## Part I: Project Information

**GEF ID**
**10979**

**Project Type**
MSP

**Type of Trust Fund**
GET

**CBIT/NGI**
CBIT **No**
NGI **No**

**Project Title**
Integration of Natural Capital Accounting Into Lesotho's Policy And Decision Making For Sustainable Development

**Countries**
Lesotho

**Agency(ies)**
UNEP

**Other Executing Partner(s)**
Ministry of Defense (MDNSE), National Security and Environment (MDNSE) Other executing agency the Ministry of Natural Resources (MNRS)

**Executing Partner Type**
Government

**GEF Focal Area**
Biodiversity

**Sector**
Mixed & Others

**Taxonomy**

Biodiversity, Focal Areas, Financial and Accounting, Natural Capital Assessment and Accounting, Stakeholders, Indigenous Peoples, Type of Engagement, Participation, Information Dissemination, Consultation, Gender Equality, Gender Mainstreaming, Beneficiaries, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Capacity, Knowledge and Research, Knowledge Generation, Training, Capacity Development, Knowledge Exchange, Field Visit, Learning, Indicators to measure change

**Rio Markers**

**Climate Change Mitigation**

No Contribution 0

**Climate Change Adaptation**

No Contribution 0

**Biodiversity**

Principal Objective 2

**Land Degradation**

No Contribution 0

**Submission Date**

8/1/2023

**Expected Implementation Start**

9/1/2023

**Expected Completion Date**

8/31/2026

**Duration**

36In Months

**Agency Fee($)**

116,711.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

| Objectives/Programs | Focal Area Outcomes | Trust Fund | GEF Amount($) | Co-Fin Amount($) |
|---|---|---|---|---|
| BD-1-3 | NCA | GET | 1,228,539.00 | 3,400,000.00 |
| | | **Total Project Cost($)** | **1,228,539.00** | **3,400,000.00** |

**B. Project description summary**

## Project Objective

To mainstream natural capital into integrated watershed management through application of natural capital accounting in Lesotho.

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 1. Building institutional capacity on natural capital accounting | Technical Assistance | 1.1 Natural Capital Accounting (NCA) system adopted, including institutional mandates, and increased institutional capacity | 1.1.1. Coherent and consistent methodology, institutional arrangements and national system design developed for NCA in Lesotho<br><br>1.1.2. Staff training and institutional capacity building on natural capital accounting and valuation of ecosystem services conducted<br><br>1.1.3. National Spatial Database (NSD) developed to compile (terrestrial) accounts with the support of pilot areas to test and refine the NSD<br><br>1.1.4. Road Map for Advancing NCA in Lesotho developed, consolidating a future | GET | 584,000.00 | 1,100,000.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| | | | vision for NCA in Lesotho | | | |
| Component 2: Mainstreaming natural capital through application of NCA into integrated watershed management | Technical Assistance | 2.1 "Natural capital mainstreamed into integrated watershed management through application of NCA" | 2.1.1 Water and land accounts for Upper Senqu Catchment Established<br><br>2.1.2 Water and land accounts are used to design operational strategies and guide integrated catchment management plan for the Upper Senqu Catchment<br><br>2.1.3 Policy dialogue conducted with key stakeholders on mainstreaming of natural capital through the use of NCA in integrated catchment management | GET | 387,000.00 | 1,380,000.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 3.Outreach and knowledge management for promotion of NCA | Technical Assistance | 3.1 Better understanding on the importance of natural capital and NCA for sustainable development in Lesotho | 3.1.1 Outreach and knowledge products developed to support the promotion of NCA<br><br>3.1.2 Awareness raising of NCA and its possible applications conducted<br><br>3.1.3 Knowledge sharing events conducted to enable the networking with stakeholders to facilitate further uptake and development of NCA | GET | 90,539.00 | 430,000.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 4. M&E | Technical Assistance | 4.1 An Integrated and effective gender-responsive monitoring and evaluation system that enables tracking of project performance | 4.1.1 Project gender-responsive M&E system in place<br><br>4.1.2 Mid-Term Review Conducted<br><br>4.1.3 Terminal Evaluation Conducted<br><br>4.1.4 The project Exit Strategy is developed | GET | 56,000.00 | 140,000.00 |
| | | | | **Sub Total ($)** | **1,117,539.00** | **3,050,000.00** |

| Project Management Cost (PMC) | | |
|---|---|---|
| GET | 111,000.00 | 350,000.00 |
| **Sub Total($)** | **111,000.00** | **350,000.00** |
| **Total Project Cost($)** | **1,228,539.00** | **3,400,000.00** |

**Please provide justification**

**NA**

**C. Sources of Co-financing for the Project by name and by type**

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount($) |
|---|---|---|---|---|
| Recipient Country Government | Department of Environment in the Ministry of Defense, National Security and the Environment | In-kind | Recurrent expenditures | 1,500,000.00 |
| Recipient Country Government | Department of Water in the Ministry of Natural Resources, | In-kind | Recurrent expenditures | 1,000,000.00 |
| Recipient Country Government | Department of forestry, range and soil conservation in the Ministry of Defence, National Security and the Environment | In-kind | Recurrent expenditures | 900,000.00 |
| | | | **Total Co-Financing($)** | **3,400,000.00** |

**Describe how any "Investment Mobilized" was identified**

All the confirmed co-financing is in-kind hence recurrent expenditures

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

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNEP | GET | Lesotho | Biodiversity | BD STAR Allocation | 1,228,539 | 116,711 | 1,345,250.00 |
| | | | **Total Grant Resources($)** | | **1,228,539.00** | **116,711.00** | **1,345,250.00** |

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

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Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **true**

**PPG Amount ($)**

50,000

**PPG Agency Fee ($)**

4,750

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNEP | GET | Lesotho | Biodiversity | BD STAR Allocation | 50,000 | 4,750 | **54,750.00** |
| | | | | **Total Project Costs($)** | **50,000.00** | **4,750.00** | **54,750.00** |

## Core Indicators

**Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 93521.00 | 88625.10 | 0.00 | 0.00 |

**Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 93,521.00 | 88,625.10 | | |

**Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|

**Type/Name of Third Party Certification**

**Indicator 4.3 Area of landscapes under sustainable land management in production systems**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|

**Indicator 4.4 Area of High Conservation Value or other forest loss avoided**

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|

**Indicator 4.5 Terrestrial OECMs supported**

| Name of the OECMs | WDPA-ID | Total Ha (Expected at PIF) | Total Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|---|---|

## Documents (Please upload document(s) that justifies the HCVF)

| Title | Submitted |
|---|---|
| **Core Indicator Worksheet Lesotho NCA** | |

**Indicator 11 People benefiting from GEF-financed investments**

| | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|---|
| **Female** | 2,256 | 2,300 | | |
| **Male** | 2,402 | 2,300 | | |
| **Total** | 4658 | 4600 | 0 | 0 |

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

The Assessment Area is reduced from 93,521 ha to 88,625.1ha. The area of the two target sub-catchments Khubelu and Senqunyane, two of six sub-catchments under the Integrated Catchment Management (ICM) Renoka (We are a River) a national programme implemented by the Ministry of Natural Resources (MNRS). The methodology proposed is the System of Environmental Economic Accounting ? Ecosystem Accounting (SEEA-EA). The SEEA-EA is based on the ability to collect spatial data. The PPG team determined that based on the available resources data could be collated and some additional primary data collected from just the two sub-catchments. Therefore, the project will leverage on the activities of the ICM project. The selected pilot sub-catchments within Upper Senqu have ongoing integrated catchment management interventions. This will provide data for NCA piloting two national NCA accounts (water and land) with a view for up-scaling. Khubelu (SC7 24,851.1ha) is a trans-boundary/frontier conservation area, and it is the main source of Senqu-Orange River basin which is shared between Lesotho, Botswana, South Africa, and Namibia. Khubelu is one of the major tributaries to Senqu River and the Polihali Dam Lesotho-South Africa water transfer (construction on-going) under the LHDA. Senqunyane (SC18 63,774.0ha) is the source of Senqunyane River that forms a main tributary to Mohale Dam under the LHDA Project. Senqunyane is also a main tributary to the Senqu-Orange River. Both areas fall within the Maloti Drakensberg trans-frontier conservation and alpine areas forming part of high biodiversity endemism. The total targeted area for intervention is 88,625.1ha. This is the total area for the two (2) sub-catchments (Khubelu and Senqunyane). Anticipated impact: Data collected through NCA for creation of water and land accounts will inform development of National IWRM Strategy. Implementation of the IWRM Strategy will result in enabling tracking of the state of water and land resources informing

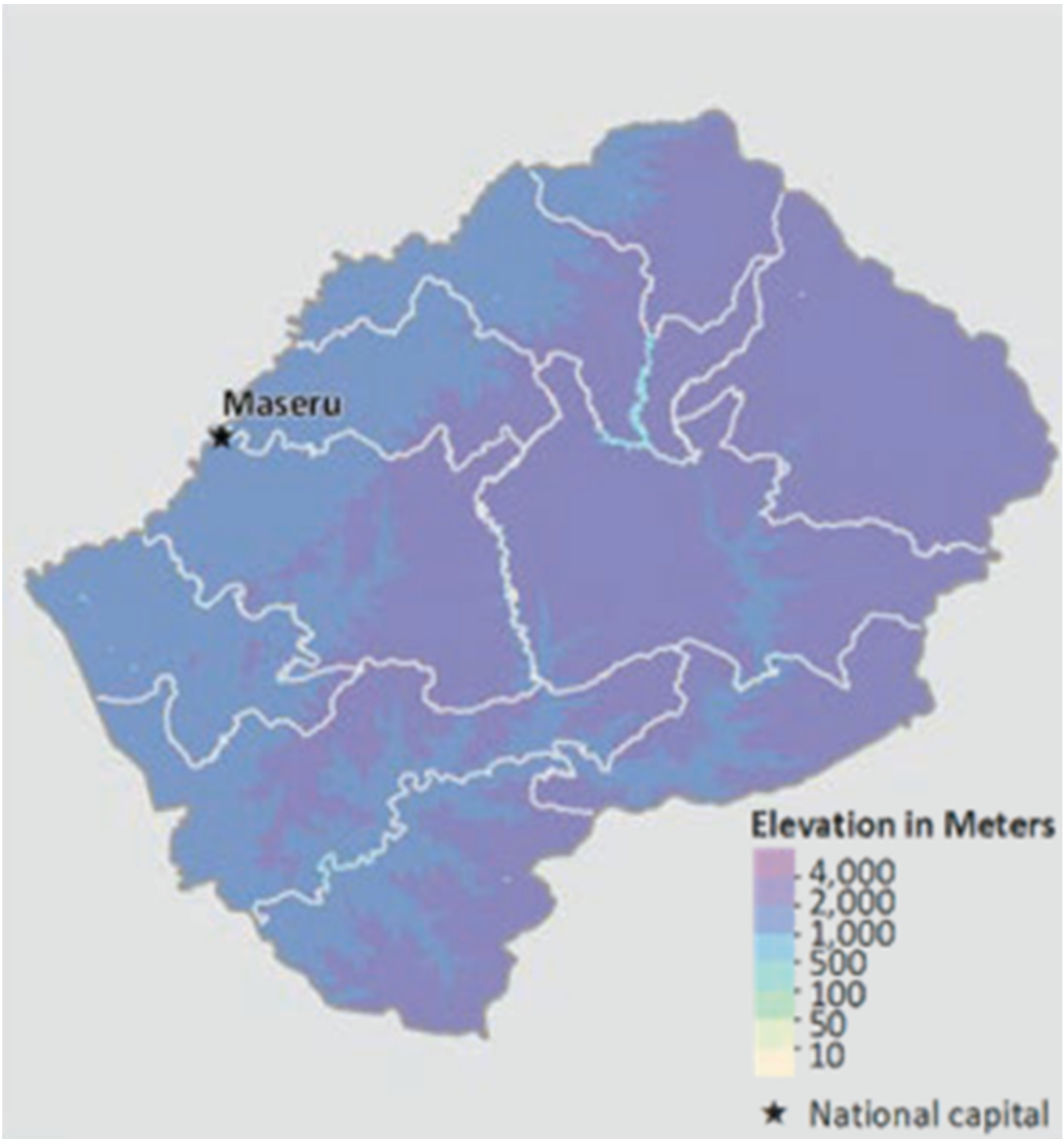
both public and private sector development interventions for sustainability purposes. Development of the land and water accounts will also inform policy review. The two immediate impacts will be (i) wholistic water resource and land use planning as part of the catchment activities based on status of the ecosystems and ecosystem services available to determine sustainable extraction levels and associated management actions and (ii) ownership of plans through wider stakeholder involvement in the use of the data to develop plans, allowing for salient features such as gender disparities and climate change resilience to be included. In the long-term, the project seeks build the capacity for sustainable planning and utilisation of the ecosystems on the catchments based on a national NCA system. Upper Senqu Catchment The Senqu Catchment covers a total area of 15064.19 km2 and has been agreed with stakeholders to be a suitable project focal area based on a series of selection criteria used to determine the catchment area best fitted for the project purpose. These explicit selection criteria for this catchment include environmental challenges and information on the environmental services of the catchment, including the occurrence of global important species and wetlands (Ramsar site). For selection criteria: See table in clause F the attached CEO Approval Request The project will indirectly contribute to the improved management of the Upper Senqu Catchment through facilitating technical and institutional capacity building to implement and apply natural capital accounting for land and water and ecosystems accounts for selected ecosystem services. This will be implemented in pilot sub-catchments with relevance for the national economy, due to the natural capital present in these areas. Information provided by the natural capital accounts will serve as input for integrated watershed management development, thus contribute towards enhanced understanding of the contribution of natural capital to the economy and the livelihoods of the communities dependent on these areas. The Project contributes to several of the Aichi biodiversity targets under the Convention on Biological Diversity, notably Target 2, which is focused on integrating biodiversity values into development and poverty reduction strategies and planning processes including national accounting systems; as well as Aichi Targets 1, 4 and 19.

## Part II. Project Justification

### 1a. Project Description

### 1.1. the global environmental and problems, root causes

#### 1.1 (a) Lesotho?s Natural Capital providing a critical livelihood source




The Kingdom of Lesotho (henceforth referred to as Lesotho) has made good progress in reducing poverty and in growing the economy for the past two decades (GDP growth at 1.13 per cent between 2015-2020). Lesotho

is a small[1]1, mostly mountainous, and largely rural country of about 2.2 million people[2]2, surrounded by South Africa. . Lesotho is one of the least developed countries in the world and natural resources constitute the primary source of livelihood for most of the Basotho population. The entire country has a relatively high elevation varying from 1,388 m to 3,482 m above sea level. Poverty is not only high but also deep?and the depth has increased over time, making Lesotho one of the most unequal countries. A poverty gap of about 30 percent indicates that substantial growth would be needed to lift many of the poor out of poverty[3]3. Lesotho?s poverty stagnation could be attributed to a decline in remittances and a still large dependence on subsistence farming among many households[4]4. 50 per cent of the population still lives below the national poverty line (US$1.65/day) and while urban poverty dropped to 27 per cent, rural poverty stands at 61 per cent (rural urban divide)[5]5. In 2002 the State of the Environment Report stated: ?To absorb the pressure brought about by poverty, a lot of people resort to agriculture for their survival such that in spite of the declining agricultural productivity, approximately 85% of the population still depends partly or fully on agriculture for their livelihood.? Presently, two decades later, agriculture remains the leading source of livelihood for rural people with 70 per cent of households depending on it. The sector employs 44 per cent of the active population.

*Figure 1: Altitude map of Lesotho Source: World Bank (2021), Climate Risk Country Profile, Lesotho*

More than 70 percent of the population lives in rural areas, where three out of every four people are engaged in farming, herding, or both. Because labor is much less productive in agriculture than in other sectors, the economic contribution of agriculture is small, despite the large number of agricultural workers[6]6. Agriculture?s contribution to GDP has declined significantly over the past three decades?from 21.4 percent in 1982 to 7.5 percent in 2013.

**Water as key natural resource**

Minerals and water are considered key natural resources for Lesotho and its economy. Mining has become an important source of export revenues. The sector includes diamond mines in commercial production and Lesotho also produces sandstone, and it is also believed to have reserves of uranium, coal, gas, and copper. The combination of high altitude, abundance of water, and geographic proximity to major demand centers in southern Africa makes water central to long-term economic growth. Within this context, the water sector contributes roughly 10 percent to overall GDP, a large portion of it derived from revenues associated with the Lesotho Highlands Water Project (LHWP), one of the world?s most ambitious water-transfer projects. The LHWP has brought significant development gains to Lesotho, allowing the country to transform water resources into export revenues for poverty reduction and economic stabilization. Lesotho is one of the richest countries in water resources in southern Africa.

The State of the Environment Report[7]7 (NES, 2002) affirmed the notion that water is the most valuable Lesotho?s natural resource. It is a key determinant of economic growth and a resource that must be carefully managed as part of an environmentally sustainable development. Lesotho?s natural renewable water resources exceed by far its national demand, leading to water export to South Africa (780 million $m^3$ annually)[8]8. Lesotho?s ability to export water remains a significant contributor to its GDP; estimated to contribute approximately 10% in 2018[9]9.Nevertheless, there are severe water shortage problems due to fact that temporal and spatial distribution is not equal in certain areas. For surface water

sources, which are mostly direct river abstractions, variability of flows and lack of regulation facilities leads to seasonal shortages. Groundwater sources are generally smaller if explored in perched water tables, and a lack of sufficient capacity to drill deeper means that some of these boreholes are often overused leading to local depletion and a shortfall in supply.

The country is drained by four major river systems[10]10 - the Senqu (Orange) and Mohokare (Caledon) originating from the Mount Aux Sources in the Northeast along the Drakensberg and Makhaleng and Maphutseng River Systems originating from the central Maloti and flow in a South Westerly direction into the Republic of South Africa (RSA). Remarkably, fifty nine percent of the Orange River Basin lies in South Africa and the remainder in Lesotho, Namibia, and Botswana. However, 46 percent of mean annual runoff is generated from Lesotho, upstream, of the basin from just 3 % of the land area.

Pollution and rates of ground water depletion and the efficiency of water treatment plants to meet demand affect water resources quality and quantity. Poor land management practices and infrastructure development have serious negative impacts on water resources. These practices degrade wetlands capacity to regulate and purify flows. Sediment yield from accelerated soil erosion renders high water treatment costs and potentially damages hydropower potential. The causes of water resources pollution are overgrazing, soil compaction, deforestation and inappropriate land utilisation and cultivation. These factors affect infiltration capacity of in situ soils within catchments. High overland flow processes dominate and therefore increase sediment yield in streams and rivers.

**Valuable mountain ecosystems**

The total number of species recorded for Lesotho is 4,694 and compares well with the neighbouring Free State Province of South Africa, whose land area is four times the land area of Lesotho, with 3,487 different species[11]11. The mountains of Lesotho are a fragile ecosystem and are globally important as a centre of endemism, sources of freshwater with unique wetland systems, preferred areas for recreation and as places of cultural significance. They contain diverse biota with a high concentration of endemic species and several rare and endangered species. Lesotho?s biodiversity resources in the Drakensberg and Highland areas have great potential for tourism. Vegetation cover constitutes about 70 percent of Lesotho?s total land surface with grassland, which is primarily used for livestock grazing, comprising 61% including the invasive Chrysocoma spp. (12%), shrublands (8%), and mires (0.1%) and less than 1% under forest cover (Chakela, ed. 2000). Other land categories are shallow rockland (5%), residential areas (2%) and cultivated areas including woodlots (25%) (Chakela, ed. 2000).

**Increased human induced pressure on ecosystems**

The State of the Environment Report (NES, 2002) concluded that aquatic and terrestrial ecosystems are being degraded at an alarming rate, mostly by human-induced factors. Loss of habitats, extinction of species and reduction in genetic variability can directly be linked to human behaviour. The increases in population density coupled with livestock population pressure have serious implications on the country?s natural resources and consequently environmental degradation. Agriculture, using improper agricultural practices, has placed a tremendous pressure on indigenous trees and shrubs. Pollution, invasion of exotic species and overexploitation have contributed to an increase in the number of threatened plant species, and in low diversity in the country?s fauna especially in fish, reptiles, and amphibian species.

*One basic constraint* is the scarcity of high-quality land. Almost 70 percent of the country?s land area is classified as agricultural, but only about 10 percent is suitable for crop cultivation. The rest is low-quality land suitable only for extensive livestock grazing[12]12. *A second constraint is weather*. Many parts of the country are subject to extreme temperature fluctuations and highly variable rainfall, making rainfed crop cultivation and even livestock production extremely risky.

**Climate and climate change**

Lesotho?s climate is classified as subtropical temperate with the altitude giving it some alpine characteristics that distinguish it from the rest of the sub-continent (NDC, 2021). Winters are dry and

cold while summers are hot and humid. Temperatures are highly variable, on diurnal, monthly and annual time scales, and are generally lower than those of other inland regions of similar latitudes in larger landmasses both in the northern and southern hemispheres. Annual precipitation ranges from as low as 500 mm in the Senqu River Valley area to as high as 1200 mm in a few localities part of the Highlands region. The country experiences 85 percent of its precipitation between October and April and the peak rainfall period is from December to February. Normal annual rainfall averages 750 millimeters but varies considerably among different regions of the country.

Climate projection analysis results indicate (NDC 2021) a general warming trend of temperatures countrywide during the baseline period (1971-2000) and across all future periods (2011-2100). The models? outputs suggest that climate change has been happening over the past three decades. The plausible increase in annual maximum and minimum temperatures simulated by the models is also reflected across all seasons. The increasing trends in temperature during the historic period are weak but statistically significant for all the seasons. Rainfall on the other hand, shows a high spatial variability which is also higher in magnitudes relative to the established inter-annual variability for the region. The highest total precipitation accumulation during the covered period is in the Mountains while the Lowlands have the lowest total precipitation accumulation.

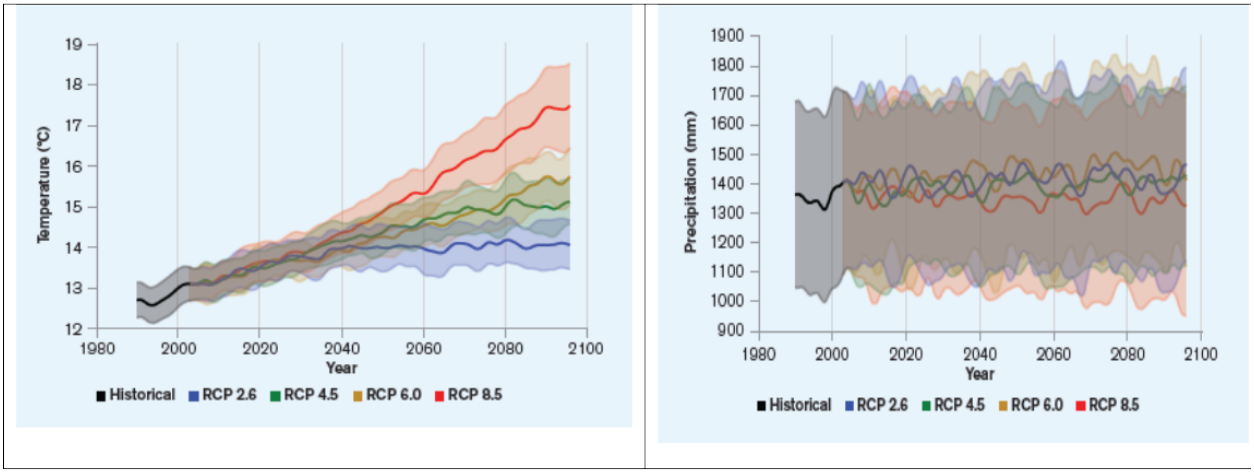



*Figure 2:*Projected Annual Average Temperature and Precipitation in Lesotho (Reference Period, 1986?2005.
*Source: World Bank Climate Risk Country Profile 2021*

Temperatures in Lesotho vary year on year; however, an overall trend of temperature increase has been observed since the 1960s. Increased temperatures are expected for the region, mean monthly temperature changes expected to increase by more than 2.0?C for the 2050s and by 4.4?C by end of the century, under a high-emission scenario. Temperature increases are expected throughout the country, although slightly lower degrees of temperature increases are expected to occur in the mountain zones. Increased incidence of heat waves and higher rates of evapotranspiration are expected, which will affect multiple aspects of local economic development and agricultural productivity.

Water resources are likely to be increasingly strained across Lesotho; warmer temperatures are expected to accelerate the rate of evapotranspiration for the country. With more frequent and severe droughts, the region will likely experience negative impacts on water supply and agriculture. A potentially simultaneous increase in flooding events poses a serious water pollution threat, affecting health of wetland ecosystems and agriculture and livestock communities. Rainfall in Lesotho is highly variable. Northern areas of the country are expected to experience below normal precipitation through mid-century. Southern areas of Lesotho are expected to have below normal rainfall through the end of the

century of between 50 and 100 mm per annum in the Lowland, Foothill, and southern Senqu Valley zones. In the Foothills, and the Senqu Valley, increasing temperatures and decreasing precipitation might lead to a substantial decrease in crop harvests.

In line with global trends, Lesotho is experiencing an increase in mean annual temperature because of climate change. Total annual rainfall has reduced slightly on average in the past 30 years (IFAD/WFP 2018) but is expected to slightly increase in future. Of greater concern are fluctuating rainfall patterns. Changing rainfall patterns are also strongly related to the El Ni?o?Southern Oscillation phenomenon which fluctuates between three phases: neutral, La Ni?a, and El Ni?o. Climate shocks caused by both El Ni?o and La Ni?a negatively impact agricultural productivity in Lesotho.

*Climate change effects on ecosystems:* Mountain ecosystems provide services such as freshwater, timber, medicinal plants, and protect the surrounding Lowlands from hazards such as landslides and flooding[13]13. Climate change in Lesotho is likely to result in a shift in ecosystem boundaries, including changes in species composition and biodiversity. Furthermore, degraded ecosystems are more sensitive to climate-related hazards such as flooding and landslides. Therefore, climate change will reduce the capacity of mountain ecosystems to generate ecosystem goods and services for the benefit of local communities, as well as increasing the exposure of local communities to hazards such as floods, landslides, drought and food insecurity. The already degraded natural resource base of the country is under increasing pressure due to the impact of climate change (characterized by irregular rainfall, droughts, storms, abnormal temperature patterns, floods, hail and frost), which threatens the livelihoods of vulnerable communities across the country. Drier and warmer weather also decreases snowfalls and the availability of water which is a major source of foreign revenue.

*Climate change effects on water resources*: The projected changes in rainfall and temperature will result in[14]14: i) increased flooding; ii) rainfall and evaporation changes will also impact rates of surface water infiltration and groundwater; and iii) increased erosion. Areas which are bare or degraded (e.g., as a result of deforestation or overgrazing) are particularly prone to soil erosion. In addition to the reduced stability of eroded slopes, one of the major negative effects of soil erosion is the reduced rate of infiltration of water into the soil profile. The result of reduced rainfall infiltration is a reduced rate of groundwater recharge as well as an increased rate of surface water runoff. During heavy rainfall periods, the reduced rate of infiltration can result in flooding in downstream and low-lying areas. Therefore, the degradation of watershed areas and other sensitive ecosystems results in multiple negative impacts on water resources. A decline in groundwater levels will reduce the availability of safe drinking water for people and livestock. Therefore, rural communities who are dependent on groundwater for drinking and cooking will be particularly vulnerable to the predicted effects of climate change.
*Climate change effects on agriculture*: Most of the agriculture in Lesotho is practiced using rainfed cultivation methods. It is anticipated that the predicted changes in rainfall and temperature will reduce the total area of arable land for rainfed cultivation, which already has reduced substantially over the last decades, as well as reduce the duration of the growing season. It is predicted that climate change will result in substantially decreased agricultural production in the Lowlands, Foothills and the Lower Senqu River Basin[15]15. The aforementioned areas are the most densely populated and cultivated in the country. The predicted effects of climate change will therefore have severe impacts on local livelihoods and national food security.

Lesotho?s extensive land degradation, 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. Thus, it is important that there is a clear understanding of the possible impacts of climate change on land degradation 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. The country?s current vulnerability also stems from the fact that its economic growth is dependent on climate-sensitive sectors which are subject to highly variable precipitation. In addition to variable climate

and climate-sensitive economy, most of the Lesotho?s population is dependent on rain-fed subsistence agriculture coupled with the fact that these communities do not have sufficient resources to address the loss of soil fertility and climate variability. The country is expected to experience increased frequency and intensity of droughts, heavy rains and increased temperatures in all future periods. The temperature increases experienced in Lesotho have led to hydrological losses, which impact or change the quantity and quality of water resources. As such, there is need to optimize water resources development, equitable usage, and management plans to sustain livelihoods of Basotho without comprising the sustainability of vital natural ecosystems.

Without adaptation, climate change could generally be detrimental to agriculture. There is evidence that climate change has already negatively affected crop yields in Lesotho. There has been a decrease in both the area planted and the yield of most important cereal crops due to recurring droughts in the last few years. Furthermore, the livestock sector, which also plays an important role in Lesotho?s economy through wool and mohair production, has also been declining due to climate change.

**Lesotho?s environmental problems threaten its natural capital** and its ability to achieve sustainable development and cut across the GEF focal area of biodiversity and in particular the programming direction BD1-1: Mainstream biodiversity across priority sectors as well as landscapes and seascapes, and natural capital accounting. Natural Capital Accounting and Assessment is one of the nine entry points to mainstream biodiversity across sectors and within production landscapes[16]16.The heavy reliance on natural resources for the economic development and its potential impact on natural capital in the country has yet to be accounted for.

**Biodiversity richness under threat**

The Kingdom of Lesotho contains some 70% of the Drakensberg-Maloti Mountains, recognized as the Eastern Mountains "Centre of Biodiversity and Endemism" of southern Africa. The Mountains, a World Heritage Site, have globally significant plant diversity, with unique habitats and high endemism. The global biodiversity significance in Lesotho is primarily floral and is threatened primarily by continuing rangeland degradation (UNDP, 1999[17]17). The mountain grasslands and heathlands are exceptionally rich in biodiversity. However, they are also heavily over-grazed with severe erosion, loss of watershed capacity, loss of preferred species with an invasion of woody shrubs, and a worsening livelihood for pastoralist people. This degradation has been greatly exacerbated by recent human population growth.

The Drakensberg Mountains of KwaZulu-Natal and the adjacent Maloti Mountains of Lesotho form an area of outstanding natural beauty and a recognized centre of diversity and endemism, with extensive zones of Afro-Alpine and Afro-Montane vegetation, unique wetland habitats and high levels of endemicity. High mountain systems are recognised as biogeographical islands, and typically support plant and animal communities found nowhere else. The highlands of Lesotho and the Drakensberg range are no exception with the Lesotho Mountains constituting the largest part of the Eastern Mountains "Biodiversity Hotspot" of Southern Africa. Seleteng-Kose et al. (2021) state that the flora of the hotspot is estimated as 1,750 species with 30% endemic and that the area is recognised as one of southern Africa?s eight hotspots of botanical diversity as indexed by its species rich-ness and endemism (Cowling & Hilton-Taylor 1994). Van Wyk and Smith (2001), cited by Seleteng-Kose et al. (2021), rank the area as having the fourth richest regional flora in southern Africa. The Maloti-Drakensberg Park range of mountains constitutes the principal water production area in Southern Africa. The areas along the international border between the two countries create a drainage divide on the escarpment that forms the watershed for two of Southern Africa?s largest drainage basins. The rivers of southern Maloti-Drakensberg including Sehlabathebe National Park drain into the Senqu/Orange River which flows westwards into the Atlantic Ocean extension of the uKhahlamba Drakensberg Park. The uKhahlamba Drakensberg Park has been identified as an Important Bird Area and forms a critical part of the Lesotho Highlands Endemic Bird Area.

A large proportion of the 30% endemics are found in the heathlands and the bogs of the upper alpine belt (Hilliard & Burtt 1990); It is these two categories that form the globally significant biodiversity value. Lesotho is part of the Southern African grassland biome, which is classified under three categories (Highveld, Afromontane and Afroalpine) influenced mainly by altitude.

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Lesotho currently has 1 site designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 434 hectares, a highland wetland about 200 km southeast of the capital city Maseru, part of the Lets'eng-la-Letsie (not yet gazetted) protected area. The main vegetation types are Afromontane and Afroalpine formations that are dominated by grasses and show high biodiversity and endemism levels. A number of vulnerable species occur among the 110 bird species recorded at this site, including the Wattled and Blue Cranes, the Lesser Kestrel and the Bald Ibis. The site is currently used as grazing land and is important for provision of grass for thatching, as a source of water, medicinal plants, and wood, and for fishing. Given the free access/open property nature of the site it suffers from overstocking, overgrazing and erosion, as well as overexploitation of its natural resources. This wetland is the source of the Quthing River, which is a major tributary of Senqu or the Orange River, one of the largest in southern Africa. Recently, Bokong Nature Reserve and T?ehlanyane National Park are proposed to become a Man and Biosphere Reserve under the UNESCO Man and Biosphere Programme

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[1] https://www.ramsar.org/wetland/lesotho?site=2542

[2] CBD country profile https://www.cbd.int/countries/profile/?country=ls

[3] Seleteng-Kose et al. (2021). A rapid biodiversity assessment of Lesotho?s first proposed Biosphere Reserve: a case study of Bokong Nature Reserve and T?ehlanyane National Park. http://www.scielo.org.za/pdf/babc/v51n2/05.pdf

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Lesotho has made efforts to protect threatened species. A few species-specific protection measures have been undertaken such as development in implementation of the bearded vulture (*Gypaetus barbatus*), the Maloti minnow (*Pseudobarbus qauthlambae*), a critically endangered fish species only found in this park, and the spiral aloe (*Aloe poliphyla*).

Lesotho, however, has one of the lowest proportions of conservation protected areas of any country in Africa (formal reserves of total 0.261% of land surface[21]19), but with recent addition to the protected area network this area has increased over the last decade. As such, the whole biodiversity resource must be considered as under threat. Outside the protected areas biodiversity is lost through the degradation of vegetative cover through heavy grazing, through over-frequent burning; and, especially for wetlands, through erosion. Heavy grazing leads to loss of palatable species and weed encroachment. The vegetation has endured tremendous stress from key threats that have been identified (overgrazing, overharvesting, uncontrolled fire, encroachment by settlements and cultivation on the rangeland, invasive aliens, and pollution), that contributed to the deterioration of conditions in general by continually transforming the environment.

Less than 15% of the land area is suitable for arable farming, and agricultural productivity is low. Most of the population is concentrated ?in the lowland western third of the country, where competition for limited land resources is intense, and soil erosion is widespread. 90% of rural household energy needs are derived from biomass, in the form of fuelwood (almost non-existent), shrubs (increasing pressure), dung and crop residues. Therefore, stocks of woody vegetation have been greatly reduced, and the beneficial effects of manuring crops are limited.

Specifically threats to biodiversity are exacerbated by the communal land tenure system on the mountains, which does not provide incentives for resource conservation. The Fourth National Report to the CBD (2009) states that: ?The biodiversity conservation status is patchy, as it is informed from research work and uncoordinated implementation on the ground. Since biodiversity is the basic support to community livelihoods, there is a range of threats associated with community actions that apply considerable stress on the biodiversity components.?

Biodiversity loss in Lesotho is a result of two inter-linked issues. Firstly, there are few protected areas which protect biodiversity through specific design. Secondly, biodiversity on the open access rangelands is degrading rapidly due to increasing human populations placing pressure through overgrazing and poor farming practice. Communal land tenure, with grazing and land resources being allocated in traditional ways by the chief has not encouraged community investment in resource conservation.

**Degrading ecosystems and biomes.** Degradation of ecosystems has been identified as a major constraint to Lesotho?s socio-economic development[22]20. Current land management practices result in soil erosion, loss of plant cover and biodiversity, and reduced soil fertility. For example, many grasslands in Lesotho are negatively affected by excessive grazing by livestock, while forested areas are degraded as a result of increasing demands for biomass fuel to supply domestic energy. The widespread degradation of these ecosystems results in reduced agricultural productivity and further exacerbates the challenges of rural poverty and food insecurity.

The main causes of environmental degradation include *ploughing* on steep slopes and/or marginal lands by crop farmers (54 percent of croplands are exposed to sheet erosion), *overgrazing* of rangelands (an estimated 50 percent over-stocking of livestock), *cutting of trees* for fuel and other uses, and *unregulated encroachment* of human settlements onto prime agricultural lands[23]21.

In his research Majara (2005) states that: Signs of grassland depletion and forest decline were also evident and were attributed to population expansion, overgrazing and indiscriminate cutting of trees and shrubs for firewood. Extensive biomass decline was also associated more with soils in the lowlands derived from sedimentary rocks than soils of basalt origin that occur mostly in the highlands.?

The same conclusion, indicating the degradation of agricultural and rangeland land use system, is reflected in a recent IFAD (2020) publication[24]22, stating that: ?Environmental degradation in Lesotho is widespread and manifests itself primarily in the over-exploitation and ultimate destruction of sensitive biomes. Overgrazing and a consequent loss of indigenous vegetation leads to soil erosion, which is aggravated by long dry spells interspersed by heavy rainfall. Conventional tillage further exposes soils to water and wind erosion affecting catchments and rangelands and accelerating the loss of pastures and arable land. The combined effect of a highly variable climate from year to year, and poor management adversely influence the productivity of both arable land and the rangeland.?

NES (2002) remarks that land resources management has been characterized by constraints such as fragmented efforts, lack of clear framework for land use planning, absence of security of tenure, declining traditional authority and mixed rule of law between government institutions and traditional authorities. These dynamic factors have resulted in bad land use practices, such as encroachment on agricultural land by residential settlements, encroachment on steep slopes and marginal lands by crop farmers, uncontrolled mining, and road construction in other environmentally sensitive areas of the country such as wetlands. Population growth and the rapid rural-urban migration in search of opportunities increase urban and peri-urban population density in Lesotho. This has exerted pressure on natural resources by increasing demand for land for various uses and generates competition among users.

Seventy percent (70%) of the population in Lesotho derives its livelihood from agricultural activities but the total arable land is estimated at 9 % of the country?s land base creating conditions for extreme poverty and tremendous pressure on the natural resource base. The Government of Lesotho together with interested and affected stakeholders have embarked on adopting an integrated approach in land use and resource management strategies in order to minimize pressures imposed on land by natural and man-made activities.

Mining, construction, transport, and infrastructure have contributed to negative environmental impacts change. This is through habitat destruction, water, noise and air pollution and visual impacts.

**Natural capital resources and baseline in the Upper Senqu Catchment**
The USC, the area chosen for field interventions, covers a total area of 15,064.19 km2 and has been agreed with stakeholders to be a suitable project focal area based on a series of selection criteria used to determine the catchment area best fitted for the project purpose, see Annex E for a map and additional information. These explicit selection criteria for this catchment include environmental challenges and information on the environmental services of the catchment, including the occurrence of global important species and wetlands (Ramsar site). USC has a total population of 389,011, divided over in total 19 districts and a total of 2,405 villages. The USC is the largest catchment of Lesotho, about half the total area of Lesotho, but with a relatively low rural population density, partly caused by the rough mountainous topography.

The Upper Senqu Catchment continues to enjoy high rainfall and snow with up to 1,500mm per year, supporting the unique Afro-Montane biome to survive with endemic flora and fauna such as the spiral aloe (Aloe polyphylla) and bearded vulture (Gypaetus barbatus). The specific areas of implementation in the USC are Khubelu and Senguyane sub-catchments.

**Selection Criteria**
Comparing several potential areas for pilot interventions, the following selection criteria were used in close consultation with the key stakeholders:

•Occurrence of protected areas or other areas with high biodiversity value: The Upper Senqu Catchment (USC) covers the Transfontier Conservation Area (TFCA, representing high biodiversity richness and a centre of endemism. The following Protected Areas are located within the USC: Bokong Nature Reserve (Biosphere core area), Sehlabathebe National Park (World Heritage Site) and Lets?a la Letsie Wetland (a Ramsar site). The USC contains areas of ecological importance, particularly the indigenous *Leucosidea sericea* woodland, known locally as *Ouhout* or *Che-Che*, one of Lesotho?s very few forested areas. Equally rare are montane stands of bamboo.

•A key hydrological area: The area forms the mountainous source area of the Main Senqu river and is covering the Senqu source (a proposed Protected Area). Although the mountain region of Lesotho constitutes only 5% of the total catchment of the Senqu/Orange River, it provides about 50% of the total catchment run-off. The topography of the region allows for the possibility of developing a hydro-power generation in Lesotho in conjunction with the provision of water supplies to the Republic of South Africa (RSA). The Lesotho Highlands Water Project (LHWP) was identified more than 50 years ago as the least

cost-effective water resource exploitation to benefit both the peoples of the Kingdom of Lesotho (Lesotho) and the RSA.

•Data availability: The USC harbours several past and ongoing projects, among them ICM and MDTP, offering the presence of baseline data collected. The presence of transboundary reservoirs (Katse, Polihali) also ensures data availability for these areas.

•Private sector engagement/presence: within the USQ several major Mines is present (Lets?eng Diamond Mine, Kao Diamond Mine, Liqhobong Diamond Mine, Mothae Diamond Mine), important stakeholders to engage in the management of the watershed. Additionally fishing companies and enterprises focused on the production of produce based on natural resources are present in the USC.

•Community livelihoods: The USC, with extensive rangelands, is important for the livelihoods of the local communities though the livestock population grazing in the area.

**A key challenge** for USC is to manage its economic development in a sustainable manner and to prevent adverse impacts to natural capital and its services, as provided by mountain catchment and the river discharge it generates, reduce pollution of water resources, or reduce the impact by climate change to agriculture through resilient natural capital resources.

### 1.1 (b) Root causes

Although the population density of the USC is relatively low compared to urban areas, with about 0.25 person per hectare, the impact of human intervention on the fragile mountain ecosystem has resulted in loss and degradation of biodiversity and land. In the process of creating new economic opportunities, through e.g., mining operations and the production of natural resource-based products, this level of economic growth also carries environmental and social costs that have yet to be fully understood, and its potential impact on natural capital in the country has yet to be accounted for.

In more detail, some of related **threats** to biodiversity and natural capital resources and (ecosystem) services in the USC, include:

***Loss and degradation of terrestrial ecosystems due to unsustainable practices***
Current land management practices result in soil erosion, loss of plant cover and biodiversity and reduced soil fertility. The grasslands in the mountainous USC are negatively affected by excessive grazing by livestock, while the few forested areas present in the USC are threatened by the demand for biomass to supply domestic energy (firewood). The degradation of these ecosystems results in reduced agricultural productivity and further exacerbates the challenges of rural poverty and food insecurity. Overgrazing and a consequent loss of indigenous vegetation leads to soil erosion, which is aggravated by long dry spells interspersed by heavy rainfall. Contributing to the ongoing degradation process are recurrent fires in the dry season, overharvesting of domestic plants, disturbance of the few existing wetlands and the progressive development of road infrastructure, providing essential access to services, but also leading to further encroachment into vulnerable areas.

***Pollution of water resources***
The presence of several diamond mines in the USC is of concern as mining waste is a source of water pollution and together with the sediments mobilized by surface erosion, as a result of unsustainable land management practices, is resulting in increased sediment load of the Senqu river, affecting water quality, aquatic biodiversity and of negative impact on downstream hydropower facilities through siltation of reservoirs.

**Root causes** leading to or exacerbating unsustainable economic development as well as pollution and loss of natural capital and biodiversity in the USC include:

*Weak spatial planning for integrated watershed management*
Loss of biodiversity and natural capital resources in USC is attributed to inadequate watershed management. Although information on users and uses of water and land in the catchment area is available, this is not available for all sub-catchments and not accessible to all key stakeholders. Lesotho is improving its approach to integrated watershed management but must advance its information base for future management decisions.

*Lack of incorporating value of natural capital*
An underlying cause for this is that the value of natural resources is not fully being considered in present watershed management processes. Lesotho has currently no system of national accounts. It is therefore difficult for decision makers to take on board ecosystem values in their planning process and institutions presently lack the capacity to do so. Presently, government authorities will continue to make conventional water resource management decisions without understanding and capturing the role of the terrestrial ecosystem. It is important to inform planning activities by generating information on the value of land and water assets and the opportunities for using these assets for revenue generation and increasing wealth. Without an information base of land and water accounts, representing a comprehensive understanding of ecosystems, their conditions, and the ecosystem services they provide, decision makers in watersheds lack a comprehensive guidance for their operational guidelines and spatial plans.

**Synthesizing these observations**, a picture emerges for Lesotho in which overall biodiversity loss and ecosystem degradation is caused by a series of interrelated processes leading to loss of vegetation cover and biodiversity and ecosystem degradation, and reduced water availability and quality. The Lesotho mountain ecosystem is recognized as a globally important hotspot for biodiversity with a high degree of endemism and some globally threatened species. Although this is internationally recognized with designation of special status of protected areas (World Heritage Site and Ramsar site, a proposed Biosphere Reserve), biodiversity of these ecosystems is under threat as only a very limited area of the country is under protected status. Exacerbating these processes is the observed process of climate change, reducing the capacity of the degrading ecosystems to generate ecosystem goods and services for the benefit of local communities, as well as increasing the exposure of local communities to natural hazards such as floods, landslides, and droughts.

**1.1.(c) Barriers**

The long-term solution sought by the project is to mainstream natural capital through application of natural capital accounting in Lesotho into integrated watershed management. However, the following barriers are preventing this solution.

**Barrier 1.** *Lesotho?s natural resource abundance, the country?s economy and livelihoods are interlinked, and the poverty incidence observed in the country is linked to the high vulnerability of the natural resources to degrade due to poor land use practices and the impacts of climate. Despite the acknowledged importance of natural resources, natural resource planning and use are disaggregated from economic planning. The absence a system of integrated natural resource and economic planning limits the country?s ability to efficiently harness its natural resources for improved livelihoods and economic performance.*

The economy of Lesotho is based on subsistence farming and animal husbandry, as well as small-scale industries that include clothing, footwear, textiles, food processing and construction. Water is one of Lesotho?s most valuable resources, which contributes to the country?s long-term sustainable economic development and growth prospects. Even though the country constitutes only three percent of the Orange-Senqu basin area, it contributes over 40 percent of the annual run-off of the basin (ORASECOM, 2018). Despite the immense contribution of natural resources to the socio-economic development of the basin, these resources have been severely degraded over time resulting in loss of biological productivity,

deterioration of rangelands and poor crop and animal productivity, particularly in Lesotho, the source of the Orange-Senqu River. The average annual cost of land degradation in Lesotho is estimated at US$57 million, which is equal to 3.6 percent of the country?s Gross Domestic Product (UNCCD, 2018). Climate change is increasing the volatility of rainfall, thus exacerbating the challenges of degradation and threatening livelihoods in Lesotho. The depletion of natural resources in Lesotho has deepened poverty levels in rural areas resulting in increased rural?urban migration (Government of Lesotho, 2013).

Natural Capital Accounting (NCA) provides for integrated planning for the sustainable use environmental assets such as water, minerals, and energy, with an international standard, the System of Environmental-Economic Accounting (SEEA), in place for these accounts. The SEEA Ecosystem Accounting approach focuses on accounting for ecosystem assets and ecosystem services. Although the natural capital of Lesotho is under threat because of the environmental problems described, no methodological approach has been applied in Lesotho to account for the inherent value of natural resources, biodiversity, and the ecosystem services they provide to society. Institutions as the Ministry of Defence, National Security and the Environment, the Ministry of Natural Resources and the Bureau of Statistics lack presently the capacity to adopt the concept of NCA and do not have an institutional arrangement, contrary to neighbouring South Africa, where NCA has been piloted in recent years. Besides a lack of institutional capacity, human resources are not trained in the concepts and methods of NCA and valuation of ecosystem services. Lesotho measures presently its national wealth only in terms of traditional economic performance but not through the natural capital in national land and water resources accounts. Efforts to quantify the value of the natural capital and their impact on national indicators (like GDP) also have not been undertaken. Besides the limited institutional capacity, another related barrier is presented by the availability of spatial data of biodiversity, land and water and their temporal development.

**Barrier 2.** *The local systems of data collection for natural resource management are so disaggregated that several natural resources management agencies operate separate spatial data systems, and physical data systems. Moreover, many of the spatial and physical data collection systems are not linked to the national statistical system under BOS. The policy and management decisions are disjointed and lead to inefficiency in natural resource management.*

Presently, integrated watershed management and broader policy development is not informed with information on the valuation of the natural capital of Lesotho. The economic expression of the value of the natural resources is not available for decision-makers, although much of the population is dependent for its livelihoods on these resources through agriculture. As Natural Capital Accounts are not yet established, policy makers are not informed about the trends in the accounts and the potential impacts of spatial planning decisions or development interventions. It is therefore also difficult to generate scenarios and quantify impacts of plans and policies on the natural environment and the socio-economic services they provide. No NCA trials or pilots have been initiated to potentially inform planning and policy processes.

**Barrier 3.** *Stakeholders are not sufficiently aware of the value and application potential of natural capital to guide broader environmental and economic policy development.*

The lack of understanding of the concept of Natural Capital and Natural Capital Accounting is the direct result of the missing institutional and human resource capacity in Lesotho and hampers the development and promotion of NCA and the adoption and application of NCA for sustainable development. The potential and value of NCA are not sufficiently recognized and brought to the attention of potential stakeholders and institutional entities.

### 1.2) the baseline scenario and any associated baseline projects;

Natural capital including their ecosystem services and biodiversity, provided by the ecosystems in Lesotho are under pressure. In the agricultural areas and in the limited area of arable land, less than 10%, unsustainable agricultural practices have resulted in serious degradation of many ecosystem services delivered at landscape level. The impacts of such continuing declines are often felt not only on-site with declining yields and pressure on rural communities? livelihoods, but also off-site affecting watersheds servicing downstream and urban areas, with increased sediment yield and siltation of hydropower projects and impact on river discharge and availability and quality of (drinking) water resources. Furthermore, encroachment into marginal areas, infrastructure development and upstream development activities can adversely impact remaining rangelands, forests, biodiversity, and landscape-level ecosystem services, in turn affecting the sustainability of other sectors. Addressing these challenges requires recognition within economic sectors regarding their dependencies on natural capital, along with increased public and private investment in conserving the biodiversity and ecosystem services provided by landscapes (i.e., beyond protected areas), to account for and to internalize the market and non-market values of ecosystem services. In the baseline scenario, with data for NCA coming from both international and national sources, there is presently lack of up-to-date and complete national sets of data to enable sensible analysis of land and water natural capital and to come to related conclusions. Also, NCA will not have the needed level of central government support and sustainability, given it has yet to be introduced and integrated into the national accounting system since there is no standard for harmonizing the two systems. Although few actual on-the-ground investments and programmes exist to support such sector and landscape linkages, several policies and initiatives have been introduced that offer a foundation for implementation of the proposed project, as summarized below.

**National Development Vision and Plans**

In 2000 the country took a policy decision to formulate Vision 2020[25]23 to provide a long-term perspective within which national short to medium-term plans could be formulated. The specific objectives of the Lesotho Vision 2020 are to: establish a long-term vision for Lesotho by looking beyond the short-term plans and adjustments, explore the options for economic, political and human development to the year 2020, identify alternative development strategies suitable for the Lesotho situation, promote a process of open dialogue and consultation with socio-economic groups countrywide, create an environment whereby Basotho will actively participate in achieving the Vision 2020, and, develop a focus along the horizon in the direction of which development plans could be rolled out. Vision 2020 s the overarching baseline document, defining the development vision for Lesotho.

The NDSP was updated with the second 5-year National Strategic Development Plan 2018/19-2022/23 (NDSP II[26]24)?with the theme, ?In pursuit of economic and institutional transformation for private sector-led job creation and inclusive growth??intended to communicate the need for change of mindset and cultivate the understanding that the key role of the government in accelerating economic growth is about investment facilitation. The key priority areas are: (i) pursuing inclusive and sustainable development, (ii) strengthening human capital, (iii) building enabling infrastructure, and (iv) strengthening national governance and accountability systems. The NSDP defines Key Priority Areas and Intermediate Outcomes, among which 1.1 Commercial Sustainable Agriculture and Food Security,

and Key Priority Area III, with Intermediate Outcome 3.3 Sustainable Production, Use of Water Resources and Improved Sanitation and Hygiene.

All in all, lack of data has a serious impact on policy-making processes in the country. This is contrary to the spirit of Agenda 21, multilateral agreements and indeed various government policies that are currently in place e.g., Environment Policy of 1998; Biodiversity Conservation Strategy of 2000; National Action Plan to Combat Desertification of 1998, etc.[27]25

Lesotho developed its National Biodiversity Strategy and Action Plan (NBSAP) in 2000 as party to the CBD, named ?National Strategy on Lesotho?s Biodiversity: Conservation and Sustainable Use.?[28]26 The NBSAP has not been updated since 2000. A series of National Reports to CBD have been published however, with the Sixth National Report to CBD as latest (2018).

The National Strategy for Development of Statistics (NSDS) is already being developed in Lesotho. This acts as the main framework for developing statistical capacity among line ministries to enhance coordination of activities related to statistical methods of data collection, analysis, and dissemination. This coordination will also reduce duplication of data collection activities.

**The Bureau of Statistics (BOS)[29]27** is a government department under the **Ministry of Development Planning**, mandated to set up a system for national official statistics on economic, social, demographic, including human resources, and environmental areas in relation to the development needs of Lesotho; and official statistics for purposes of economic and social planning, research, public information, and international cooperation, and for related matter. The BOS was established in 2001 with the enactment of the Lesotho Bureau of Statistics Act[30]28. BOS gathers and publishes a lot of data that is important for environmental statistics. This information is particularly useful regarding background variables, but some variables contain pure environmental data. In BoS there are for example the 2006 Population Census, the 2001 Demographic Survey, the 1999/2000 Agricultural Census and the annual Agricultural Survey, which can provide data for environmental statistics. The BOS produces annual reports on key statistics and operates and maintains the Lesotho Data Portal: https://lesotho.opendataforafrica.org/, with an overview of economic, agricultural, demographic, energy, healthcare, food security, education, trade and geographic data.

As a response to the problems relating to data management (storage, exchange, standards etc.), the Committee on Environmental Data Management (CEDAMA) was established in February 1999. The main objective of this committee is to coordinate environmental data management activities in the country. Specific objectives include among others to: promote a culture of environmental data exchange; advise National Environment Secretariat (NES) on issues of environmental data management; establish data quality standards; advise NES in the formulation of relevant policies on management of data; advise NES on measurable environmental quality indicators for different sectors of the economy; and to assist with the analysis of trends in environmental quality indicators, and recommend mitigation measures. Its membership has been drawn from diverse backgrounds e.g., government, parastatals, private sector, and NGOs. CEDAMA produced draft data exchange guidelines in 2000 in a bid to address the issues of poor data exchange among producers and users of data and information. These guidelines support the further development of a national spatial data infrastructure (NSDI).

**LeSIS, the Lesotho Soil Information System**[31]29, under the Ministry of Forestry, Range and Soil Conservation, provides soil maps and related information systems and constitutes the basis for assessing soil quality over time. LeSIS further advocates for organized and systematic survey and monitoring of soils in Lesotho with accurate and up-to-date soil information using state of the art methods and tools of digital soil mapping. LeSIS contains various data sets beyond only soil data: it has land cover data and landform data and additionally presents spatial and climate data.

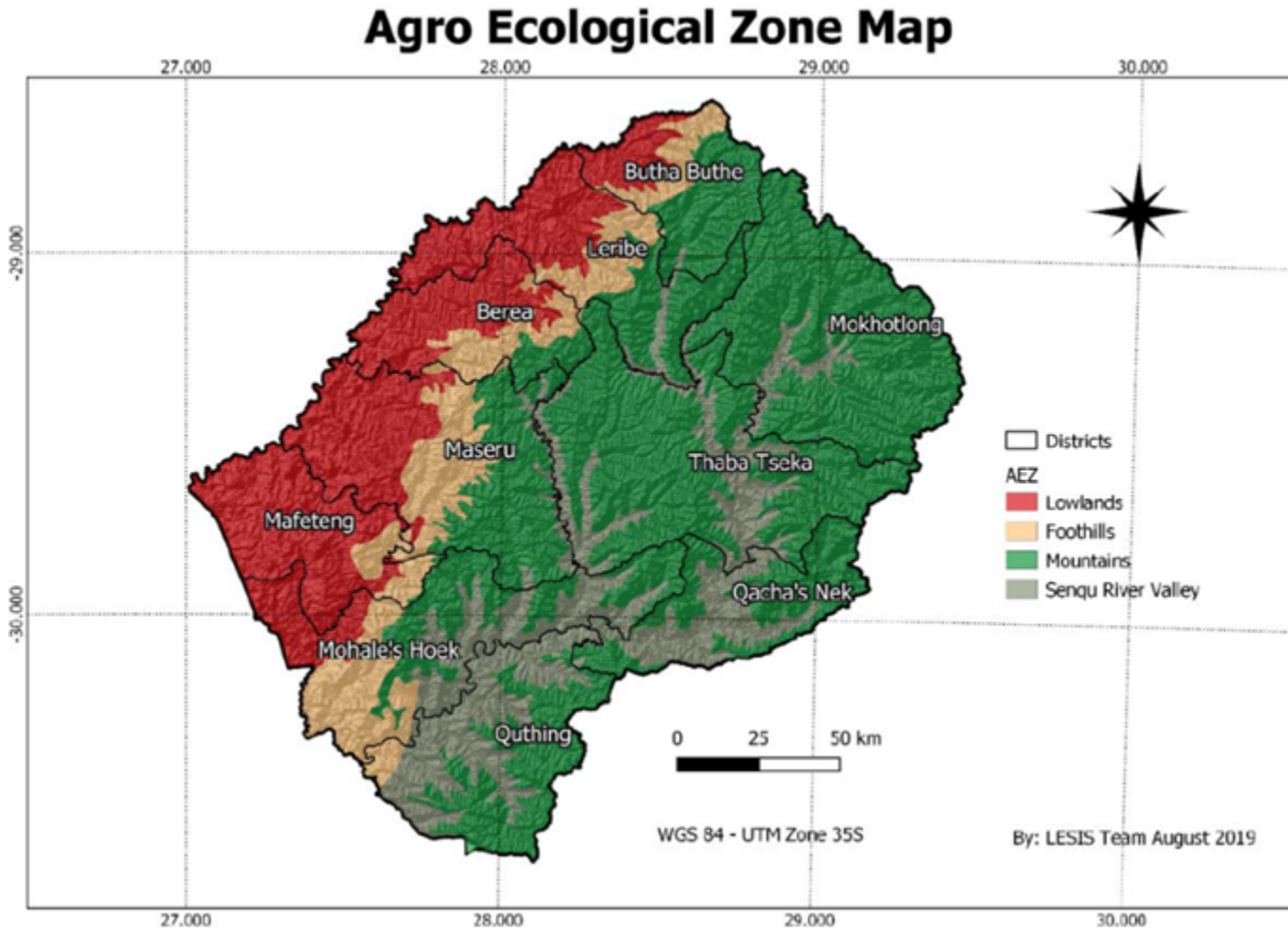



*Figure 3: Agro-ecological Zone Map of Lesotho Source: LESIS, 2019*[1]

[1] LESIS (2019). Key Policy Issues for Sustainable Soil Management and Food Security in Lesotho

**Natural capital valuation and accounting**

Very limited efforts haves been made in Lesotho to apply internally adopted methods of natural capital accounting and valuation of ecosystem services, as promoted by the UN-System of Environmental-Economic Accounting method (SEEA). UN-SEEA is an international statistical standard that uses a systems approach to bring together economic and environmental information to measure the contribution of the environment to the economy and the impact of the economy on the environment. The SEEA uses a structure and classifications consistent with the System of National Accounts (SNA) to facilitate the development of indicators and analysis on the economy-environment nexus[33]30. In a business-as-usual scenario (BAU) the introduction and application of NCA would remain absent and non-available for policy makers and spatial decision-makers. Presently, government authorities will continue to make conventional water resource management decisions without understanding and capturing the role of the terrestrial ecosystem.

**Regional NCA efforts**

South Africa is at the forefront of a global movement on Natural Capital Accounting (NCA). NCA is a growing field of work globally and in South Africa. It includes accounting for environmental assets such as water, minerals, and energy, with the international standard, the SEEA, in place for these accounts. A more recent aspect of NCA is ecosystem accounting, which focuses on accounting for ecosystem assets and ecosystem services. Statistics South Africa?s (Stats SA) is publishing a Natural Capital series and presented recently South Africa?s first land and terrestrial ecosystem accounts[34]31. These accounts are a first of their kind for South Africa and have been produced as part of the Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) project[35]32, which was launched in 2017 by the United Nations Statistics Division (UNSD) and United Nations Environment Programme (UN Environment) with funding from the European Union (EU). South Africa is one of five countries (along with Brazil, China, India, and Mexico) participating in this international project, which aims to advance the global knowledge agenda and initiate testing of SEEA Experimental Ecosystem Accounting (SEEA EEA), which focuses specifically on accounting for ecosystems. In South Africa, the NCAVES project was led jointly by Stats SA and the South African National Biodiversity Institute (SANBI). These national land and terrestrial ecosystem accounts and the methodology developed and applied form an excellent example from the region how NCA can be a valuable methodology to inform spatial development and to support the development of policies in Lesotho. The publication of land and terrestrial accounts offer an excellent reference case study for Lesotho, as they reflect how basic spatial units for land accounts and land cover classes were defined. As Lesotho is surrounded by South Africa, these accounts and related spatial inventories provide an obvious starting point for NCA development in Lesotho. Apart from the publications of the NCAVES project, considerable technical expertise is present in South Africa and a close collaboration with South African experts would be an excellent opportunity to support capacity development on NCA, both at institutional as at human resource (staff) level.

Besides the development of thematic natural capital accounts, South Africa has made progress in developing a national NCA strategy. The strategy?s main objectives[36]33 are to (1) strengthen collaboration and coordination between data producers to enhance investment and commitment to the production of natural capital accounts, (2) produce statistics from natural capital accounts using agreed

standards, and (3) derive indicators that inform South Africa?s sustainable development policy objectives. Such a national NCA strategy would be an important output for the envisaged project to develop for Lesotho.

The UN SEEA web portal was established under the United Nations Statistics Division (UNSD) as a knowledge and information platform where the SEEA methodology is described and supporting materials provided. The UNSD also supports an e-learning platform, and several international meetings for learning and sharing knowledge on the progress in development and implementation of SEEA. A specialised regional initiative for Africa, the Africa Natural Capital Accounting Community of Practice[37]34 was established in 2019. The Community of practice aims to provide a regional learning and knowledge platform that brings together professionals from governments institutions, nongovernmental organizations and academia that are interested in or working on Natural Capital Accounting (NCA) in Africa. It was initiated in November 2019, following the first Africa Forum on Natural Capital Accounting in Kampala, Uganda. Attended by representatives from 18 African countries, participants expressed unanimous support for the creation of a community of practice on NCA in Africa. Despite early promise, the Community of Practice was relatively inactive in 2022 and 2023. Responding to this demand, the Global Program on Sustainability, the Gaborone Declaration for Sustainability in Africa, the United Nations Statistics Division, and the United Nations Environment Programme (UNEP), committed to provide technical support to this community over the coming years.

**Donor funded projects in support of natural capital and biodiversity conservation**

Without the UNEP/GEF project, several closely related baseline initiatives towards Natural Capital and/or Biodiversity protection and/or restoration in Lesotho are ongoing or recently completed:

The UNDP-LDCF-GEF Project **?Reducing vulnerability from climate change in the Foothills, Lowlands and the Lower Senqu River Basin?**, PIMS 4630. This six-year project started in January 2015 and ended in December 2020 and received GEF-funding of US$8,398,172. The LDCF-financed project contributed to overcoming existing barriers through strengthening institutional and technical capacities of government institutions to plan for and implement adaptation using an ecosystem management approach. In particular, the project aimed at: i) development of a geo-based climatic, agro-ecological and hydrological information system to inform the analysis of climate-driven vulnerabilities and the cost-effective planning of climate-smart ecosystem rehabilitation and management measures; ii) strengthening of institutional capacity for land use planning and decision-making by integrating climate risks into development plans and policies; iii) providing access to knowledge and training on adaptation using an ecosystem approach.

The main lessons learned from the project based on the terminal evaluation were that the effectiveness was limited by the lack of consideration of spatial aspects. Some barriers persisted into project implementation and reduced the achievements of expected results. There was a longer than expected long inception process, design of national implementation modality, availability of expertise, inadequate planning of water infrastructure, markets and soil erosion prevention, and cultural barriers among others. However, the project achieved important milestones in building at the national and sub-national levels. Information, structures, and the knowledge base. The project also contributed through the

rehabilitation of more than 14,000 ha of degraded land, establishment of grazing associations, and demonstrating the benefits of sustainable land management.

In future projects, it is important to ensure that there is alignment in the implementation at national and sub-national level to ensure coherence in project actions. Capacity to collect, store and use spatial data needs to be integrated into similar projects. The project should create inbuilt mechanisms for sustainability without requiring continuous payments for the community members supporting rehabilitation of degraded lands. There is a need to create financing mechanisms for stakeholders to continue accessing inputs, technical advice, and markets.

The UNEP-LDCF Project **?Strengthening Climate Services in Lesotho for Climate Resilient Development and Adaptation to Climate Change?,** PGEF ID 6926, executed by the Lesotho Meteorological Services aimed at providing community-based early warning services, the installation of weather monitoring equipment and the training of staff in agrometeorology, forecasting and early warning methods and approaches. The focus of this project is the need to reduce the country?s vulnerability and risk to climate change hazards, characterized by irregular and unpredictable rainfall associated with increased floods and landslides as well as seasonal and prolonged droughts, through the development of an Early Warning System (EWS) and enhancing the availability of climate information for long-term planning. The project will be demonstrated in six pilot sites to test the effectiveness of the EWS on ?nowcast? weather, flood forecasting and advisories capacity. The 5-year project started in November 2019 and will last until April 2025[38]35.

The FAO-LDCF-GEF Project **?Strengthening capacity for climate change adaptation through support to integrated watershed management (IWRM)[39]36?,** GEF ID 5124, with a GEF budget of US$3,592,694. The 4-year project started in November 2015 and ended in October 2020. The specific objectives were: (i) to implement sustainable land and water management practices (SLM/W) and resource conservation measures in selected watersheds to reduce vulnerability and enhance adaptive capacity at community level and (ii) to strengthen diversified livelihood strategies focusing on crop, livestock, and agro-forestry systems at community level in selected watersheds in three most vulnerable livelihood zones. The project components included: (1) Strengthening technical capacity of national and district level staff and institutions on sustainable land and water management and climate-resilient livelihood strategies; (2) Assessing vulnerability of livelihoods and impacts of climate change on land suitability and use at watershed scale; (3) Promoting tested Sustainable Land and Water Management (SLM/W) practices to build resilience to climate risks in vulnerable sub-catchments and watersheds; (4) Strengthening diversified livelihood strategies and implementation of improved income generating activities at the community level and (5) Dissemination of best practices, project monitoring and evaluation. The project was executed by The Ministry of Forestry, Range and Soil Conservation (MFRSC), Ministry of Agriculture and Food Security (MAFS), Ministry of Energy and Meteorology (MEM), Ministry of Water (MoW), Ministry of Local Government, Department of Environment (DOE) and National University of Lesotho (NUL). The Terminal Evaluation of the project[40]37 concluded that change variability has impacts on Lesotho?s wetlands, which are host to a significant portion of the

country?s predominately agricultural economy. Intervening in this sector could potentially increase food security and reduce poverty. The project implemented sustainable land and water management practices and resource conservation to reduce the affected communities? vulnerability while increasing their capacity to adapt to the effects of climate change. The evaluation found the project to be effective in improving the livelihoods and quality of life of the affected communities. It has been particularly relevant to Lesotho?s national priorities focusing on sustainable land management and drought management. Future projects should place more attention on gender issues, particularly showcasing how women?s livelihoods have been improved by FAO intervention. The project for **strengthening capacity for climate change adaptation through support to IWRM generated results of effectiveness in wetland and sustainable land management for climate change adaptation and integrated water management that were considered in the design of this project. The elements of mainstreaming natural capital accounting into IWRM were based on stakeholder considerations based on experiences of success and inadequacy in the project above.**

The eight-year IFAD project **?Lesotho. Regeneration of Landscapes and Livelihoods? (ROLL),** IFAD adaptation and mitigation funding of US$6,547,000, starting in 2021 and ending in 2028. In a context of persistently high levels of land degradation and rural poverty, the ambition to achieve systems and practices changes in the project areas is highly relevant. To address this challenge, The ROLL project?s aim is to provide a large-scale impetus, which combines the efforts of several government and non-government agencies for a sustainable management of the environment. ROLL?s landscape approach and focus on rural and remote areas aim to address the above-described rural poverty persistency. ROLL?s objective is to ensure that rural communities adopt transformational practices for regenerated landscapes and sustainable livelihoods. This objective is underpinned by four outcomes; 1) change in resource use practices; 2) reduction of environmental degradation; 3) improved livelihoods; and 4) the establishment of a facility and a fund. The PMU will be housed at the Department of Environment (in the Ministry of Defence, National Security and the Environment) and collaborate closely with other key Ministries and departments. The total project cost is US$46.348M. The IFAD loan financing (US$11.3M) will be complemented by contributions from the Government (US$7.99M), OPEC Fund (US$15M loan + 0.5 Mio grant), GEF (US$3.5M grant), other future investors into the Fund (minimum US$3.5M) and enhanced by strategic support by the FAO (US$2.4M). The ROLL project provides an opportunity for developing synergies on data generation for sustainable land management on one hand, and the physical land cover accounting for the natural capital accounts, and the ecosystem accounts data that may overlap. The there will be an opportunity to leverage on the implementation of the ROLL project to create synergies for data generation, results and dissemination of results at national/ policy and local level, among others.

The African Development Bank (ADB)-LDCF-GEF Project **?Climate Change Adaptation for Sustainable Rural Water Supply in Lowlands Lesotho?**[41]38, GEF ID 8014, executed by the Ministry of Energy, Meteorology and Water. The 4-year project started in 2019 and lasts until 2022 and has a GEF budget of US$4,416,210. The project objective is: To improve the livelihoods of the communities of Southwestern Lowlands facing challenges caused by climate change through better water resource management. The project is structured into three components: Component 1: Identifying Climate Risks and Reducing vulnerability to climate change in the water sector for communities in the

project area, Component 2: Capacity Development for Improved Water Resources Management, and Component 3: Awareness Raising of Local Communities on Climate Change Adaptation with a fourth component on Knowledge Management and Monitoring and Evaluation.

GEF ID 10797 ? GEF-World Bank **?Sustainable Groundwater Management in SADC Member States Project Phase 2?** -, Agency: IBRD; GEF Financing: $ 4,566,210; Co-financing: $ 35,000,000, which will notably improve monitoring capacity, harmonize databases and develop decision support systems related to ground water. Building on an ongoing long-term technical engagement with the Secretariat of the Southern African Development Community (SADC), the project will support 25 SADC-GMI to fulfil its mission to develop, sustain and demonstrate technical and financial knowledge and capacity for inclusive groundwater management in the SADC region, at the national and transboundary levels.

GEF ID 10793 - **?Building climate-resilient livelihoods and food systems?** - FAO, GEF Financing: $8,932,420. The project will notably develop decision-support systems for policymakers and practitioners to assist with the formulation and evaluation of policies and measures for climate-resilient food systems transformations, and also focusses on agricultural water management. It has as objective to enhance climate resilience of landscapes and communities for food security through sustainable water management. The project strategy is to leverage all key stakeholders and initiatives towards the goal of LDC graduation and building a sustainable, resilient inclusive economy and food secure society - as envisioned in the second National Strategic Development Plan (NSDP II) 2019-2023 ? where agricultural water management is the central pillar of climate resilience.

The project will build on the **?Support to Integrated Catchment Management in Lesotho?** Project (2020-2023, Euro28 million) funded by the European Union and GIZ, a flagship project that aims to institutionalize Integrated Catchment Management in Lesotho based on gender equality and climate change adaptation principles. The project is establishing the institutional structures for implementing ICM (capacity development) and carrying out watershed improvement (whereas infrastructure can be one solution on-hand) to reinforce the sustainable use of natural resources. The objective of the proposed action is to have Integrated Catchment Management institutionalized and under full implementation in Lesotho, based on gender equality and climate adaptation principles. The objectives are in line with the outputs of the NCA on effective policy framework for Integrated Catchment Management and effective institutions being established with equitable representative of women and youth and capacity building of stakeholders. The project supports the national programme on Integrated Catchment Management in Lesotho named ReNOKA[42]39 (We are Water). The goal of the ICM project is the sustainable management of land and water resources in Lesotho. It is aimed at combatting land degradation and the depletion of water catchments in the country. The successful implementation of the programme is expected to: protect and conserve water resources in the country, preserve Lesotho's vast wetlands and ecosystems, reduce soil erosion and desertification, rejuvenate agricultural lands, and improve the resilience of Basotho and their livelihoods.

The **National Land Cover database**[43]40 supported by FAO in Lesotho and funded from the European Commission Humanitarian Aid Department (ECHO) and the Swiss Development Cooperation (SDC). The land cover database covering the entire territory of Lesotho is developed through multi-spectral image fusion (or pan sharpening) technique using the following two sets of images: satellite imagery (Rapid Eye 2014) at lower spatial resolution (5 m) but higher spectral resolution (visible and infrared bands); and the panchromatic band of aerial photography (ortho-photos 2014) at very high spatial resolution (0.5 m) but lower spectral resolution. Since 2012, FAO Lesotho, the Ministry of Agriculture and Food Security (MAFS) and the Ministry of Forestry, Range and Soil Conservation (MFRSC) started implementing the Resilience Strategy, promoting adaptation to climate change, promotion of sustainable farming systems with emphasis on sustainable land management. The Resilience Strategy is implemented at the national level and involves an increasing range of stakeholders with expansion in schools and inclusion of local leaders. The Land Cover database has been implemented in partnership with the Government of Lesotho through CEDAMA (Committee for Environment Data Management) chaired by the Bureau of Statistics. A legend including relevant land cover classes was developed in country using the Land Cover Classification System (LCCS3/LCML) methodology. Interpretation of the land cover database was undertaken to generate a national land cover object-oriented vector database according to the legend with 1.5 m resolution in lowlands and 2 m resolution in highlands. Additional spatial ancillary data has been provided by line ministries to enrich the dataset and foster coordination among spatial data users. Apart from providing a robust baseline of the current state of land cover in the country as of 2014, the Lesotho Land Cover datasets opens the development of diverse range of applications, such as:

? Land cover change analysis of agriculture, forestry, rangeland, urban areas, etc;
? Percentage of agricultural land in sloping areas;
? Disaster Risk Maps;
? Monitoring frameworks for Integrated Water Catchment Initiatives;
? Erosion Risk Assessment;
? Rangeland Monitoring;
? Above-ground Biomass assessment and change;
? Development of a Land Resources Information System.

The Land Cover database generated provides accurate information on both physical and socio-economic resources. For physical resources, it provided timely and precise information on the actual state of the agricultural, forestry/ rangelands, natural vegetation cover, the level of degradation useful for the evaluation of the impact on rural development and agricultural production. For socio-economic resources, the land cover database and statistics can clearly show the population pressure on the land and inform on main agro-information systems and on infrastructure and habitat development. Land cover information represents the human action on land and its continuous change; therefore, its assessment must be monitored regularly. Based on the information of the Land Cover database the Land Cover Atlas of Lesotho was published in 2022.

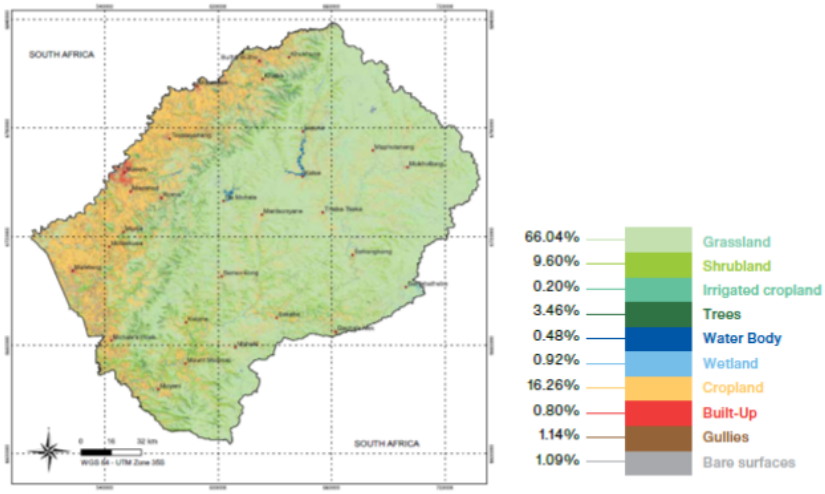



*Figure 4: Land cover map of Lesotho, and Land cover statistics: percentage of national area per land cover class,2021. Source: FAO (2023). AFRIGIS[44]*[41]

### 1.3) Proposed alternative scenario with description of expected outcomes and components of the project;

The depletion of natural capital ? including assets like forests, water, minerals, biodiversity, and land ? poses a significant challenge to achieving sustainable development objectives. The issue is especially important in developing countries as the low-income countries depend on natural capital for a high percentage of their wealth. Managing, conserving and monitoring the natural environment including biodiversity and related ecosystems and ecosystem services require science-based tools and information for decision-making. Implementation of spatial plans and sustainable development frameworks requires a reliable information system consisting of data bases and indicators (both environmental and socio-economic) regularly updated and measured by various agencies and especially the Bureau of Statistics.

Science-based quantitative measurement regarding the state of the environment and the impact of ecosystems degradation on the well-being of humans and the economy, becomes central to decision-making, together with available response options in terms of planning, budgetary allocation, and mitigation measures. Natural Capital Assessment and Accounting (NCAA) utilizes both environmental (including biodiversity data) as well as economic data. In this way, accounting can be used for implementing multilateral environmental agreements and national development plans as the NSDP II in Lesotho. This type of practical approach to decision-making necessitates integrating the accounts into national information systems and ensuring that the base data are regularly measured, curated, updated, and used to monitor environmental trends as well as fulfilling national and international environmental reporting obligations.

The project will enable the process of NC Accounting in Lesotho to be introduced in a phased stepwise approach, where the methodology, tools and NC Accounts established for pilot areas ? focusing on a restricted geographical area and thematic accounts, could be gradually expanded upon, as well as scaled up nationally, or replicated to other districts after the project or added with additional accounts. The project actions will be implemented in Khubelu and Senqunyane sub-catchments, and replication can initially occur in four other sub-catchments (Maletsunyane-USC; Makhaleng; Likhetla, and Hlotse) both within the outside the USC.

By investing in Lesotho?s information and knowledge management infrastructure, and by strengthening the institutional framework and its capacity to interpret data and to integrate environmental information in project development and policy processes, the project will contribute to a solid foundation for environmental management in Lesotho. Its capacity to diagnose environmental issues and to develop preventive or mitigative measures will be enhanced accordingly. Environmental information and knowledge management is hence seen as an important approach for influencing policy decisions toward increased sustainability by being able to provide informed decision support that allows the incorporation of environmental issues into sectoral policies and related budgetary planning.

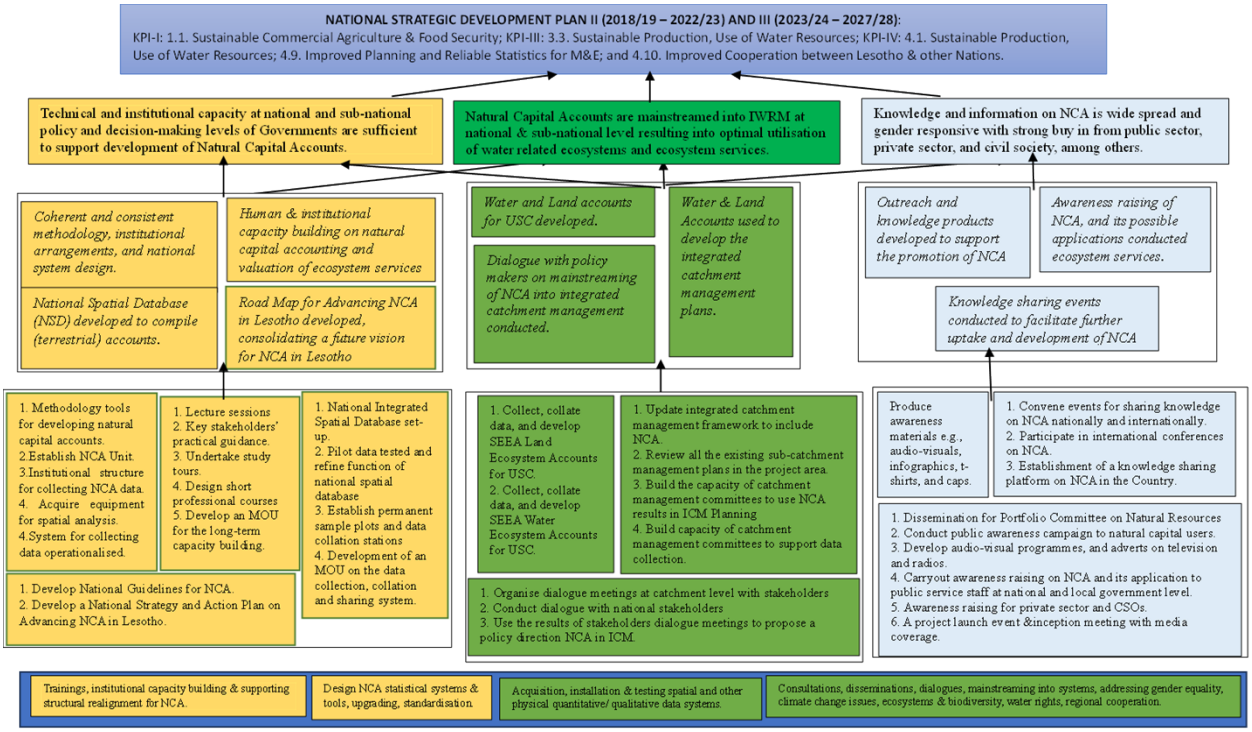
The main premise of the Project is that to sustain ecosystem services of the landscapes of Lesotho, information of the natural capital and the ecosystem services these landscapes provide is mainstreamed into integrated watershed management. This premise can only be achieved if knowledge and data on natural capital are gathered and developed into accounts and used by national authorities. This requires building institutional capacity on natural capital accounting, together with a coherent institutional arrangement and the mainstreaming of natural capital accounts into development planning. The targeted project Outcomes and Post Project Results, depend on the following assumptions:

? Sectoral stakeholders have sufficient interest in NCA and support capacity and institutional development,

? Authorities are open to the application of NCA for development of integrated watershed management plans and sustainable development frameworks, and

? Stakeholders are interested in fundamentals and application of NCA in Lesotho and willing to support and promote NCA initiatives.

The project?s Theory of Change (Figure 5) reflects the integrated approach how the project is addressing the key barriers to establish conditions in Lesotho to mainstream natural capital accounting into integrated watershed management. The Theory of Change of the project implies that to change the present situation, with existing barriers, linked root causes, drivers and threats resulting in ongoing negative impact on ecosystems, biodiversity, and livelihoods, the below presented strategic interventions are required.




Based on the Barriers summarized in section 1.1, the project alternative seeks to follow the theory of change to achieve its objective which is ?*To mainstream natural capital into integrated watershed management through application of natural capital accounting in Lesotho*?. The project contains three interrelated components and an additional component aimed at monitoring and evaluation:

**Component 1 Building Institutional Capacity on Natural Capital Accounting**

Natural capital accounting is specifically designed to shed light on the links between the environment and the economy to inform policymaking. NCA is formalized through the System of Environmental-Economic Accounting (SEEA). SEEA-EA combines environmental and economic information by consistently defining concepts and establishing recording conventions that support common understanding between environmental scientists, economists, and statisticians. The resulting information on natural capital greatly improves the communication of integrated information to decision makers who need to make more holistic decisions for managing the environment and the economy. NCA provides regular, typically annual, information. The resulting time series records what has happened, revealing changes in natural capital and the trade-offs that have already been made between the economy and the environment. NCA also provides input into modelling? which takes NCA information to help predict likely futures, assessing, for example, the future impacts of various policy and management decisions on the economy and the environment. This component consists of one Outcome and four project Outputs:

**Outcome 1.1 Technical and institutional capacity for policy and decision-making at national and sub-national level is sufficient to support the development of Natural Capital Accounts.**

This Component targets to introduce the concept and methodology of NCA, based on global best practices, such as developed by the, the System of Economic Environmental Accounting (SEEA), to the key national stakeholders, develop a tailor-made coherent and consistent methodology for the country and an appropriate institutional arrangement and national system design for NCA in Lesotho. Through stakeholder consultations, it was agreed that the SEEA ? Ecosystem Accounts Framework was most applicable for Lesotho. However, additional review and use of IWRM accounting approaches was proposed to ensure that the Lesotho NCA is fully integrated into the IWRM approaches.

***Output 1.1.1: Coherent and consistent methodology, institutional arrangements and national system design developed for NCA in Lesotho.***

Whereas natural capital accounting methodologies such as the UN SEEA are an international standard, they is often a need for the tools to be refined and adapted to the national and local context. The local context includes the structure of the National Statistical System (NSS), the land cover classes and ecosystem description, the structure of the supply and use tables (SUTs), among others. The project will support the setting up of institutional arrangements for collation, collection, and analysis of natural capital data. Additionally, the project will support training of staff members on natural capital accounting and valuation of ecosystem services. This will be done by conducting tailor-made training programmes with the help of international technical experts in the field of NCA and ecosystem valuation. A separate training course will be supported to facilitate further uptake and dissemination of the concept and application of NCA.

Activity 1.1.1.1 Develop a coherent and consistent methodology for land and water natural capital accounts for Lesotho.

Currently, the UNSEEA provides standard guidance for developing land and water natural capital accounts at national level. Under this activity, national methodological notes will be developed to adapt the UNSEEA guidance to Lesotho. In addition, integrated land and water accounts will be developed to support future action on integrated catchment management (ICM).

The development of the Water and Land Accounts for the USC will be initiated through the development of methodological notes and providing technical briefings to the supporting team at the BOS, Departments of Environment, Forestry, Soil Conservation and Rangelands, the Ministry of Natural Resources, the Local Governments in the USC, and any other institutions brought on board. The SEEA methodology needs to be adapted to the local conditions including the data categories and the meta data aligned with both the national statistical system, and the data quality management system in place. The methodological notes and tools proposed need to allow participation of all members of society in the data collection and use of data in sustainable use of natural resources including youth, men and women. The outputs of this process will be complete methodological note and metadata for each of the accounts to be developed, and an activity work plan.

Activity 1.1.1.2 Establish a functional NCA Unit at BOS in collaboration with the Department of Environment.

The BOS does not have a specific unit and/or staff designated to collecting NCA related data. The project will support the BOS to build staff capacity on NCA. The NCA Unit at the BOS will also allow for stronger links with the NCA data producers and users within Lesotho and maintain a flow of data within the National Statistical System (NSS).

The NCA Unit is a designation institutional arrangement hosted at the Lesotho BOS that collates and encourages collection of NCA data within Lesotho. The unit is adopted as part of implementation of the enhanced NSS that will also compile data on natural capital accounts. The unit is composed of staff designated to undertake NCA work. The staff will be included in the capacity building activities of this project, and at the end of the project they will be able to design meta-data support the collection, collection, and compilation of NCA data, and dissemination of the data to the specialised entities of Government, private sector, and civil society that may seek to use the data to achieve sustainable use and management of ecosystems and ecosystem services in Lesotho.

Activity 1.1.1.3 Establish the institutional structure for NCA data collecting and collation at national level in Lesotho.

The project will support the establishment and articulation of working arrangements between data producing and data using institutions, and the BOS in Lesotho. Within Government, the institutional structure will be supported by signing of a Memorandum of Understanding to guide NCA data collection and collation at national level. For institutions or agents outside government, memorandums of understanding (MoU) may be signed with academic institutions and non-governmental institutions, and for private sector existing communication channels through industry associations will be strengthened. There will be a need for designing of optimal data and information flow channels, and agreement on benefits, and obligations, and awareness creation on NCA among all actors supporting the NCA national institutional structure.

Activity 1.1.1.4 Operationalise the system for collecting NCA data from local governments, private sector, and CSOs/NGOs within the USC up to the NCA unit at the BOS.

Beyond the institutional structure for NCA data collection and collation, the project will support operationalisation of the sub-national national statistical system in the USC. This will be achieved through awareness creation and training of relevant stakeholders to support the data collection. The identified stakeholders will be prepared to contribute to the collection, collation, data cleaning, data storage and transmission activities to centres where further analysis can be undertaken. The identified actors will therefore be able to test out equipment that may need to be used and participate in mock trials of the NCA data collection in preparation for the NCA accounts development process.

The system for data collection must be representative on the society to capture the ecosystem and ecosystem services data in a gender responsive manner. The total economic value of the ecosystems can only be achieved when all members of the community are represented in the operationalisation of the NCA data collection system.

***Output 1.1.2 Staff training and institutional capacity building on natural capital accounting and valuation of ecosystem services.***

Under this output training activities to enhance institutional capacity will be conducted . The staff to be trained are from the executing institutions; BOS, Ministry of Natural Resources (Department of Water), Departments of Environment, Forestry, Soil Conservation and Rangelands. The building of the human capital base for NCA in Lesotho is one of the core interventions of the project. The core capacity building targets the implementing entities as described above, and the partner institutions such as the National University of Lesotho, and the Integrated Catchment Management (ICM) institutional structure at both national and sub-national level. The training and institutional capacity building will also extend to the

creation of short courses and capacity of partners to deliver trainings on the short courses with minimal support from regional and global networks at the United Nations Statistical Division (UNSD) and UNSEEA.

The staff training and institutional capacity building will be undertaken early and throughout project implementation addressing the baseline capacity needs the needs as well that emerge during project implementation. The staff training will also cover data needs for gender responsive needs for ecosystems and ecosystem services.

Activity 1.1.2.1 Lecture sessions on SEEA, Ecosystem Service Valuation, and use of NCA results

The training on NCA will be initiated through lecture sessions. All the technical staff of the core implementing institutions will benefit from lectures that will be organised as part of project implementation. The target staff of the key institutions to support NCA data collection will be trained in data type, collection methods, data handling , data storage and transmission. Depending on the stage of data management, the staff will learn techniques on field cleaning and cross checking, multiple indicators, associated variables, and measurement including scores that can be conducted in the field. The trainees will also be introduced to ecosystems and ecosystem service valuation approaches standardised in the approved SEEA-EA Guidance (2021). The valuation approaches influence the type of data collected in the field and will allow the trainees to collect multiple types of data at a single point to capture the NCA values.

Activity 1.1.2.2 Train key stakeholders on field data collection and practical guidance on natural capital accounting

The field training on NCA is critical to successful primary data collection. The SEEA-EA is based on benchmarking existing data and using it to identify a sampling frame. Collection of data on the different ecosystem and ecosystem services extent, condition and supply and use values at field level and through secondary data searches. The field training will prepare the trainees for the actual NCA data collection, and stakeholder engagement processes that support comprehensive ecosystem services valuation required for successful NCA processes.

The field training component will include both development of training guides and conducting the actual training. The sites for training and type of physical field data, and observations to be made will be carefully designed and pre-tested before being included in the training programme by a team of international and national technical experts. The training will also create trainer of trainers (TOTs) who will carry on the training when the international experts leave.

Activity 1.1.2.3 Undertake study tour for technical team built of technical officers from key stakeholder ministries.

The study tour shall be taken to an African country with experience in development and implementation of NCA for land and water accounts. The tour is meant for catapulting implementation of NCA in Lesotho, and aid in avoiding repletion of mistakes that the country understudied may have made. Benchmarking on natural capital accounting is critical in the success of implementation. Many African countries are at different levels of NCA implementation, Lesotho will benefit from insights of how technical capacity has been built in different countries across different institutions, the operations of the NSS, the data collected/ collated, the current databases, and the inclusion of NCA results into policy instruments and decision-making processes.

The benchmarking will be used to build the confidence of policy and decision makers on what they would be able to accomplish within the national context of Lesotho.

Activity 1.1.2.4 Design short professional courses on SEEA and Ecosystem Services Valuation to support NCA process, at the National University of Lesotho

Both in the medium and long-term, there will be need to build capacity within Lesotho to conduct NCA under the project, and to continue collecting data at the end of the project. There will also be a need for capacity to analyse the data and use it for various applications at the catchment and national levels. Therefore, the project will hire experts to develop training manuals and to train Trainer of Trainers (TOTs) at the National University of Lesotho. The NUL and the LPT are core government tertiary institutions engaged in NCA related activities in watershed management. TOTs will include staff at the two tertiary institutions and core government staff engaged in the NCA implementation activities for the project, Department of Environment, BOS, Department of Forestry, Department of Soil Conservation, and Department of Range, and the Ministry of Natural Resources. These interventions will reduce the need for BOS and the other NCA institutions to hire international experts to support the NCA process within Lesotho. The trainees targeted for the short professional courses on SEEA, and ecosystem valuation are the staff of the project executing agencies in the Ministry of Water, BOS, the Departments of Environment, Soil Conservation, Forestry and Rangelands, as well as other key stakeholders identified in the NCA institutional structure.

Activity 1.1.2.5 Develop an MOU between Department of Environment (in the Ministry of Defence, National Security and the Environment), and the national university of Lesotho to develop and operationalise the training programme.

The short professional courses on SEEA and Ecosystem Services Valuation will need to be adopted into the curriculums of the two institutions, and there will be a need for commitment from the Government that its staff will be incentivized to take up the training. Both the tertiary institutions and the Department of Environment continue to refine the training materials and maintain a database including ensuring that the TOTs have appropriate facilities to conduct the trainings Therefore a Memorandum of Understanding (MoU) will be agreed between the institutions and this will be facilitated by the project. The MoU will define the responsibilities and obligations for going forward with the short professional courses on SEEA and Ecosystem Services Valuation.

***Output 1.1.3 National Integrated Spatial Database (NISD) developed to compile (terrestrial) accounts with support of pilot areas to test and refine the NISD.***

In Output 1.1.3, the project seeks to facilitate the gathering of spatial and temporal information on natural capital accounting. A National Spatial Database (NSD) needs to be developed to consolidate, update, monitor and analyze information on ecosystems and their ecosystem services valuation for land and water accounts. The digital repository is the key target of this output. The lack and/or weaknesses of the NSD was a critical weakness identified in the implementation of the ?Reducing vulnerability from climate change in the Foothills, Lowlands and the Lower Senqu River Basin? GEF project. The NISD is critical because in the compilation of ecosystem services accounts, spatial analysis is critical to the compilation of the accounts under the UNSEEA methodology. The description of the ecosystem extent, and ecosystem services is based on collection of spatial data in small areas, aggregation, analysis, and compilation into national accounts.

The NISD should also provide for social data sets particularly livelihood needs, food security concerns, gender disparities, and the drivers for the social outcomes observed. The data should be captured from the perspectives of all community members including youth, women, and men.

Activity 1.1.3.1 Set up a National Integrated Spatial Database for NCA

Lesotho has small, disaggregated units of spatial data collection located in the department of water in the Ministry of Natural Resources, the Departments of Forestry, Soil Conservation and Rangelands in the Ministry of Defence, National Security and the Environment), among others. The spatial data units collect data that is specialised and limited in scope to their current functions. Consequently, the spatial database system can only be used for benchmarking purposes but is not comprehensive to support NCA data collection. The starting point for the project regarding spatial data development is to consolidate the national spatial data collection/ collation and analysis infrastructure under an integrated system. The institutions will need to develop guidelines on data sharing and agree on meta data for spatial data supporting NCA, the standards, indicators, and operating procedures for collection. There will be agreement on the physical space for where the databases are collected and the management. The project will support the establishment of the National Integrated Spatial Database (NISD) for NCA.

Activity 1.1.3.2 Acquisition of equipment for spatial analysis for SEEA-EA.

The proposed System of Environmental Economic Accounting -Ecosystem Accounting (SEEA-EA) approach is based on catchment-based approach. SEEA-EA methodology is dictated, in part, by the choice of the USC as the project site for NCA. Therefore, spatial analysis and field data collections will rely on use of global positioning systems (GPS), satellite data acquisition, use of heavy storage computers and field apps loaded on phones, pads, or similar equipment. The samples collected in the field on water quality, biomass stock, species biodiversity, and other aspects of ecosystem condition are based on specialised field-testing kits, cameras, and reference books, among other equipment and field aids. Identification and acquisition of cost-effective equipment will be critical to decisions on the type of data that will be collected and therefore, the training that can be conducted for staff, as well as the institutional capacity building on data collection, handling, and management.

Activity 1.1.3.3 Collect pilot data, test, and refine the functioning of national spatial database.

To ensure the functioning of the NISD for NCA in Lesotho pre-testing activities will be undertaken. Pilot data will be collected and handled within the system; the data will be analysed based on a set of indicators to be measured. The NISD system will then be tested for accuracy, reliability, completeness, timeliness, and relevance. The NISD system will be designed to enhance the cost-effectiveness of data collection/ collation and storage from a previously disaggregated spatial data management system. The results of the pilot testing will support interim improvements before the system is used for the NCA activities. The calibration and recalibration processes are aimed at ensuring the data quality standards of the NISD are able to meet the needs for reporting to the BOS, and any related reporting obligations for example to the International Monetary Fund (IMF), the UN projects in the country, the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat, and the UN Convention on Biological Diversity (CBD), among others.

Activity 1.1.3.4 Establishment of permanent sample plots and data collation stations

The NISD will support the collection of spatial data on the state and condition and drivers of ecosystem change within the USC. Due to land use and other changes within the catchment the ecosystems are expected to change. Permanent sample plots of ecosystems that are intact will be acquired and maintained as a control plot. The permanent sample plots will be maintained by the project and in turn by the

Department of Environment as a long-term control for comparative assessment of the impact of anthropogenic effects of land use within the USC.

Institutionalised permanent plots allow for the current land use/ land cover to be use, and benchmark both degradation and/or restoration of ecosystems based on interventions and/or the lack of conservation interventions. In the case IWRM, the permanent sample plots also capture aspects of water resource management including for instance wetlands. The permanent sample plots will be monitored and managed during the project implementation. It is expected that as part of the sustainability actions of the project the permanent sample plots will be maintained to provide a moving baseline of the land cover change drivers in the project area.

Activity 1.1.3.5 Development of an MOU on the data collection, collation and sharing system for compilation of data and use of analyses results.

A memorandum of understanding (MOU) will be developed between the Government Agencies (Departments of Environment, Forestry, Soil Conservation and Rangelands, the Ministry of Natural Resources, the Local Governments in the USC, among others), the non-government agencies (private sector and NGOs), and the BOS to maintain the data collection, collation and sharing system developed under the NCA project. The MOU will also serve as a long-term agreement for sharing the improvements proposed in the national statistical system that enhance the capacity of the BOS to collect, collate, analyse and compile NCA data alongside its current mandate for compiling statistics in Lesotho.

***Output 1.1.4 Road Map for Advancing NCA in Lesotho developed, consolidating a future vision for NCA in Lesotho.***

The project will support the development of a road map for advancing NCA in Lesotho to consolidate a viable future vision for NCA in development with a description of key stakeholders to be engaged. The Road Map for Advancing NCA will comprise stakeholder consultations, development of national guidelines, and a national strategy outlining the accounts to be developed, the capacity development needs, the applications to which the accounts will be put, the responsibilities and roles of the different stakeholders including men, women and youth, proposed timelines, and resource requirements, among others.

In addition to implementing NCA for policy and decision making in Lesotho, it is imperative that both the lessons learned during project implementation, and the availability of technical experts provide the basis for developing a medium to long-term strategy for NCA. The long-term strategy should address concerns such as the guidelines for actors within Lesotho, the full scale of products and actions directly within the NCA process like accounts development, and applications outside the NCA such as macroeconomic frameworks, climate change strategies, and regional water allocation plans and strategies among others are considered. In addition, there is need to consider a long-term financing strategy for NCA linked to the beneficiaries of the accounts in private sector in the Orange-Senqu basin, and the Government of Lesotho, among other actors.

Activity 1.1.4.1 Stakeholder mapping and development of National Guidelines for NCA in Lesotho

Conduct comprehensive stakeholder mapping analysis at the inception phase to ensure engagement of key stakeholders in the project execution. These important partners? roles will be clarified in the project execution. A Project Steering Committee will be established with representatives of line

Ministries. National Guidelines for NCA in Lesotho will be developed as a policy instrument. The guidelines will describe the mandates, roles, and responsibilities of different actors in the NCA process. The guidelines will also prescribe actors in government, civil society, private sector, development partners, communities, and individuals. The guidelines will outline the national strategies, laws, and regulations under which the NCA activity is aligned. The guidelines will also describe the operational procedures for NCA in Lesotho.

Activity 1.1.4.2 Develop a National Strategy and Action Plan on Advancing NCA in Lesotho.

The work done under this component will be consolidated and further developed into a National Strategy and Action Plan for Advancing NCA in Lesotho. The strategy and action plan will describe the roadmap for NCA implementation, national level and local level indicators that will be developed, the resources required, the roles and responsibilities of different stakeholders, and all these components will be mapped with a clear timeline of implementation. As part of the strategy and action plan, the financing strategy will be proposed showing the financial and non-financial resources requirements and how these resources will be mobilised.

The Strategy will define the road map of NCA implementation and the use of the results in the country. The roles and responsibilities of the different stakeholders in the NCA implementation including public sector, private sector, civil society, women, men, and other special interest groups in the country. The strategy will also describe the financial and non-financial resource needs for NCA and the contributions that can be made by public sector, private sector, academia, civil society, and development partners, among others towards financing for NCA implementation. The opportunities considered include leveraging on ecosystem users who seek to contribute to the sustainable allocation of water resources, and land within the country, and projects implemented within the USC and other basins in Lesotho whose results can be benchmarked alongside the NCA.

The strategy should also address the concerns about socio-cultural and economic barriers that limit the effective participation of women in integrated catchment management and land use activities in Lesotho. The NCA strategy will be developed in the early phases of the project so that the proposed interventions can be piloted in the components of the project and gender equality indicators can be tracked in both the monitoring reports, medium term and terminal evaluation, and the sustainability strategy.

**Component 2: Mainstreaming natural capital accounting into integrated catchment management.**

The Integrated Catchment Management (ICM) system in Lesotho implements the Integrated Water Resources Management (IWRM) approach. The IWRM approach looks at the water resources from the catchment perspective with the water supply and the water use, the sustainable allocation of water, factors that impact on the quantity and quality of water, and the use activities whether agriculture, industry, or services. The ICM aims at ensuring sustainable management of water resources for the whole catchment ensuring that the surface water source is sustainably exploited, and the ecosystems are in balance. The surface water ecosystem on the one hand, and the other ecosystems such as farmlands, forests and wetlands which co-exist with the surface water. At the same time, the ICM also addressed the sustainable management of ground water resources. Through the ICM approach land use plans on management of

terrestrial ecosystems can be addressed alongside the surface water and ground water management systems. The communities as beneficiaries of ICM are at the core of the activity, the role of men, women, youth and children needs to be articulated in the mainstreaming of NCA into the ICM approaches.

The Water Act 2008 of Lesotho indicated the importance of natural capital accounting. The management system is based on catchment management, and use of integrated water resources management approaches, and strong data management systems. The mainstreaming of natural capital will allow for alignment of sustainable management of water resources, with sustainable economic growth plans in the NSDP II. This component contains one Outcome and three project Outputs:

**Outcome 2.1 Mainstreamed Natural Capital Accounts result into optimal utilisation of water related ecosystems and ecosystem services in Lesotho.**

Under outcome 2.1, the Water and Land accounts will be developed, and the results of the accounts will be integrated into the ICM for USC. The development of the accounts will on the one hand strengthen the available data for decision making on the management of water-related ecosystems. Critically, the accounts will be the basis for designing policy instruments on water demand and supply, water allocation, and water quality management, among others. The land accounts, particularly the physical land accounts, can support long-term land use planning that contributes to sustainable land management, and land use planning at community level. When integrated with water resources management synergies on ensuring that impacts from poor land use such as soil erosion and sedimentation do not affect the water resources can be mitigated based on the identification of risks and hotspots from the NCA data.

Output 2.1.1 Water and Land accounts for USC developed.

The SEEA Water and Land Ecosystem Accounts will be developed starting with the refined methodological notes for developing the accounts. The pilot ecosystem accounts for USC are a key output of the project. The water and land ecosystem accounts will include both physical and monetary accounts. The physical accounts capture the extent of ecosystems, the condition of the ecosystems as well as the supply and use of ecosystem services. The monetary accounts provide an estimate of the monetary value of the asset base, the stocks and flows of the ecosystems.

Activity 2.1.1.1 Collect, collate data, and develop SEEA Land Ecosystem Accounts for USC.

The NCA Land Ecosystem Accounts for the USC will be developed from primary data collected in the USC, and secondary data collated from the BOS, the local governments, and other stakeholders in the catchment. The data collection will also include acquisition of satellite data to strengthen the analysis based on the primary spatial data to be collected. The data collection will be based on the SEEA methodology, and it will involve data for the extent accounts, the ecosystem condition accounts, the physical and monetary supply and use accounts, and the monetary asset accounts. The data will be collected and compiled with support of the identified institutions firstly with the Departments of Environment, Forestry, Soil Conservation and Range as well as the Ministry of Natural Resources. The data will then be consolidated at the BOS and the accounts will all be compiled at the BOS as well as all the NCA related analysis. The outcome will be the Land SEEA Ecosystem Accounts for Lesotho comprising the extent accounts, the ecosystem condition accounts, the physical and monetary supply and use accounts, and the integrated accounts analysis.

The data collation and compilation should also consider the drivers of land ecosystem change such as climate change, and current land use practices, among others. The analysis of drivers of change will be included in the integrated assessment of the accounts section, alongside other direct and indirect drivers that affect the ecosystem and ecosystem services. The drivers such as climate change, population density, and economic drivers will also be used in the discussion of ecosystem condition of the land accounts.

Activity 2.1.1.2 Collect, collate data, and develop SEEA Water Ecosystem Accounts for USC

The NCA Water Ecosystem Accounts for the USC will be developed from primary data from the USC, and secondary data from the BOS, other government ministries and departments, the local governments, and other stakeholders in the catchment. The data collection will also include acquisition of satellite data to strengthen the analysis based on the primary spatial data to be collected. The UN SEEA methodology details the data for the extent accounts, the ecosystem condition accounts, the physical and monetary supply and use accounts, and the monetary asset accounts. The data will be collected, collated, and compiled with support of the identified institutions including the Ministry of Natural Resources and the Departments of Environment, Forestry, Soil Conservation and Range. The BOS will consolidate the data and conduct further analysis. The outcome will be the Water SEEA Ecosystem Accounts for Lesotho comprising the extent accounts, the ecosystem condition accounts, the physical and monetary supply and use accounts, and the integrated accounts analysis.

The data collation and compilation should also consider the drivers of water ecosystem change such as climate change, economic and land use, among others. The analysis of drivers of change will be included in the integrated assessment of the accounts and the ecosystem accounts sections, alongside other direct and indirect drivers that affect the ecosystem and ecosystem services.

***Output 2.1.2 Dialogue with policy makers conducted on mainstreaming of natural capital accounting in integrated catchment management***

Policy dialogues will be held on how to best use NCA in integrated catchment management, to broaden the experience with the establishment of natural capital accounts and the use of and integration of NCA into operational guidelines and policy development. the policy dialogue will focus on enhanced applications for of NCA at the catchment level. The stakeholder dialogues will include national level policy dialogues, and community level dialogues. The dialogues will also include women, youth, and other vulnerable members of the community.

Activity 2.1.2.1 Conduct dialogue meetings at catchment level with relevant stakeholders (local authorities, NGOs/CSOs, private sector and academia) in the USC on the use of the results of the NCA in integrated catchment management.

Sub-national consultations in the form of policy dialogues on NCA will be held in the USC. The policy dialogue will focus on enhanced applications of NCA at the catchment level. The stakeholder dialogues will include women, youth, and other vulnerable members of the community. The dialogue will also be the basis for identifying the most relevant and practical aspects to which the NCA accounting will respond.

The community level consultations on NCA at the catchment level will be the basis for designing policy instruments, and decision making at the catchment level. The issues that emerge at the catchment level

will be used to design policy documents to update the ICM plans, and local policy instruments, and to collate issues for integration into national policy decision making.

Activity 2.1.2.2 Conduct dialogue with national stakeholders (including central government/ ministries, NGOs/CSOs, private sector and tertiary institutions) on the use of the results of the NCA in integrated catchment management.

National level consultations and dialogues on NCA will be held to review the best use of NCA results in the policy processes. The NCA results can be used in the development of fiscal policy including national planning frameworks, budgeting, tax policy, and welfare distribution programmes. The inclusion of NGOs/ CSOs at the national level can also allow for leveraging of government efforts in natural resource management, in a manner aligned with national development plans.

National level consultations on NCA will take place, among technical staff and decision makers from public sector (ministries, and agencies), private sector, and civil society. The issues raised in the national dialogues will be used to design policy instruments, and decision making for national policies instruments, include sectoral and national budgets, sectoral and national plans, and macroeconomic analysis. The national consultations on NCA will also consider the use of accounts in policy making over water use, use of water in macroeconomic decision making, water allocation for different uses such as hydropower generation, agriculture, and industrial uses, and proposal of policy positions and instruments.

Activity 2.1.2.3 Use the results of the national and local stakeholders dialogue meetings to propose a policy direction on mainstreaming of natural capital accounting in integrated catchment management.

The national and local stakeholder dialogue will be used strengthen the use of integrated catchment management plans as an avenue for improving livelihoods and economic welfare through programmes linked to improved catchment management. The design of innovative financing approaches such debt for nature swaps, payment for ecosystem services, and results-based financing linked to improved catchment management can all be included into international and national financing approaches. The NCA results would provide data and information to support the successful implementation of similar innovations that can also link climate change action with biodiversity and integrated water resources management.

***Output 2.1.3 Water and land accounts used to develop the integrated catchment management plan for the USC.***

The ICM for USC is currently based on data from participatory data collection techniques and secondary data. With the NCA results, the precision of the catchment plans will be enhanced through upgrading the information with the results of the NCA. In addition, the sustainability targets will be based on NCA data that can be continually updated as the NCA data will be regularly collected as part of the national statistical system.

The detailed description of the current ICM strategies will be included in the baseline activities of the project.

The purpose of the project is to ensure that the accounts developed can be used for policy and decision making particularly for integrated water resources management (IWRM). Not only must the results of the NCA be integrated into the ICM plans, the catchment management committees and stakeholders will have their capacity built to participate in different stages of the NCA and in the integration of the NCA

results in the management plans. The development of the updated ICM plans consider qualitative attributes on gender mainstreaming, livelihoods improving, financing and sustainability among others.

Activity 2.1.3.1 Update the Integrated catchment management framework in Lesotho to include NCA.

In Lesotho the integrated catchment management framework for the development of the Integrated Catchment Management Plans does not include the NCA approaches. Catchment management plans are currently developed under the Lesotho ICM programme. The Integrated Catchment Management (ICM) project goal is for sustainable management of land and water resources in Lesotho. The project aims at combatting land degradation and depletion of water catchments in the country. The NCA will provide information about the drivers of land use change, both direct and indirect, and provide information needed for sustainable planning in the catchment management plans. Additionally, the NCA system will provide information updates for benchmarking the progress of the catchment management plans, and support progress towards the sustainability targets of the catchment management plans. The ICM framework will therefore be updated to adapt the use of data and information from the NCA process.

Activity 2.1.3.2 Review two pilot sub-catchment management plans in the project area.

Having adjusted the ICM framework for the pilot sub-catchment management plans in the USC will be reviewed, revised, and updated consistent with the NCA data collected. Additional stakeholder consultations will be undertaken to ensure a participatory process as well as revisions to the implementation plans, resource requirements, timelines and responsibilities and roles. A systematic approach to review the ICM plans will be developed, and the ICM committees will be supported to work with the national implementing entities, and support of international experts to pilot the review of the ICM plans, and the process will be scale up based on developed guidance. The ICM plans will be able to adopt sustainability principles such as exploitation of resources within the sustainable yield, and actions that need to be undertaken to increase the productivity of ecosystem services, and the natural yield of ecosystem services.

Activity 2.1.3.3 Build the capacity of catchment management committees to use NCA results in Integrated Catchment Management Planning

As a transitional step, there will be awareness raising, training including group meetings, presentations and feedback, and practical sessions aimed at building the capacity of the catchment committees to use the data from the NCA to update and improve their ICM plans. This capacity enhancement is a critical step in ensuring the NCA is sustainable within the ICM processes.

The sustainability of NCA in IWRM will build on the capacity of the beneficiaries of the NCA and IWRM. The development of the ICM plans and their implementation is undertaken in a participatory manner by the responsible national entity (Ministry of Natural Resources), the experts hired, and the ICM committee members. Therefore, it is imperative that the ICM committee members interpret and use the results of NCA to ensure that catchment-wide and ecosystem-wide sustainability can be achieved in the management actions.

Activity 2.1.3.4 Build capacity of catchment management committees to support data collection for successive NCA processes and the regular updates to the ICM plan for the USC.

The catchment management committees will also be trained to support the pilot data collection and the subsequent data collection processes. Working with catchment management committees will have the triple effect of building their capacity on NCA, enhancing their capacity to use NCA within the ICMs

strengthening the sustainability considerations, and reduce the cost of conducting NCA with external experts.

The data needs for NCA are large, and there will be need to leverage on the presence of ICM committees to collect data particularly in the NCA update processes. The presence of ICM committees on the ground can support in the collection of socioeconomic data on community livelihoods, gender aspects, and hotspots for degradation, and pollution among others. The capacity building will involve field experience, and the use of data collection of applications that are linked to the NISD and the databases at BOS, as part of the upgraded NSS.

**Component 3. Outreach and knowledge management for promotion of NCA**

To incorporate natural capital in green growth planning at national scales, decision makers require access to information that reflects the quality, quantity and spatial configuration of natural capital assets and allow these to be understood in the context of their contribution to human well-being. The utility of natural capital analysis for policymaking is ultimately dependent on the availability of information, which can be provided through data platforms and tools. Natural capital data of varying types and quality is dispersed through several data platforms and can be visualized and modelled through an array of tools. The utility of natural capital platforms and tools for supporting policymaking is affected by several qualities. These qualities include the: (i) relevance of outputs and the clarity with which they are communicated; (ii) accessibility of the information for a general audience; (iii) transparency of the information; and (iv) Flexibility of the platform or tool to be used with different data and metrics to suit specific user requirements. This component has one Outcome and three project outputs.

The outreach and knowledge management for NCA at both national and sub-national level will ensure that all members of the community can benefit from the awareness creation, knowledge products and the media outreach used. The products for dissemination will be designed to ensure that men, women, youth, and children all have a chance to access the knowledge and are able to benefit and use the knowledge and information received.

**Outcome 3.1: Knowledge and information on NCA is widespread and gender responsive with strong buy-in from public sector, private sector, and civil society, among others.**

As NCA is a new concept for Lesotho and few people have been introduced to its background and possible applications, the project will facilitate the dissemination of knowledge products to various audiences to share the lessons learnt within the project, showcase international best practices, and highlight the contribution NCA potentially can make to better informed spatial planning, environmental monitoring and development frameworks.

***Output 3.1.1 Outreach and knowledge products developed to support the promotion of NCA.***

Outreach and knowledge products will be developed and disseminated through easily accessible materials including infographics, banners, audio-visuals. The awareness materials will be disseminated in public engagements to enhance information flow between the project and national and local level stakeholders.

The outreach and knowledge products will be developed from the outset to support the different stages of awareness creation during project implementation. The infographic, and banners will be needed for the project inception and key limestones during implementation i.e., development and dissemination of accounts, and updating the ICM plans. The audio-visual materials and bulletins and other materials will be used for information dissemination through simplification of concepts for different categories of stakeholders.

Activity 3.1.1.1 Produce awareness materials to support inception meetings, dissemination meetings, and policy dialogues including info-graphics, t-shirts, and caps.

The project will produce various types of knowledge products such as flyers, T-shirts, caps, and social media outputs to share knowledge and lessons of the project as it progresses in implementation. The awareness materials will be used in the stakeholder engagements and other public to promote community engagement, and participation in some of the project activities. The awareness materials will also be used at the dissemination events for the different NCA products.

Activity 3.1.1.2 Develop audio-visual programmes, and adverts on television and radios.

Audio-visual programming will be developed for television and radio audiences. In addition, public announcements and adverts in media including television, radio and newspapers will be developed and published. The audio-visual programming will be based on information captured in the field including engagements with stakeholders in the USC, and data producer and user institutions including the BOS, Ministry of Natural Resources, the Departments of Environment, Forestry and Soil Conservation, among others. The audio-visual programmes will also be used in educational programmes and awareness creation on NCA. Audio visuals are also archives for the engagements with local communities to create additional data records that can be transcribed into other data sets, but also used for benchmarking purposes.

***Output 3.1.2 Awareness raising of NCA, and its possible applications conducted.***

In the awareness creation on NCA high level meetings will be held with policy committees on natural resources as a means of initiating policy action. The policy action creates the opportunity for inclusion of natural capital values in high level policy decisions.

Awareness creation on NCA will be needed throughout implementation to enable policy and decision makers to be continually engaged in the implementation of the project. Awareness creation is also needed for the public and communities to enable buy-in during data collection, and other engagements on NCA. The awareness creation will also be critical at points where the NCA results are used for upgrades in the existing policy instruments such as the ICM plans, the national statistical system, and the operations of the ICM committees, among others.

Activity 3.1.2.1 Conduct meetings with Portfolio Committee on Natural Resources

The dissemination meeting with the Portfolio Committee aims to both create awareness, and also open the opportunity for enhancing applications of NCA in Lesotho. The Portfolio Committee will support the prospects of including NCA in national planning, budgeting, and tax policy, among others.

The apex of the awareness creation is the engagement with legislators who develop legislation on natural resource management, the Portfolio Committee on Natural Resources of the National Assembly of

Lesotho. There will be a series of meetings with the Portfolio Committee of Parliament. The initial meetings will be for awareness creation, while the successive meetings will aim to generate consensus and support on how the NCA development process will fit with policy instruments, and establishing enabling conditions including legislation, regulations, public financing, and engagement to ensure success of the NCA project.

Activity 3.1.2.2 Conduct a public awareness campaign to natural capital users on the value and the need to protect their natural capital base.

Making use of these knowledge products and based on the emerging lessons and information from the pilot areas, the project will facilitate awareness raising of NCA and the application of NCA in the pilot regions. This will include as target audience additional stakeholders that previously have not been trained or introduced to the concept of NCA.

Public awareness creation is needed to enable buy-in during data collection, and other engagements on NCA. The public engagement will be needed as some of the members of the public will be engaged in different stages of data collection and collation, and some of the integration into ICM plans. The public awareness also helps to raise additional issues that may be added to the NCA to ensure that it is technically feasible, and sustainable.

Activity 3.1.2.3 Carryout awareness raising on NCA and its application to public sector at the central government and local government levels.

The project team and implementing entities will hold awareness raising events on NCA in the different government ministries and departments and in local governments. The awareness creation will be through in person presentations, and information sharing through public service communication systems on email, and through shared information files for departments. The project activities will regular be included in Ministry and Department bulletins, particularly for the stakeholder institutions identified in the Plan for Advancing NCA in Lesotho.

A key component of the NCA is ensuring that the knowledge and practice is mainstreamed into public sector systems. The mainstreaming of NCA needs to build opportunities for synergies both in implementation, and in resource mobilisation to leverage on existing programmes to strengthen implementation of NCA. Through awareness creation at public sector, additional NCA projects can be designed to fit the needs of different ministries and agencies.

Activity 3.1.2.4 Awareness raising on NCA and its application to the private sector and CSOs.

The project team and implementing entities will hold awareness raising events for private sector and civil society. The events will be through physical presentations to private sector associations at national level, and private sector associations and CSOs in the USC. The project activities will also share information regularly in regular information bulletins between the government and private sector and civil society in Lesotho.

Awareness creation for private sector will be important particularly in the adoption of sustainable practice which will encourage sustainability practices of NCA. The private sector is critical to the use of

ecosystem services, increased productivity of water and land resources, and ensuring that the sustainable yield levels are not exceeded.

Activity 3.1.2.5 Hold a project launch and NCA products launch event involving media coverage.
The project team will organise and implement a project launch event, and after the mid-term conduct a product launch event. The project launch event at the outset will help to transmit information to as many stakeholders as possible about the on-going activity and seek participation of the different stakeholders in the different actions of the project.

The NCA products event will be organised to coincide with completion of the of the updated NISD, the completion of the NCA reports, preparation of briefs and policy papers, as the initial pilot reforms proposed in the ICM plans. The project team and implementing entities will hold the products launch event as a public awareness event on NCA through national and local media. The media NCA information sharing events will involve through physical presentations, and information sharing including through email, and sharing audio-visual documentation, briefings, and policy notes.

***Output 3.1.3 Knowledge sharing conducted to enable the networking with stakeholders to facilitate further uptake and development of NCA.***
The NCA team in Lesotho will both organise and participate in NCA sharing events nationally and internationally, respectively. The project will convene NCA knowledge sharing events nationally and internationally and participate in international conferences on SEEA through engagement with the United Nations Statistics Division (UNSD) and United Nations Environment Programme (UNEP).

Activity 3.1.3.1 Develop and convene (both physical and online) knowledge sharing platforms on NCA nationally and internationally with support of UNEP/ Network of NCA practice.
The project team with support of communication experts will design, develop, and implement knowledge sharing platforms on the schedule of actions/ activities, outputs and outcomes of the project. The knowledge sharing events will be organized, to be combined with regular monitoring progress, important short-term and medium-term milestones, the annual review and planning exercises, and the emerging lessons and knowledge with a variety of stakeholders to catalyse further spread and application of NCA in Lesotho. The knowledge sharing platform will be jointly managed by the University of Lesotho, the Department of Environment, and the Bureau of Statistics. The knowledge platform will mobilise resources from partners and interested stakeholders to hold annual forums to share knowledge and research on NCA. The project will contribute knowledge products and research that will be shared on the platform.

The physical and online knowledge sharing mechanisms will be maintained as a help desk on information needs for NCA implementation in Lesotho. The online version will update project development information, include a component of frequently asked questions (FAQ), the updates for the implementing entities, and ICM committees to easily access information. The events on their own will also provide for sharing of the progress made. The knowledge platform will also be used for educational purposes. For students, researchers, implementors and other actors who need to use the information on NCA in Lesotho, the knowledge platform will be a key intervention. The University will also need to continually recruit

learners in its short course programmes, and for long-term programmes seeking to conduct additional research on NCA in Lesotho.

Activity 3.1.3.2 Participate in international conferences on NCA including forums like UNSD and UNSEEA.

The NCA team in Lesotho will participate in regional and international forums within the Africa Community of Practice on NCA which is organised by the World Bank, Global Program for Sustainability (GPS). Other international sharing forums include the London Conference on Environmental Economic Accounting, as well as the NCA activities under the UNSD.

The internal conferences are critical to enabling knowledge and capacity building at a high-level. At the same time, the international conferences are basis for resource mobilisation for subsequent phases of NCA in Lesotho that may not be implemented.

**Component 4 Monitoring and Evaluation (M&E)**

The M&E component will provide a baseline, benchmarks, indicators, and mechanisms for measuring and evaluating the progress of the project. The M&E framework will be developed to integrate components of accountability and learning to ensure that all project proponents, donors, and beneficiaries are participants in the implementation, in the review of the progress and revisions of indicators to ensure efficiency and effectiveness in the delivery of the project objectives. The monitoring and evaluation (M&E) component is composed of one outcome and three outputs:

**Outcome 4.1** ***Integrated and effective gender responsive monitoring & evaluation system in place***

This outcome is intended to support the project in its ability to monitor its progress in achieving the targets it has set, to identify emerging constraints and challenges, and to take stock of emerging successes and best practices and to document lessons learnt. Three distinct outputs are supported to come to an operational and effective M&E system that can inform the project management team, support its ability to be adaptive in its management and to facilitate the Mid-Term Review and Terminal Evaluation as important stock taking and learning and measurement events.

***Output 4.1.1 Project gender- responsive M&E system in place***

Project gender- responsive M&E system enables tracking of project progress, measure impact on gender, performance and specifically capturing best practices to enable replication of NCA, with the project?s strategic result framework as essential tool to monitor project progress making use of distinct SMART indicators with baselines, Mid-Term Review (MTR) and Terminal Evaluation TE targets and determined verification means.

Activity 4.1.1.1 Conduct and verify the baseline on indicators that will be used for evaluation and progress monitoring.

Building from the project document, the monitoring and evaluation (M&E) system will be initiated through a baseline study. In the baseline study, the project indicators will be refined and verified in line with the project context at the time of implementation, and any additional factors regarding funding,

stakeholders and project partners, and available information, among others. The indicators will include activity indicators, output indicators, and suggested refinement of the intermediate outcomes and their indicators and the outcome indicators.

The refinement of the indicators will be critical to the step of developing a comprehensive M&E system for the project. The baseline study and indicator verification process will involve scaled-down stakeholder consultations at the national level and within the USC. A modest level of field work is envisaged for ground truthing the assumptions used in the project document, and refinement of some of the baseline information.

Activity 4.1.1.2 Develop a gender-responsive detailed monitoring and evaluation framework for the project.

A gender responsive M&E framework will be developed. The framework will affirm the outcome, output and activity indicators, the type of data to be collected, how the data will be analysed and reported upon. The M&E framework will also update the roles and responsibilities included in the project log-frame and results framework.

The M&E system will articulate the data quality standards and the quality assessment framework. It will also provide a detailed meta data adopted from Component 1 of the project. It will provide a workplan showing the M&E actions to be undertaken, the resources required, the assigned responsible persons, the monitoring and evaluation reporting systems and guidance on monitoring and evaluation for the project. An M&E guideline will be developed to guide all M&E activities.

***Output 4.1.2 Mid-Term Review conducted***

The mid-term review (MTR) aims to take stock of the progress and challenges of the project, its key lessons, and recommendations for possible adjustments in project approaches and/or interventions. The MTR will be conducted at the mid-point of the project. It will be conducted by an external consultant procured by UNEP. The consultant will work with the national project team and the project implementing entities.

The MTR will be based on literature review, stakeholder engagements to develop contextual changes in the project, achievements and things that can be done better, field data collection, and benchmark on the set criteria provided by the M&E system guideline. The MTR report when produced will be used to review and refine the project indicators at the mid-point, and it may result in revision of the some of the set targets if the project.

Activity 4.1.2.1 Develop terms of reference for the mid-term evaluation consultancy.

The project executing entities with support of UNEP will develop the TORs for the mid-term evaluation consultancy. The TORs will define the tasks to be performed in line with evaluation of the project indicators, and the expertise and experience of the experts and the deliverables of mid-term evaluation, as well as how the evaluation team will be supported.

Activity 4.1.2.2 Facilitate the consultant to conduct mid-term review/ evaluation.

The project executing entities including the Department of Environment, BOS and the UNEP will directly support the consultant contracted to undertake the mid-term evaluation. The facilitation will

include sharing of compiled documents, the project documents, monitoring reports, and project reports. The consultant will also be supported to undertake field data collection, and through engagement to provide feedback and secondary data on the findings of the review.

Activity 4.1.2.3 Share the mid-term report with key stakeholders and secure their feedback.
As part of the mid-term review, the project team will share the report with stakeholders and receive feedback. The executing entities will also provide a technical review of the mid-term evaluation report, and facilitate transmission of the evaluation report to GEF, UNEP and other funding agencies.

Activity 4.1.2.4 Implement recommendations of the mid-term review exercise.
The project team and executing entities will implement the recommendations from the mid-term review. This will include revision of the project targets in the logical framework to realign with the findings of the mid-term evaluation. The project team will also include in the subsequent monitoring reports the actions undertaken to realign and ensure that the project targets are achieved over the remaining period of the project.

***Output 4.1.3 Terminal Evaluation conducted to document the key lessons of the project, its main achievements, and recommendations for sustainability of this impact.***
The terminal evaluation will be undertaken to assess whether the project was able to achieve its set targets. The evaluation report will highlight the lessons learned as well as the recommendations on implementation of NCA after the project.

The terminal evaluation will be based on literature review, stakeholder engagements to develop contextual changes in the project, achievements and things that can be done better, field data collection, and benchmark on the set criteria provided by the M&E system guideline. The terminal evaluation report when produced will be used to affirm the outputs, intermediate outcomes based on the project, and expected long-term outcomes of the project, and recommendations for continued sustainability of the interventions undertaken in the project.

Activity 4.1.3.1 Develop terms of reference for the terminal evaluation consultancy.
The project executing entities with support of UNEP will develop the TORs for the terminal evaluation consultancy. The TORs will define the tasks to be performed in line with evaluation of the project indicators, and the expertise and experience of the experts and the deliverables of terminal evaluation, as well as how the evaluation team will be supported.

Activity 4.1.3.2 Facilitate the consultant to conduct terminal review/ evaluation.
The project executing entities including the Department of Environment, BOS and the UNEP will directly support the consultant contracted to undertake the terminal evaluation. The facilitation will include sharing of compiled documents, the project documents, monitoring reports, and project reports. The consultant will also be supported to undertake field data collection, stakeholder consultations, and through engagement to provide feedback and secondary data on the findings of the review. The executing entities will also provide a technical review of the terminal evaluation report, and facilitate transmission of the evaluation report to GEF, UNEP and other funding agencies.

Activity 4.1.3.3 Share the terminal evaluation report with key stakeholders and secure their feedback.

As part of the terminal review, the project team will share the report with stakeholders and receive feedback. The executing entities will conduct a terminal technical review, and facilitate transmission of the evaluation report to GEF, UNEP and other funding agencies.

***Output 4.1.4 The Exit Strategy developed to enhance the post-project lasting impact of the project.***
An exit strategy will be, partially based on the terminal evaluation, based on the lessons learned, and the institutional structure established by the project. The exit strategy will be developed as part of the terminal activities of the project through stakeholder consultations at both national and local levels.

Activity 4.1.4.1 Conduct consultations with national and local stakeholders and develop consensus on the exit strategy aligned with NSDPII.
National and local stakeholders will be engaged through consultation on the exit strategy. The exit strategy comprises a description of the regular collection of NCA data, data analysis and compilation of the accounts, as well as the continued use of the NCA outputs in the catchment management activities, and the national policy processes. The exit strategy will also provide a synopsis of the potential for scaling up the catchment activities to cover the whole country. The exit strategy will also provide guidance on the financing strategy for maintaining the NCA process including national and international financial resources that can be mobilised to support NCA activities in Lesotho.

## 1.4) Alignment with GEF focal area and/or Impact Program strategies;

The proposal has been designed as a GEF7 focal area biodiversity project. The project design is consistent with the following objectives of the GEF7 biodiversity focal area, as reflected in the GEF7 document[45]42 and reflected under Objective 1 ?Mainstream biodiversity across sectors as well as landscapes and seascapes?, the GEF provides nine entry points for countries to mainstream biodiversity across sectors. This project will focus on entry point 3: Natural Capital Assessment and Accounting (NCAA).

•BD 1-3: Natural Capital Assessment and Accounting
To generate global environmental benefits that correspond to the biodiversity GEF focal area, the project aims at supporting Lesotho to better understand the natural capital of the country, the ecosystem services, and their spatial distribution they provide and the underlying drivers of environmental degradation that reduce the natural capital.

The project will indirectly contribute to the improved management of the USC[46]43 through facilitating technical and institutional capacity building to implement and apply natural capital accounting and ecosystems account for land and water. This will be implemented at several selected sub-catchments (Khubelu and Senqunyane sub-catchments) within the USC, an area with significant biodiversity values and a broad selection of water users and uses. Information provided by the natural capital accounts will inform budgetary allocation and the thus contribute towards enhanced understanding on the contribution

of Natural Capital in managing the key ecosystem of the USC as a pilot and providing stakeholders with an additional tool to monitor key biodiversity and ecosystem indicators.

The NCAA exercise will rely on comprehensive spatial and temporal data collected by governmental institutions, that define the stock of renewable and non-renewable resources, including biodiversity (e.g., plants, animals, air, water, soils, and minerals), that combine to yield a flow of benefits (ecosystem goods and services) to people.

**1.5) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;**

| Project Component | Scenario in absence of GEF Project | Scenario with GEF Project |
|---|---|---|
| Component 1 | Although the natural capital of Lesotho is under threat because of the environmental problems described, no methodological approach has been applied in Lesotho to account for the inherent value of natural resources and the ecosystem services they provide to society. Institutions as the Ministry of Defense, National Security and Environment, the Ministry of Natural Resources and the Bureau of Statistics lack presently the capacity to adopt the concept of NCA and do not have an institutional arrangement. Besides a lack of institutional capacity, human resources are not trained in the concepts and methods of NCA and valuation of ecosystem services. Lesotho measures presently its national wealth only in terms of traditional economic performance, but not through the natural capital in national land and water resources accounts. Efforts to quantify the value of the natural capital and their impact in national indicators (like GDP) also have not been undertaken. Besides the limited institutional capacity, another related barrier is presented by the availability of spatial data of land and water and their temporal development. | The GEF incremental funding will enable the development of a coherent and consistent methodology for NCA, enhance an appropriate institutional arrangement and support the design of a national system to implement and apply natural capital accounting and ecosystem services valuation in Lesotho. Additionally, the project will support staff training and institutional capacity building on natural capital accounting and valuation of ecosystem services through targeted training courses to key staff members of governmental institutions and other stakeholders. This will be supported withy the development of a National Spatial Database (NSD) to gather the necessary spatial information of land (land cover, land use, degradation, vegetation, biodiversity etc.) to compile terrestrial accounts with support of pilot areas to test and refine the NSD. In order to support and facilitate a longer-term embedding of NCA within Lesotho, a Road Map for advancing NCA in Lesotho will be developed, consolidating a future vision for NCA in Lesotho. |

| Project Component | Scenario in absence of GEF Project | Scenario with GEF Project |
|---|---|---|
| Component 2 | Presently, the spatial management of watersheds is not informed with information on the valuation of the natural capital of Lesotho. The economic expression of the value of the natural resources is not available for decision-makers, although much of the population is dependent for its livelihoods on these resources through agriculture. As Natural Capital Accounts for land and water are not yet established, policy makers are not informed about the trends in the accounts and the potential impacts of spatial planning decisions or development interventions. It is therefore also difficult to generate scenarios and quantify impacts of plans and policies on the natural environment and the socio-economic services they provide within specific watersheds. No NCA trials or pilots have been initiated to potentially inform and guide policy processes and operational guidelines for integrated watershed management. | The GEF project will enable the assessments of the status of land and water accounts of selected ecosystems (sub-catchments) and the ecological services these ecosystems provide in the pilot area of the Upper Senqu. It will include ecosystem extent, condition, supply and use account. The supply and use accounts will be developed and offer potential use cases for reservoir management and irrigation water allocation. Based on available data, at least one ecosystem condition account will be constructed to demonstrate how NCA can be used as monitoring tool for watershed management beyond only the water domain. Their importance to specific economic sectors will be identified and evaluated and their role in guiding policy and operational guidelines in the pilot area. Additionally, the GEF incremental funding will support the piloting of the use of NCA, with additional information on water users and use, in the policy guiding of an integrated watershed management plan for the Upper Senqu Catchment. This pilot will be combined with a policy dialogue with key stakeholders on how information on natural capital through the use NCA can be mainstreamed into integrated watershed management. Resource managers will be capacitated how to use ecosystem supply and use accounts as part of basin management. |
| Component 3 | The present lack of understanding of the concept of Natural Capital and Natural Capital Accounting is the direct result of the missing institutional and human resource capacity in Lesotho and hampers the development and promotion of NCA and the adoption and application of NCA for sustainable development. The potential and value of NCA are not sufficiently recognized and brought to the attention of potential stakeholders and institutional entities. | The GEF incremental funding will support the development of outreach and knowledge products (flyers, manuals, technical reports, social media posts etc.) for the promotion of NCA. This will be accompanied by raising awareness among stakeholders on the possible application opportunities of NCA in spatial planning and development frameworks. Specific knowledge sharing events will be organized to enable networking and knowledge exchange to present and discuss emerging good practices, lessons and to facilitate further uptake and development of NCA in Lesotho. |

| Project Component | Scenario in absence of GEF Project | Scenario with GEF Project |
|---|---|---|
| Component 4 | Presently, no integrated and effective monitoring and evaluation system is in place in Lesotho. | The GEF support will facilitate the development and management us of a project gender responsive M&E system enabling the tracking of project progress, performance and specifically capturing best practices to enable replication of NCA. The M&E system will feed the capturing of lessons learnt and document and consolidate emerging best practices. The M&E system will support the development of the Mid-Term Review Report and ultimately of the Terminal Evaluation Report and an accompanying Exit Strategy. |

### 1.6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The project will indirectly contribute to the improved management of selected sub-catchments of the Upper Senqu Catchments (in total 1,506,419 ha) through facilitating technical and institutional capacity building to implement and apply natural capital accounting and ecosystems accounts for land and water. This will be implemented at pilot watershed areas in the USC, Khubelu and Senqunyane sub-catchments (24,851 ha and 63,774 ha, combined 88,625.1 ha) with relevance for the national economy, due to the natural capital present in these areas and the biodiversity status and global significance. Information provided by the natural capital accounts will serve as input for watershed management plan development, thus contribute towards enhanced understanding of the contribution of natural capital (and the valuation of biodiversity) to the economy and the livelihoods of the communities dependent on these areas. Through the development of an enhanced knowledge base relating to the status of NC for watershed and improved information on linkages with, and contributions to key economic sectors, the project will facilitate improved decision-making to minimize adverse impacts of key sectors on ecosystem service provision. The project will contribute to the conservation and sustainable use of biodiversity and ecosystem flows of benefits in terrestrial and areas, lead to improvement in the understanding and measurement of both land and water accounts, contribute to enhanced sustainable livelihoods for local and ecosystem-dependent local communities (the total number of persons who will directly benefit from the projects interventions in the pilot areas, core indicator 11, based on the preliminary selection of sub-catchments with the USC, Khubelu and Senqunyane sub-catchments, amounts to 4,658 (2,257F and 2,401M) and to be confirmed during the PPG phase), and contribute to the measurement and monitoring of the status of natural capital embedded in the national reporting system in the regular updates of the Bureau of Statistics.

The project will allow district and local stakeholders to systematically define environmental and economic trade-offs associated with development measures and incorporate ecosystem service-related opportunities and risks into their planning and development of watershed management strategies. The project will formulate sustainable development plans for the pilot areas, including a watershed management plan, whereby local stakeholders can negotiate mutual long-term benefits while minimizing risks and conserving natural ecosystems, including biodiversity. The Lesotho mountain catchments, provide substantial baseflow and discharge that are important for Lesotho as well as for South Africa. The Lesotho Highlands Water Project capitalizes on this key natural capital provided by the ecosystem

services of the Lesotho watersheds with transboundary impact in generating lasting and reliable water availability and safeguarding renewable energy source through hydropower generation.

### 1.7) innovativeness, sustainability, and potential for scaling up.

**Innovation:** The project will develop a coherent and consistent methodology based on international good practices (UNSD, TEEB, SEEA-EA) and support Lesotho in the set-up of an institutional arrangement and national system for Natural Capital Accounting in Lesotho, which is presently not existing. The system will be linked to a national spatial database to compile natural capital accounts with support of pilot areas to test and refine this database. Institutional capacity will be built to support and operate the NCA system and to enable the valuation of ecosystem services. The project will support and build capacity of the resource managers on recognizing, quantifying and capturing the contribution of the terrestrial ecosystem services on water resources so that conservation and restoration of these ecosystems will be integrated into water resource planning. The project will support the further outreach and awareness raising of the concept and application opportunities of NCA as innovative approach in Lesotho.

**Sustainability:** Through its focus and support on the building of institutional capacity on NCA and the adoption of an institutional arrangement and national system design for NCA, the foundation will be developed for longer-term development and application of NCA in Lesotho. This is further supported by the development of a road map for advancing NCA in Lesotho, in which a longer-term vision for NCA in Lesotho will be formulated. This road map will present the key stakeholders, sketch roles and responsibilities, explore budget requirements and funding opportunities, all geared to facilitate a longer-term uptake and development of NCA in Lesotho and supportive to the post-project sustainability of the targeted impact towards NCA in Lesotho. The piloting of land and water accounts in the pilot area serves to tune the approach to local conditions and requirements. The policy dialogue initiated under Component 2 will support building awareness and application possibilities for key stakeholders at national level.

**Scaling up:** The project will, besides its focus on the development of institutional capacity on NCA, pilot the establishment of natural capital accounts for selected sub-catchments in the Upper Senqu Catchment (Output 2.1.1, including the piloting of the use of NCA to inform an integrated watershed management plan, Output 2.1.2). Based on these pilots, there will be clear scope and opportunity to expand geographically these accounts towards a national coverage, making use of the experience and skills from the pilot exercises and supported by the development of a national NCA set-up and the related development of a national road map, exploring and outlining scaling up opportunities, but also related constraints and budgetary requirements. The policy dialogue initiated under Component 2, described above, will support to build awareness and application possibilities for key stakeholders at national level to spatially and temporally expand the use of the piloted methodology to other areas in Lesotho.

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[1] 30,355km2, CIA Lesotho Country Fact Sheet 2021

[2] CIA Lesotho Country Fact Sheet 2021

[3] World Bank Group: Lesotho: Systematic Country Diagnostics, 2015

[4] Idem: p.14

[5] IFAD, 2020. Regeneration of Landscapes and Livelihoods (ROLL Project). Project Design Report.

[6] Idem: p.34

[7] NES (2002). Lesotho. Second State of the Environment Report. National Environment Secretariat, Ministry of Tourism, Environment and Culture, Government of Lesotho, and UNEP.

[8] IFAD, 2021

[9] World Bank (2021). Climate Risk Country Profile: Lesotho.

[10] NES (2002)

[11] Idem

[12] NES (200): p.59

[13] UNDP (2015). ProDoc ?Reducing vulnerability from climate change in the Foothills, Lowlands and the Lower Senqu River Basin?

[14] UNDP (2015).

[15] Idem

[16] GEF (2018) Summary of Negotiations of the Seventh Replenishment of the GEF Trust Fund, Annex A: p.29

[17] UNDP (1999). Conserving Mountain Biodiversity in Lesotho, GEF-UNDP ProDoc.

[18] https://www.ramsar.org/wetland/lesotho?site=2542
[19] CBD country profile https://www.cbd.int/countries/profile/?country=ls
[20] Seleteng-Kose et al. (2021). A rapid biodiversity assessment of Lesotho?s first proposed Biosphere Reserve: a case study of Bokong Nature Reserve and T?ehlanyane National Park. http://www.scielo.org.za/pdf/babc/v51n2/05.pdf

[21] World Database on Protected Areas/ UNEP-WCMC (2018)

[22] UNDP, 2015: ProDoc ?Reducing vulnerability from climate change in the Foothills, Lowlands and the Lower Senqu River Basin?

[23] Lesotho?s National Strategic Development Plan: NDSP, Cited in World Bank (2015), p.65

[24] IFAD (2020). Regeneration of Landscapes and Livelihoods (ROLL Project Design Report).

[25] http://extwprlegs1.fao.org/docs/pdf/les149665.pdf Vision 2020

[26] Government of Lesotho (2018): NSDP II: In pursuit of economic and institutional transformation for private sector-led job creation and inclusive growth. https://www.gov.ls/wp-content/uploads/2021/06/National-Strategic-Development-Plan-II-2018-19-2022-23.pdf

[27] https://unstats.un.org/unsd/environment/envpdf/UNSD_UNEP_ECA%20Workshop/Lesotho.pdf Qongqong Hoohlo (NES) and Tabo Sophonea (BOS).

[28] https://www.cbd.int/doc/world/ls/ls-nbsap-01-en.pdf

[29] https://www.bos.gov.ls/default.htm

[30] https://www.bos.gov.ls/BOS_Act_2001.htm

[31] www.lesis.gov.ls

[32] LESIS (2019). Key Policy Issues for Sustainable Soil Management and Food Security in Lesotho

[33] See: https://seea.un.org

[34] Statistics South Africa (2020). Natural Capital, Land and Terrestrial Ecosystem Accounts ,1990-2014, http://www.statssa.gov.za/publications/D04011/D040111990to2014.pdf

[35] http://teebweb.org/our-work/nca/country-implementation/ncaves2016/

[36] http://www.statssa.gov.za/?p=14403

[37] https://www.wavespartnership.org/en/edit-basic-page-africa-natural-capital-accounting-community-practice

[38] PIR FY 2021: ?Strengthening climate services in Lesotho for climate resilient development and adaptation to climate change (2nd phase of the LMS/GEF/UN Environment LDCF NAPA Early Warning Project)?

[39] GEF 2015: ProDoc Strengthening capacity for climate change adaptation through support to integrated watershed management Project.

[40] FAO (2021) Terminal Evaluation: Strengthening capacity for climate change adaptation through support to integrated watershed management project https://www.fao.org/3/cb6994en/cb6994en.pdf

[41] GEF (2018) CEO Endorsement Request Document: Climate Change Adaptation for Sustainable Rural Water Supply in Lowlands Lesotho Project

[42] www.renoka.org

[43] FAO (2016) http://www.fao.org/3/a-i5563e.pdf

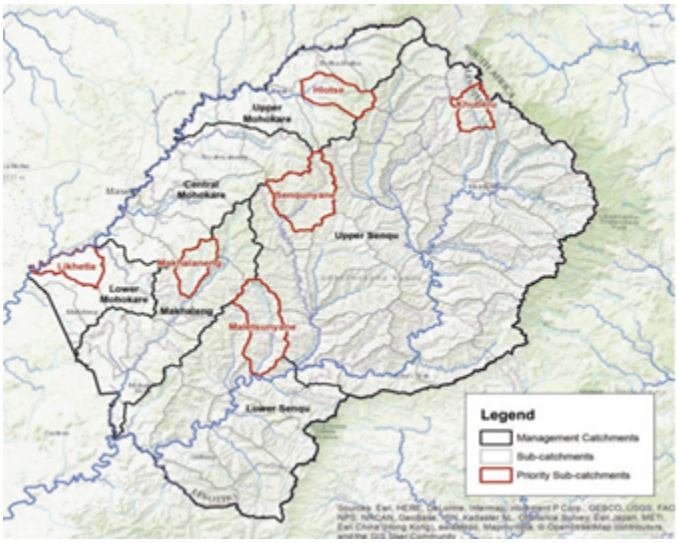
[44] FAO. 2023. *Lesotho: land cover atlas 2017?2022*. Maseru https://doi.org/10.4060/cc3544en
[45] GEF (2018). Summary of Negotiations of the Seventh Replenishment of the GEF Trust Fund

[46] The total area of selected sub-catchments in the USC needs to be defined during the PPG phase (the Upper Senqu Catchments total 1,506,419 hectares)

**1b. Project Map and Coordinates**

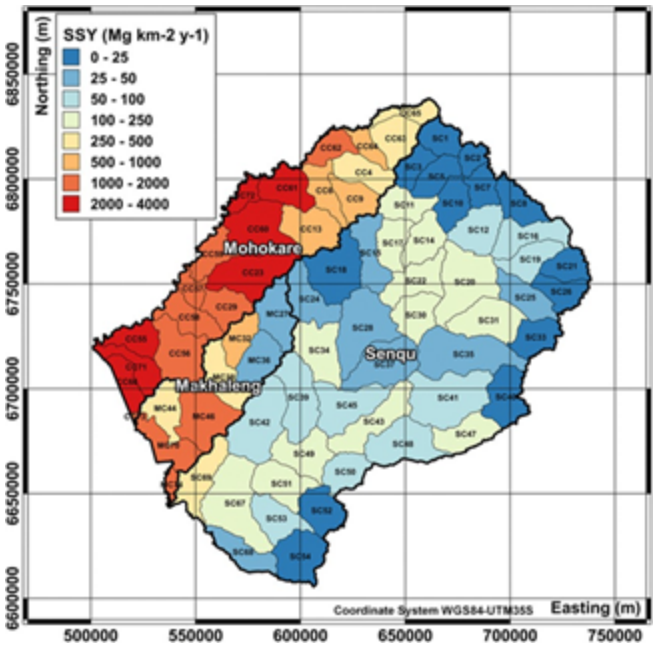
**Please provide geo-referenced information and map where the project interventions will take place.**

*Figure 5: Overview of Catchment Management Areas and priority sub-catchments in Lesotho*




Khubelu is sub-catchment (SC 7) and Senqunyane is SC18. The suspended sediment yield (SSY) in Lesotho rivers show lower sediment yield in the Senqu compare to Mohokare and Makhaleng the other regions of the country.

*Figure 6: Map showing soil loss (Suspended Soil Yield in rivers) and geo-references for sub-catchments in Lesotho*





The EU-GIZ funded Integrated Watershed Management Project is being implemented in Lesotho and has selected two priority sub-catchment in the Upper Senqu Catchment, which has a total area of 15,064.19 km2. The first sub-catchment is named Khubelu, with an area of 24,851.1 ha and 1,104 inhabitants (541F, 563M) and the Senqunyane sub-catchment with 63,774.0 ha and 3,554 inhabitants (1,716F, 1,838M). This would lead to a target of combined 88,625.1 ha for Core Indicator 4, area of landscape under improved practices, and 4,658 direct beneficiaries (2,257F, 2,401M) for Core Indicator 11.

| Cardinal points | Latitude | Longitude |
|---|---|---|

| | | |
|---|---|---|
| Most Central | -29.484 | 28.682 |
| Northernmost point | -28.651 | 28.703 |
| Southernmost point | -30.175 | 28.473 |
| Westernmost point | -29.353 | 27.965 |
| Easternmost point | -29.383 | 29.448 |

**1c. Child Project?**

**If this is a child project under a program, describe how the components contribute to the overall program impact.**

NA

**2. Stakeholders**

**Select the stakeholders that have participated in consultations during the project identification phase:**

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities** Yes

**Private Sector Entities** Yes

**If none of the above, please explain why:** No

The project will benefit from the inputs of stakeholders in Government Ministries and Agencies, international partners, and non-governmental organisations (NGOs).

The core Government Departments are in the Ministry of Defence, National Security and Environment (MDNSE) with the Department of Environment as the key executing partner alongside the Department of Forestry, Soil Conservation and Range. The Bureau of Statistics (BOS) which is agency in the Ministry of Finance and Development Planning and the Department of Water in the Ministry of natural Resources are also core to implementation of the project. The other ministries include the Ministry of Agriculture and Food Security and Nutrition (MAFSN).

**Note:**

1. the Ministry of Tourism, Environment and Culture (MTEC) changed to Ministry of Defense, National Security, and Environment on 1st April 2023. This new Ministry of Defense, National

Security and the Environment is composed of departments of Forestry and Soil Conservation, Range, environment, and meteorological services.

2. the Ministry of Water changed to the Ministry of Natural Resources effective 1st April 2023 and this new ministry hosts the water department.

**Please provide the Stakeholder Engagement Plan or equivalent assessment.**

| Stakeholder | Involvement |
|---|---|
| **Ministries and other Governmental Institutions** | |
| Department of Environment in the Ministry of Defence, National Security and Environment (MDNSE) | Department of Environment (in MDNSE) is the central authority for the protection of the environment in Lesotho. Its Department of Environment is responsible for managing the environment for its well-being, improved livelihoods, and sustainable economic growth for present and future generations. Department of Environment will coordinate project development and execution and will establish a Project Coordination Unit (PCU) located in the Ministry. A representative of the Department of Environment will chair the project steering committee. Department of Environment will have a leading and coordinating role in the design and implementation phase, liaising with governmental entities and leading the formulation of project interventions. |
| Ministry of Agriculture, Food Security and Nutrition | MAFSN is the central authority for participatory development and implementation of policies and programs with farmers, provision of expert advisory agricultural services to the farming community and agro-businesses leading to sustainable agriculture for the achievement of food security. Considering the high dependency of Lesotho?s population on agriculture for their livelihoods through subsistence farming, the involvement of the MAF is essential in the introduction and roll-out of NCA in Lesotho. MAF will be a key partner in technical formulation of project activities and in supporting baseline information collection. https://www.gov.ls/ministry-of-agriculture-and-food-security/ |
| Ministry of Finance and Development Planning (MFDP) | MFDP oversees the development planning and policy development for Lesotho. Its strategic objectives are to improve: coordination of planning, policy formulation and results tracking, resource mobilization and allocation efficiency, public sector investment efficiency and effectiveness. the human resource capacity to perform, internal and external communication, and to enhance implementation of policies. FDP has a lead role in identifying entry points for NCA integration into policy development and the design of related project activities. https://www.gov.ls/ministry-of-development-planning/ |

| Stakeholder | Involvement |
|---|---|
| The Bureau of Statistics (BOS) | The Bureau of Statistics (BOS) is a government Department under MinFDP, mandated to set up a system for national official statistics on economic, social, demographic, including human resources, and environmental areas in relation to the development needs of Lesotho; and official statistics for purposes of economic and social planning, research, public information, and international cooperation, and for related matter. The BOS was established in 2001 with the enactment of the Lesotho Bureau of Statistics Act[1]. BOS gathers and publishes a lot of data that is important for environmental statistics. This information is particularly useful regarding background variables but some variables contain pure environmental data. The BOS produces annual reports on key statistics and operates and maintains the Lesotho Data Portal: https://lesotho.opendataforafrica.org/, with an overview of economic, agricultural, demographic, energy, healthcare, food security, education, trade and geographic data. BS will be a key partner in supporting the design of the NCA institutional set-up, including the National Spatial Database and will have a leading role in design and definition of activities and technical outputs directly of relevance for the BOS. This includes the definition of the NCA road map.<br>https://www.bos.gov.ls |
| Department of Water in the Ministry of Natural Resources | The Ministry of Natural Resources has the mandate is to develop, update and monitor the implementation of water policy, water and sanitation legislations and strategy; preparation and coordination of all water sector management activities, including international waters, and provision of direction on water resources management and utilization. Ministry of Natural Resources? responsibilities include**: t**o strengthen the development and management of water resources and Sanitation facilities; to increase access to portable water and sanitation services to all consumers, reliably, affordably and on a sustainable basis; to advise and disseminate information on water resources for informed decision making for planning and development. The involvement of MNR is essential for the assessment and accounting of water resources and the methodological development of a water account. MNR will support the technical design of activities and baseline information gathering and the design of the piloting the use of NCA through the development of an integrated watershed management plan.<br>https://www.water.org.ls/ |
| Ministry of Gender, Youth and Sports and Recreation (MGYSR) | The MGYSR houses the Department of Gender with the mission to ensure the equality of all opportunities between women, men, girls and boys, so that development efforts have an equal impact on all gender issues. Its aim is to facilitate proper integration of gender issues in development to ensure full involvement, participation and partnership of women and men, girls and boys in both their productive lives. The Department of Gender?s engagement is foreseen to guide and support the project with its gender action plan and the monitoring of proactive gender interventions.https://www.gov.ls/ministry-of-gender-youth-and-sports/ |
| Ministry of Local Government, Chieftainship, Home Affairs & Police | Advocacy on value and importance of natural resource. Mainstreaming of NCA in their spatial planning. Capacity building on NCA systems. Conservation and protection of natural resources through local government structures (Community councils). |
| Lesotho Revenue Authority | Data on revenue from natural resources, cost of input to the environment, based also on information on import and export of goods. |
| Lesotho Tourism Development Cooperation (LTDC) | Mainstreaming NCA, Enhance sustainable ecotourism and protection of environment (ecosystems, species, and vandalism). |
| Lesotho Highlands Development Authority (LDHA) | Knowledge management, Mainstreaming of NCA, Capacity building on NCA. Monitoring the quality of water and pollution. Management of catchments that flow into the dams. Conservation, protection, and monitoring of biodiversity in catchment area. |

| Stakeholder | Involvement |
|---|---|
| The rest of the stakeholders | The are other stakeholders who are not listed that will emerge as part of the project. The stakeholders will contribute to data collection, analysis and use of the NCA results in catchment management, and national planning and budgeting. |
| **International Partners** | |
| International partners (UNDP, FAO, GIZ, CRS) | Technical assistance and funding; capacity building and technical support. Replication of projects and best practices. Coordination and knowledge exchange. |
| BIOPAMA | The Biodiversity and Protected Areas Management (BIOPAMA) Programme assists the African, Caribbean, and Pacific countries to address their priorities for improved management and governance of biodiversity and natural resources. BIOPAMA provides a variety of tools, services, and funding to conservation actors. Improve long term conservation and sustainable use of natural resources in protected areas and the surrounding communities. Provide support on assessment of protected areas and surrounding ecosystems and availability of the spatial data on biodiversity in collaboration with Regional Resource Hub (RRH), Joint Research Center (JRC). |
| **Academia** | |
| National University of Lesotho | Undertake research on sustainable implementation of the NCA. Provide institutional capacity and support awareness and training programmes for sustainability. Support the assessment of the status of ecosystems and establishment of the NCA for pilot areas. |
| **NGOs** | |
| Lesotho Traditional Medical Practitioners Council | Promote and control the activities of traditional medicine practitioners. Facilitates the improvement of skills of traditional medicine practitioners on biodiversity values and ecosystem services. Ensure sustainable harvesting of biological resources and promote awareness on sustainable use. Bring together all traditional medicine practitioners into one association. Technical and scientific support - used to provide data on spatial assessment of ecosystems and their benefits for informed policy and decision-making to responsible to Department of Environment , Ministry of Natural Resources and BOS. Support scaling?up of community outreach programs. Develops MOUs with relevant Ministries. Formal and informal training. Benefit: Support academic institutions to integrate NCA into their programs as a long-term intervention on sustainability.<br>Knowledge management. |
| Lesotho Council of Non-Governmental Organisations | Promote, coordinate and support member organisations in their efforts to contribute to national development and governance agenda, including environment protection and stewardship. Awareness and Advocacy on NCA and mainstreaming of NCA in development planning at all levels. |
| Herders and Grazing Associations | Users of range resources; advocacy on best standards and practices on natural resources management and conservation. |
| Arts and Crafts Associations | Advocacy on best standards and practices on natural resources management and conservation. Economic value of the crafts. Access to formal markets. NCA will promote the use of environmental standards to demonstrate the economic foot printing of their products to the market. |
| Irrigation schemes | Application of good practices including conservation agriculture by users of water resources for irrigation. |

[1] https://www.bos.gov.ls/BOS_Act_2001.htm

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

See attached stakeholder engagement plan.
**Select what role civil society will play in the project:**

**Consulted only;** No

**Member of Advisory Body; Contractor;** Yes

**Co-financier;**

**Member of project steering committee or equivalent decision-making body;** Yes

**Executor or co-executor;**

**Other (Please explain)**

**3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

Gender inequalities in opportunities and outcomes persist in Lesotho and the growth potential from closing the gender gaps is sizable. Gender-based legal restrictions, as well as barriers in access to education, healthcare, financial services, assets, the labour market, and formal sector employment prevent women from fully and equally participating in the economy (IMF, 2022[1]).

Women are the majority, at 51 per cent of the total population in Lesotho. Women and girls also have higher educational achievement than men and have a higher share in the labour market. However, women are still discriminated against because of cultural and patriarchal practices. Women often represent a majority in the informal sector, thus more vulnerable to economic shocks. Women and girls often face multiple and intersecting deprivations, harm, and exclusion. For example, there are often gendered differences in access to economic opportunities because of the time constraints due to household responsibilities and unpaid care work. While much progress has been made in the past 30 years regarding eliminating discrimination against women, some key areas for dedicated attention must be focused on (KoL/Voluntary National Review of SDGs, 2022[2]).

Children in Lesotho are defined as all persons under the age of 18 years. According to the 2016 LHPC, there are 765,614 children in Lesotho, representing about 36 per cent of the total population. Many children in Lesotho are vulnerable to maltreatment, domestic violence, sexual abuse, and exploitation.

Child marriage, rape and defilement of children remain a challenge to development. The transition into adolescence and adulthood brings risks to children as they do not have the appropriate knowledge, support and confidence to navigate their environment. Children from rural areas and poor communities are usually the furthest behind.

Lesotho?s youth constitute 39.6 per cent (794, 940) of the population aged 15- 35 years old4 . A large proportion of the Basotho youth is facing challenges such as a high unemployment rate (32.8%), high HIV and AIDS prevalence estimated at 40% by the age of 35 years, lack of access to quality education, a mismatch of education and industry, limited access to start-up capital, and lack of opportunities for political participation.

In Lesotho, women are more likely to be in poverty and nutritionally at risk, and widows in particular are especially vulnerable to economic poverty and food insecurity (Sechaba Consultants 2000). Poorer households have fewer options during times of food scarcity, and often have to rely on the generosity of those who are better-off. The intersection of poverty, class, and gender serves to render poor women most vulnerable to fluctuations in food security (Braun, 2005).

For women, the loss of agricultural fields leads to increased vulnerability ? they are burdened with feeding their families with fewer foodstuffs, have no control over growing their own nutritional resources, and lose the security that land provided, especially when opportunities to earn money are minimal. Women, many of whom have sold surplus vegetables and crops to augment the family income, can no longer grow enough to sell.

Basotho women's rights were diminishing in the context of the Lesotho Highland Water Project (LHWP) as they lost access to agricultural fields which they had previously worked or owned and were excluded from directly receiving compensation for those losses. Compounded by the fact that women continued to have few opportunities for employment (Braun, 2010), women experienced greater food insecurity as a result of the LHWP.

Despite decades of advances in gender planning in development, the LHWP illuminates the persistent tendency to minimise and ignore gender inequality in contemporary development policies. Through a policy that reinforced, and potentially increased, existing gender inequalities, women affected by the LHWP did not receive compensation directly for their work as providers for their household or as farmers. The devaluing of women's labour on the farms and in the households served to exclude them from being legitimate receivers of ?development?, reproducing male ownership and patriarchal authority with significant implications for food security.

The role of women in the NCA processes will be covered in qualitative data collection through participatory arrangements. Therefore, the description of the supply and use tables will also articulate the gender roles with water resources management, and utilisation, as with the land use. These results of the NCA will need to be used in strengthening the ICM plans and implementations. The sub-national and national dialogues on NCA and ICM will be used as a basis of building consensus on integrating the gender anomalies, while policy and decision-making processes including with the Portfolio Committees of the National Assembly will be used to ensure that the gender inequalities are dealt with and gender equality is embedded both in the NCA, and the ICM and land use activities

[1] IMF 2022 Kingdom of Lesotho: Selected Issues, Impact of COVID-19 on Gender Inequality, International Monetary Fund. African Dept. Volume 2022: Issue 162

[2] Kingdom of Lesotho 2022 Voluntary National Review on the Implementation of the Sustainable Development Goals, Maseru

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;** No

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women** Yes

**Does the project?s results framework or logical framework include gender-sensitive indicators?**

Yes

**4. Private sector engagement**

**Elaborate on the private sector's engagement in the project, if any.**

Lesotho?s private sector remains small. It contributes only about 20% to the country?s GDP but is gradually expanding because of the Government?s private sector development initiatives (AfDB 2018). The ReNOKA movement was created as a collective response by the GOL and GIZ to the complex issues raised above. In Sesotho, ?ReNOKA? means ?we are a river?. The movement represents an integrated custodial network of critical agents dedicated to the restoration of water and land resources, as well as to the long-term prosperity of all communities in the region. The national Integrated Catchment Management (ICM) Programme in Lesotho aims to put the vision of ReNOKA into practice.

The private sector in Lesotho is a water consumer and a stakeholder in ICM. Mining and agro-processing operations are obliged to undertake sustainability studies to manage water resources responsibility and could be a valuable partner for sharing technical knowledge on water quality, energy efficiency and local enterprise opportunities in the basin. Private Sector also hold valuable stakeholder relationships with their local communities, and this could be a way of harnessing financing to expand the programme reach. Private corporations both in Lesotho and within the entire Orange basin will be approached for financial contributions to ICM under development private partnerships (DPPs) or Water Stewardship approaches. Industry stakeholders include mining, agriculture, construction, agro processing, tourism, horticulture, and Small and medium enterprises are a potential alternative income source for traditional land users in Lesotho.

| Stakeholder | Involvement |
|---|---|
| **Ministries and other Governmental Institutions** | |
| **Private Sector partners** | |
| Private Sector | Support of relevant research on NCA development and ecosystem services valuation (data availability, Technology development).<br>Compliance to standards and best practices by users of natural resources in production of materials. |

| Stakeholder | Involvement |
|---|---|
| Fishing companies | Data on fish produced. Pricing will be in line with the actual value. Monitoring of the quality of water and pollution. Monitoring of the impact of trout introduction in the ponds. |
| Mining companies (Letseng Diamond Mine, Kao Diamond Mine, Liqhobong Diamond Mine) | Mainstreaming NCA, knowledge management, compliance to the environmental management plans. Support the community conservation programs. Biodiversity offsets to compensate impact brought about by mining activities. |
| Bophelo Natural Products and other related companies | Data on revenue generated from their products, capacity building on propagation and conservation of natural resources. Equitable sharing of the natural resources. |
| **Local Communities** | |
| Local communities | Representatives of relevant community enterprises, individual households, community-based organizations or NGOs will sit on the Project Steering Committee. The local communities will contribute to data collection, and design of catchment management plans and land use plans. The communities will implement the instruments improved by the projects. |

**5. Risks to Achieving Project Objectives**

**Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):**

| Risk | Risk Level | Mitigation Strategy |
|---|---|---|
| Limited capacity of national institutions to implement project activities. | Medium | The project will ensure full support throughout the implementation phase through support via the Executing Agency, and targets specifically under Component 1 activities for targeted capacity-building of national institutions, to specifically prepare national institutions for their respective roles and responsibilities. This targeted capacity-building support will also aim at addressing specific challenges due to weak understanding within national governmental institutions and other stakeholders of the concepts and approaches relating to Natural Capital Assessment and Accounting (particularly through Outputs 1.1.1, 1.1.2 and outreach and knowledge management under Outputs 3.1.1, 3.1.2 and 3.1.3). Implementation will additionally be supported by expertise provided by UNEP and specific capacity building inputs from consultants under Component 1. |
| Overlapping institutional mandates and responsibilities among ministries and institutions could complicate and challenge the development of natural capital accounts | Low | A comprehensive stakeholder mapping analysis will be conducted at the inception phase to ensure engagement of key stakeholders in the project execution. These important partners? roles will be clarified in the project execution. A Project Steering Committee will be established with representatives of line Ministries. Under Output 1.4 the development of a national Road Map for Advancing NCA in Lesotho is targeted, consolidating a future vision for NCA in Lesotho, and clarifying stakeholder roles in this future process. |

| Risk | Risk Level | Mitigation Strategy |
|---|---|---|
| Limited awareness of natural capital accounting and valuation ecosystem services together with existing budgetary constraints endanger needed budget allocation in line ministries and institutions to advance NCA post-project. | Medium | During project implementation substantial attention will be given to building institutional capacity combined with outreach and knowledge management for promotion of NCA and its possible application in development planning for sustainable development. The Natural Capital accounts to be piloted will contribute to showcase the application potential and the economic importance of recognition of economic value of natural capital. Existing budgetary constraints will limit future budget allocation to NCA, but the project will contribute to introduction and embedding of the theme in future policy development and advocate related budgeting. |
| The additional information brought forward through NCAA (accounts, analyses, reports) are not acted upon by the Government and key stakeholders and not institutionalized, not materially changing the BAU scenario. | Low | In line with the above-described risk and mitigation measures, the project will give substantial attention to awareness building and institutional capacity building, combined with piloting and testing of the NCA approach. This is aimed at showcasing the application potential and importance of recognition of economic value of natural capital in policy decisions. Pilots will help in showing that opportunity costs will be limited compared to actual/potential economic and ecological benefits, supporting longer-term adoption of NCAA. |
| Current institutions have inadequate technical capacity to develop/adapt natural capital accounting and valuation of ecosystem methodologies | Medium | Under Component 1, the project will support the development of a national spatial database to compile land (and water) accounts with support of pilot areas to test and refine the database. Under Outputs 1.1.1 and 1.1.2 targeted capacity building training on NCA and valuation of ecosystem services aim to raise specific technical capacity, which will be supported with technical inputs and guidance from international experts. |
| Exclusion of women from consultation and implementation processes | Low | The Project calls for and will apply and track the equitable participation of men and women, which may require measures to remove the sociocultural and economic barriers that silence women?s voices; provide project guidelines on gender towards selection of staff, consultants and sub-contractors, and importantly in the implementation of the many project activities. |

| Risk | Risk Level | Mitigation Strategy |
|---|---|---|
| Climate risk screening for the project | Low | Projection/scenarios: Increased temperatures are expected for the region, mean monthly temperature changes expected to increase by more than 2.0?C for the 2050s and by 4.4?C by end of the century, under a high-emission scenario (World Bank Climate Risk Profile, 2021).<br>Climate projection analysis results indicate (NDC 2021) a general warming trend of temperatures countrywide during the baseline period (1971-2000) and across all future periods (2011-2100). The plausible increase in annual maximum and minimum temperatures simulated by the models is also reflected across all seasons. The increasing trends in temperature during the historic period are weak but statistically significant for all the seasons. Rainfall on the other hand, shows a high spatial variability which is also higher in magnitudes relative to the established inter-annual variability for the region. The highest total precipitation accumulation during the covered period is in the Mountains while the Lowlands have the lowest total precipitation accumulation (see section and map on page 8).<br><br>Temperature increases are expected throughout the country, although slightly lower degrees of temperature increases are expected to occur in the mountain zones. Increased incidence of heat waves and higher rates of evapotranspiration are expected, which will affect multiple aspects of local economic development and agricultural productivity. One of the most serious consequences of increased heat for Lesotho is the projected increases in the number of days with temperatures over 25?C. Impacts will be most pronounced from August to May.<br><br>Vulnerability: Lesotho has a high vulnerability to the impacts of climate change. The World Bank Climate Risk Country Profile (2021) states that: ?Lesotho is already experiencing the negative effects of climate changes, including increased frequency of extreme events, inter alia droughts, increased rates of soil erosion and desertification, and reduced soil fertility. The country is likely to become generally hotter and drier across projected future climates.?<br><br>Water resources are likely to be increasingly strained across Lesotho as well as across southern Africa; warmer temperatures are expected to accelerate the rate of evapotranspiration for the country. With more frequent and severe droughts, the region will likely experience negative impacts on water supply and agriculture. A potentially simultaneous increase in flooding events poses a serious water pollution threat, affecting the health of wetland ecosystems and agriculture and livestock communities. Rainfall in Lesotho is highly variable. Northern areas of the country are expected to experience below normal precipitation through mid-century, with slightly above normal rainfall through the end of the century.<br><br>Hazards: Lesotho has a high degree of risk to natural hazards, including floods, drought, frost, strong winds, and heavy snowfall. Drought is a recurring hazard, which results in disasters for communities and the wider economy. Key impacted sectors include agriculture and livestock, water, tourism, and health. Impacts of |

| Risk | Risk Level | Mitigation Strategy |
|---|---|---|
| | | extreme rainfall events on public and private infrastructure has resulted in costly repairs, road closures, limited or no access to electricity, and complete failures of sewage and storm water systems. Natural hazards are exacerbated in many mountain areas in Lesotho and the country is particularly vulnerable as more than 70% of the population live in remote and ecologically fragile mountainous terrain. The country is also severely impacted by drought.<br><br>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.<br><br>Climate change-induced effects on Lesotho are expected to have a far-reaching regional impact on both the national and regional freshwater resources as the country forms major source of fresh water and drainage areas extending into the Atlantic basin through South Africa, Namibia and Botswana. Effectively, the impact will be detrimental to national and regional water supplies, dependents, ecosystems, and socio-economic activities.<br><br>Managing this risk: Climate change impacts impose additional pressures on vulnerable ecosystems and the ecosystem services they provide, potentially diminishing the resilience of these ecosystems and of the communities and the livelihoods depending on the ecosystems they provide. The project will mitigate this risk through piloting the use of NCA and establishing the in e.g., Output 2.1.3 the piloting of the use of NCA through an integrated watershed management plan, supporting the planning of resource-efficient practices, as well as longer-term benefits of improved productivity and ecosystem stability, safeguarding livelihoods and aimed at reducing the vulnerability of the ecosystems and the related communities dependent on these natural resources. |

| Risk | Risk Level | Mitigation Strategy |
|---|---|---|
| COVID induced delays to PPG and MSP implementation | Medium | The COVID-19 pandemic as it unfolds requires continuing attention during PPG and project implementation, safeguarding the health and safety of all stakeholders involved through precautionary measures.<br>?<br>Lesotho adopted the World Health Organisation (WHO)?s The 2021 COVID-19 Strategic Preparedness and Response Plan (SPRP) for Africa. The plan is also considered viable and was adopted for this project. The plan comprises 11 Pillars of the response. The pillars are: Pillar 01: Coordination, planning, financing and monitoring; Pillar 02: Risk communication, community engagement and infodemic management; Pillar 03: Surveillance, outbreak investigation and calibration of public health and social measures; Pillar 04: Points of entry, international travel and transport, and mass gatherings; Pillar 05: Laboratories and diagnostics; Pillar 06: Infection prevention and control and protection of the health workforce; Pillar 07: Case management, clinical operations and therapeutics; Pillar 08: Operational support and logistics, and supply chains; Pillar 09: Strengthening essential health services and systems; Pillar 10: Vaccination; and Pillar 11: Research, innovation and evidence. |

**6. Institutional Arrangement and Coordination**

**Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.**

The Department of Environment in the MDNSE will be the national executing agency, which will be responsible to the Government and UNEP for the quality and efficiency of using the capital and outputs of the project. Other executing partners will be the Departments of Forestry, Range and Soil Conservation in MDNSE and the Department of Water in the Ministry of Natural Resources.

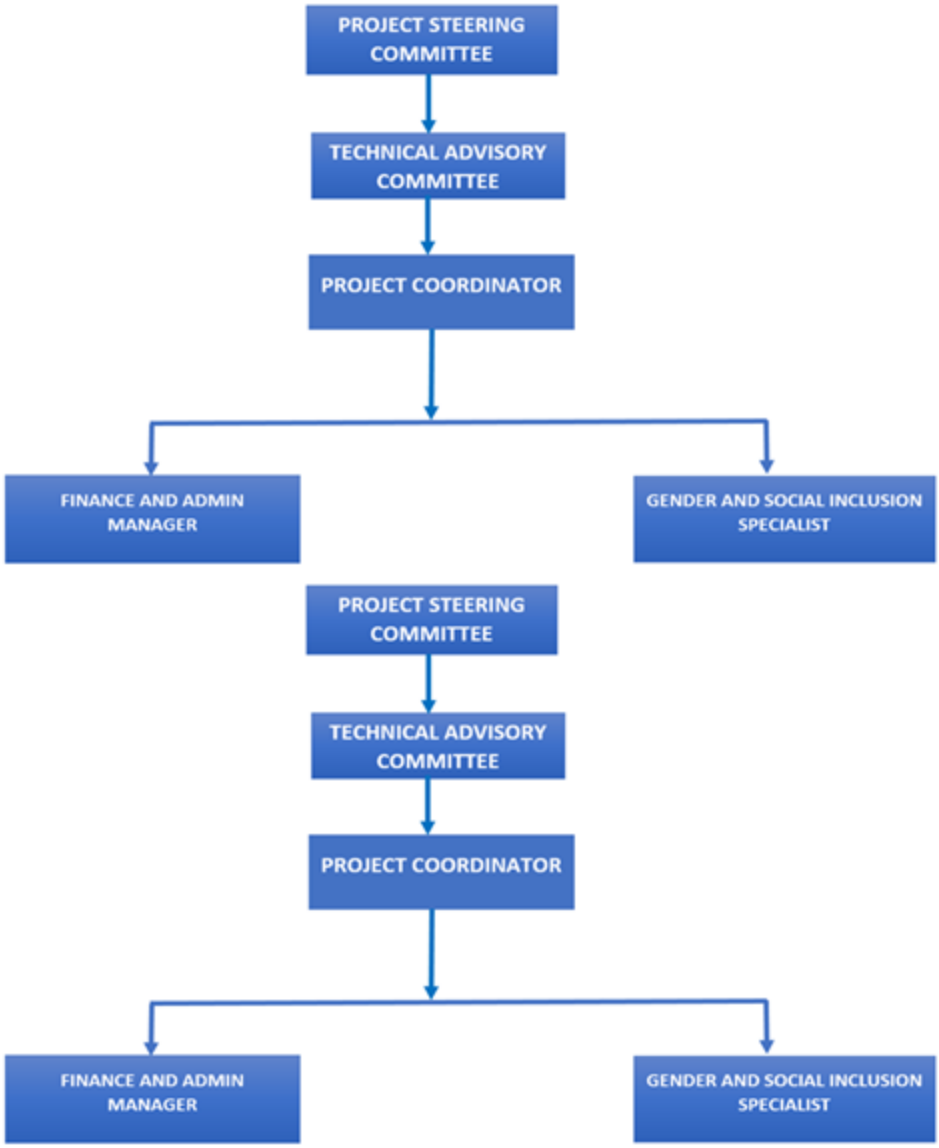
The Department of Environment will oversee project activities with all related parties and coordination with other agencies during the implementation process; answer all questions related to the progress of the Project implementation; prepare mid-term review and report, complete the project, and assess project impacts on the global environment. Agencies responsible for implementing activities within the project will assign focal points to communicate closely with other relevant agencies and exchange relevant experiences.

Mechanisms to coordinate are proposed to include (a) a Project Board/Steering Committee which will be chaired by Department of Environment and include the Department of Water Affairs (DWA), and the Department of Range Resources Management (DRRM) in the MDNSE, the Development Planning Department (Ministry of Finance and Development Planning), the Bureau of Statistics (BOS), Gender Department (Ministry of Natural Resources, and Ministry of Gender, Youth and Sports and Recreation - MGYSR), Department of Local Government (Ministry of Local Government and Chieftainship Affairs ? MLGCA), and the National University of Lesotho (NUL); (b) a National Technical Advisory Group to provide technical inputs on project approaches, outputs and activities (representatives from key projects will be invited to participate); (c) project-to-project coordination through regular contact of the PMUs of respective projects; (d) coordination through common executing partners/supporting partners (e) knowledge

management activities. The Project Management Unit (PMU) will be composed of a Project Coordinator, a Project Finance and Administrative Assistant, and a Gender and Social Inclusion Specialist.

The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. Reporting requirements and templates are an integral part of the UNEP legal instruments, to be signed with the Executing Agencies and the GEF Implementing Agencies. The project M&E plan will be consistent with the GEF Monitoring and Evaluation policy.

Coordination with GEF and other initiatives will be ensured through Department of Environment and UNEP. In addition to the programs and initiatives mentioned in section 2 on baseline projects, this will include coordination and sharing of lessons learned with other national and sub-national initiatives and GEF-funded projects, supported by the activities under Component 3. Outreach and knowledge management, with Output 3.1.3 aimed at knowledge sharing events to enable the networking with stakeholders to facilitate further uptake and development of NCA. A few projects have been identified and presented under the section on baseline, whose coordination potential or best practice are of benefit to incorporate with the proposed project.




[1] NUL will have four participating departments - Agricultural Research, Project Cycle Management, Communications, and Water Institute Departments

**7. Consistency with National Priorities**

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

## NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Formulated in 2000, the Lesotho Vision 2020 was aimed at providing a long-term perspective within which national short to medium-term plans could be developed. The overarching vision was that ?By the year 2020 Lesotho shall be a stable democracy, a united and prosperous nation at peace with itself and its neighbours. It shall have a healthy and well-developed human resource base. Its economy will be strong; its environment well managed and its technology well established?. The specific objectives of the Lesotho Vision 2020 were to: establish a long-term vision for Lesotho by looking beyond the short-term plans and adjustments; explore the options for economic, political and human development to the year 2020; identify alternative development strategies suitable for the Lesotho situation; promote a process of open dialogue and consultation with socio-economic groups countrywide; create an environment whereby Basotho will actively participate in achieving the Vision 2020; and, develop a focus along the horizon in the direction of which development plans could be rolled out. It is now the third year beyond 2020, and the Vision 2020 has not been evaluated and reviewed ? and this would be a logical step to take to justify whether a new vision should be recast[i]i.

National Strategic Development Plan II 2018/19 ? 2022/23. The NSDP II aims to transform Lesotho from a consumer-based economy to a producer- and export-driven economy. It will serve as the blueprint for all development efforts over the next five years, and will implement the SDGs, the African Union Agenda 2063 Goals, SADC RISDP and Vision 2020. NSDP II puts emphasis on private sector-led development and gives priority to pursuing people-centered development. The strategy reiterates the Government of Lesotho?s commitment to directly engage citizens, empowering individuals and encouraging participation in the development process. Four key strategic goals, referred to as key priority areas (KPAs), are articulated to foster job creation and inclusive growth and further reduce poverty: Enhancing Inclusive and Sustainable Economic Growth and Private Sector-led Job Creation; Strengthening Human Capital; Building Enabling Infrastructure; and Strengthening National Governance and Accountability Systems. The NSDP II asserts that environment and climate change are its integral components, as the population relies heavily on climate vulnerable sectors such as agriculture, water resources, and biodiversity to maintain livelihoods, and that, actions to manage the environment and climate change must be appropriately implemented for sustainable development and inclusive growth in Lesotho[ii]ii.

The Treaty on the Lesotho Highlands Water Project between the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa aims to provide for the establishment, implementation, operation, and maintenance of the Project. The purpose of the Project is to enhance the use of water of the Senqu/Orange River by storing, regulating, diverting and controlling the flow of the Senqu/Orange River and its affluents in order to effect the delivery of specified quantities of water to Designated Outlet Points in the Republic of South Africa, and utilising such delivering system to generate hydroelectric power int he Kingdom of Lesotho. Without prejudice to the provisions in the preceding statement, each Party was allowed the opportunity to undertake ancillary developments in its territory including: (i) provision of water for irrigation, potable water supply, and other uses; (ii) the development of other projects to generate hydroelectric power; and (iii) the development of tourism, fisheries, and other projects for economic and social development. Article 2 of the Treaty designated the Ministry of Natural Resources, or any such Ministry as maybe designated from time to time, as an authority on part of Lesotho. Further, under Article

15, the parties undertake to put in place reasonable measures to ensure that implementation, operation, and maintenance of the Project do not upset the existing biophysical and socioeconomic environment. It is particularly important to note that implementation of NCA might come as an important tool regarding review of this Treaty to encapsulate the price of water determined based on NCA data.

The NCA project will be implemented in line with the National Statistical System of Lesotho. According to the Statistics Act (2001), the Bureau is the principal data collecting, processing, analysing, and dissemination agency responsible for co-coordinating, monitoring, and supervising the National Statistical System. The BOS in carrying out its functions is responsible for the formulation of policies, strategies and programme activities for the development and supervision of the National Statistical System by: (i) Providing central statistical information services; (ii) Establishing, harmonizing and standardizing definitions, classifications and statistical methods used in the production and dissemination of official statistics to ensure uniformity in quality, adequacy of coverage and reliability of statistical information; (iii) Promoting the production and dissemination of official statistics on regional and small areas of relevance for the purposes of this Act, as well as providing guidance and training to other users and producers of statistics; (iv) Promoting and developing statistical training in collaboration with the National University of Lesotho (NUL) and other relevant educational institutions; (v) Promoting corporation, coordination and rationalization among users and providers of statistics at central and local levels so as to avoid duplication of effort and ensure optimal utilization of scares resources; (vi) Promoting and being focal point of cooperation with statistics users and providers at national and international level; (vii) Conducting research in statistical methods and developing standards. Other important functions of the BOS in regard to NCA are: (i) Review all initiatives to collect data at the national and local government levels and approve instruments developed for data collection including census frames, registers, sample designs and questionnaires; (ii) Collect, compile, analyze and publish or otherwise disseminate economic, social, demographic and environmental statistics; (iii) Build a national data bank that is regularly updated; (iv) Guide and coordinate local government statistical services; and (v) Establish regional offices to facilitate collection of information and other operations in the field of official statistics in accordance with the government policy of decentralization;

The Water Act (2008) of Lesotho provides for the management, protection, conservation, development, and sustainable utilization of water resources. The Act states that the Minister, line Ministries and water management institutions shall take account of, and as far as practicable, give effect to the following general principles applicable to the effective management, conservation and protection of water resources: (i) Sustainable utilization of water resources; (ii) Intergenerational equity; (iii) Integrated water resources management; (iv) Equitable distribution of water and sanitation services; (v) Public participatory approach; (vi) Precautionary principle; (vii) Polluter pays principle; (viii) Integration of environmental and social issues into water resources management, among them, HIV/AIDS and gender mainstreaming; and (ix) Sector wide approach to water resources management. The power and duty to control and regulate the use of water is vested in the Minister. The Act further establishes the office of the Commissioner of Water who is a public officer within the Ministry[iii]iii.

The Land Act (2009) of Lesotho provides for the grant of titles to land, the conversion of titles to land, the better securing of titles to land, the administration of land, the expropriation of land for public purposes, the grant of servitudes, the creation of land courts and the settlement of disputes relating to land; systematic

regularisation and adjudication; and for connected purposes. For land administration, the Act establishes the office of the Commissioner of Lands who is the chief accounting officer[iv]iv.

The Lesotho Environment Act 2008 is an overarching environmental instrument making provision for the protection and management of the environment, conservation and sustainable utilization of natural resources of Lesotho and for connected matters. The Act vests powers in the Director of Environment to ensure that the principles of environmental management set forth below are observed: (i) to assure every person living in Lesotho the fundamental right to a clean and healthy environment; (ii) to ensure that sustainable development is achieved through the sound management of the environment; (iii) to use and conserve the environment and natural resources of the Basotho Nation for the benefit of both present and future generations, taking into account the rate of population growth and the productivity of available resources; (iv) to maintain stable and functioning relations between the living and non-living parts of the environment through preserving biological diversity and respecting the principle of optimum sustainable yields in the use of natural resources; (v) to reclaim lost ecosystems where possible and reverse the degradation of natural resources; (vi) to publish data on environmental quality and natural resources; (vii) to encourage participation by the people of Lesotho in the development of policies, plans and processes for the management of the environment; (viii) to ensure that waste generation is minimized and safely disposed of; (ix) to prevent, any interference with the climate and adverse disturbances of the atmosphere and take compensatory measures for any unavoidable interference; (x) to take measures to preserve the cultural heritage of the Basotho Nation for the benefit of both present and future generations; (xi) to establish adequate environmental protection standards and monitor changes in environmental quality; (xii) to require prior environmental impact assessment of proposed projects or activities which are likely to have adverse effects on the environment or natural resources; (xiii) to ensure that environmental awareness is treated as an integral part of education at all levels; (xiv) to ensure that the cost of environmental abuse or impairment are borne by the polluter; (xv) to promote co-operation with other governments and relevant national, international and regional organisations and other bodies concerned with the protection of the environment; and (p) to ensure that appropriate measures are taken to prevent soil erosion[v]v. Further, Part IV, sections 16 and 17 are important for integration of NCA as they relate to environmental planning and reporting.

National Strategy on Lesotho?s Biological Diversity: Conservation and Sustainable Use, also the country?s National Biodiversity Strategy and Action Plan (NBASP), articulates a long term vision that ?Lesotho?s diversity of life systems are supported and protected by a nation which is environmentally conscious; whose people are in balanced existence with the natural environment, while deriving undiminishing and continuing benefits from the conservation and sustainable use of its biological diversity[vi]vi.

Lesotho?s current NBSAP was completed in the year 2000. The country is currently in the process of aligning its NBSAP with the Global Biodiversity Framework (GBF). The long-term objectives of biodiversity conservation are to increase resilience of livelihoods to disasters, the government plans to conserve the diversity of landscape, ecosystems, habitants, population, species and genes in Lesotho. The project falls within the GOAL B of the GBF on Biodiversity is sustainably used and managed and nature?s contributions to people, including ecosystem functions and services, are valued, maintained, and enhanced, with those currently in decline being restored, supporting the achievement of sustainable development for the benefit of present and future generations by 2050. The project also falls under the tools and solutions for implementation and mainstreaming, ?Target 14 - Ensure the full integration of biodiversity and its multiple

values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting, within and across all levels of government and across all sectors, in particular those with significant impacts on biodiversity, progressively aligning all relevant public and private activities, fiscal and financial flows with the goals and targets of this framework.?

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[i] Vision 2020

[ii] National Strategic Development Plan II 2018/19 ? 2022/23

[iii] Water Act 15 of 2008

[iv] Lesotho Land Act 2009 as amended

[v] Lesotho Environment Act 10, 2008

[vi] National Strategy on Lesotho?s Biological Diversity: Conservation and Sustainable Use

**8. Knowledge Management**

**Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

Knowledge management of the project is outlined under Component 3 of the project, ?Outreach and knowledge management for promotion of NCA?. This component creating a better understanding on the importance of natural capital and NCA for sustainable development in Lesotho through three distinct outputs: i) outreach and knowledge products developed to support the promotion of NCA, ii) awareness raising of NCA and its possible applications, and iii) knowledge sharing events to enable the networking with stakeholders to facilitate further uptake and development of NCA in Lesotho. The various knowledge management products are intended to document and consolidate emerging best practices, report lessons learnt and discuss possible pathways to promote and facilitate further mainstreaming and uptake of NCA in Lesotho, including case studies to illustrate possible integration of NCA into spatial planning and development frameworks. The Natural Capital Accounts to be piloted and developed under Component 2 of the project are to be linked to and inform the formal central government knowledge mechanism for capturing, analysing, and valuing Natural Capital and their services as well as its dissemination in national statistical and economic reports. Close coordination with the Bureau of Statistics will further facilitate the sharing of information and lessons learnt.

In its knowledge management approach, it is intended to incorporate a gender-sensitive approach, which can comprise of but not limited to the following:

•Use of male and female knowledge product, communication, and public education material developers for the diversity of perspectives and approaches, as well as male and female reviewers of these products.

•Use of gender-sensitive language and gender-balanced images (women not presented as victims but as agents of change).
•Examining the context and content (use gender analysis; use convincing gender arguments based on reliable sources and qualitative and quantitative data including sex-disaggregated data), and
•Referring to (inter-)national policy framework, policies, strategies, and plans, as applicable and appropriate.

The project will learn and benefit from existing programs, expertise and formats/framework on the development and application of the SEEA-EEA based NC accounts through partnership with UN Statistics Division. Other knowledge exchanges will include regional training initiatives and modules, including the experience of the South African NCAVES project (of UNSD ad UNEP) and the expertise of STATS South Africa and the South African National Biodiversity Institute (SANBI) Statistical) and collaboration with the Economics of Ecosystems and Biodiversity[1] (TEEB).

[1] http://teebweb.org/

**9. Monitoring and Evaluation**

**Describe the budgeted M and E plan**

## 9. Monitoring and Evaluation. Describe the budgeted M & E plan

The budgeted M&E plan below shows the inception, baseline, monitoring, evaluation and operational analyses, audit and other actions undertaken under the plan. The plan will run concurrently with implementation of the project. The M&E plan implementation will be led by the UNEP Task Manager; however, considerable involvement of the project lead at national level, the Department of Environment (MTEC) and the project management unit is expected. Whereas the budget activities and appropriations for evaluation are specifically drawn from the M&E component of the project, the budget for the inception meeting and report, the project steering committee meetings, semi-annual progress review and the publication of lessons learned are drawn from the other components of the project. The stakeholder consultations including for the National Project Steering Committee will be handled within the first project, similarly dissemination of results and lessons will largely occur under components 2 and 3 of the project.

**Table: Budgeted Monitoring and evaluation plan**

| Budget items | Budget from GEF | Co-financing |
|---|---|---|
| Inception meeting and PSC meetings | 10,000 | 35,000 |
| Baseline data validation and Data correction for analysis of core indicators during project implementation | 5,000 | 36,000 |

| | | |
|---|---|---|
| Development of the project Exit Strategy | 5,000 | 41,000 |
| Audit | 6,000 | 13,000 |
| midterm evaluation | 15,000 | 7,500 |
| terminal evaluation | 15,000 | 7,500 |
| **Total** | **56,000** | **140,000** |

**10. Benefits**

**Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?**

The integration of water and land ecosystem accounts at the local level will strengthen the local community capacity for selecting land use enterprises that optimise the available local resources (soil fertility, water and accessible land area). Therefore, at the local community and household level, it is expected that individual households and communities will be able to achieve improved socio-economic performance at the farm level. The project will strengthen community relations and the contribution of women, youth and other marginalised groups. It is therefore, envisaged that the project will lead to improved social equity with increased participation of women and youth in community land use/ socieo economic enterprises.

The NCA will provide information that will allow the country to implement some of its international commitments to the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the United Nations Convention on Combatting Desertification (UNCCD). Through the catchment and land use planning, and the ecosystem based approaches the country can meet some its NDC greenhouse gas mitigation targets through ecosystem restoration and management, through strengthened conservation of protected areas, and ecosystems outside protected areas, and support the agenda on land degradation neutrality. The NCA approach will provide options for inclusion of ecosystem based adaptation as an alternative to existing land use systems. Therefore, the Government of Lesotho will have clear opportunities for mitigation soil erosion, minimising the non-point source erosion flow into the Orange-Senqu River, and scaling-up efforts in reforestation, conservation of fragile wetlands. The communities and civil society/ NGOs will be able to contribute to landscape restoration activities due to the improved availability of information.

The project is cognisant that the Orange Senqu River is a regional water resource, and its conservation is important for the other riparian countries Botswana, Lesotho, Namibia, and South Africa. The NCA will provide transparent information on the risks and contributions of the USC to the sustainability of the river. In addition to strengthening the confidence of the other countries on the efforts in Lesotho to conserve the

resource, the NCA may spur additional discussions and enable additional contributions both regionally and internationally to further strengthen the efforts of conserving the Orange Senqu river and the catchment management efforts. Lesotho relies on water both an export commodity to South Africa, and an engine for national economic growth through agriculture, tourism, and industry, among others. The availability of NCA data will enhance the accuracy of the system of national accounts (SNA) and encourage appropriations in the national budget for natural capital management. Consequently, the sustainability of natural capital will be an integral component of national planning and budgeting, and other fiscal policy decisions.

## 11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

**Overall Project/Program Risk Classification***

| PIF | CEO Endorsement/Approval | MTR | TE |
|---|---|---|---|
| Low | Low | | |

**Measures to address identified risks and impacts**

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

See Section 5 above

**Supporting Documents**

Upload available ESS supporting documents.

| Title | Module | Submitted |
|---|---|---|
| SRIF Lesotho NCA PIF draft April 11 | Project PIF ESS | |

**ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).**

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| | | | | End term | | | |

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| **Objective**<br>To mainstream natural capital into integrated watershed management through application of natural capital accounting in Lesotho | Area (ha) of landscapes under improved practices (excluding protected areas) (GEF CORE Indicator 4)<br><br>Number of direct beneficiaries, with gender responsiveness, as co-benefit of GEF investment. (GEF core indicator 11)<br><br>An integrated watershed management plan providing for improved management based on NCA results in place.<br><br>Community level beneficiaries participati | 0ha<br><br>0<br><br>The existing Integrated Watershed Management plan exists but not it does not provide for comprehensive sustainability planning based on NCA.<br><br>Communities in Khubelu and Senqunyane sub-catchments do not participate in planning and management actions to improve sustainable flow of wetland | 2,000 direct beneficiaries (1,000 female, 1,000 Male)<br><br>Mid-term NCA results on watershed management in the USC generated.<br><br>NCA results on watershed management actions to be undertaken by project beneficiaries generated. | 88,625ha<br><br>4,600 direct beneficiaries (2,300 female, 2,300 Male)<br><br>An integrated watershed management plan based on NCA in place covering an area of 88,625ha,<br><br>At least 4,600 beneficiaries (2,300 women, 2,300 men) participate in planning and actions for improved and sustainable management of ecosystem services in the watershed. | NCA database and reports.<br><br>Progress reports, workshop reports, training reports<br><br>NCA database and reports.<br><br>An integrated watershed management plan developed for the USC covering an area of 88,625ha<br><br>Monitoring reports and anecdotal reporting on community participation in planning and actions to improve sustainable access to ecosystem services in the project area. | Department of water affairs in the Ministry of Natural Resources (MNRS) and Department of Environment in the Ministry of Defence, National Security and the Environment (MDNSE).<br><br>Department of Environment in (MDNSE), MNRS and Ministry of Gender, Youth, Sports and Recreation | Willingness of all stakeholders to embrace outcomes of NCA sustainable water allocation and sustainable IWRM measures.<br><br>Willingness of project beneficiaries to participate in planning and management for improved and sustainable ecosystem services from the watershed |

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| | on in planning and management actions for improved and sustainable ecosystem services from the watershed. | ecosystem services. | | | | | |

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| **Outcome 1.1** National Capital Accounting (NCA) system adopted, including institutional mandates, and increased institutional capacity. | National Strategy and Action Plan for NCA in place.<br><br>Number of staff from target institutions trained.<br><br>National NCA Guidelines in place.<br><br>National Integrated Spatial Database (NISD) for NCA in place. | No strategy and action plan for NCA in Lesotho<br><br>Staff of target institutions do not have capacity to undertake NCA data collection, analysis, and utilisation.<br><br>There are no NCA guidelines.<br><br>There is no national integrated NCA spatial database. | ? National Strategy and Action Plan developed.<br><br>? 30 Staff of target institutions trained to undertake NCA data collection, analysis, and utilisation.<br><br>? National NCA guidelines developed. | ? National Strategy and Action Plan developed and under implementation.<br><br>? 60 (cumulative) Staff of target institutions trained to undertake NCA data collection, analysis, and utilisation.<br><br>? National NCA guidelines developed and under implementation.<br><br>? National integrated NCA spatial database | National Strategy and Action Plan document and implementation reports.<br><br>Training reports/ project monitoring reports.<br><br>National NCA guidelines document and implementation reports.<br><br>Physical observation of database, and monitoring reports. | Department of water affairs in the Ministry of Natural Resources (MNRS) and Department of Environment in the Ministry of Defence, National Security and the Environment (MDNSE) | Government endorsement. |
| Outputs<br>1.1.1: Coherent and consistent methodology, institutional arrangements and national system design developed for NCA in Lesotho.<br>1.1.2: Staff training and institutional capacity building on natural capital accounting and valuation of ecosystem services.<br>1.1.3: National Integrated Spatial Database (NISD) developed to compile (terrestrial) accounts with support of pilot areas to test and refine the NISD.<br>1.1.4: Road Map for Advancing NCA in Lesotho developed, consolidating a future vision for NCA in Lesotho. | | | | | | | |

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| **Outcome 2.1** Natural Capital Accounting mainstreamed into integrated watershed management through application of NCA | Water and land accounts for Upper Senqu Catchment covering an area of 88,625 ha to benefit biodiversity, in place.<br><br>Operational strategies for integrated water resource management for the Upper Senqu Catchment developed for 4,600 beneficiaries (2,300 women, 2,300 men).<br><br>Mainstreaming of NCA in IWRM initiated. | No water and land accounts exist for the Upper Senqu catchment | Water and land accounts developed for the Upper Senqu Catchment covering an area of 88,625 ha to benefit biodiversity, | Operational strategies for integrated water resource management for the Upper Senqu Catchment developed, covering an area of 88,625ha to benefit biodiversity and 4,600 beneficiaries (2,300 women, 2,300 men). Mainstreaming of NCA in IWRM initiated. | Updated catchment management plans for the Upper Senque catchment using land and water NCA accounts published. Monitoring reports on stakeholder consultation on mainstreaming of NCA in catchment/IWRM plans. | the Department of water affairs in the Ministry of Natural Resources (MNRS) and Department of Environment in the Ministry of Defence, National Security and the Environment (MDNSE), and Ministry of Gender, Youth, Sports and Recreation | Willingness of all stakeholders to embrace outcomes of NCA sustainable water allocation and sustainable IWRM measures |
| Outputs<br>2.1.1: Water and Land accounts for USC developed<br>2.1.2: Dialogue with policy makers conducted on mainstreaming of natural capital accounting in integrated catchment management<br>2.1.3: Water and land accounts used to develop the integrated catchment management plan for the USC. | | | | | | | |

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| **Outcome 3.1** Improved understanding on the importance of natural capital and NCA for sustainable development in Lesotho | Knowledge products produced and disseminated through NCA sharing events accessible to stakeholders in Lesotho including Television, Radio, Public forums, and social media targeting at least 4,600 beneficiaries (2,300 women, 2,300 men). | No knowledge products and dissemination on NCA exists in Lesotho. | Knowledge products produced on NCA in Lesotho developed. | Knowledge products on NCA in Lesotho disseminated through NCA sharing events including Television, Radio, Public forums, and social media. | Knowledge products published and acknowledged receipt by national stakeholders in monitoring and evaluation reports. | the Department of water affairs in the Ministry of Natural Resources (MNRS) and Department of Environment in the Ministry of Defence, National Security and the Environment (MDNSE), and Ministry of Gender, Youth, Sports and Recreation | Availability of resources and cost-effectiveness of the knowledge dissemination channels in Lesotho |
| Outputs<br>3.1.1: Outreach and knowledge products developed to support the promotion of NCA.<br>3.1.2: Awareness raising of NCA, and its possible applications conducted.<br>3.1.3: Knowledge sharing conducted to enable the networking with stakeholders to facilitate further uptake and development of NCA. | | | | | | | |

| | Objective level indicators | Baseline | Mid-term and end-term targets | | Means of verification | Responsibility | Assumptions |
|---|---|---|---|---|---|---|---|
| **Outcome 4.1** Integrated and effective gender-responsive monitoring and evaluation system in place | A functional M&E system that contributes to accountability and feedback from national stakeholders on NCA in Lesotho, reflecting gender responsiveness targeting at least 4,600 beneficiaries (2,300 women, 2,300 men).<br><br>And an exit strategy published. | No functional M&E system for NCA implementation in Lesotho. | A functional gender responsive M&E system developed.<br>Quarterly monitoring conducted.<br>A mid-term evaluation conducted. | Quarterly monitoring conducted.<br><br>A terminal evaluation conducted.<br><br>An exit strategy produced | An M&E system design report, showing gender responsiveness.<br>Quarterly monitoring reports published.<br>Mid-term and Terminal evaluation reports published.<br>An exit strategy report published. | the Department of water affairs in the Ministry of Natural Resources (MNRS) and Department of Environment in the Ministry of Defence, National Security and the Environment (MDNSE), and Ministry of Gender, Youth, Sports and Recreation | Availability of resources |
| Outputs<br>4.1.1: Project gender- responsive M&E system in place<br>4.1.2: Mid-Term Review conducted<br>4.1.3: Terminal Evaluation conducted to document the key lessons of the project, its main achievements, and recommendations for sustainability of this impact.<br>4.1.4: The Exit Strategy developed to enhance the post-project lasting impact of the project. | | | | | | | |

## ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

**Response to GEF Secretariat Comment at PIF that needed attention during the PPG phase - Lesotho.**

| Secretariat Comment at PIF | Response |
|---|---|
| | |
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/16/2022 - Cleared.<br>During PPG, please:<br>-further refine the link between the NCAA and the target policy decision, i.e. watershed management in the Upper Senqu catchment. The specific policy question and instrument (e.g. watershed management plan) that is targeted will have to be clearly defined, and the project's approach to improve watershed management in practice through NCAA will have to be detailed.<br>- reconsider execution arrangements, especially to give a prominent execution role to the Bureau of Statistics (BOS) of the Ministry of Development Planning, which will be key for this project. A new LoE or an email from the OFP supporting new execution arrangements would have to be presented in the CEO approval package. | Agreed. During the PPG phase the link<br>between NCAA and watershed management<br>in the Upper Senqu Catchment was further<br>refined.<br><br>reconsider execution arrangements were also properly presented to include the Bureau of Statistics (BOS) of the Ministry of Development Planning, as requested.<br>. |
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/13/2022- Cleared.<br>Please refine the targets during PPG. | The targets have been refined |
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/13/2022<br>Cleared.<br>During PPG, please refine the barrier analysis to identify what are the precise barriers to NCA adoption and practical use to mainstream biodiversity in development planning and management frameworks. The barriers are still for the most part limited to lack of awareness about NCA (with overlaps between barriers 1 and 3) and lack of used of NCA. | The barrier analysis has been refined |
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/13/2022- Cleared.<br>During PPG, please:<br>-refine the ToC and notably align it with the revisions made in the rest of the PIF after the first review (component 2). While there remains diverse ways of presenting a ToC, key issues are to communicate clearly, through a diagram and a narrative, the causal pathways by which interventions are expected to have the desired effect and the justification that these causal pathways are necessary and sufficient. Please refer to STAP's guidance: https://www.stapgef.org/resources/advisory-documents/theorychange-primer | The TOC has been refined |
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/13/2022- Cleared.<br>During PPG, please develop a strong up-scaping/replication strategy, with remains weak at PIF stage. | A good strong up-scaping/replication strategy has been developed |

| | |
|---|---|
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/15/2022 - Cleared.<br>It is duly noted that the project will conduct a gender analysis in the project preparation phase "in order to incorporate a gender perspective in project interventions." In this regard, during PPG, the Agency is requested to take into account in its gender analysis how gender equality considerations could and should be reflected in the different project components, including in the project's outputs related to developing knowledge products and capacity-building/awareness-raising materials and other documents. The Agency<br>may wish to look into the CBD's gender-related documents, including the CBD's post-2020 Gender Plan of Action and related documents on gender-responsive post-2020 Global Biodiversity Framework. | A good gender analysis has been conducted |
| Secretariat Comment at PIF/Work Program Inclusion<br>JS 6/17/2022 - Cleared.<br>JS 6/16/2022:<br>The execution arrangements detailed in this section are different from to that approved in the LoE in all sections of the PIF. While it has been corrected in the first page of the portal entry, the section 6 Coordination still as execution by The Ministry of Tourism, Environment and Culture and the Bureau of Statistics (BOS) of the Ministry of Development Planning (MinDP). Please revise this section so that it is inline with to the executing partners shown in the LoE. The execution will then be changed as necessary during PPG, especially to give a prominent execution role to the Bureau of Statistics (BOS) of the Ministry of Development Planning, which will be key for this project. A new LoE or an email from the OFP supporting new execution arrangements would have to be presented in the CEO approval package. | The execution arrangements have been presented properly |

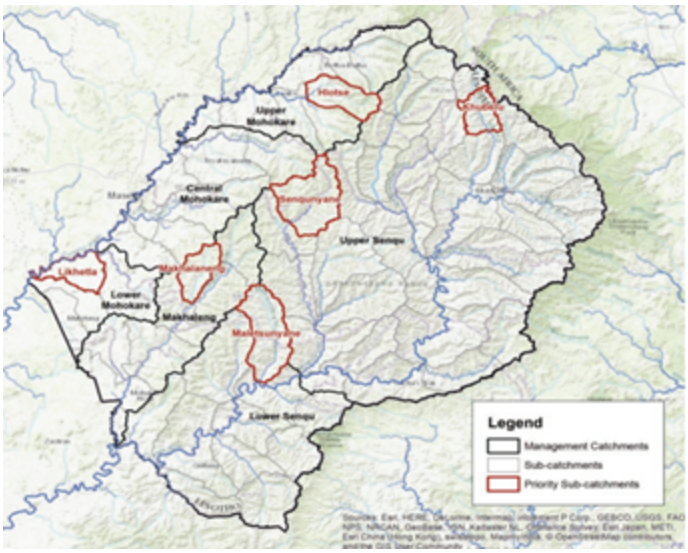
## ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

| PPG Grant Approved at PIF: 50,000 | | | |
|---|---|---|---|
| Project Preparation Activities Implemented | GEF/LDCF/SCCF/NPIF Amount ($)50,000 | | |
| | Budgeted Amount | Amount Spent Todate | Amount Committed |
| Project Design Expert / international consultant | 20,000 | 10,000 | 10,000 |
| national consultant - technical expert | 10,000 | 5,000 | 5,000 |
| social safegurds and gender consultant | 5,000 | 5,000 | - |
| PPG national coordinator | 4,500 | 4,500 | - |
| Travel | 2,000 | 2,000 | - |
| meetings/workshops/consultations | 8,000 | 8,000 | - |
| Office supplies/stationary + Communication | 500 | 500 | - |
| TOTAL | 50,000 | 35,000 | 15,000 |

## ANNEX D: Project Map(s) and Coordinates

## Please attach the geographical location of the project area, if possible.

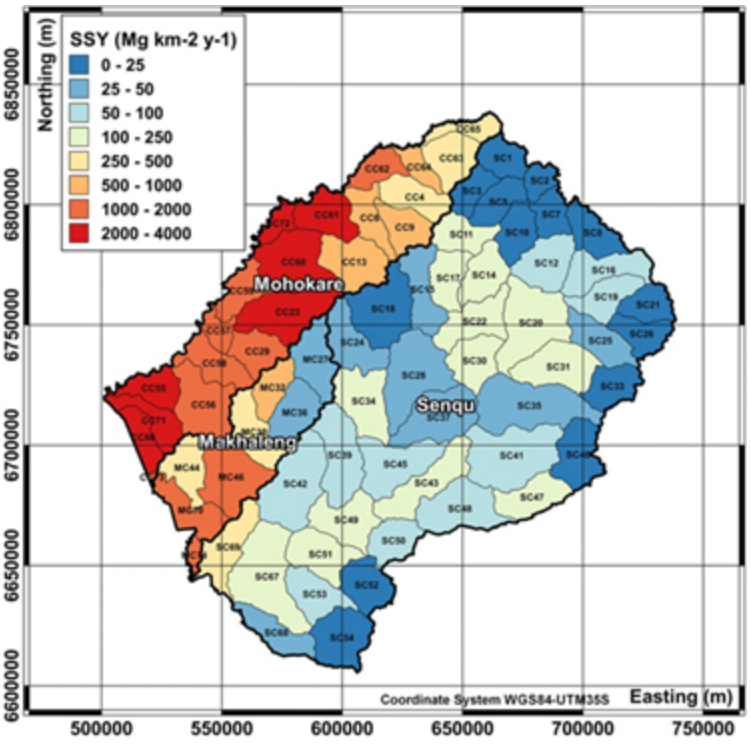
*Figure 5: Overview of Catchment Management Areas and priority sub-catchments in Lesotho*




Source: SADC, SARDC and NUL (2021)

Khubelu is sub-catchment (SC 7) and Senqunyane is SC18. The suspended sediment yield (SSY) in Lesotho rivers show lower sediment yield in the Senqu compare to Mohokare and Makhaleng the other regions of the country.

*Figure 6: Map showing soil loss (Suspended Soil Yield in rivers) and geo-references for sub-catchments in Lesotho*




The EU-GIZ funded Integrated Watershed Management Project is being implemented in Lesotho and has selected two priority sub-catchment in the Upper Senqu Catchment, which has a total area of 15,064.19 km2. The first sub-catchment is named Khubelu, with an area of 24,851.1 ha and 1,104 inhabitants (541F, 563M) and the Senqunyane sub-catchment with 63,774.0 ha and 3,554 inhabitants (1,716F, 1,838M). This would lead to a target of combined 88,625.1 ha for Core Indicator 4, area of landscape under improved practices, and 4,658 direct beneficiaries (2,257F, 2,401M) for Core Indicator 11.

| **Cardinal points** | **Latitude** | **Longitude** |
|---|---|---|
| Most Central | -29.484 | 28.682 |
| Northernmost point | -28.651 | 28.703 |
| Southernmost point | -30.175 | 28.473 |
| Westernmost point | -29.353 | 27.965 |
| Easternmost point | -29.383 | 29.448 |

**GEO LOCATION INFORMATION**

**The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as OpenStreetMap or GeoNames use this format. Consider using a conversion tool as needed, such as:https://coordinates-converter.com Please see the Geocoding User Guide by clicking here.**

| Location Name | Latitude | Longitude | Geo Name ID | Location & Activity Description |
|---|---|---|---|---|
| Most Central | -29.484 | 28.682 | | |
| Northernmost point | -28.651 | 28.703 | | |
| Southernmost point | -30.175 | 28.473 | | |
| Westernmost point | -29.353 | 27.965 | | |
| Easternmost point | -29.383 | 29.448 | | |

## ANNEX E: Project Budget Table

## Please attach a project budget table.

| | | Component | Component | Component | M & | PMC | Total | Expenditure by calendar year |
|---|---|---|---|---|---|---|---|---|

| | UNEP Budget Line | 1 | 2 | 3 | E | | | Year 1* | Year 2* | Yea r 3* | Tot al |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **PERSONNEL COMPONENT** | | | | | | | | | | | |
| **1100** | **Project personnel** | | | | | | | | | | |
| 1101 | project manager | | | | | 66,000 | 66,000 | 22,000 | 22,000 | 22,000 | 66,000 |
| 1102 | project finance and admin officer | | | | | 36,000 | 36,000 | 12,000 | 12,000 | 12,000 | 36,000 |
| 1103 | | | | | | | 0.00 | | | | - |
| **1199** | **Sub-total** | **-** | **-** | **-** | **-** | **102,000** | **102,000** | **34,000** | **34,000** | **34,000** | **102,000** |
| **1200** | **Consultants** | | | | | | | | | | - |
| 1201 | Development of Methodological notes | 10,000 | | | | | 10,000 | 10,000 | | | 10,000 |
| 1202 | Training fee for capacity building on spartial data analysis for NCA | 10,000 | | | | | 10,000 | 10,000 | | | 10,000 |
| 1203 | Training fee for field data collection and practical guidance | 10,000 | | | | | 10,000 | 10,000 | | | 10,000 |
| 1204 | Development of training manuals and training of trainers (ToT). | 10,000 | | | | | 10,000 | 10,000 | | | 10,000 |
| 1205 | National Expert (Biodiversity and Ecosystem) | 4,000 | | | | | 4,000 | 4,000 | | | 4,000 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1206 | Training fee to refine the methodological notes and provide technical briefings for stakeholders for implementation of NCA (customizing already existing methods) | | 20,000 | | | | 20,000 | | 20,000 | | 20,000 |
| 1207 | Development of SEEA Water and Land Ecosystem Accounts for Upper Senqu Catchment. | | 20,000 | | | | 20,000 | 20,000 | | | 20,000 |
| 1208 | Conduct training of trainers for national technical experts on mainstreaming NCA results into Integrated Catchment Management planning | | 20,000 | | | | 20,000 | | 20,000 | | 20,000 |
| 1209 | National Consultant (Expert) to develop design messaging of project information, (Provide Infrographic desigen brief) | | | 5,000 | | | 5,000 | 5,000 | | | 5,000 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1300 | Baseline data validation and Data correction for analysis of core indicators during project implementation fro M&E | | | 6,000 | 5,000 | | 11,000 | 5,000 | 3,000 | 3,000 | 11,000 |
| 1301 | Development of the project Exit Strategy | | | | 5,000 | | 5,000 | 5,000 | | | 5,000 |
| **1299** | **Sub-total** | **44,000** | **60,000** | **11,000** | **10,000** | **-** | **125,000** | **79,000** | **43,000** | **3,000** | **125,000** |
| 1300 | Administrative Support | | | | | | | | | | |
| 1301 | | | | | | | 0.00 | | | | - |
| 1302 | | | | | | | 0.00 | | | | - |
| 1303 | | | | | | | 0.00 | | | | - |
| **1399** | **Sub-total** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| 1600 | Travel on official business | | | | | | | | | | |
| 1601 | International travel | 11,000 | | 12,000 | | | 23,000 | 11,000 | 6,000 | 6,000 | 23,000 |
| 1602 | Local travel | 20,000 | 20,000 | 20,000 | | | 60,000 | 20,000 | 20,000 | 20,000 | 60,000 |
| 1603 | | | | | | | - | | | | - |
| **1699** | **Sub-total** | **31,000** | **20,000** | **32,000** | **-** | **-** | **83,000** | **31,000** | **26,000** | **26,000** | **83,000** |
| **Component total** | | **75,000** | **80,000** | **43,000** | **10,000** | **102,000** | **310,000** | **144,000** | **103,000** | **63,000** | **310,000** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **SUB-CONTRACT COMPONENT** | | | | | | | | | | | |
| 2100 | Sub-contracts (MOUs/LOAs for cooperating agencies) | | | | | | | | | | |
| 2101 | Bureau of Statistics (BOS) - Develop, host and publish the land and water accounts | 72,000 | | | | | 72,000 | 24,000 | 24,000 | 24,000 | 72,000 |
| 2102 | National Spartial Database system development and maintainance by BOS | 150,000 | | | | | 150,000 | 150,000 | | | 150,000 |
| 2103 | Department of Water in the Mininstry of Natural Resources | 100,000 | | | | | 100,000 | 50,000 | 50,000 | | 100,000 |
| **2199** | **Sub-total** | **322,000** | **-** | **-** | **-** | **-** | **322,000** | **224,000** | **74,000** | **24,000** | **322,000** |
| 2200 | Sub-contracts (MOUs/LOAs for supporting organizations) | | | | | | | | | | |
| 2201 | SEEA Short courses by National University of Lesotho | 100,000 | | | | | 100,000 | 50,000 | 50,000 | | 100,000 |
| 2202 | | | | | | | | | | | |
| **2299** | **Sub-total** | **100,000** | **-** | **-** | **-** | **-** | **100,000** | **50,000** | **50,000** | **-** | **100,000** |

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| 2300 | Sub-contracts (for commercial purposes) | | | | | | | | | | |
| 2301 | | | | | | | 0.00 | | | | - |
| 2302 | | | | | | | 0.00 | | | | - |
| 2303 | | | | | | | 0.00 | | | | - |
| **2399** | **Sub-total** | - | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | - |
| **Component total** | | **42 2,000** | **0.00** | **0.00** | **0.00** | **0.00** | **422,000.00** | **274,000.00** | **124,000.00** | **24,000.00** | **422,000** |
| | | | | | | | | | | | |
| **TRAINING COMPONENT** | | | | | | | | | | | |
| 3200 | Group training | | | | | | | | | | |
| 3201 | Capacity building on NCA | 20,000 | | | | | 20,000 | 20,000 | | | 20,000 |
| 3202 | Training for co-hort of trainees | 15,000 | | | | | 15,000 | 5,000 | 5,000 | 5,000 | 15,000 |
| 3203 | Study Tour for National Technical Team | | 20,000 | | | | 20,000 | 20,000 | | | 20,000 |
| **3299** | **Sub-total** | **35,000** | **20,000** | **-** | **-** | **-** | **55,000** | **45,000** | **5,000** | **5,000** | **55,000** |
| **3300** | **Meetings/Conferences** | | | | | | - | | | | - |
| 3301 | Stakeholder consultation workshop on Methodology of land and water accounts | 2,000 | | | | | 2,000 | 2,000 | | | 2,000 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 3302 | project Meetings - PSC meetings, inception, launch | 5,000 | 5,000 | | 10,000 | | 20,000 | 10,000 | 10,000 | - | 20,000 |
| 3303 | SEEA Short Courses (develop training manuals and to train the trainers) | 5,000 | | | | | 5,000 | 5,000 | | | 5,000 |
| 3304 | Presentation to High-Level policy committees | 2,000 | | | | | 2,000 | 2,000 | | | 2,000 |
| 3305 | National Consultations on NCA | 2,000 | 2,000 | 2,000 | | | 6,000 | 2,000 | 2,000 | 2,000 | 6,000 |
| 3306 | Develop National Guidelines for NCA in Lesotho | 4,000 | | | | | 4,000 | 2,000 | 2,000 | | 4,000 |
| 3307 | Build capacity of catchment management committee to support data collection and use analysis for Land and Water Ecosystem accounts | | 10,000 | | | | 10,000 | | 10,000 | | 10,000 |
| 3308 | Training of catchment management committees on use on NCA results into ICM planning | | 20,000 | | | | 20,000 | | | 20,000 | 20,000 |

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| 3309 | Stakeholder workshop to update an Intergrated cathment management framework for development of the ICM plan to include the NCA concept | | 15,000 | | | | 15,000 | | 15,000 | | 15,000 |
| 3310 | SEEA Land and Water Ecosystem Accounts for Upper Senqu Catchment Data cleaning, data entry and collation support (Gov't personnel time), by sub-catchment trained personnel | | 30,000 | | | | 30,000 | | 30,000 | | 30,000 |
| 3311 | Consultation, inception and validation workshop for SEEA Land and Water Ecosystem Accounts for Upper Senqu Catchment and review of catchment management plan | | 15,000 | | | | 15,000 | 5,000 | 5,000 | 5,000 | 15,000 |
| 3312 | Build capacity of catchment management committees to undertake ecosystem-based approaches for ICM | | 10,000 | | | | 10,000 | 5,000 | 5,000 | | 10,000 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 3313 | Facilitate participatory stakeholder assessment | | 12,000 | | | | 12,000 | 12,000 | | | 12,000 |
| 3314 | Conduct stakeholder assessment meetings,review,revise & update catchment management plans & dissemination of updated catchment management plans | | 50,000 | | | | 50,000 | | 25,000 | 25,000 | 50,000 |
| 3315 | Consultative meeting with national experts/ local government staff on data collection and use analysis for decision making | | 20,000 | | | | 20,000 | | 20,000 | | 20,000 |
| 3316 | Capacity building of local governemnt staff & catchment management committees by national technical experts to use NCA results for undertaking ecosystem-based approaches for ICM plan | | 30,000 | | | | 30,000 | | 15,000 | 15,000 | 30,000 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3317 | Consultative meetings with local aurhorities, NGOs, Private Sector at catchment level for dialogue on use of results on the NCA in the integrated catchment management | | 10,000 | | | | 10,000 | | | 10,000 | 10,000 |
| 3318 | Consultative meetings with national stakeholders, central/ministries, NGOs/CSOs, Private Sector and tertialry institutions for dialogue on use of results on the NCA in the integrated catchment management | | 10,000 | | | | 10,000 | | | 10,000 | 10,000 |
| 3319 | National stakeholder workshop to consolidate information from local and national dialogue consultations and formulation of policy direction on mainstreaming of NCA into ICM | | 8,000 | | | | 8,000 | | | 8,000 | 8,000 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 3320 | Natural resources portfolio committee consultaion workshop on policy direction on mainstreaming of NCA into ICM | | 10,000 | | | | 10,000 | | | 10,000 | 10,000 |
| 3321 | Conduct stakeholders workshop to refine methodological notes for implementation of NCA and customization of the existing methods | | 10,000 | | | | 10,000 | | 10,000 | | 10,000 |
| 3322 | Sensitization of Portfolio Committee (Hall hire, lunch, teas, water) | 2,000 | 2,000 | 2,000 | | | 6,000 | 2,000 | 2,000 | 2,000 | 6,000 |
| 3323 | NCA Project Inception Workshop | 2,000 | 2,000 | 2,000 | | | 6,000 | 2,000 | 2,000 | 2,000 | 6,000 |
| 3324 | Project launch (Hall hire, lunch, teas, water) | 2,000 | 2,000 | 2,000 | | | 6,000 | 2,000 | 2,000 | 2,000 | 6,000 |
| 3325 | Sesitization of National stakeholders meetting (Hall hire, lunch, teas, water) | 2,000 | 2,000 | 2,000 | | | 6,000 | 2,000 | 2,000 | 2,000 | 6,000 |
| 3326 | Sesitization of Local stakeholders meeting (Hall hire, lunch, teas, water) | 2,000 | 2,000 | 2,000 | | | 6,000 | 2,000 | 2,000 | 2,000 | 6,000 |
| **3399** | **Sub-total** | **30,000** | **277,000** | **12,000** | **10,000** | **-** | **329,000** | **55,000** | **159,000** | **115,000** | **329,000** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Component total** | | **65,000** | **297,000** | **12,000** | **10,000** | **-** | **384,000** | **100,000** | **164,000** | **120,000** | **384,000** |
| | | | | | | | | | | | |
| **EQUIPMENT AND PREMISES COMPONENT** | | | | | | | | | | | |
| 4100 | Expendable equipment | | | | | | | | | | |
| 4101 | Utilities (electricity, water, internet, etc.) | | | | | | - | | | | |
| 4102 | Stationary | 2,000 | | 539 | | | 2,539 | 1,000 | 1,000 | 539 | 2,539 |
| **4199** | **Sub-total** | **2,000** | **-** | **539** | **-** | **-** | 2,539 | **1,000** | **1,000** | **539** | **2,539** |
| 4200 | Non-expendable equipment | | | | | | - | | | | - |
| 4201 | Equipment for data collection, analysis and storage (computers, tablets, GPSs, etc) | 10,000 | | | | | 10,000 | 10,000 | | | 10,000 |
| 4202 | Computers, printers, phtocopiers | 10,000 | | | | | 10,000 | 10,000 | | | 10,000 |
| 4203 | GPS | - | | | | | - | - | | | - |
| 4204 | Vehicle Purchase | - | | | | | - | - | | | - |
| **4299** | **Sub-total** | **20,000** | **-** | **-** | **-** | **-** | **20,000** | **20,000** | **-** | **-** | **20,000** |
| **Component total** | | **22,000** | **-** | **539** | **-** | **-** | **22,539** | **21,000** | **1,000** | **539** | **22,539** |
| | | | | | | | | | | | |
| **MISCELLANEOUS COMPONENT** | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5100 | Operation and maintenance of equipment | | | | | | | | | | |
| 5101 | Operation and maintenance of equipment | | 10,000 | | | | 10,000 | | 5,000 | 5,000 | 10,000 |
| 5102 | Design and production of awareness creation and branded promotion materials | | | 20,000 | | | 20,000 | 10,000 | 10,000 | | 20,000 |
| 5103 | Audio visuals that?s describe the imprtance of NCA to Lesotho | | | 6,000 | | | 6,000 | 3,000 | | 3,000 | 6,000 |
| 5104 | Radio and tv programmes | | | 9,000 | | | 9,000 | 3,000 | 3,000 | 3,000 | 9,000 |
| **5199** | **Sub-total** | **-** | **10,000** | **35,000** | **-** | **-** | **45,000** | **16,000** | **18,000** | **11,000** | **45,000** |
| 5200 | Reporting costs | | - | | | | - | | - | | - |
| 5201 | publications | | 4,000 | | | | 4,000 | | 4,000 | | 4,000 |
| 5202 | | | | | | | - | | | | - |
| 5203 | | | | | | | - | | | | - |
| **5299** | **Sub-total** | **-** | **4,000** | **-** | **-** | **-** | **4,000** | **-** | **4,000** | **-** | **4,000** |
| 5300 | Sundry | | | | | | | | | | |
| 5301 | Fuel | - | - | | | | - | - | - | - | - |
| 5302 | | | | | | | - | | | | - |
| 5303 | | | | | | | - | | | | - |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **5399** | **Sub-total** | - | - | - | - | - | - | - | - | - | - |
| 5400 | Hospitality and entertainment | | | | | | | | | | |
| 5401 | | | | | | | - | | | | - |
| 5402 | | | | | | | - | | | | - |
| 5403 | | | | | | | - | | | | - |
| **5499** | **Sub-total** | - | - | - | - | - | - | - | - | - | - |
| 5500 | Evaluation | | | | | | | | | | |
| 5501 | midterm evaluation | | | | 15,000 | | 15,000 | | 15,000 | | 15,000 |
| 5502 | terminal evaluation | | | | 15,000 | | 15,000 | | | 15,000 | 15,000 |
| 5581 | audit | | | | 6,000 | 9,000 | 15,000 | 5,000 | 5,000 | 5,000 | 15,000 |
| **5599** | **Sub-total** | - | - | - | **36,000** | **9,000** | **45,000** | **5,000** | **20,000** | **20,000** | **45,000** |
| **Component total** | | **-** | **10,000** | **35,000** | **36,000** | **9,000** | **90,000** | **21,000** | **38,000** | **31,000** | **90,000** |
| | | | | | | | | | | | |
| **GRAND TOTAL** | | **584,000** | **387,000** | **90,539** | **56,000** | **111,000** | **1,228,539** | **560,000** | **430,000** | **238,539** | **1,228,539** |

**ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

**N/A**

**ANNEX G: (For NGI only) Reflows**

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

**N/A**

**ANNEX H: (For NGI only) Agency Capacity to generate reflows**

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

**N/A**