeneration programs (FMNR) to address deforestation for firewood for #cooking. However, need for firewood leads to deforestation. Sustainable interventions missing. There is uncontrolled grazing

	Need #greenhouses and small #irrigation for coping with winter and drought Extension services exist but not effective in providing seasonal information #mountainous areas more vulnerable to climate impact; disasters destroy roads
Lesotho Red Cross (LRC)	Key challenges: rainfall unpredictable, early frost, soil erosion, lack of vegetation, overgrazing, water collection, inputs (hybrid seeds expensive), superstitious practices, lack of farmer cooperatives LRC does Conservation Agriculture. Keyhole and trench gardens, small tanks, roof water harvesting, community based DRR teams working with DMA in 10 districts. Potential for #irrigation #greenhouses #solar energy for water extraction Need for tree planting based on soil structure to address poor land cover, #firewood Need to implement #NAPA, transmit weather info, community #awareness raising
Action Aid	Key challenges: #Sensitization and #awareness raising, translating policy into actionable plans in communities, ActionAid works for #gender inclusion, #behavioural change, sustainable ag in communities (#NAPA implementation), youth/child mentoring in 6 districts. #Conservation Ag, #greenhouses, removing invasive species, ag processing incl. fruits and high value crops, #awareness raising Communities observe changes in climate but do not know solutions to challenges Involving women includes sensitization of men through #men's groups, forming #community based orgs Provide weekly SMS services/alerts on weather info by collaboration with LMS at district level
Government partners	
Lesotho Meteorological Services	Key challenges: #Awareness raising; #Water; #Research; #Capacities; #Post harvest losses; #Community outreach; #Quality management systems #Superstition; #HIV; #Gender Working with community leaders and opinion formers (including religious leaders and traditional healers) is key to disseminate information. LMS does not have execution functions and supports other ministries Important to integrate climate change in primary education through schools (primary education is free). Shepherds are a vulnerable group and should be targeted in awareness raising activities Successful pilots will help convert sceptic communities Need to update definition of seasons as well as national cropping calendars Need to improve capacity of climate modelling at Ministry of Agriculture SMS functions cost 3 cents per message. Suggest weather app for smartphones #Climate services must be preceded by awareness raising and training programs LMS needs high resolution maps (it was found that most forecasts are accurate, and people are generally happy with them) Need to substantially improve capacities at national, district and community levels LMS provides probabilistic seasonal (6 month) forecast but farmers need to understand language of probability Radio Lesotho has deep penetration and listener base in country esp. daily Farmer oriented programs Programs by opinion formers/supporters of superstitions, religions contradict climate forecasts (case of El Niño)
Disaster Management	Key challenges: #awareness raising; #drought; #frost; #food prices; #national capacities; #equipment

Authority (DMA)	DMA is a coordinating agency for DRR and does not execute activities by itself; present in all 10 districts Key focus areas of project could be EWS, resilience building, vulnerability assessments, training, #livelihood diversification Information from LMS on forecasts is accurate WFP partner for resilience project Need to develop #Community preparedness plans
Min of Forestry - Department of Rangeland conservation	Key challenges: Invasive pests, loss of wool and mohair; #variability; heavy snow followed by drought; #awareness raising missing; #land use planning Fodder production needs to be improved Bee keeping, and poultry could be alternate livelihood activities Climate data is not used for land use planning and hence activities fail Possession of livestock is a cultural practice
Min. of Agriculture & FS - Department of Crops	Key challenges: #post-harvest losses; #drip irrigation #updating seasonal cropping calendars; late rainfall/early summers Subject matter specialists prevalent in all 10 districts Farmers realize climate is changing but do not understand causes or impacts and solutions There is general awareness of weather forecasts Government subsidizes inputs as they are expensive Crop farmers unions not as well organized as livestock farmers Potential to develop market centres at community levels Issue of post-harvest losses (PHL) is serious as most harvest is stored in houses and perishes. There is a lack of studies on PHL and CC impacts on PHL Need for agrometeorology capacity at Min. of Agriculture as well as LMS to complement each other
Department of Water Affairs (DWA)	Key challenges: #Capacities; Monitoring equipment; Platforms for knowledge sharing with government (DMA); #Water scarcity; Mandated with monitoring of surface water and ground water Currently working with GIZ/EU for Integrated Catchment Management project DWA inputs not considered by policy makers. Focus tends to be on supply than management of water Previously anticipated water issues before onset of drought but could not voice opinion to DMA South of country more prone to drought. ICM project sites selected using FAO land use map DWA should be involved in land use planning at community/council level
Academia	
University of Lesotho	Key challenges: #funding; #policy linkages; #capacity; #Equipment Researchers work as individual consultants and not as an institution More focus on teaching than on research; University research centre defunct but plans to restart No linkages of social protection policy with agricultural policy No capacity or equipment to produce vulnerability modelling Different levels of poverty exist and CCA projects should target most vulnerable. Most programmes target the same beneficiaries and hence create a dependency Potential to use radio as a platform to raise awareness and discuss research findings CC should be promoted within the university to raise organizational as well as academic interest. University as a CSR activity promotes awareness raising

Annex 2 - Lesotho Governance Structure



Annex 3 - Summary of results on climate change threats from community consultations

Evidence of extreme events and their impact on livelihoods in the project area

Communities in the Mafeteng district noted that they have a problem with recurrent drought, which exacerbated the already scarce water supply from nearby river streams (for livestock) as well as water for agriculture. They also noted that due to storms, the land dries quickly and floods when it rains. This has affected livelihoods as seasons are no longer predictable. The main crops planted have shifted from wheat to maize and sorghum due to increasing temperatures.

Most livelihoods depend on subsistence farming of staples and livestock. As a result, most youth are driven to leaving the villages for unskilled labour work in South Africa and sending back remittances for their families. Communities have observed an unusual trend in the seasons only since the recurrent droughts since 2012. Most farmers cited their main source of information as radio and district extension service providers. The Chief Farmer in every village attends trainings at the district level with the Ministry of Agriculture and then disseminates that to the rest of the village.

Planting activities are started when it begins to rain and an advance notice and understanding of the weather pattern would help manage resources better. Communities often rely on indigenous methods like watching the moon crescent and migration of birds as a predictor of rainfall. However, in recent years, these traditional means have failed. Community members have resorted to Radio Lesotho as a source of weather information and expressed that this could be a source of further education.

Gender considerations

Rural Lesotho can be patriarchal, and women often have a lower income level than men. In addition, women are more exposed to HIV as is seen by the higher statistics of infected women over men.[28] Women are also the first ones to engage in negative coping strategies (such as skipping meals to provide for the family) during shocks. Depletion of firewood also makes them travel longer distances and more prone to sexual assault. In terms of livelihood activities in the villages, most women are responsible for cooking and cleaning the house. They also are engaged in weeding the fields and collecting water from far away sources – something they would like to resolve before any other adaptation solution. Men, on the other hand, tend to livestock, planting and ploughing land. Communities expressed that improving kitchen gardens could help fill the food availability gap. Nevertheless, as men tend to drop out of school and take to herding cattle, women have a higher literacy rate than men. Hence, while women can be agents of change especially in understanding the topic of climate change, men must be involved in any activities that aim at empowering women.

When asked about current adaptation measures taken by communities, they expressed their lack of understanding of the phenomenon of climate change. Livestock herders also expressed that they have to walk far for grazing their animals – although it was noted that most herders practice free grazing, further deteriorating the environment around them. Fuel wood for cooking was one of the biggest complaints of women. They mentioned that overtime, all firewood trees have disappeared and has increased their need to walk further away every day. They also use animal dung for cooking.

From this consultation, it was clear that the main gaps in adaptation in the area are water storage, fuelwood, diversification of crops and livelihoods and most importantly access to information and knowledge on climate change, how it impacts food security and adaptation solutions that they can implement.

[28] UNAIDS 2015 statistics

Annex 4- Additional Relevant Policies

INTERNATIONAL LEVEL	
UNFCCC AND OTHER INTERNATIONAL AGREEMENTS RELATED TO CLIMATE CHANGE	
Intended Nationally Determined Contributions *(INDCs)* *The INDC of Lesotho states adaptation challenges such as strengthening National research capacity to build basic dataset and technical analysis, need to support provision of improved crop varieties and livelihood diversification options, as well as institutional barriers such as preferences to favour some well-off groups over others.*	***Component 1 aims at improving capacities of LMS. Component 3 aims at livelihood diversification***
National Communications to the UNFCCC ***First NC*** *- Lesotho's first national communication (FNC) reiterated that despite both short- and long-term training that had taken place in climate-related fields, the country required additional financial resources and greater coordination skills to build institutional capacity and take the subject of climate change to a broader audience, including rural communities* ***Second NC*** *- The second national communication follows up on the FNC in analysing critical climate impacts and providing updates on what policies and measures the country has taken and envisaged to implement the Convention. The assessment again highlights critical CC impacts such as reduced precipitation - in particular in the south, and generally increasing temperatures and how this will trigger a number of challenges in vulnerable economic sectors such as agriculture, water resources, forestry, livestock and rangelands, soil and land degradation, health and culture/heritage. The need for a comprehensive EWS is also highlighted.*	***Components 1 aims at developing tools to strengthen EWS at the national level and link it with social protection. 2 and 3***
Paris Agreement: *Under this agreement, Lesotho pledged to: 1) reduce greenhouse gas emissions by at least 20% by 2030; 2) achieve 10 specific actions on adaptation to climate change, including protection of moorland and the creation of a national system of indicators to measure the traceability of climate change.*	***Components 1 and 3***
NATIONAL LEVEL	
National Climate Change Strategy*[29]	
The vision of the national Climate Change Policy is to build climate change resilience and low-carbon societies including a prosperous economy and environment in Lesotho. The strategy aims at achieving this through 20 policy statements related to adaptation and climate risk reduction, mitigation and low-carbon development and cross-cutting issues. In specific the following policy statements are directly complimented by the proposed project intervention. • *Policy Statement 1: Strengthen climate early warning systems and improve climatic information, including Research and Systematic Observation (RSO).* • *Policy Statement 2: Enhance the resilience of water resources. (by promoting integrated catchment management, ensuring access, supply and sanitation).* • *Policy Statement 3: Develop/promote climate-smart agriculture and food security systems.* • *Policy Statement 9: Increase the resilience of environment, ecosystems and biodiversity.* • *Policy Statement 14: Promote Agro – Ecological/District/local Level Approach to addressing climate change.* • *Policy Statement 16: Promote participation of gender youth, and vulnerable groups.* • *Policy Statement 19: Implement Education, Training, Public Awareness and communication programmes.* • *Policy Statement 20: Promote Research and Development, Innovation and Technology Transfer* *It also emphasizes cross cutting issues such as education, training, public awareness and communication.*	***Component 1 and 3 compliment Policy statements listed alongside*** ***Component 2 focusses on education, training and awareness raising.***
National Forestry Policy	
The policy of the Government of Lesotho is to maximize the contribution that forests can make to the alleviation of poverty, livelihood security and environmental protection in Lesotho and to enhance participation and contribution of women with regard to the following objectives and guiding principles: production and employment, environment protection and biodiversity conservation, forest protection, management and people's participation, public awareness, education and training, forestry research and gender issues in forestry development. At the district level, District Forestry Officers (DFO's) are responsible for implementing the Forest Policy and the National Forestry Programme. Other cooperating institutions are the relevant area-based NGOs, schools, other Government Ministries/Departments and the villagers and/or community-based Organisations (CBOs).	***Components 2 and 3***

[29] The Climate Change Strategy was going to be officially announced in October 2017. The Concept note has been drafted based on the draft shared by LMS in September 2017. Certain contents of the strategy may have changed.

National School Feeding Policy	
The National School Feeding Policy *aims to promote the development of children, farmers and communities across Lesotho by ensuring that school feeding is recognized as a multi-sector programme. The policy establishes specific objectives that school feeding should pursue in the sectors of health and nutrition (Reduced chronic and acute malnutrition, including protein-energy malnutrition and micronutrient deficiencies); Social development (Increased food and nutrition security for children through regular and reliable meals, and for households through increased livelihood opportunities, especially in rural areas); and Agriculture: (Increased national food production and processing). This project, in a unique way will ensure that beneficiaries can adapt to climate change while diversifying their income base and improve food security and nutrition.*	***Component 3 directly compliments the NSF policy***
National Environmental Policy 1998	
The goal of the national environment plan *1998 is to protect and conserve the environment with a view to achieving sustainable development for Lesotho. Its policy objectives include conservation of environment and natural resources, halt environment degradation, raise public awareness, and to empower women to play a key role in natural resource use.*	***Components 1, 2 and 3 directly compliment this policy.***
National Disaster Management Plan	
The NDMP *aims at: reducing its vulnerability to climate-related disasters such as sustained and severe droughts; increasing its capability to prevent, alleviate, contain, or minimize the effects of climate-related disasters; enhancing readiness or preparedness to deal with climate-related disasters; and ensuring the country's full recovery from the impacts of disasters.*	***Component 1***
Lesotho's Poverty Reduction Strategy	
The Poverty Reduction Strategy *which outlines national priorities and strategies to reduce poverty and promote equitable economic growth, and identifies the following as the key priority areas: 1) Employment creation, 2) Food security 3) Infrastructure development, 4) Peace and security, 5) Health Services, 6) Education, 7) The Environment, 8) Public Services.*	***Components 1, 2 and 3 aims at improving adaptive capacities with the overall goal of improving food security of the vulnerable communities.***
Lesotho's Vision 2020	
The National Vision 2020 *which outlines Lesotho's long-term perspective within which national short to medium-term plans are being formulated enable Lesotho's aspirations to be: 1) a stable democracy, 2) a united nation, 3) a country at peace with itself and its neighbours 4) endowed with a healthy and well developed human resource base 5) a strong nation with a strong economy and 7) well advanced in technology; by the year 2020.*	***Components 1, 2 and 3***
National Adaptation Program of Action (NAPA 2007)	
The NAPA identified *three vulnerable zones of the country with Zone 1 (Southern Lowlands) emerging as the most vulnerable area in the country. The proposed intervention aims at targeting locations under Zone 1. The broad goals of NAPA include (i) identifying and prioritizing urgent and immediate needs with a view to assist vulnerable communities to adapt to the adverse effects of climate change; (ii) Support and improve livelihoods of vulnerable groups; (iii) Management and conservation of natural resources on which rural communities depend; (iv) Prevention and reversal of the destruction of the environment and natural resources; (v) Support and promotion of the use of appropriate technologies to enhance adaptive capacities of vulnerable communities; (vi) To stabilize and improve existing sources of livelihood for rural communities; (vii) Integrate climate change and related issues in national policy dialogue and development programmes; and (viii) To seek synergies with other multilateral environmental agreements with emphasis on the effects of climate change.*	***Components 1, 2 and 3***
NAP process	
The NAP *process was launched in Lesotho in October 2015.*	***Activities under Component 1 & 2 compliment Element A and C of the NAP process in Lesotho.***

The project is also in line with key policies in Lesotho, chief among which the National Disaster Risk Reduction policy (2011), Environmental Act (2008) and National Environmental Action Plan, the Water Policy (2007) and the Rural Development Policy. It is expected that this project will generate valuable lessons, methodologies and approaches to strengthen these policies so as to promote resilience throughout sectoral and national planning.