

GEF-8 PROJECT IDENTIFICATION FORM (PIF)

TABLE OF CONTENTS

GENERAL PROJECT INFORMATION	3
Project Summary	4
Indicative Project Overview	5
PROJECT COMPONENTS	5
PROJECT OUTLINE	9
A. PROJECT RATIONALE	9
B. PROJECT DESCRIPTION	27
Project description	27
Coordination and Cooperation with Ongoing Initiatives and Project	33
Core Indicators	34
Risks to Project Preparation and Implementation	35
C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES	38
D. POLICY REQUIREMENTS	40
Gender Equality and Women’s Empowerment:	40
Stakeholder Engagement	40
Private Sector	41
Environmental and Social Safeguard (ESS) Risks	41
E. OTHER REQUIREMENTS	41
Knowledge management	41
ANNEX A: FINANCING TABLES	41
GEF Financing Table	41
Project Preparation Grant (PPG)	42
Sources of Funds for Country Star Allocation	42
Indicative Focal Area Elements	42
Indicative Co-financing	43
ANNEX B: ENDORSEMENTS	43
GEF Agency(ies) Certification	43
Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):	43
ANNEX C: PROJECT LOCATION	43
ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING	44
ANNEX E: RIO MARKERS	45
ANNEX F: TAXONOMY WORKSHEET	45

General Project Information

Project Title

Nature based solutions for increased climate resilience in Vulnerable Rural communities of Lesotho

Region

Lesotho

GEF Project ID

11387

Country(ies)

Lesotho

Type of Project

FSP

GEF Agency(ies):

IUCN

GEF Agency ID

Executing Partner

Ministry of Defence, National Security, and Environment

Executing Partner Type

Government

GEF Focal Area (s)

Climate Change

Submission Date

10/17/2023

Project Sector (CCM Only)

Climate Change Adaptation Sector

Taxonomy

Focal Areas, Biodiversity, Climate Change, Land Degradation, Influencing models, Deploy innovative financial instruments, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Stakeholders, Private Sector, Local Communities, Civil Society, Gender Equality, Gender Mainstreaming, Women groups, Capacity, Knowledge and Research, Capacity Development, Learning, Knowledge Generation

Type of Trust Fund

LDCF

Project Duration (Months)

60

GEF Project Grant: (a)

8,974,312.00

GEF Project Non-Grant: (b)

0.00

Agency Fee(s) Grant: (c)

807,688.00

Agency Fee(s) Non-Grant (d)

0.00

Total GEF Financing: (a+b+c+d)

9,782,000.00

Total Co-financing

65,357,500.00

PPG Amount: (e)

200,000.00

PPG Agency Fee(s): (f)

18,000.00

PPG total amount: (e+f)

218,000.00

Total GEF Resources: (a+b+c+d+e+f)

10,000,000.00

Project Tags

CBIT: No NGI: No SGP: No Innovation: No

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? (iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”. (max. 250 words, approximately 1/2 page)

The project intends to facilitate the intensification of structured implementation of Nature-based Solutions (NbS) to address the impacts of climate change, land degradation and biodiversity loss in Lesotho. The country’s economy and livelihoods are highly vulnerable to the impacts of climate change. This is true not only for the primary sectors of the rural economy but also for other key sectors such as tourism, forestry, health, industry, ecosystems and urban development. The increased frequency and intensity of extreme rainfall after dry spells increase the likelihood of intense runoff events thus leading to the loss of vital ecosystem services through a decline in the diversity of soil organisms and a reduction in plant diversity. These further exacerbate vulnerability of poor and rural communities’ livelihoods which tend to have lower adaptive capacities. Higher temperatures increase aridity and can lead to livestock stress and reduced crop yields, with impacts to economic and food security. The project intervention framework addresses barriers of i) A Weak implementation of policies and legislation compounded by a missing incentive framework for transformative deployment of NbS to address climate change ii) Absence of systemic and technical capacities for effective implementation of NbS to harness biodiversity loss, land degradation and build climate resilience; iii) Absence/weak multilevel institutions coordination mechanisms for effective implementation of climate action; iv) Paucity of co-designed NbS solutions, practical skills and knowledge among natural resource users to address impacts of climate change; and v) Weak knowledge systems with a dearth of co-creation, lacking indigenous knowledge and having limited learning. Existing policy and regulatory frameworks may incentivize the application of NbS for building climate resilience in Lesotho, however, the country needs support to translate the policy statements and intentions into actions on the ground. The project will support mainstreaming of NbS into policy and institutions for systemic and transformative uptake in national and community adaptation, mitigation and management of climate change impacts, biodiversity loss and land management. At the community level, the project will also support the application of co-designed NbS and related integrated approaches for climate resilience, ecosystems and livelihoods development and sustainable land management. This will be made possible through deployment of innovative financial instruments and, involvement of communities in a structured manner through strengthened institutions /groups and other innovative youth and women centric mechanisms in co-designing nature-based solutions including harnessing indigenous knowledge. Communication, knowledge management, and monitoring and evaluation (M&E) will also be embedded in the project to create necessary conditions for upscale. The proposed project has the following components:

- **Component 1. Enabling environment for Nature-based Solutions that support climate change resilience, sustainable land management and biodiversity conservation:** The project will support mainstreaming of NbS into policy and institutions for systemic and transformative uptake in national and community adaptation, mitigation and management of climate change impacts, biodiversity loss and land management.
- **Component 2. Build community resilience to climate change, sustainable land management and adaptive responses through Nature-based Solutions:** The project will support co-design and implementation of NbS and related integrated approaches for climate resilience, ecosystems and

livelihoods development and sustainable land management. This will be made possible through deployment of innovative financial instruments and involvement of communities (taking into consideration gender dimensions) in co-creation of interventions.

- Component 3. Monitoring, Evaluation, Learning and Knowledge Management:** The project will develop an Inventory of NbS relevant for Lesotho and support the creation of NbS Community of Practice/Knowledge action Network for Lesotho. Exchange learning visits with similar biophysical and socio-economic contexts within and outside Lesotho will be conducted for key stakeholders, including marginalized groups and should be sensitive of their vulnerability status and needs. In addition, a sound results-based M&E (with sex-disaggregated indicators) will be developed, while midterm and final evaluations are successfully conducted. The sex-disaggregated indicators should also be gender sensitive and considerate of the roles of different groups including the marginalized people.

The project leverages knowledge and lessons from other GEF and non-GEF-funded projects *inter alia* (as summarized in the project document), the Integrated Watershed Management for Improved Agro-pastoral Livelihoods in the Seapala Sub-catchment, Building climate-resilient livelihoods and food systems, Agricultural Productivity Program of Southern Africa (APPSA) and Regeneration of Landscapes and Livelihoods (ROLL).

Indicative Project Overview

Project Objective

Implement structured nature-based solutions for increased climate change resilience, sustainable land management and biodiversity conservation in vulnerable rural communities of Lesotho

Project Components

Component 1. Enabling environment for Nature-based Solutions that support climate resilience, sustainable land management and biodiversity conservation.

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
1,200,000.00	9,803,550.00

Outcome:

Outcome 1.1:

Strengthened NbS framework and Policy instruments to address climate change, biodiversity loss and land degradation challenges.

Outcome 1.2: Institutional arrangements and governance mechanisms strengthened for sustainable land management, biodiversity conservation and climate change resilience through NbS

Output:

Output 1.1.1 Policy instruments enhanced and supported to address climate change, biodiversity loss and land degradation challenges through NbS.

Output 1.1.2 Policy implementation instruments and incentive framework facilitated for systemic uptake of NbS at national and sub-national levels.

Output 1.2.1 Institutional arrangements reviewed, and gap analysis conducted.

Output 1.2.2

Multilevel governance structures (e.g. fora, council) and sectoral institutions established and/or strengthened.

Output 1.2.3: Capacity development programme for multilevel governance and sectoral institutions developed and strengthened.

Output 1.2.4. Capacity development and awareness programme to build resilience and gender-responsive approaches for women, youth, and people with disabilities developed, promoted, supported, and implemented, through NbS.

Component 2. Build community resilience, sustainable land management and adaptative responses through Nature-based Solutions.

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
6,349,312.00	44,749,900.00

Outcome:

Outcome 2.1: NbS interventions for community resilience, sustainable land management and adaptative responses identified and implemented.

Outcome 2.2.

innovative financial tools enhanced to support community livelihoods in degraded landscapes

Output:

Output 2.1.1 Comprehensive risk and vulnerability / baseline assessment to identify land degradation, biodiversity loss and climate change impacts hotspots undertaken.

Output 2.1.2

Comprehensive **gender sensitive** livelihood vulnerability assessment to identify vulnerability status of affected communities and marginalized groups.

Output 2.1.3. Nature-based solutions developed and implemented to ensure climate resilient community livelihoods.

Output 2.1.4 Nature-based solutions developed to enhance **Gender Equality and Social Inclusion** (GESI) through community-based projects.

Output 2.2.1 The innovative financial tools enhanced and applied to support community level **gender sensitive** and climate resilient investments and initiatives for:

- Ecosystem restoration (wetlands and cultural landscapes)

- Climate resilient livelihoods and agriculture value chains (e.g. honey production and fruit production)
 - Youth centric and marginalized groups targeted climate resilient projects (tree planting brigades, weaving, and community nurseries)
 - Afforestation, reforestation, and regeneration of ecosystems (community conservation areas, biodiversity stewardships)
- Climate resilient community enterprises (multiple use of invasive species).

Component 3. Monitoring, Evaluation, Learning and Knowledge Management

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing (\$)	Co-financing (\$)
800,000.00	7,803,550.00

Outcome:

Outcome 3.1 Monitoring and evaluation outcomes under a results-based approach, gender-sensitive dimensions, good practices and lessons learned, and disseminated

Outcome 3.2. Knowledge and communication products developed, and platforms instituted to analyze and disseminate best practices and project lessons.

Output:

Output 3.1.1:

MELK framework developed and implemented inclusive of gender indicators.

Output 3.1.2: Inventory of NbS relevant projects compiled as a baseline and for lessons learned.

Output 3.1.3 NbS community of practice and Knowledge Action Networks (KANs) supported, with particular emphasis on marginalized groups (e.g. women, youth, disabled, LGBTI).

Output 3.2.1: Knowledge and communication products developed and disseminated cognizant of the vulnerable status of marginalised groups (e.g. women, youth, disabled, LGBTI) to share best practices and project lessons, for scaling up.

Output 3.2.2 Awareness, engagement and knowledge exchange platforms established at all levels and stakeholder groups including, local, national (government, extension officers, communities – with emphasis on vulnerable groups) and regional levels (SADC), for scaling up of NbS.

Output 3.2.3: Best practices - NbS approaches considerate of the needs of the vulnerable groups developed and widely disseminated.

M&E

Component Type	Trust Fund
	LDCF
GEF Project Financing (\$)	Co-financing (\$)
200,000.00	

Outcome:

Output:

Component Balances

Project Components	GEF Project Financing (\$)	Co-financing (\$)
Component 1. Enabling environment for Nature-based Solutions that support climate resilience, sustainable land management and biodiversity conservation.	1,200,000.00	9,803,550.00
Component 2. Build community resilience, sustainable land management and adaptive responses through Nature-based Solutions.	6,349,312.00	44,749,900.00
Component 3. Monitoring, Evaluation, Learning and Knowledge Management	800,000.00	7,803,550.00
M&E	200,000.00	
Subtotal	8,549,312.00	62,357,000.00
Project Management Cost	425,000.00	3,000,500.00
Total Project Cost (\$)	8,974,312.00	65,357,500.00

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Background

1. Lesotho is a small landlocked country in Southern Africa, surrounded by the Republic of South Africa, located between latitudes 28° and 31°S, and longitudes 27° and 30°E. The country's 30,355 square kilometers (km²) land area has a topography characterized by a rugged terrain with elevations ranging from 1,388 meters (m) to 3,482 m. Only 10% of the land area is considered arable. The geography and location of Lesotho exposes it to climatological patterns from both the Indian and Atlantic Oceans, resulting in significant variability in temperatures. Topographical variability and the microclimatological influences define the ecological zones of the country: the Lowlands (17%), Foothills (15%), Mountains (59%) and Senqu River Valley (9%). These zones are characterized by distinct climatic and ecological differences. The majority of socio-economic activity for Lesotho is restricted to the Lowlands, the Foothills and the Senqu River Valley, leaving the mostly barren and rugged mountain region used primarily as grazing grounds (LMS, 2021).
2. The population of Lesotho is estimated at 2.2 million, growing at an average rate of 0.28% per annum, with life expectancy of 54 years. An estimated 19% is multidimensionally poor, while 28.6% is classified as vulnerable to multidimensional poverty (UNDP, 2023). About 28% of the population lives in the urban areas, and 70% of the total population lives in the lowlands. Agriculture is still the country's most important generator of employment, providing 45% of employment. According to the Land Atlas (2014), 18.9% (equivalent to 580 000 hectares) of land is used for agricultural production (mainly animal grazing and cropland). Livestock grazing alone takes about two thirds (60%) of the land in Lesotho. Grazing lands and other communal resource areas are used and managed under the administration of traditional and local authorities on behalf of the King. However, overstocking and the resultant overgrazing, as well as overharvesting and overuse of natural resources are regarded as some of the key contributing factors towards land degradation.
3. Only 15% of households in Lesotho have access to electricity, and most people (especially in the rural and peri-urban areas), use biomass fuels in the form of trees and shrubs to meet their energy needs. Overharvesting of fuelwood depletes biodiversity, accelerates land degradation, and reduces the carbon sequestration capacity of the country's ecosystems. In recent years, the Basotho have turned biological resources into trade commodities, largely as medicinal remedies, to generate income and support livelihoods. Popular medicinal and aromatic plants are collected directly from the wild; harvesting practices are largely unsustainable, not only threatening target species, but also degrading habitats where these occur. Trade in Lesotho is largely unregulated (due to factors such as inadequate institutional and regulatory frameworks and weak capacity for law enforcement), with limited benefits accruing to communities, and limited monitoring for safety assurance of natural products.
4. The country has unique wetlands ecosystems (i.e. Drakensberg Afro-alpine Heathlands) found nowhere else in the world, and these are mostly located in the eastern alpine areas of the country. The wetland ecosystems offer a range of ecosystem goods and services and provide critical ecological infrastructure

including flood regulation, carbon sequestration, water, medicinal plants, building materials and a beautiful scenery (Chatanga, 2019). These wetlands and rangelands are among the most economically important habitats in Lesotho. About 60% of Lesotho's land surface is classified as rangelands, the main use of which is livestock production. The rangelands are important for ecosystem services such as provision of fodder for livestock production (mainly wool and mohair), arable land for crop production, building materials and medicinal plants for traditional medicine. Livestock and crop production in particular support livelihoods of many of the rural Basotho people who mainly depend on subsistence agriculture to support themselves. Indeed, water sales to South Africa, as well as the export of wool and mohair, are some of the major contributors to the country's GDP.

5. Lesotho's climate is classified as continental temperate with the altitude giving it lower temperatures than regions along the same latitude in both the northern and southern hemispheres (LMS, 2013). The climate of Lesotho is primarily influenced by the country's location in the Karoo basin, and its altitude. It is therefore under the influence of the sub-tropical high-pressure. The country experiences four distinct climatic seasons over a 12-month period, namely, Summer (December, January and February), Autumn (March, April and May), Winter (June, July and August) and Spring (September, October and November). Winters are dry and cold, and Summers are hot and humid. Precipitation is mainly in the form of snow, which occurs annually over the Highlands, and occasionally over the Lowlands. Heaviest snowfalls occur either at the beginning or the end of the winter season. More than 80 percent of the annual rainfall is received during the rainy season, which varies from 450 mm in the low-lying regions in the southwest to about 1200 mm in the northeast highlands (LMS, 2013). The lowest rainfall occurs during July when the monthly totals of less than 15mm are recorded at most stations (**Figure 1**).
6. The frequency and intensity of climate related hazards has increased. This has resulted in large number of the population particularly vulnerable to food insecurity that Lesotho is a net importer of food (LMS, 2021). Thus, even in the year 2013/14 which experienced a normal rain season, the number of people regarded as vulnerable stood at 0.2 million. In 2014/15 agricultural season, southern Africa experienced an unprecedented El Niño phenomenon in 2015/16 which resulted in drought and erratic rains and thus 2015 was regarded as one of the driest years recorded over a century. This resulted in the doubling of vulnerable people and a state of drought emergency was declared. During 2015/16 season, unfavourable climatic conditions triggered a second year of heightened food insecurity, worse than preceding 2014/15 season. The number of food insecure people increased by 15.2 percent to 534,502 people from 463,936 people in July 2016. Climate conditions were more favourable for food production in the 2016/17 season resulting in increased production of cereals.
7. However, deficits accumulated in the 2014 to 2016 when drought conditions rendered a record number of people (i.e., 0.7 million) remaining vulnerable to food insecurity. This illustrated the fact that recovery in terms of food security after prolonged disastrous climatic conditions can be a drawn-out process requiring sustained intervention. In 2017/18, the rainfall season was delayed. Unseasonal snowfall, extreme cold temperatures and frost experienced in November 2017 damaged early planted crops. Other parts of the country received localised hailstorms and flash floods in March 2018, which also damaged crops. As a result, 18% of rural population was exposed to starvation and in need of humanitarian assistance. A similar scenario repeated in the 2018/19 period.
8. Lesotho's economy and livelihoods are highly vulnerable to the impacts of climate change. This is true not only for the primary sectors of the rural economy (agriculture and animal husbandry), but also for the

water/energy sector which is key source of export revenues and other key sectors such tourism, forestry, health, industry, ecosystems and urban development. Water, agriculture, forestry, human health, and livestock are the country's most vulnerable sectors with respect to climate variability and change. The increased frequency of intense precipitation events will lead to a heightened risk of flooding, riverbank overflow, and flash flooding. This may also result in soil erosion and water logging of crops, thus decreasing yields with the potential to increase food insecurity; particularly for subsistence-scale farmers. Higher temperatures increase aridity and can lead to livestock stress and reduced crop yields, with impacts to economic and food security. Furthermore, land degradation and soil erosion, exacerbated by recurrent flood and drought adversely impacts agricultural production, further affecting the livelihoods of the rural poor. Small rural farmers are more sensitive to impacts of disasters (floods, dry periods) because they have limited resources with which to influence and increase adaptive capacity. Most recently, the country suffered from a severe drought from 2015 to 2017, due largely to El Niño events that affected Southern Africa. This had dramatic impacts to the country's food security situation and required international food assistance from international donors (MEMWA, 2013; WBG, 2018).

9. Disaster risk from increased temperatures is expected to (i) exacerbate existing tensions between agricultural and livestock needs as well as human population needs for water, especially during the dry season, (ii) alter the quality of available water from surface water and groundwater, and (iii) increase pressure on urban zones due to increased urbanization. Changing rainfall patterns are expected to play a significant role in agricultural production and harvest seasons, with later onsets expected to impact crop productivity as well as livestock health. Droughts have remained one of the key drivers of food insecurity for the country, with increased aridity and drought resulting in crop damage, loss of pasture and water sources, loss of animals, hunger, disease outbreaks, asset depletions, malnutrition, and migration. Increased temperatures and degraded agricultural conditions are expected to adversely affect 'working days', impacting livelihoods and economic resilience of vulnerable groups. Increased temperatures and increased aridity will also heighten the country's risk for wildfires.

10. Lesotho is also rich in biodiversity consisting primarily of unique habitats, specifically wetlands and sandstone cliffs characterised by high species endemism. Indeed, the country houses about 70% of the globally recognised biodiversity hot-spot known as the Drakensberg Alpine Centre (DAC) (Carbutt and Edwards, 2004) located in the Drakensberg-Maluti Mountains of southern Africa. For instance, Lesotho is home to about 82 species of mammals, 340 species of birds, 43 species of reptiles, 19 species of amphibians, 14 species of fish, 1,279 species of invertebrates, and 3,093 species of plants. Several of the species are globally significant and endemic to the country such as the rare and endangered Maloti Lang's crag lizard (*Pseudocordylus langi*), ice rat (*Otomys sloggetti*), umbraculate frog (*Amietia vertebralis*), the endangered Maloti minnow (*Pseudobarbus quathlambae*), the Sehlabathebe water lily (*Aponogeton ranunculiflorus*) and spiral aloe (*Aloe polyphylla*)

11. Lesotho's current vulnerability also stems from the fact that its economic growth is dependent on climate-sensitive sectors i.e. water, manufacturing, agriculture, biodiversity and mining which are subject to highly variable precipitation. Land degradation is also a major threat to biodiversity and the ecosystem, which mostly affects the livelihoods of rural populations, who are dependent on ecosystem services. Lesotho is a prime example of a country facing extensive land degradation. The country's extensive land degradation, its geographic characteristics, and the socio-economic conditions make it one of the countries that are most vulnerable to climate change-related impacts, especially for rural populations. It is thus important that there is a clear understanding of the possible impacts of climate change on land degradation, biodiversity,

community livelihoods and soil erodibility to be able to plan and implement adaptive measures and mitigation strategies that equip the nation to better deal with the impacts of climate change.

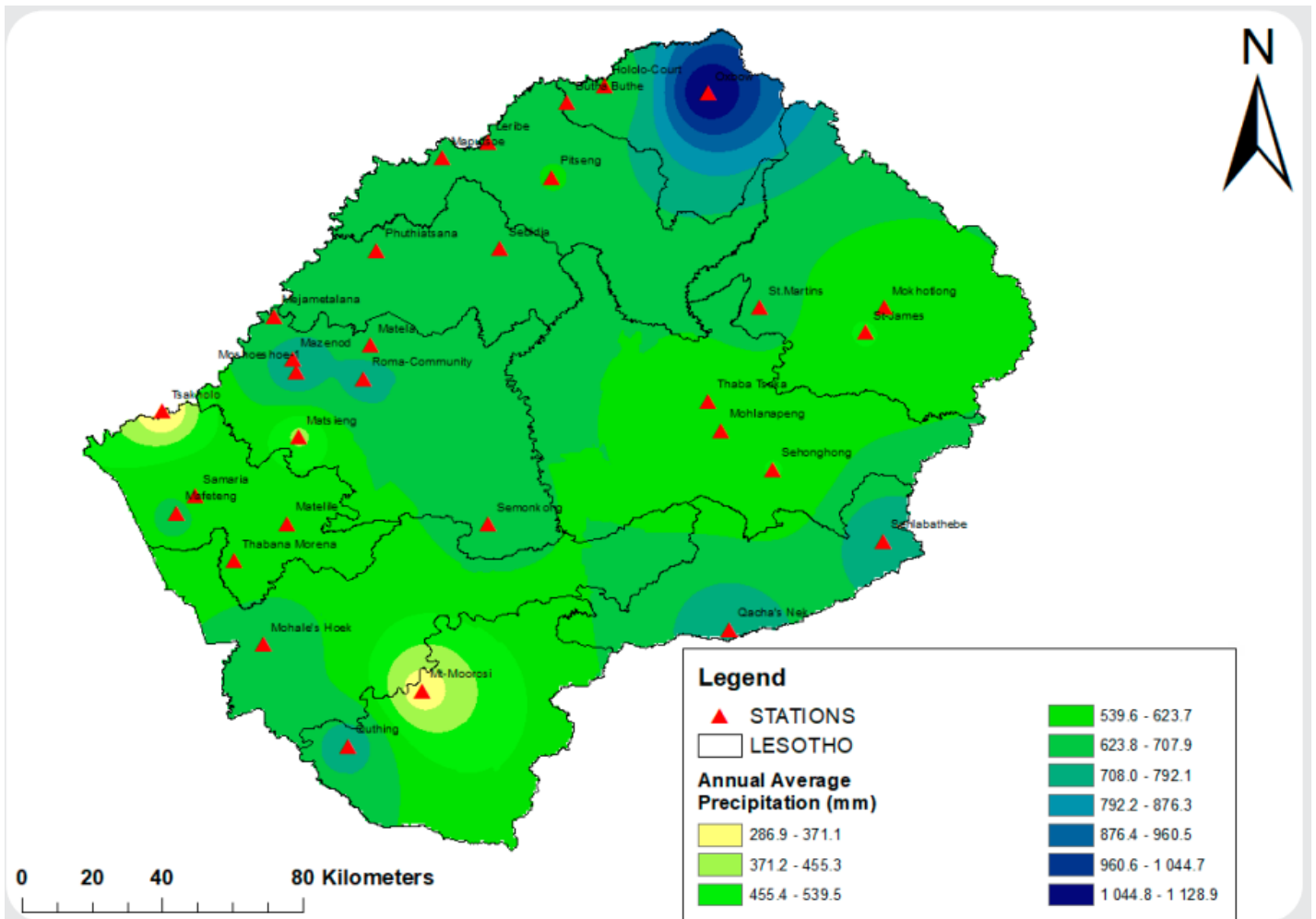


Figure1: Mean Annual Precipitation (Source: Lesotho Meteorological Services).

12. **With respect to climate change** and weather variability, the country's mean annual temperatures have increased by 0.76° C between 1960-2001 with an average increase rate of 0.20°C per decade (World Bank Group, 2021). Extreme temperature indices also show a warming trend throughout the country where the number of summer days have been increasing since 1986 (LMS, 2021), **Figure 2**. In the highlands, temperatures regularly drop to below zero and some areas may experience ground frost for up to 200 days per year (World Bank Group, 2021). In line with the warming trend, the number of frost days have also decreased (World Bank Group, 2021). A gradual increase in the mean annual temperature is expected over Lesotho during the 21st century (CCKP, 2021). The projection is consistent with

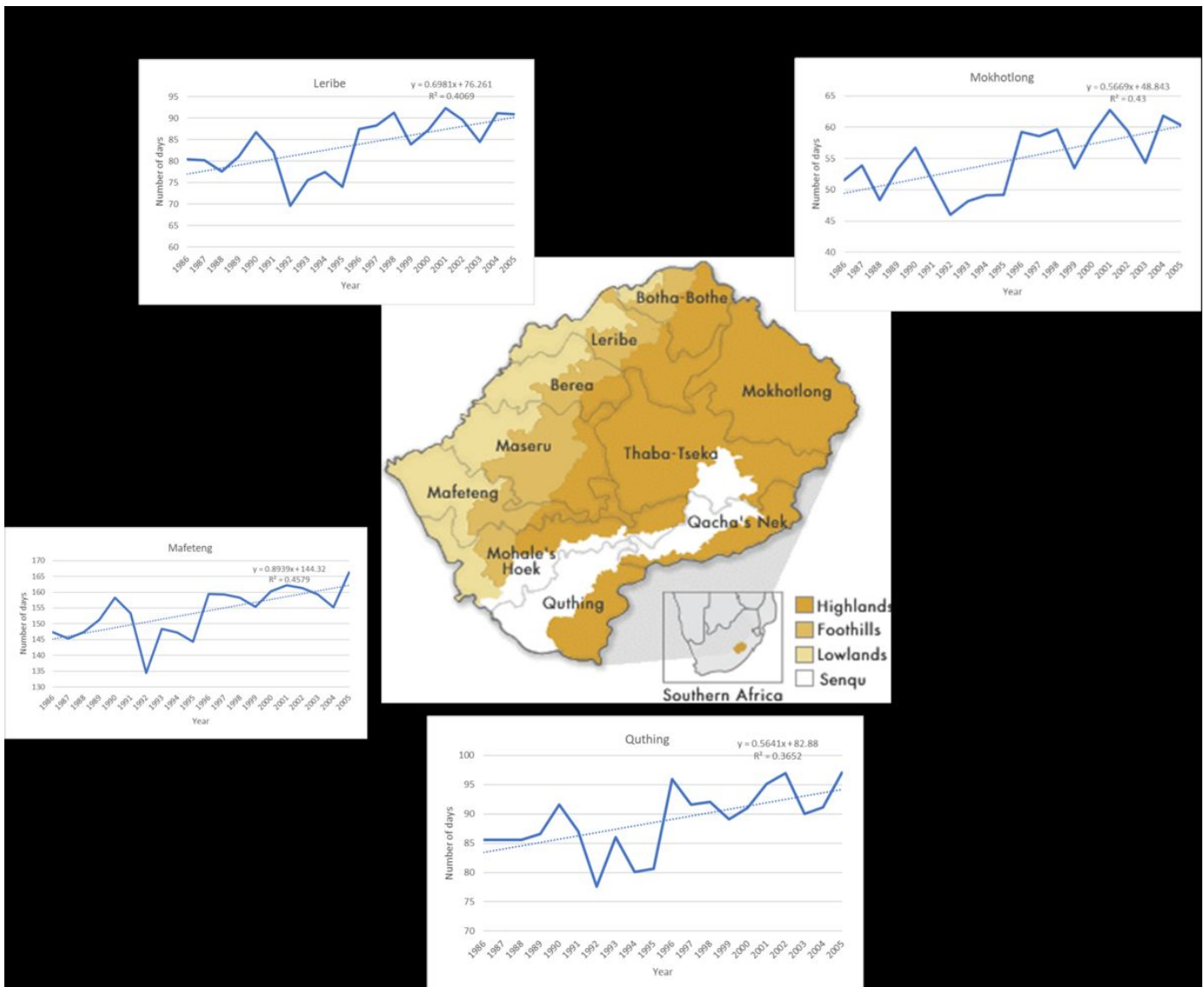


Figure 2: Number of summer days ($T_{max} > 25^{\circ}\text{C}$) distribution in selected stations in Lesotho for period 1986-2005, Data source: CCKP, 2021.

13. It is projected that temperatures in Lesotho will increase, above the historical average of 12.7°C , by 0.8°C to 2.9°C for the period 2030 to 2050 depending on the scenario (World Bank, 2016). Based on PRECIS driven by an ensemble GCM model data, it has been noted that all the models project an increase in temperature of $3.5\text{--}4.0^{\circ}\text{C}$ with the highlands getting up to 4.5°C for the 2070-2099 horizon (Mokoena, 2012). The Third National Communication's predictions show annual precipitation decrease over the North-Eastern Mountains which becomes more intense and spatially pronounced towards the end of the 21st century under both RCP45 and RCP85 scenarios (**Figure 3**). This agrees with other models such as the CSIRO and MIROC models (Gwimbi et al. 2012) which show that rainfall will decline by 2050, with significant decline in the lowlands, foothills, and southern Senqu River Valley (CSIRO model) or the whole country (MIROC model), **Figure 4**. It is projected that the highlands will experience a decrease in the frequency of severe snowfalls and the number of frost days (LMS, 2013 and LMS, 2021).

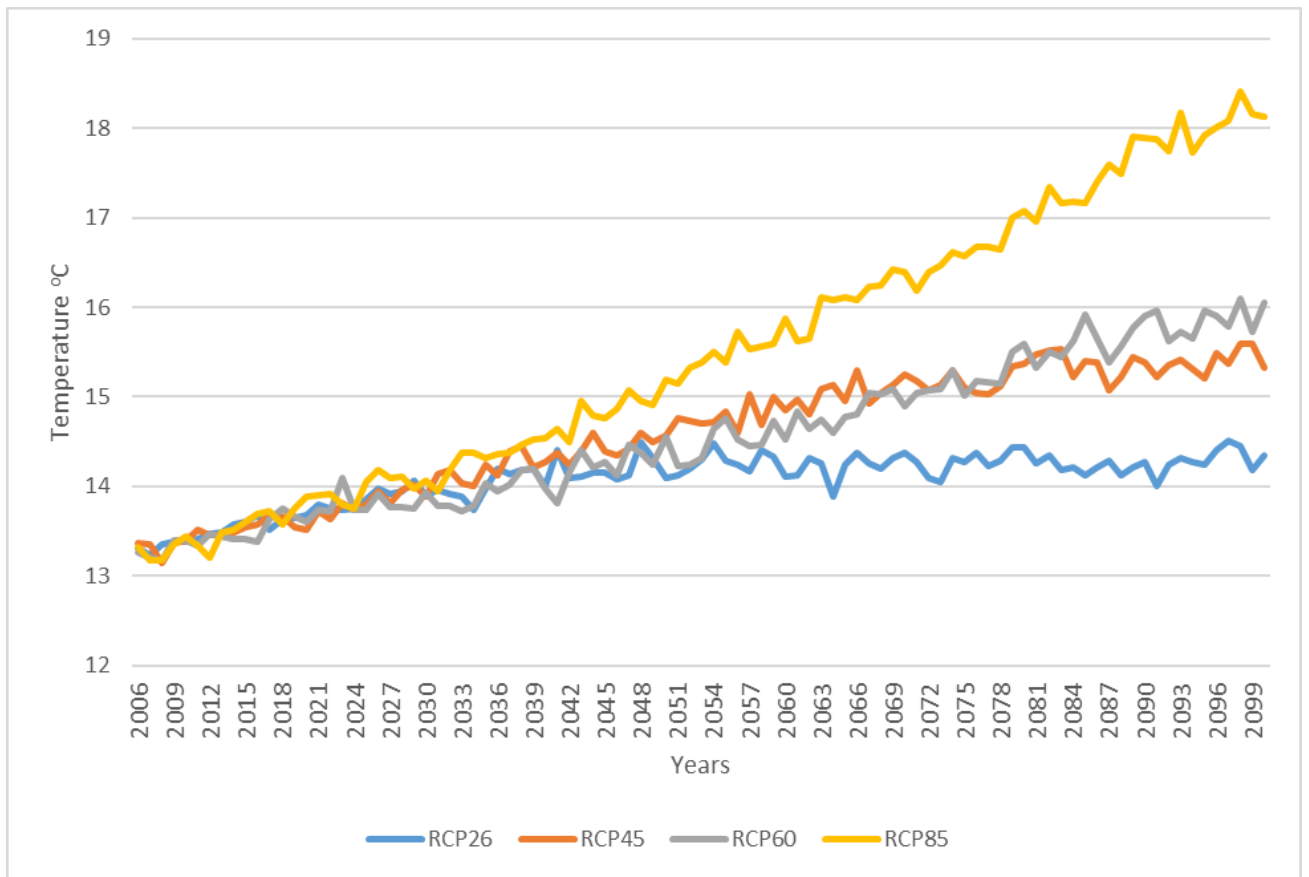


Figure 3: Projected mean annual temperatures for Lesotho under different scenarios. Source World Bank Group Climate Change Knowledge Portal, 2021

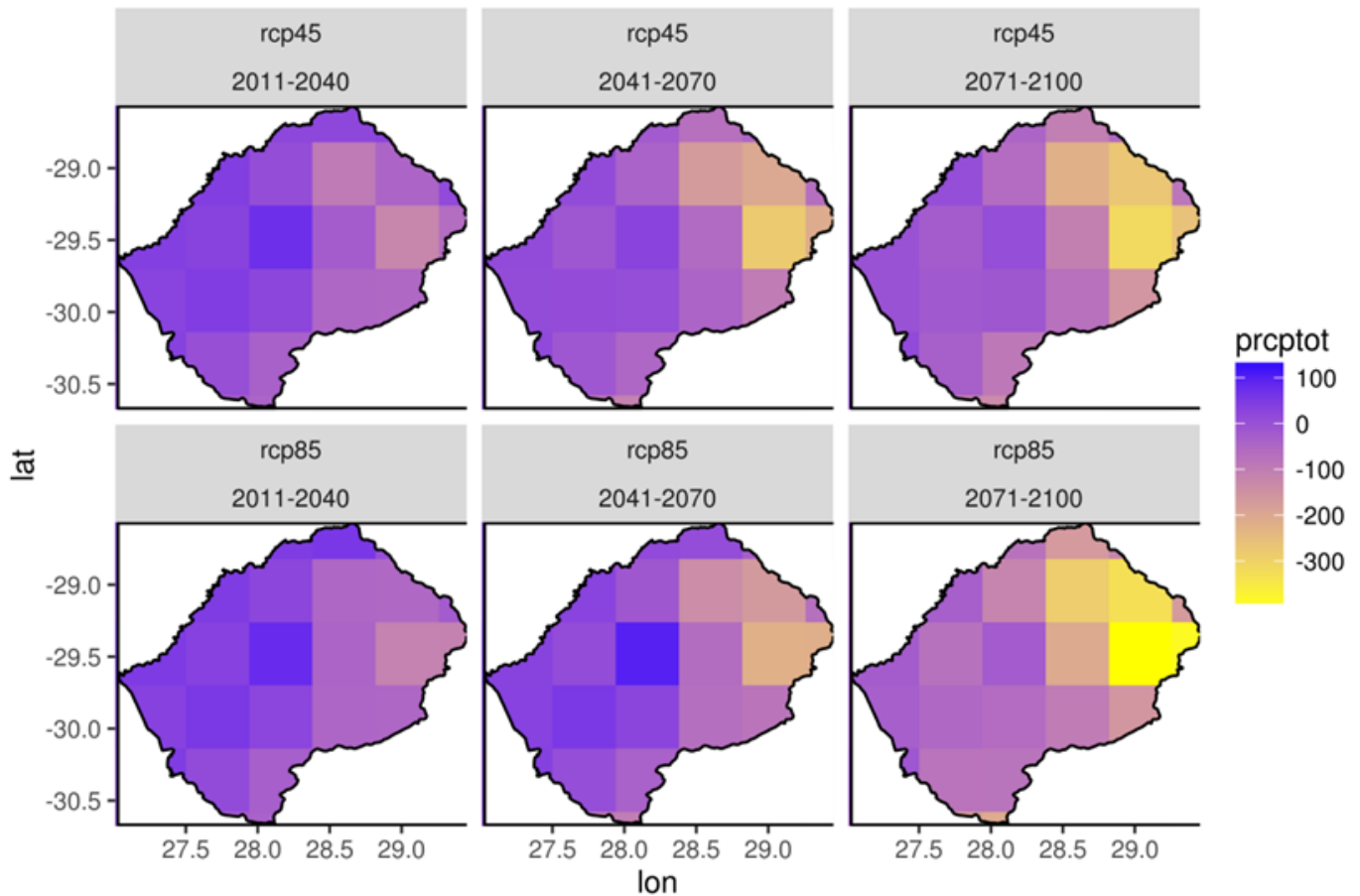


Figure 4: Summary of the projected changes in total precipitation (PR, in mm) relative to the reference period (1971-2000) over Lesotho, Source: LMS, 2021

14. **Most** parts of the country experience erratic rainfall and recurring droughts. Rising temperatures will further reduce available soil moisture during times of low rainfall. The biophysical features such as the high proportion of high-altitude rangelands, and thin and highly erodible soils of varying fertility, make the country particularly sensitive to climatic events. Dry spells followed by heavy rainfall events exacerbates soil erosion. Degraded lands have higher sensitivity to climatic hazards than those which have good vegetation cover and soil water infiltration abilities. Denudation of the soil surface, compounded by

the combination of grazing and trampling by livestock, overharvesting of natural resources such as fuelwood and thatching materials, and conventional agricultural practices on croplands, exacerbate the impacts of climate events such as drought and heavy rainfall on soil losses. Heavy rainfall does not infiltrate easily into degraded soils, as most turns into runoff which takes with it large amounts of nutrient and organic matter rich topsoil. Recharge to groundwater is diminished and the excess surface water causes flooding. Declining groundwater levels in regions heavily reliant on it, such as the lowlands, would reduce the availability of safe water for people and their livestock. Land degradation has already seriously reduced the productive capacity of Lesotho's croplands and rangelands, as well as exacerbated loss of valuable indigenous plant species. Continued and more intense degradation would hamper efforts to improve production, ecosystem resilience and sustainable livelihoods under the imminent climate change impacts.

15. From a **biodiversity perspective**, Lesotho faces a myriad of environmental problems that include loss of vegetative cover, loss of critical biodiversity, habitat fragmentation, encroachment by invasive alien species (IAS), soil erosion, ecosystem degradation. Of these, ecosystem degradation is perhaps one of the most pressing challenges that the Government of Lesotho (GOL) has to address to ensure environmental protection, food security, livelihoods resilience and economic growth. Lesotho's ecosystems are fragile due to its rugged topography, extreme climate, type and pattern of rainfall, fragility and erodibility soils, and multiple human-induced pressures. The country is also classified as one of the most vulnerable to the impacts of climate change.
16. Ecosystem degradation is pervasive in the country and is characterised by rainwater-induced gully, rill, and sheet erosion. These types of erosion are the primary agents of soil loss, particularly in cultivated land and rangelands. Ecosystem degradation has resulted in significant loss of vegetation cover, with associated loss of biodiversity, increased soil erosion, decreased soil fertility, and a reduction in the extent of productive land. The significant decline in agricultural productivity has contributed to over-harvesting and over-exploitation of biological resources, rising food insecurity and rural poverty, and escalating rural-urban migration leading to mushrooming of informal settlements around main towns.
17. Lesotho's geographical characteristics and prevailing socioeconomic conditions among the majority of its rural population make it one of the most vulnerable countries to the impacts of climate change. Climate change is affecting Lesotho in many ways. Recurrent and devastating droughts and high temperatures cause food insecurity which affects hundreds of thousands of people through reduced agricultural yields as a consequence of low soil moisture, higher livestock mortality, increased food prices for both human and livestock consumption, and reduction in the effectiveness of traditional farming practices. Drought increases water insecurity particularly in the lowlands where more than half of the national population resides. Increasing rainfall variability, shorter rainfall seasons and late onset of rainy seasons contribute to reduced crop and pasture yields, unreliable water supply, reduced availability of groundwater due to inadequate recharge, and more broadly to degraded ecosystem services. All these changes, among others, are depressing economic activities, with significant impact on national Gross Domestic Products (GDP) and diminishing the wellbeing particularly of the large population of rural dwellers whose livelihoods depend on the rangelands, wetlands, indigenous plant and animal species, and ecotourism, as well as the urban poor who contend with unemployment and inequality.

18. The impacts of climate change on soil impose far-reaching consequences including land and ecosystem degradation, human suffering, and threats to the survival of biological organisms. The increased frequency and intensity of extreme rainfall after dry spells increase the likelihood of intense runoff events thus leading to the loss of vital ecosystem services through a decline in the diversity of soil organisms and a reduction in plant diversity. These further exacerbate vulnerability of poor and rural communities' livelihoods which tend to have lower adaptive capacities.
19. Lesotho is heavily affected by **land and ecosystem degradation** caused by a combination of factors, both human and climate-driven. Common ones include uncontrolled grazing (overgrazing, premature and continuous grazing), poor land use management, limited access to agricultural technologies, encroachment of invasive species into rangelands and wetlands, soil erosion, declining soil health, deforestation, depletion of groundwater level, increased agricultural waste streams leading to environmental pollution, contamination of drinking water, encroachment of settlements around main towns (reducing rangelands and croplands from 13% of the country's total land area to 9%), uncontrolled wild fires, inadequate staff capacities and skills, as well as weak and ineffective legislation. Climate-driven factors include prolonged drought, erratic rainfall as well as both early and late frost. These factors have resulted in worsening of land deterioration in recent years.
20. The degradation is worsened by cropping on steep slopes and mountain tops, resulting in loss of topsoil. This is evidenced by steep bare slopes and ever-worsening donga development, which is more prominent in the southern part of Lesotho (Mafeteng, Mohale's Hoek and Quthing and the western part of Maseru), (**Figures 5 and 6**). In some cases, farmers drain wetlands in order to create arable agricultural land, impacting negatively on such important habitats. In Lesotho, the total annual cost of land degradation is estimated at 57 million United States Dollars (USD) which is equal to 4% of the country's Gross Domestic Product (GDP). Moreover, a considerable share of the costs of land degradation (50%) is due to the decline in provisioning ecosystem services (e.g. food availability, wood production, etc.), which have a significant impact on the population of the country.

(Uploaded in Road Map as Figures 5A and 5B)

Figure 5: Map showing level of land degradation in Mafeteng District (A) and Quthing District (B), source – 6th National CBD report.

21. The preferred long-term solution is to reduce build resilience to climate change through reducing threats to Lesotho's landscapes, ecosystems, and biodiversity and to ensure that the country and its people benefit from the conservation, use, and sustainable management of these resources. International environmental conventions, including the UNCCD and its 10-Year Strategy, and subsequent scientific guidance designed to further guide implementation, provide an important basis for this, if well localized to respond to Lesotho's own challenges. Building Lesotho's long-term capacity at all levels to effectively develop locally relevant strategies and implement them will provide the right incentives for an overall improved and sound management of Lesotho's environment and contribute to addressing the pressing poverty-environment challenges the country currently faces.

Project focus: The power of nature-based solutions to address biodiversity loss, land degradation and climate change

22. The benefits and opportunities achievable using Nature-based solutions (NbS) to build resilience to climate change of vulnerable communities have never been more relevant, important or urgently needed than now. Nature-based solutions refers to the sustainable management and use of natural features and processes to tackle socio-environmental issues. These issues include climate change (mitigation and adaptation), water security, water pollution, food security, human health, biodiversity loss, and disaster risk management. These solutions are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more diverse, nature and natural features and processes into cities, landscapes, and seascapes, through locally adapted, resource-efficient and systemic interventions. Nature-based solutions offer integrative strategies to reduce climate risks, while providing a range of other tangible benefits such as climate regulation, improved livelihoods, recreation, health, tourism, food and drinking water.
23. The IUCN referred to NbS in a position paper for the United Nations Framework Convention on Climate Change indicating that it can offer innovative means to create jobs and growth as part of a green economy^[11]. The NbS consists of interventions (e.g. conservation, rehabilitation) in ecosystems, with the objectives of maintaining or improving the delivery of a range of ecosystem services (ES) both inside and outside of these conserved ecosystems. The NbS corresponds to management approaches that develop sustainable and multifunctional ecosystems and landscapes. This can also involve managing ecosystems in very extensive ways or even creating new ecosystems (e.g. artificial ecosystems with new assemblages of organisms for green roofs and walls to mitigate city warming and clean polluted air). In addition GEF's Work Program presents four global and regional projects with multilateral development banks that are strategic and innovative to leverage large-scale support from partners, with potential for significant adaptation benefits. Examples include accelerating NBS investments in LDCs by leveraging the LDCF with International Development Association (IDA) resources^[21].
24. Targeting different communities in the country, the project intends to facilitate the intensification of structured implementation of NbS to address impacts of climate change, land degradation and biodiversity loss in Lesotho. The project will support mainstreaming of NbS into policy and institutions for systemic uptake in national and community adaptation, mitigation and management of climate change impacts, biodiversity loss and research-based sustainable land management approaches. The project will also support the application of co-designed NbS and related integrated approaches for climate resilience, ecosystems and livelihoods development and sustainable land management. Communication, knowledge management learning, and M&E will also be embedded in the project to create necessary conditions for lessons learning and upscale.

Barriers to be addressed

25. The project will address the following barriers:
-

- i. *A Weak implementation of policies and legislation compounded by a missing incentive framework for transformative deployment of NbS to address impacts of climate change:* In Lesotho, there is weak implementation of policies and legislation compounded by lack of appropriate implementation incentives and instruments to facilitate uptake and application of NbS to biodiversity loss, land degradation and biodiversity loss. The fragmented and disjointed legislative and policy framework creates further complications. The general paucity of articulation of NbS in the mainstream policy makes it a clear barrier for the widespread and transformative implementation of such solutions to the climate change, biodiversity loss and land degradation challenges.
- ii. *Absence of systemic and technical capacities for effective implementation of NbS to build climate resilience, harness biodiversity loss and land degradation:* Although there are pockets where some NbS are being implemented, it is evident that there will be need for increasing the uptake of such approaches at different levels. The technical expertise required to adequately comprehend how to upscale these NbS efforts is limited in the country thereby discouraging systematic action at different levels.
- iii. *Absence/weak multilevel institutions coordination mechanisms for effective implementation of climate change adaptation interventions:* Without appropriate multilevel institutions/coordination mechanisms, including at community level, which takes into account traditional and local leadership structures, implementation and enforcement of standards, policies and legislation which entrench NbS, is practically impossible. The coordination mechanisms also provide platforms for stakeholder involvement at different levels. In Lesotho, there is absence or weak multilevel institutions coordination mechanisms for stakeholder involvement and effective implementation of NbS to address biodiversity loss, land degradation and build climate resilience.
- iv. *Paucity of co-designed NbS solutions, limited baseline data and practical skills and knowledge to address impacts of climate change among natural resource users:* There is lack of knowledge on co-design of NbS solutions and practical skills among land, water, biodiversity users to directly address local level environmental challenges, leading to limited investments in NbS. The many decades of weak implementation of practical interventions, paucity of baseline data on environment and climate vulnerability and lack of involvement of local communities and natural users (integration of indigenous knowledge) in designing and implementing solutions has resulted in a significant vacuum of knowledge among technicians and land users. In many cases where it exists, solutions are not co-designed with communities, have no livelihood meaning, don't involve youth and/or women, and are not context specific, hence become unsustainable.
- v. *Weak knowledge management and systems with a dearth of co-creation, lacking indigenous knowledge, gender equality and inclusiveness and limited learning:* Weak knowledge systems, leading to limited learning from past experiences and local indigenous knowledge systems (best practices) has hindered Lesotho to be well informed on adaptive management and upscaling of successful solutions on addressing biodiversity loss, land degradation and building climate resilience. Lesotho has had decades of interventions to address environmental problems, yet there is limited learning from past experiences, as well as use of indigenous knowledge and incorporation of marginalized groups such as youth, women, disabled people and LGBTI. As a result, the environmental challenges are worsening, which ultimately exacerbates the socio-economic challenges and the vulnerability of communities to the impact of climate change. This knowledge gap has largely created lack of systems and deliberate actions to facilitate knowledge co-creation, capture knowledge and experiences, and not only widely share them with other parts of the country that grapple with the same challenges, but also a lack of bottom-up systems to make this possible.

Key Project Stakeholders

26. The following are the projects key stakeholders and their responsibility:

Institution/Organisation	Responsibility
IUCN	GEF Implementing Agency (IA)
Ministry of Defence, National Security and Environment	Lead agency in environmental management, sustainable land management and restoration, and climate change. The Institution will be a Lead Implementing partner and a co-financier.
<p>Key line ministries:</p> <p>Ministry of Natural Resources (Department of Water Affairs, Department of Energy and Department of Mines), Department of Science and Technology, Ministry of Agriculture, Food Security and Nutrition, Ministry of Health, Ministry of Trade, Industry, Business Development and Tourism; Ministry of Local Government, Chieftainship, Home Affairs and Police (MoLGHAP); Ministry of Finance and Development Planning, Ministry of Gender, Youth, Sports, Arts, Culture and Social Development.</p>	Support implementation of project through e.g. co-financing (e.g. in-kind contribution), technical expertise, legislation development and enforcement, permitting, research and development (e.g. soil erosion and vulnerability assessments), agriculture activities (e.g. climate smart agriculture-CSA), marketing, , gene banks and governance.
Local communities (women, youth, men) and community groups e.g. traditional healers, artisans, farmers, herders and marginalized groups including girls and LGBTI), traditional leadership and other local level structures e.g. community councils	Custodians of biodiversity and land and range resource users and traditional knowledge holders who are primary beneficiaries of the project, that will be tasked with implementing project activities at the local level. Also, the most vulnerable stakeholder affected by the impacts of environmental degradation and climate change hence a crucial project stakeholder. To be involved in practical co-design and implementation of NbS solutions in selected environmental, land degradation and biodiversity loss hotspots including taking up NbS livelihoods and other integrated approaches to increase their resilience to the impacts of climate change
Lesotho Highlands Development Authority (LHDA) including Katse Botanical Garden	<p>Conservation of catchments in areas affected by dam inundation, wild collection, propagation and storage of genetic and biological resources, and training and demonstration of best practices including rescue missions and establishment of community botanical gardens. Therefore, supporting increasing resilience of ecosystems and communities to climate shocks.</p> <p>Integrated catchment management (ICM) including delineation and development of ICM plans</p>
RENOKA	Integrated catchment management (ICM) including delineation of Lesotho catchments and sub-catchments, and development of ICM plans
Private Sector (e.g. Natural product industry, wool and mohair)	Resource users for ecosystem goods and services e.g. medicinal plants, construction/building materials and ornamental plants. They undertake activities such as bioprospecting, biotrade and product development. Responsible for compliance, markets and technologies
Development Partners	Project collaborators for technical and financial assistance/co-financing having an advantage of leveraging funding and sharing lessons on implementing ecosystem-based adaptation (EBA) and climate resilience projects.
Academia & Research:	Support implementation of project through e.g co-financing, offering laboratory space, undertaking relevant research and development, as well as providing innovative solutions and

National University of Lesotho (NUL); Lesotho Agricultural college; Agric. Research, Leretholi Polytechnic	technologies on EBA e.g. through the NUL Innovation Hub and the Sustainable Energy Unit
Civil Society Organizations (including faith-based organisations) - Lesotho Council of NGOS (LCN); Lesotho National Farmers Union (LENAFU) and Lesotho National Wool and Mohair Growers Association (LNGWMA), Grazing Associations; Millenium Challenge Corporation (MCC)	Implement relevant project activities e.g. community mobilization, advocacy and awareness raising, community empowerment as well as education and outreach
Local communities and community groups e.g. traditional healers, artisans, farmers, herders	Custodians of biodiversity, harvesters, range resource users and traditional knowledge holders, primary beneficiaries of the project
Financial Institutions	Provide financing for biodiversity conservation, climate change mitigation and adaptation, livelihoods enterprises and sustainable land management investments
Media	Project visibility, public image, stakeholder mobilization, advocacy and awareness raising, as well as education and outreach. They can also act as champions to push the project's key messages of achieve ecosystem integrity and sustainable livelihoods through using NbS to strengthen EBA and reduce vulnerability of the local communities

Associated Baseline Projects

27. The associated baseline projects from which lessons will be learnt, for upscale of innovative NbS and to enhance both full project design and implementation include:
- i. ORASECOM: One of the key successful solutions to addressing environmental problems in Lesotho has been work on transboundary management of the Orange-Senqu River Basin, and this success is largely attributable to the fact that Lesotho is a major exporter of water from the Senqu River to South Africa, and has also entered collaborative arrangements with the other three basin states that it shares this river with (Botswana, Namibia and South Africa). Over the years, significant investments have been made in understanding the hydrology and ecology of the river basin, leading to specific joint interventions towards its sustainable management. It is through these same processes that land degradation has been identified as one of the major challenges in Lesotho and that an integrated water resources management approach has been recognized as key to ensuring the integrity of this ecosystem. The ORASECOM initiative has produced strategic documents that include the following:
 - a. Orange-Senqu River Basin/ORASECOM Transboundary Diagnostic Analysis (TDA) (2013), IWRM Plan (2014) and Strategic Action Programme (2014) and UNDP-GEF 'Support to the Orange-Senqu River Strategic Action Programme Implementation' (2017-2023) – Since the signing of the Orange-Senqu River Basin Commission agreement in 2000, several investments have been made to support joint management of the river basin by the four countries that share it (Botswana, Lesotho, Namibia and South Africa). This work has culminated in the preparation of a basin-wide Strategic Action Programme, largely to implement the basin-wide IWRM Plan. Like many, the IWRM Plan, a key strategy document for joint management of the basin, identifies land degradation as a key challenge. As noted in the plan, 'inadequate land management associated mostly with agriculture and mining in parts of the Orange–Senqu River basin has led to loss of wetland storage and aquifer recharge, increased sediment loads, deteriorating water resources quality, increased distribution and abundance of alien invasive plants, loss of biodiversity and lowered land productivity. Opportunities for community-based natural resource management and alternative livelihood options are inadequately considered'. sustainable land management practices in the basin ecosystems approach to IWRM planning, removal of invasive species and promotion of rangelands.

- ii. 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) targeted at strengthening the climate monitoring capabilities, early warning systems and human resources in Lesotho in order to effectively address climate impacts and better plan adaptation to climate change. The overall aim of the proposed project is to scale up the existing Early Warning project's coverage to

the whole country through procurement of additional modern equipment/technology and provision of additional support for improvement of the institutional and human capacity needed to develop and operationalize an effective climate change early warning system and to ensure this capacity is sustained beyond the lifetime of the project. The project is hinged on three components, namely (1) Establishment of necessary infrastructure and human capacity in LMS to enable a fully functional national EWS (2) Creation of institutional mechanisms for coordination and implementation of EWS in Lesotho and for use of climate information generated in Component 1 in policy making and sector planning (3) Piloting packaging and dissemination of EWS messages to different stakeholders/end users.

- iii. Integrated Catchment Management (EU funded) – Coordination of integrated sustainable management of land and water resources initiatives in Lesotho. This builds on Lesotho's national IWRM Plan to support the design and implementation of the national IRWM Plan's Key Focus Area I: Establishment of Catchment Management. Consequently, the Department Water Affairs has divided the country into six (6) catchments and within them 74 sub-catchments, as management units. The technical work being undertaken through this support includes the development of guidelines for ICM planning and capacity building for implementation and monitoring. Related to this project, the LHDA's Integrated Catchment Management (ICM) programme- focuses on wetlands and rangelands rehabilitation. It entails protecting, conserving and restoring wetlands, conserving and promoting sustainable range management, preventing and controlling soil erosion and controlling pollution. The ICM Action has been branded as ReNOKA, which is derived from the Sesotho for "we are a river". ReNOKA is a national programme established in 2021 for the restoration of land and water and the Orange-Senqu River Basin. This is a partnership between the Government of Lesotho, the European Union and the German Federal Ministry for Economic Cooperation and Development (BMZ), as well as regional organisations such as Orange-Senqu River Commission (ORASECOM).
- iv. EU and Swiss Development Corporation-funded FAO Land Cover project: The goal of this project is to generate a Land Resources Database (LRD) of Lesotho enriched with existing ancillary spatial data; produce a Land Cover map for Lesotho using a locally generated and adapted legend; provide detailed base information on the Natural Resources conditions and hazards at the national level; and support projects, research and new applications on Natural Resources Management, Risk Management and Agriculture. Through this work, land cover maps have been produced for all the districts, including Quthing, where the proposed project was implemented.
- v. Improving adaptive capacity of vulnerable and food-insecure populations in Lesotho (IACOV) (Adaptation Fund funded) -focuses on enhancing the adaptive capacity and build the resilience of

vulnerable and food insecure households and communities to the impacts of climate change on food security in the country. This is achieved through strengthening government capacities to generate climate information and promote its use to forecast risks of climate shocks, mobilising early action, and co-develop tailored and locally relevant climate services for communities; Raising awareness of communities, women, youth, people living with HIV, and other vulnerable groups on the impacts of climate change, the importance of adaptation, and the use of climate information for seasonal planning and climate risk management; and Designing and implementing, through a community-based planning process, local resilience and adaptation plans focusing on robust asset creation schemes, income diversification and market linkages, for increased adaptive capacity and household resilience.

- vi. Agricultural Productivity Program of Southern Africa (APPSA)- the project focuses on increasing productivity of horticulture (fruits and vegetables crops systems) through the introduction of improved varieties and modern farming technologies. In addition, it aims at developing research priorities and or activities on horticultural crops (fruits: peach and apples, potatoes and vegetables: tomato), including sorghum and beans being, commodities already under research in cereal and legumes by participating countries in the region. APPSA Lesotho activities include: (i) supporting regional collaboration in agricultural research, technology dissemination, and training; (ii) establishing Regional Centers of Leadership (RCoLs) on commodities of regional importance, and (iii) facilitating increased sharing of agricultural information, knowledge, and technology among participating countries.
- vii. Wool and Mohair Promotion Project (WAMPP) - The project was implemented between 2016 and 2022, aimed at boosting the economic and climate resilience of poor, smallholder wool and mohair producers to adverse effects of climate change in the Mountain and Foothill Regions of Lesotho, and promoting climate smart agriculture. The project was designed to address the issues of rural poverty and food insecurity in the context of climate change and the increasing vulnerability of poor livestock producers. Even though WAMPP was national in scope, most of its activities focused on the poorer mountain regions of the country, where the incidence of poverty and food insecurity is highest and agricultural activity is severely restricted due to the lack of cultivable land, the degraded rangelands and the harsh climate. In these mountainous areas sheep and goat herding is the main economic activity and subsistence and food security is essentially derived from the proceeds of selling animals or wool and mohair.
- viii. The Land Rehabilitation Programme: The Ministry of Forestry, Range and Soil Conservation (MFRSC) has been implementing a Land Rehabilitation Programme (LRP) since 2007. The targeted outcomes of the LRP include: i) increase the total area of rehabilitated and protected watersheds; ii) increase the area of productive rangelands under appropriate management plans; iii) protect wetlands to enhance the availability and quality of water resources; iv) contribute to the reduction of unemployment and resultant poverty; v) increase honey production; and vi) increase fruit tree production.

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- ix. **Regeneration of Landscapes and Livelihoods (ROLL) Project:** The project is funded by the Government of Lesotho (GoL), the International Fund for Agricultural Development (IFAD) Global Environment Facility and OPEC Fund for International Development (OFID). The objective of the project is to transform rural communities' landscapes and livelihoods by adopting sustainable land management practices, leading to enhanced flow of agro-ecosystem goods and services, climate change resilience and household income diversification.
- x. **Integrated Watershed Management for Improved Agro-pastoral Livelihoods in the Sepabala Sub-catchment (GEF funded):** To mainstream sustainable rangeland management and restoration into the use of watersheds to combat land degradation, enhance the flow of agroecosystem goods and services and improve the livelihoods of agro-pastoral communities in the Sepabala Watershed in the Lower Senqu Basin (Quthing District). This is a newly established project, which has not yet implemented many of its activities.
28. The above-described projects provide a good baseline on attempts being made in the country to address land degradation, biodiversity loss and the impact of climate change on ecosystem and livelihoods. Some of the projects are using approaches (financing instruments) that reconcile land degradation and climate change vulnerability. For example, provide communities with cash packages for rehabilitation initiative undertaken, provision of agricultural inputs (e.g. tools, seeds, startup livestock), and training on these initiatives and livelihoods improvement.
29. Through the ReNoka Program, Lesotho has been delineated into 74 sub-catchments, and currently six of them have been prioritized for rehabilitation interventions, namely Hlotse, Khubelu, Likhethla, Makhalaneng, Maletsunyane and Senqunyane (**Figure 6**). In terms of coverage, some of the projects and programmes including planned initiative are covering most parts of the country (**Figure 7**). For example, ROLL focuses in the six districts, Butha-Buthe, Leribe, Berea, Thaba-Tseka, Qacha's Nek and Quthing. Even though widespread in the country, the ROLL project is limited in the extent to which it can address the barriers related to weak technical and institutional capacities and the need for a strengthened enabling environment, particularly targeted at the problem of land degradation.

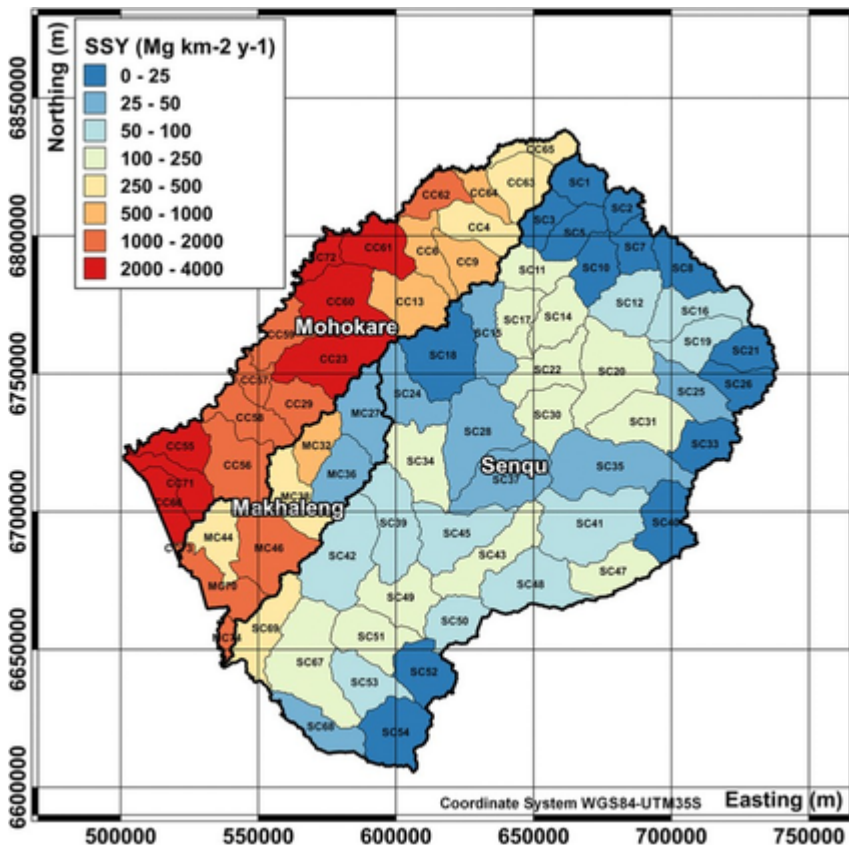


Figure 6: Map of Lesotho showing its 10 districts and 74 sub-catchments.

- On the other hand, most of these areas being covered by some of the previous and current projects are in the highlands, where critical and valuable ecosystems that support economic growth and livelihoods are based. A case in point is the Tšehlanyane National Park, Bokong Nature Reserve, Katse Dam (under LHDA) and the Letša-la-Letsie Ramsar site. While these interventions address biodiversity hotspots, wetlands and rangelands (used for wool and mohair production), among others, they however, neglect the major issue of land degradation that the country is facing. According to the Land degradation Neutrality (LDN) Data for Lesotho, the southern lowlands are hugely affected by land degradation more than any other parts of the country. Indeed, the LDN hotspots for Lesotho are more concentrated in Maseru, Mafeteng, Mohale’s Hoek, and Quthing Districts. Even under the Great Green Wall Initiative, these districts are the area of focus (**Figure 7**). This calls for urgent interventions to also target these districts. One of the projects currently operating in these four districts is IACOV, which is mainly focusing on increasing resilience of communities to the impact of climate change. However, the project is not following an integrated approach that reconciles the focal areas of biodiversity, land degradation and climate change. In particular, the project has not used the concept of Nature-based Solutions to enhance ecosystem and community resilience to the impact of climate change. In fact, the concept of NbS has not been used in a systematic and structured manner in previous and current projects in Lesotho to **reduce** the impacts of climate change. Therefore, this is a glaring gap for the country to meet its national and global targets, particularly on climate change adaptation. Therefore, a Nature-based Solution centered investment on promoting climate resilience through sustainable land and biodiversity management, improving community livelihoods (which are also gender-balanced), strengthening local and institutional capacities, is therefore warranted. The proposed project will build on lessons learned from the previous projects by producing and disseminating appropriate NbS strategies and thus promote climate resilient communities. The use of a graduation model that encompasses both communities (including marginalised groups) and

local environment, allows for differentiated targeting of communities and households to integrate climate resilience into land management and livelihood improvement, thus graduate to higher levels of support based on their demonstrated contributions and effectiveness.

(uploaded in Road Map as Figure 7)

Figure 7: Map of projects/programs running in Lesotho, namely IACOV electoral Division based sites, Great Green Wall Initiative (GGWI) NAP based sites, ReNoka Priority Sub-catchments, Regeneration Of Landscapes and Livelihoods(ROLL) sites (which include SC52 as a Ramsar site) and Sebapala IWM site.

International and national Legislative, Regulatory and policy Context

31. The GOL is party to several regional and international commitments. Consequently, the country endorses and adheres to the following relevant conventions: UNCBD: United Nations Convention on Biological Diversity; UNCCD: United Nations Convention to Combat Desertification; UNFCCC: United Nations Framework Convention on Climate Change; CITES: Convention on International Trade in Endangered Species; ITPGRFA: International Treaty on Plant Genetic Resources for Food and Agriculture; Convention on Wetlands (RAMSAR); MINAMATA Convention on Mercury; TRIPS: Agreement on Trade-Related Aspects of Intellectual Property Rights; Nagoya Protocol on Access and Benefit Sharing (ABS); **and the Paris Agreement**. While Lesotho demonstrated the desire for environmentally sustainable development by becoming a party to these MEAs, the country has limited capacity at the individual, institutional, and systemic levels to implement them.
32. However, Lesotho lacks comprehensive national laws to facilitate comprehensive biodiversity protection and sustainable management of natural resources. Only three pieces of legislation directly address biodiversity conservation: the Historical Monuments, Relics, Fauna, and Flora Act 1967 (as amended by Legal Notice No. 93 of 2004); the National Parks Act 1975; the Managed Resource Areas Order 1993; Environment Act 2008 and a Biodiversity Draft Bill 2023.
33. From the land management perspective, the following legislation apply in Lesotho: Environment Act 2008; National Environment Policy 1998; Range Resources Management Bill 2023; Range Management and grazing control regulations 1980, legal notice no.39; Livestock and Range management policy 1994; National Range Resources Management Policy 2014; Local Government Act 1997; Land Husbandry Act 1969; Liremo Act 1970; Lesotho Water and Sanitation policy 2007; Energy policy framework for Lesotho 2001; Lesotho Water and Sanitation Policy 2007; Forestry Act 1998; National Forestry Policy 2008; Mining and Minerals Policy 2014, National Decentralization Policy 2014 and Soil and Water Conservation Policy 2021.
34. **Climate change is cross cutting in nature and tends to be implied in pieces of legislation and policy documents. However, the only policy document which addresses climate change is the National Climate Change Policy 2017 – 2027. The document articulates Lesotho’s aspirations on matters concerning climate change mitigation and adaptation.**
35. Institutions that administer various regulatory frameworks relevant to conservation of biodiversity and sustainable land management include: the Ministry of Defence, National Security and Environment (MDNSE);

the Ministry of Agriculture, Food Security and Nutrition (MAFSN); the Ministry of Law and Constitutional Affairs (MLCA); the Ministry of Local Government, Chieftainship, Home Affairs and Police (MLGCHAP); the Ministry of Health (MoH); **the Ministry of Natural Resources**; the Ministry of Trade, Industry, Business Development and Tourism (MTIBDT); the Lesotho Mounted Police Services; and the Revenue Services Lesotho (former Lesotho Revenue Authority). These Institutions are severely limited in terms of capacity to adequately implement NbS to tackle biodiversity loss, land degradation and build climate resilience.

[1] IUCN (International Union for Conservation of Nature). 2009. No time to lose – make full use of nature-based solutions in the post-2012 climate change regime. Position paper on the Fifteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 15). Gland: IUCN.

[2] https://www.thegef.org/sites/default/files/documents/2022-06/EN_GEF_LDCF.SCCF_32_03_Work%20Program%20for%20the%20Least%20Developed%20Countries%20Fund_0.pdf

B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

Theory of Change

2. The project intends to facilitate the intensification of structured implementation of nature-based solutions (NbS) through deployment of transformation levers that will enable bringing about transformative change, namely, governance and policies, multistakeholder dialogues, innovation and learning and financial leverage to address impacts of climate change, land degradation and biodiversity loss in Lesotho. The innovative NbS will lead to improved adaptive capacity, sustainable livelihoods and land management for communities and ecosystems in Lesotho. The project will support mainstreaming of NbS into policy and institutions for systemic and transformative uptake in national and community adaptation, mitigation and management of climate change impacts, biodiversity loss and land management. It will also include strengthening governance and institutions which manage climate change, biodiversity and land management issues in the country. At the community and resource user level, the project will support the application of co-designed NbS and related integrated approaches for climate resilience, ecosystems and livelihoods development and sustainable land management and establishment of sustainable financial resource mobilization mechanisms even beyond the project tenure. Communication, knowledge management, learning and M&E will also be embedded in the project to create necessary conditions for upscale.
3. The underlying theory of change for the project can be stated as: **IF** NbS is mainstreamed into policy implementation instruments and institutions for systemic and transformative uptake, and local communities (including Indigenous People), private sector, CSOs, Youth and other stakeholder have access to suitable financial products to fund their implementation, and knowledge around such

interventions is appropriately managed and disseminated, **THEN** rural communities will have increased resilience to the impacts of climate change, biodiversity loss and land degradation **BECAUSE** they will benefit from an enhanced enabling environment for implementation, access to innovative financial instruments, a growing body of knowledge on best practices for nature based climate resilience, ecosystems and livelihoods development and sustainable land management.

Theory of change Diagram is annexed (Annex D).

4. Mainstream NbS into policy implementation instruments and institutions for systemic and transformative uptake for building resilience to climate change: The project will support mainstreaming of NBS into policy and institutions for systemic and transformative uptake in national and community adaptation, mitigation and management of climate change impacts, biodiversity loss and land management.

Alternative Scenario

Component 1. Enabling environment for Nature-based Solutions that support climate resilience, sustainable land management and biodiversity conservation.

1. Existing policy and regulatory frameworks may incentivize the application of NbS for climate change adaptation and/or climate change resilience in Lesotho, however, Lesotho needs support to translate the policy statements and intentions into actions on the ground. There is a need for a system wide review and assessment of the policy implementation instruments and the incentive framework for application of NbS in Lesotho (legislation, policy, by-laws, etc). This will lead to recommendations on a range of updated policy implementation instruments and incentive framework to facilitate systemic uptake of nature-based solutions in national and community adaptation and management of climate change impacts, biodiversity loss and land degradation. As part of this component, the institution and governance for transformative system wide deployment of NbS will be strengthened. The project will facilitate a multilevel review and gap assessment of governance and institutions for application of NbS in Lesotho. This will lead to the design and roll out of a programme to facilitate and strengthen implementation capacity for the recommended policy instruments and updated incentive framework, institutional and policy coordination, and governance mechanisms for deployment of NbS for sustainable land management, biodiversity conservation and climate change resilience.

Outcome 1.1: Strengthened NbS framework and Policy instruments to address climate change, biodiversity loss and land degradation challenges.

Output 1.1.1 Policy instruments enhanced and supported to address climate change, biodiversity loss and land degradation challenges through NbS.

Output 1.1.2 Policy implementation instruments and incentive framework facilitated for systemic uptake of NbS at national and sub-national levels.

Outcome 1.2: Institutional arrangements and governance mechanisms strengthened for sustainable land management, biodiversity conservation and climate change resilience through NbS

Output 1.2.1 Institutional arrangements reviewed, and gap analysis conducted.

Output 1.2.2: Multilevel governance structures (fora, council) and sectoral institutions established and/or strengthened.

Output 1.2.3: Capacity development programme for multilevel governance and sectoral institutions developed and strengthened.

Output 1.2.4. Capacity development programme to build resilience and gender-responsive approaches for women, youth, and people with disabilities developed, promoted, supported, and implemented, through NbS.

Component 2. Build community resilience, sustainable land management and adaptive responses through Nature-based Solutions.

2. Under component 2, the project will support co-design and implement NbS and related Integrated approaches for climate resilience, livelihoods development, ecosystems and sustainable land management. Building on various GEF/GCF and other projects, a comprehensive vulnerability / baseline assessment to identify land degradation, biodiversity loss and climate change impacts hotspots will be commissioned to inform action plans in targeted communities. This will be followed by a participatory community-based planning process, CSOs, local gender and youth inclusive resilience and adaptation plans underpinned by the NbS concept framework and standards focusing on robust asset creation (safety nets approaches) schemes, income diversification and market and value-chain linkages, for increased adaptive capacity and household resilience. The project will facilitate structured dialogue for co-design, awareness and engagement of the public, private, CSOs and other relevant institutes including traditional leadership in climate resilient soil and water conservation activities within and outside catchment areas. Under Outcome 2.2, communities in land degradation and CC hotspots will be supported through innovative financial tools and mechanisms to apply a range of NbS solutions with integration of Indigenous knowledge best practices. Community level investments/grants to facilitate application of the NbS concept framework and standards for identified hotspots (in wetlands management and restoration, integrated watershed management, agroforestry and reforestation and maintenance of cultural landscapes). Structured grants payments to facilitate afforestation, reforestation and regeneration of ecosystems on under-utilized areas of their land including community conservation areas and woodlots will be deployed. In addition, targeted farm level incentives to facilitate application of the NbS framework and standards in agricultural landscapes for identified hotspots for livelihoods and agricultural and non-agricultural value chains upgrading (honey production, fruit production and others suited to each local context). Youth driven tree planting brigades/groups and community nurseries on lands owned by smallholder farmers to protect against soil erosion, improve land quality and produce fruit for additional income will be supported.

Outcome 2.1: NbS interventions for community resilience, sustainable land management and adaptive responses identified and implemented.

Output 2.1.1 Comprehensive climate risk and vulnerability/ baseline assessment to identify land degradation, biodiversity loss and climate change impacts hotspots undertaken.

Output 2.1.2 Comprehensive **gender sensitive** livelihood vulnerability assessment to identify vulnerability status of affected communities and marginalized groups.

Output 2.1.3. Nature-based solutions developed and implemented to ensure climate resilient community livelihoods.

Output 2.1.4. Nature-based solutions developed to enhance **Gender Equality and Social Inclusion** (GESI) through community-based projects.

Outcome 2.2. Communities in land degradation and climate change hotspots apply a range of NbS solutions supported through innovative financial tools and mechanisms

Output 2.2.1 The innovative financial tools enhanced and applied to support community **level gender sensitive** investments and initiatives for:

- Ecosystem restoration (wetlands and cultural landscapes)
- Climate resilient livelihoods and agriculture value chains (e.g. honey production and fruit production)
- Youth centric **and marginalized groups targeted** climate resilient projects (tree planting brigades, weaving, and community nurseries)
- Afforestation, reforestation, and regeneration of ecosystems (community conservation areas, biodiversity stewardships)
- Climate resilient community enterprises (multiple use of invasive species).

Component 3: Monitoring, Evaluation, Learning and Knowledge Management

3. The knowledge management and learning approach for the project will be closely linked to the monitoring and evaluation function and coordinated by the executing agency. Knowledge management is an important function because this project will be one of the first major efforts in this thematic area. The project will develop and inventory of NbS relevant for Lesotho and support the creation of NbS community of practice/Knowledge action Network for Lesotho. Exchange learning visits with similar biophysical and socio-economic contexts within and outside Lesotho will be conducted for key role players and stakeholders inclusive of land resources users. In addition, a sound results-based monitoring and evaluation system (with sex-disaggregated and youth indicators) developed, while Midterm and final evaluations successfully conducted. A project communication and sustainability/exit strategy (behaviour change communication) developed and implemented.

Outcome 3.1 Monitoring and evaluation outcomes under a results-based approach, **gender-sensitive dimensions**, good practices and lessons learned, and disseminated.

Output 3.1.1: MELK framework developed and implemented **inclusive of gender indicators**.

Output 3.1.2: Inventory of NbS relevant projects compiled as a baseline and for lessons learned.

Output 3.1.3 NbS community of practice and Knowledge Action Networks (KANs) supported, **with particular emphasis on marginalized groups (e.g. women, youth, disabled, LGBTI)**.

Output 3.1.4 Awareness, engagement and knowledge exchange platforms established at all levels, local, national (government, farm communities, extension officers) and regional levels (SADC), and scaling up of NbS.

Outcome 3.2. Knowledge and communication products developed, and platforms instituted to analyze and disseminate best practices and project lessons.

Output 3.2.1: Knowledge and communication products developed and disseminated **cognizant of the vulnerable status of marginalized groups (e.g. women, youth, disabled, LGBTI)** to share best practices and project lessons, for scaling up.

Output 3.2.2: Awareness, engagement and knowledge exchange platforms established at all levels and stakeholder groups including, local, national (government, extension officers, communities – **with emphasis on vulnerable groups**) and regional levels (SADC), for scaling up of NbS.

Output 3.2.3: Best practices - NbS approaches **considerate of the needs of the vulnerable groups** developed and widely disseminated.

Global Environmental Benefits

Core Indicators

Project Core Indicators		Expected at PIF
1	Terrestrial protected areas created or under improved management for conservation and sustainable use (Hectares)	434 ha (using Letša la Letsie – Ramsar site coverage as an estimate) x 2 protected areas = 868 ha
2	Marine protected areas created or under improved management for conservation and sustainable use (Hectares)	N/A
3	Area of land restored (Hectares)	34,000 ha (using Seapala sub-catchment area as a basis for estimates) /3 x 4 districts = 136,000 ha
4	Area of landscapes under improved practices (excluding protected areas) (Hectares)	34,000 ha x 4 districts (using Seapala sub-catchment as a basis) = 136,000 ha
5	Area of marine habitat under improved practices (excluding protected areas) (Hectares)	N/A
6	Greenhouse Gas Emissions Mitigated (metric tons of CO ₂ e)	245,000 tonnes carbon sinks for the 61,325 ha of forest cover (680,000 tCO ₂ e per year (Agro forestry has a potential to reduce emissions by between 1-5 tCO ₂ e per ha per year)
7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management	434 ha (using Letša la Letsie as a basis for estimates)
8	Globally over-exploited marine fisheries moved to more sustainable levels (metric tons)	N/A
9	Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)	N/A
10	Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ)	0.92 kg/year (based on the proposed increase in forestry cover)
11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	14,957 beneficiaries (based on Seapala sub-catchment as a basis) x 4 districts = 59,828 beneficiaries

- The goal of the new Climate Change Adaptation programming strategy is to facilitate transformational adaptation in developing countries towards achieving the Paris Agreement's global goal on adaptation. The proposed project is designed to contribute to the national and global priorities on climate change adaptation to enhance livelihoods resilience through land restoration and biodiversity conservation. The project is in alignment with needs and priorities identified in national plans, such as the National Biodiversity Strategy and Action Plan (NBSAP), LDN initiative, Nationally Determined Contributions and National Strategic, Sustainable Development Goals (SDGs) and National Strategic Development Plans (NSDP). The project is related to several priority activities under Lesotho's National Biodiversity Strategy and Action Plan (NBSAP), which seeks to enable implementation of biodiversity conservation goals. These include the identification of the following: a) biological diversity components through research and compiling inventories to improve biodiversity conservation; b) processes likely to threaten Lesotho's biodiversity; c) and implementation of strategies that ensure the sustainable conservation of biodiversity components (PAs, resource management areas [RMAs], environmental resources management areas (ERMAs), botanical gardens, *Maboella*- areas rested from grazing); and d) enhanced management of Lesotho's unique wetland systems. In addition, the project is also aligned with the following activities under the NBSAP: a) strengthening of legal measures; b) development of human resources and improving the skills required for biodiversity management; c) increased participation of rural households in forest activities through their own initiatives, for their own purposes and under their own control; d) reformation of agricultural practices in Lesotho, management and constraining of human activities that are responsible for the destruction of

biodiversity; e) environmental impact studies performed prior to implementation of activities that are likely to adversely affect biological diversity; f) establishment of benefit-sharing measures; g) development of material incentive program to change people's behaviour so that future land title holders make appropriate conservation decisions; and h) engagement in international strategies that facilitate the security of national and regional biodiversity components. In addition, this project contributes to the Aichi Targets 1, 2, 12, 16, and 18.

2. The project is relevant to, and will contribute, to at least six of the Sustainable Development Goals (SDGs). Firstly, it will contribute to the eradication of poverty (Goal 1) by introducing NbS into adaptation activities at the community level. Secondly, the project will contribute to Gender Equality and Women's Empowerment (Goal 5) through gender equality and inclusion of women's interests and experiences into policy development, co-creation of NbS in adaptation and training. Thirdly, it will contribute to the creation of Decent Work and Economic Growth (Goal 8) by supporting innovative financing instruments to enhance community-based NbS initiatives. Fourthly, the project seeks to contribute to sensitization for Responsible Consumption and Production (Goal 12) through sustainable land management practices. Sixthly, the project will contribute to Climate Action (Goal 13) through conservation activities that will promote the resilience of the ecosystems and landscapes, as well increase their carbon sequestration potential. Finally, the project will contribute to improving Life on Land (Goal 15), through promoting both in-situ and ex-situ conservation of valuable ecosystem goods and services.
3. Previous and current projects and programs implemented in Lesotho have made an attempt to contribute to global environmental benefits. For instance, the ORASECOM which has over the years prioritised conservation of critical wetlands, that include the source and river basin for the Senqu Orange River. The wetlands support a network of unique high-altitude bogs and sponges that are key contributors to the hydrological cycles and the water system of Lesotho. They are the headwaters for economically important rivers, such as the Maliba-matšo and Orange-Senqu Rivers which contribute to the Lesotho Highlands Water Project (LHWP) water sales to South Africa. In addition to South Africa, Lesotho's headwaters also serve other countries down-stream the Orange-Senqu River namely: Botswana and Namibia. Lesotho harbours the largest part of the basin meaning that it is a key contributor to the global environment benefits.
4. The proposed project, in particular, is using NbS to strengthen climate change adaptation, with the intention of reducing climate risks and increasing resilience of ecosystems and communities to climate shocks. The funds being requested from GEF will institutionalise NbS into policies, programmes and co-creation initiatives at community level to support healthy ecosystems and resilient communities. The focus on NbS for the LDCF and SCCF is complementary to the GEF-8 programming directions for the GEF Trust Fund. Opportunities will be explored for potential parallel programming with the GEF Trust Fund in order to enhance adaptation considerations in efforts to support net-zero nature-positive targets, valuing and monetizing of NbS, and in addressing socio-economic priorities of LDCs. The Nature-based solutions (NbS) has been a cornerstone of the GEF's adaptation portfolio since inception. With high potential to deliver adaptation as well as a range of additional benefits contributing to resilience of people and ecosystems, as well as for biodiversity and climate change mitigation, NBS merits additional emphasis in the GEF-8 period as a means of effecting adaptation. This project will draw on emerging science and lessons pertaining to NbS for adaptation and enhance its support for efforts to strengthen the economic case for NbS, with a view to enabling transformative shifts. Policies and financial incentives that can help scale up NbS, and analytical tools and methodologies that can demonstrate the case for nature-based solutions for community livelihoods, will be supported by improving climate resilience, ecosystem restoration and land management, through integrated NbS, by bringing together local, regional and national stakeholders to jointly plan for and implement NbS approaches, and establishing a coordinated platforms and institutional structures in the targeted landscapes and beyond. The strategy includes themes of particular interest for the LDCF and SCCF in GEF-8 that will build on areas of high impact, articulated national priorities, and experience of the two funds, with potential for trans-disciplinary interventions that can catalyze change and enable systemic shifts. These themes also recognize the interdependency between human well-being, land use management, climate change and ecosystems.

5. With the GEF support, a regional and global connection to best practices on systematic implementation of NbS on climate change adaptation will be strengthened in Lesotho. The proposed project will be characterized by a national transformation towards resilient ecosystems and communities using NbS, while also delivering major global environmental benefits (GEBs) in the areas of sustainable land management, protected areas, reduction greenhouse emissions and food-secure households. These will on the other hand, ensure reliable and affordable supply of food for the growing population and at the same time contribute to livelihood resilience and sociocultural conditions (especially of the poor, and including women, indigenous peoples and other traditionally marginalized sectors of society).

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

The institutional structure of the project is described below:

Implementing Agency: IUCN will serve this project as the implementing and partial executing (NbS approaches) agency for GEF, and will be the responsible for project supervision, and the provision of technical guidance.

Executing Agency: Ministry of Defence, National Security and Environment (MDNSE) will serve as the executing agency of the project, and they will co-execute with the Ministry of Agriculture, Food Security and Nutrition (MAFSN) in collaboration with the Ministry of Local Government, Chieftainship, Home Affairs and Police. Universities and Research Institutions around the project sites will also be considered crucial for execution of some research-based project interventions to provide evidence-based best practices.

The MDNSE will be responsible for:

- The implementation of project activities.
- The day-to-day management and coordination of the project,
- Preparing and submitting regular Project Progress Reports (PPR), financial reports, Annual Work Plan and
- Budget and other necessary documentation for the Project Implementation Review (PIR).
- Monitoring and Evaluation (biophysical and socio-economic)

Project Steering Committee (PSC) will be set up and will include representatives of MDNSE, MAFSN, IUCN, other related GEF projects in Lesotho and South Africa. Detailed membership of PSC will be well-

defined during project inception. Among other responsibilities the PSC will monitor and coordinate the planning of the implementation of the project.

The key responsibilities of PSC include the following:

- Providing guidance to ensure project implementation is in accordance with the project document.
- Reviewing and approve any proposed revisions to the project results framework and implementation arrangements;
- Reviewing, amend and endorse all Annual Work Plans and budgets;
- Ensuring that co-financing support will be available on time;
- Advising on issues and problems arising during project implementation;
- Reviewing and approving the ToR for midterm and final evaluations

Core Indicators

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

META INFORMATION – LDCF

LDCF true	SCCF-B (Window B) on technology transfer false	SCCF-A (Window-A) on climate Change adaptation false
Is this project LDCF SCCF challenge program? true		
This Project involves at least one small island developing State(SIDS). false		
This Project involves at least one fragile and conflict affected state. false		
This Project will provide direct adaptation benefits to the private sector. false		
This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs). false		
This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below		
Green Climate Fund false	Adaptation Fund false	Pilot Program for Climate Resilience (PPCR) false
This Project has an urban focus. false		
This project will directly engage local communities in project design and implementation true		

This project will support South-South knowledge exchange

true

This Project covers the following sector(s)[the total should be 100%]: *

Agriculture	0.00%
Nature-based management	50.00%
Climate information services	0.00%
Coastal zone management	0.00%
Water resources management	20.00%
Disaster risk management	30.00%
Other infrastructure	0.00%
Tourism	0.00%
Health	0.00%
Other (Please specify comments)	0.00%
Total	100.00%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise false	Change in mean temperature true	Increased climatic variability true	Natural hazards true
Land degradation true	Coastal and/or Coral reef degradation false	Groundwater quality/quantity false	

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1 Total number of direct beneficiaries	300,000	120,000.00	180,000.00	60.00%
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha)	50,000.00 0.00			
CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	5.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	10,000	4,000.00	6,000.00	60.00%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	0.00			

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation- such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design

elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the “Project description” section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Moderate	Climate risks – extremely cold temperatures cause harmful health impacts, to project beneficiaries and stakeholders implementing this project interventions. This may result in project implementation delays. Mitigation measure: Enhancing sharing of climate information to alert communities to safeguard their lives.
Environment and Social		The Environment and Social Framework supports green, resilient, and inclusive development by strengthening protections for people and the environment, and making important advances in areas such as labor, inclusion and non-discrimination, gender, climate change, biodiversity, community health and safety, and stakeholder engagement. Social, political, conflicts. Mitigation measure: This project will follow the GESI approaches that are followed to ensure inclusivity and leaving no one behind to alleviate potential conflicts that may arise in case this is not undertaken.
Political and Governance	Low	Changes in leadership and governance structures could affect the prioritization of the project. Mitigation measure: Working relationships with all the leadership and governance structures within the project implementation sites, in these provinces will be strengthened.
Macro-economic	Low	The project explores various support mechanisms to enhance governance performance on economy and decide on actions it can take to increase or

		<p>slow growth. Mitigation measure: The project design includes an exit strategy based on institutional strengthening to ensure the sustainability of the capacities acquired at national and local levels, combined with incentive mechanisms that create behavioral change.</p>
Strategies and Policies	Moderate	<p>Low involvement of governmental institutions in the implementation process: Lack of expertise or interest in the Government might lead to misunderstanding of progress and challenges on the ground and to a certain extent to the lack of recognition of best practices for sustainability and replication. Mitigation measure: Stakeholder engagement with all the relevant role players will be undertaken at the beginning of the project to facilitate buy-in and ownership of the project and strengthen sustainability of the interventions implemented.</p>
Technical design of project or program	Low	<p>Inadequate technical solutions to address the challenges identified. The project builds on lessons learned from past projects implemented in Lesotho. The project will build on previous experiences from key government and local community level. Mitigation measure: The project aims to deliver long-term results, a participatory approach is needed and a meaningful engagement of local populations, organizations and authorities in the implementation of NbS.</p>
Institutional capacity for implementation and sustainability	Low	<p>Capacity within central and local governments involved in the implementation of the project may compromise the effectiveness of interventions and make difficult to anchor training efforts and building long-lasting capacity within local</p>

		government institutions and local communities. Mitigation measure: Recruitment will prioritize hiring local staff living in or near the communities of the project interventions sites.
Fiduciary: Financial Management and Procurement		
Stakeholder Engagement		
Other		
Financial Risks for NGI projects		
Overall Risk Rating	Low	

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The project is aligned with the GEF8 programming strategy on CC adaptation. It addresses climate change, biodiversity loss, and sustainable land management. The activities of the project are in line with the vision of the GEF to achieve healthy and resilient ecosystems by facilitating the use and application of NBS in addressing the challenges of climate change, biodiversity loss and land degradation. This project is aligned with global, regional, and national land, biodiversity, climate change, and socio-economic development policies, strategies, and plans, including:

At National Level

- (i) Vision 2020, National Strategic Development Plans (I and II) (NSDP),
- (ii) National Biodiversity Strategy and Action Plan (NBSAP) 2000,
- (iii) Environment Act 2008,
- (iv) LMS 2017. Lesotho's National Climate Change Policy. Ministry of Energy and Meteorology, Lesotho
- (v) Nationally Determined Contribution (NDC),
- (vi) National Adaptation Programme of Actions (NAPA)
- (vii) National Climate Change Policy Implementation Strategy (2017)
- (viii) Biodiversity Resources Management Draft Bill of 2023,
- (ix) Water Act 2008, National Environment Policy 1998,
- (x) Range Resources Management Bill (2023),
- (xi) Range Management and grazing control regulations 1980, legal notice no.39,

- (xii) Livestock and Range management policy (1994),
- (xiii) National Range Resources Management Policy (2014),
- (xiv) Local Government Act 1997 and Land Husbandry Act 1969

At Global and Regional level

- (xv) *The Kunming-Montreal Global Biodiversity Framework (GBF), 2022*^[1]³: Identifies action-oriented global targets for urgent action over the decade to 2030. The Global Biodiversity Framework aims to maximize biodiversity values and sustainability, and to conserve and sustainably use biodiversity. The project aligns with actions identified in Targets 2, 3, 5, 11 of the GBF, while considering national circumstances, priorities and socioeconomic conditions.
- (xvi) *The Paris Agreement (2015)*^[2]⁴ - the UNFCCC COP 21 adopted the Paris Agreement, which established a global goal for adaptation that seeks to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change. The Paris Agreement acknowledges that adaptation action should consider, among other things, ecosystems.
- (xvii) *Drought Resilient and Prepared Africa (DRAPA, 2018)*^[3]⁵ – strategic framework for drought management and enhanced resilience to drought in Africa. Drought is a complex natural hazard that is global in nature and has cross-cutting impacts on many aspects of livelihoods and sectors of society. These include agriculture, energy, food security, health, water resources, migration, and resource conflict, amongst others.

The United Nations Convention to Combat Desertification (UNCCD) 2018–2030 Strategic Framework, 2017^[4]⁶ - This framework aims achieve the objectives of the Convention and the 2030 Agenda for Sustainable Development, in particular (SDG) 15 and target 15.3: by 2030. The vision of the Strategy is “A future that avoids, minimizes, and reverses desertification/land degradation and mitigates the effects of drought in affected areas at all levels and strive to achieve a land degradation-neutral world consistent with the 2030 Agenda for Sustainable Development, within the scope of the Convention”.

[1] The CBD Kunming-Montreal Global Biodiversity Framework (GBF), 2022. <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>, accessed 03 August 2023.

[2] The Paris Agreement, 2015. https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf, accessed 03 August 2023.

[3] Strategic Framework for Drought Risk Management and Enhancing Resilience to Drought in Africa, 2018. ISBN 978-92-95110-77-9 (electronic copy) https://knowledge.unccd.int/sites/default/files/2019-04/African_drought_white_paper.pdf, accessed 04 August 2023.

[4] *The United Nations Convention to Combat Desertification (UNCCD) 2018–2030 Strategic Framework, 2017.* <https://www.unccd.int/resources/other/unccd-2018-2030-strategic-framework>, accessed 04 August 2023.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities:

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

Date	Name of personnel consulted/ Name of meeting held	Affiliation and position
4/09/2023; 23/09/2023	Mr Nkuebe Lerotholi	Director, Department of Soil and Water Conservation
7/09/2023	Ms. Moselantja Rahlaho	Regeneration of Landscapes and Livelihoods (ROLL) Project, Field Officer- Quthing; Former Range Officer, Department of Range Resources Management
13/09/2023	Mr Tšita Tšita	ROLL, Knowledge, Management and Learning Officer
11/09/2023	Dr Botle Mapeshoane	Senior Lecturer, Department Soil Science, Faculty of Agriculture, National University of Lesotho
19/09/2023	Ms. Qongqong Hoohlo	Acting Director, Department of Environment
19/09/2023	Mr. 'Maboi Mahula	Assistant Environment Officer, Department of Environment
19/09/2023	Mr. Limpho Sekete	Legal Officer, Department of Environment
21/09/2023	Ms. Nkeletseng Mats'umunyane	Consultant
22/09/2023	Mr. Theletsa Mpholle	Climate Change Unit, Lesotho Meteorological Services

22/09/2023	Ms. 'Malehloa Jockey	Climate Change Unit, Lesotho Meteorological Services
12/10/2023	Working session on PIF development and finalization.	Government of Lesotho (Relevant departments)
16/10/2023	GEF National Dialogue	Government of Lesotho, Developing partners, civil society organizations, local communities, and universities, the GEF secretariat

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
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Medium/Moderate

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant(\$)	Agency Fee(\$)	Total GEF Financing (\$)
IUCN	LDCF	Lesotho	Climate Change	LDCF Country allocation	Grant	8,974,312.00	807,688.00	9,782,000.00
Total GEF Resources (\$)						8,974,312.00	807,688.00	9,782,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount (\$)

200000

PPG Agency Fee (\$)

18000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non- Grant	PPG(\$)	Agency Fee(\$)	Total PPG Funding(\$)
IUCN	LDCF	Lesotho	Climate Change	LDCF Country allocation	Grant	200,000.00	18,000.00	218,000.00
Total PPG Amount (\$)						200,000.00	18,000.00	218,000.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total(\$)
Total GEF Resources					0.00

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing(\$)	Co-financing(\$)
CCA-1-1	LDCF	8,974,312.00	65357500

Total Project Cost		8,974,312.00	65,357,500.00
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Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Defence, National Security and Environment (MDNSE)	In-kind	Recurrent expenditures	64707500
Recipient Country Government	Line Ministries (e.g. Ministry of Agriculture, Food Security and Nutrition)	In-kind	Recurrent expenditures	450000
Others	Academic and research institutions: National University of Lesotho, Agric. Research, Lerotholi Polytechnic	In-kind	Recurrent expenditures	200000
Total Co-financing				65,357,500.00

Describe how any "Investment Mobilized" was identified

Not Applicable

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Sebastien Delahaye	10/16/2023	Vhalinavho KHAVHAGALI		vhalinavho.khavhagali@iucn.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Ms Qongqong Hoohlo	Acting Director Environment & GEF Operational Focal Point	Ministry of Defense, National Security and Environment	11/14/2023

ANNEX C: PROJECT LOCATION

Please provide geo-referenced information and map where the project interventions will take place

The proposed project will focus on Nature-based solutions aimed at addressing challenges of land degradation, climate change and biodiversity in four districts of Lesotho, namely Maseru, Mafeteng, Mohales' Hoek and

Quthing (**Figure 8**). The latter includes a Ramsar site (Letša-la-Letsie). Even though some related projects (e.g. IACOV, Renoka, GGWI, Sebapala and ROLL) are already being executed in certain sub-catchments within four districts, several sub-catchments in these land degradation hotspots remain neglected and need urgent interventions. Thus, the project will focus on the outstanding sub-catchments, and if necessary, also upscale on those that may already be covered by such projects.

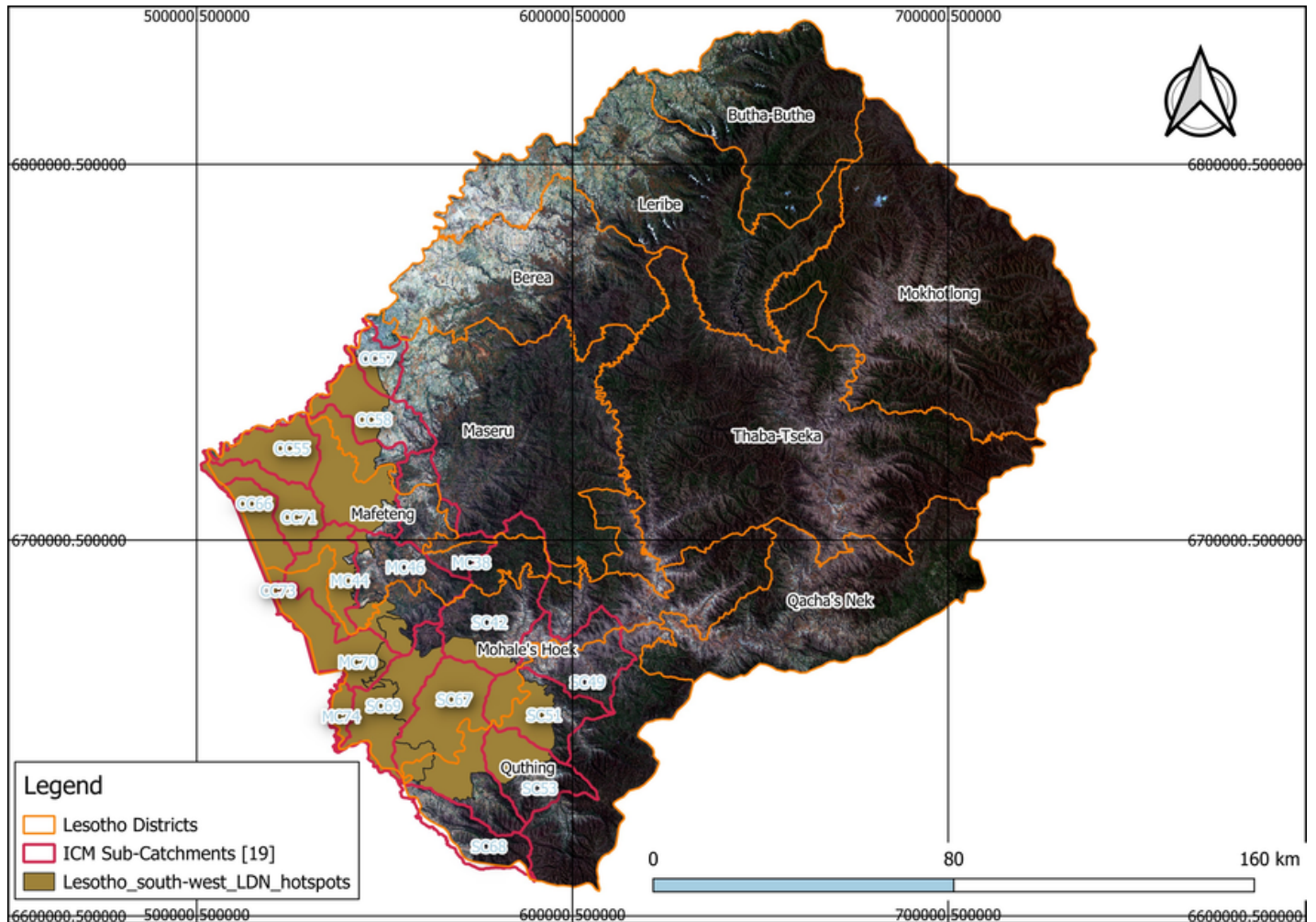


Figure 8: showing drylands land degradation hotspots in four (4) targeted Districts for the proposed project coverage.

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

GEF ID 11387_ES screening

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	Principal Objective 2	Significant Objective 1	No Contribution 0

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing Models	Strengthen institutional capacity	Deploy innovative financial instruments	Transform policy and regulatory environments
Stakeholders	Private sector	Local communities	Civil society
Capacity, Knowledge and Research	Knowledge generation and exchange	Learning	Capacity Development
Gender Equality	Gender mainstreaming	Women	Youth
Focal Area/Theme	Land degradation	Biodiversity	Climate Change