



# PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FSP

TYPE OF TRUST FUND: LCDF

## PART I: PROJECT INFORMATION

Project Title:	Reducing vulnerability from climate change in the Foothills, Lowlands and the Lower Senqu River Basin		
Country(ies):	Lesotho	GEF Project ID: <sup>1</sup>	5075
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4630
Other Executing Partner(s):	Ministries of Forestry and Land Reclamation; Department of Environment; Gender and Youth	Submission Date:	August 13, 2012
		Re-submission Date:	March 27, 2013
		Re-submission Date:	April 22, 2013
GEF Focal Area (s):	Climate Change	Project Duration (Months)	72
Name of parent program	N/A	Agency Fee (\$):	797,826

### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK<sup>2</sup>:

FA Objectives	Expected FA Outcomes	Trust Fund	Indicative Grant Amount \$	Indicative Co-finance \$
CCA-1:	Outcome 1.1:	LCDF	619,908	2,500,000
	Outcome 1.2:	LCDF	5,296,452	15,000,000
CCA-2:	Outcome 2.1:	LCDF	1,419,906	4,000,000
	Outcome 2.3:	LCDF	661,994	3,000,000
Project management cost			399,912	1,500,000
Total Project Cost			8,398,172	26,000,000

### B. INDICATIVE PROJECT FRAMEWORK

**Project Objective:** To mainstream climate risk considerations in the Land Rehabilitation Programme of Lesotho for improved ecosystem resilience and reduced vulnerability of livelihoods to climate shocks

Project Component	Grant Type <sup>3</sup>	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Co-financing (\$)
Knowledge, skills and institutional capacity support land rehabilitation programme to factor in additional risks from climate change, increase resilience and reduce vulnerability	TA	A geo-based agro-ecological and hydrological information system increases knowledge on the relationships between climate change/variability, ecosystem health and resilient livelihoods, and forms the basis for management of evolving risks and uncertainty linked to climate change	<u>Output 1:</u> A geo-based climatic, agro-ecological and hydrological information system supported by a robust and functional GIS unit is operational by end of project year 1 and enables the analysis of climate-driven vulnerabilities and the cost-effective planning of specific adaptation interventions for strengthening social and natural assets. Assessments include: i) integrated map-based assessment of climate-related hazards, vulnerabilities and climate-sensitive natural resources available for the 30 constituencies targeted by the baseline land rehabilitation programme; ii) identification of threats to ecosystem resilience and associated production systems and knowledge based recommendations for mitigating threats incorporated into the land rehabilitation programme in 50 villages (to be selected during PPG); and iii) cost benefit analysis of landscape level mitigation of climate risks undertaken and informs implementation of the climate smart land rehabilitation programme in the 30 constituencies.	LCDF	1,000,000	4,000,000
		Over 50,000 ha under climate-smart Land Rehabilitation Programme (spread across 30 constituencies) demonstrates reduction of vulnerability through strengthened integrity and resilience of natural assets (with a	<u>Output 2:</u> Skills to utilize the information system to reorient the Land Rehabilitation Programme towards ecosystems rehabilitation informed by climate and ecosystems sciences delivered and applied, through: i) training programmes formulated and used in skills development for technical staff of		642,000	2,000,000

<sup>1</sup> Project ID number will be assigned by GEFSEC.

<sup>2</sup> Refer to the reference attached on the [Focal Area Results Framework](#) when completing Table A.

<sup>3</sup> TA includes capacity building, and research and development.

		<p>potential for upscaling to cover over 200,000 ha)</p> <p>Communities empowered with skills, knowledge, partnerships and institutions for managing natural resources to reduce vulnerability and increase resilience of natural and social capital (over 20,000 households, with potential for upscaling to cover over 50,000)</p>	<p>the District Technical Teams, Regional Council staff and land managers in the fields of climate change and land rehabilitation, ecosystems health and relatedness to resilience, productivity and landscapes; ii) relevant departments (particularly engineering, planning and monitoring sections of the Ministries of Forest and Land Rehabilitation) acquire necessary technical skills (staff members) with relevant training on climate science; iii) inter-council land rehabilitation committees established and operationalized to facilitate greater understanding of the role of ecosystem resilience and greater responsibility for environmental management; iv) a strategy for maintaining capacity developed by the project formulated and implementation agreed; and v) a socio-economics unit established and made functional; and supports the integration of social capital and livelihoods needs in the selection, implementation and maintenance of climate smart rehabilitation measures.</p> <p><u>Output 3:</u> Climate smart ecosystem rehabilitation and management practices (identified via analytical assessments under Output 1) implemented at the landscape and “farm” level in over 100,000 ha, and begin to increase structural complexity of the natural systems, thereby increasing productivity and resilience, including: i) critical ferns and bogs and other important wetlands in the mountains (which are sources of economically important rivers and support more than 100,000 households in the project areas) protected from overgrazing, and rehabilitated by improving/creating vegetation buffers around them, preferably planted with indigenous grasses and herbaceous vegetation resilient to significant climatic variance; ii) impacts of increased flooding and irregular water flow on soil erosion reduced on the farm level via adoption of conservation agriculture (which includes zero tillage) and establishment of structurally complex patches of vegetation around the farms, preferably made up of keystone species mixed with agro-forestry species that increase goods such as fodder, wood fuel, building poles and increase soil fertility; and iii) at the landscape level, the impact of flooding and droughts reduced by establishing strategic measures in sensitive areas including construction of check dams to slow water flow, rehabilitation of old gulleys and rills (with indigenous grasses, stones, and other measures to be identified through the GIS supported analytical work).</p>		5,716,358	15,000,000
Climate change adaptation mainstreamed into local and regional development planning and finance	TA	<p>National strategies for rangelands and wetlands management informed by the science of climate change/variability and ecosystems management, and strengthen resilience</p> <p>Mainstreaming of the</p>	<p><u>Output 4:</u> The revised rangelands and wetlands strategies overtly recognize climate risk and the importance of ecosystems based approach to adaptation and resilience; they further include specific budgets for advancing the maintenance of ecosystem functionality as the entry point to addressing climate risks and boosting resilience</p> <p><u>Output 5:</u> Stronger coordination of the regional and district development teams’ leads to better integration of proven measures to reduce vulnerability to climate shocks into local policies</p>	LDCF	219,908	1,500,000
					419,996	2,000,000

		provisions of the new National Sustainable Development Plan into regional development strategies takes full cognizance of the role of healthy ecosystems in ensuring resilience and buffering livelihoods and natural capital against climate shocks – and lessons from this process inform constituency-wide adoption of climate smart Land Rehabilitation Programme	processes and development strategies. This will lead to: i) additional sectoral strategies, plans and investment projects aimed at implementing the National Sustainable Development Strategy, including specific guidelines, actions and budgets for adaptation measures; ii) design, appraisal and approval processes for council, district and communal development plans integrate climate risk considerations; iii) training programmes on climate-resilient construction, land use and water resources planning based on pilot experience are made available nationally for structural engineers, urban and rural infrastructure planners, local authorities, district planning units and officers of the Ministry of Economic Development, Finance Commission, and teaching staff from technical colleges and vocational training institutes; staff trained to recognize climate risk problems in new investment projects and apply and/or recommend targeted risk reduction and risk management measures; iv) at least 4 Regional councils formulate regulatory frameworks for guiding environmental management within their councils to minimize/avoid negative impacts on adjoining ecosystems/landscapes; and v) a participatory M&E system established and elaborates indicators for monitoring trends in ecosystems rehabilitation and climate variability (linked to the Dept. of Meteorology and institutions of higher learning and regional and global networks on monitoring ecological/climate change interactions and impacts on ecosystems)			
		Subtotal			7,998,262	24,500,000
		Project Management Cost (PMC) <sup>4</sup>			399,912	1,500,000
		Total Project Cost			8,398,174	26,000,000

**C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)**

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Government	National government	Cash	21,000,000
Government	Local councils	Cash	1,000,000
GEF Agency	UNDP	Grant	4,000,000
<b>Total Co-financing</b>			<b>26,000,000</b>

**D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$) (a)	Agency Fee (\$) (b) <sup>2</sup>	Total (\$) c=a+b
UNDP	LCDF	Climate Change	Lesotho	8,398,174	797,826	9,196,000
<b>Total Grant Resources</b>				<b>8,398,174</b>	<b>797,826</b>	<b>9,196,000</b>

<sup>1</sup> In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

<sup>2</sup> Indicate fees related to this project.

**E. PROJECT PREPARATION GRANT (PPG)<sup>5</sup> – NO PPG REQUIRED**

<sup>4</sup> To be calculated as percent of subtotal.

<sup>5</sup> On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

## **PART II: PROJECT JUSTIFICATION<sup>6</sup>**

### **PROJECT OVERVIEW**

#### **A.1. PROJECT DESCRIPTION**

1. **Context and global significance:** Lesotho's vulnerability to climate change emanates from its high dependency on the flow of ecosystem goods and services for socio-economic development—particularly water provisioning and quality regulation, soil formation and fertility maintenance, and rangeland resources; these services are projected to be disrupted by the effects of climate change and variability. The small landlocked country occupies 30,588km<sup>2</sup> of largely grasslands dominated habitats, divided into 4 ecological zones: the lowlands (17%), the foothills (15%), the mountains (59%), and the Senqu River Valley (9%)<sup>7</sup>. Over 80% of productive arable land and the highest population densities are found in the lowlands. The foothills range in elevation from 1,800 to 2,000 metres above sea level along the lower mountain range. The Senqu River Valley (SRV) is a major grassland area marked by shallow soils. The mountain region ranges from 2,000 to 3,400m above sea level and is primarily used for summer grazing; it hosts some unique alpine and sub-alpine habitats of the Drakensburg range. The country is generally considered to be a grassland biome with a limited forest cover along rivers and in selected sheltered mountain hillsides, where dense woodlands were reported at the turn of the 18<sup>th</sup> century, dominated by *Podocarpus*, *Cussonias*, and *Eucleas*. Most forests, marshes, reed and Cyperus beds have however disappeared, and been replaced by grasslands and/or bare ground.
2. Although absolute levels of poverty in Lesotho are much lower than in many countries in Sub-Saharan Africa, 54% of the households in rural areas and 28% of urban populations fall below the poverty line. It has a Gross National Income (GNI) per capita of USD 1,664 and a Human Development Index (HDI) value of 0.450 for 2011, which positions it at 160 out of 187 countries. Poverty is highest among farmers, casual laborers and households with small land holdings, highlighting the direct relationship between climate change and poverty due to the high dependence of rural households on natural resources for livelihoods. Close to 85% of the households live in rural areas and 70% derive all or part of their incomes from agriculture.
3. The proposed project focuses on NAPA Priority 2—Promoting Sustainable Crop Based Livelihood Systems in Foothills, Lowlands and SRV. These areas are important because although collectively they constitute only 41% of the country's surface area, they host more than 80% of the total population and are responsible for most of the food production. Over 1.5 million people in the area are directly dependent on natural assets such water, grasslands pasture, fertile soil and scattered forests for sustaining livelihoods. The major subsistence crops are maize, wheat, peas, and vegetables. Wild resources, such as wood for construction and energy, medicinal plants, and edible herbs, are collected for domestic use. Cattle are important for income generation as well as provision of goods and services within the household, such as milk, dung, draught for ploughing, savings, and cultural purposes.
4. Production in the foothills, lowlands and the SRV is also highly dependent on ecosystem services, particularly water, pasture and soil fertility maintenance from the mountain region, which makes up 59% of the country's total area. The mountain ecosystem is particularly important for summer grazing, and livestock from the foothills have been traditionally driven to the mountains using a transhumance system that allowed resting and seasonal regeneration of forage and biomass. Lesotho's wetlands are also located in the mountain ecosystem where mires (bogs and fens) purify and regulate the flow of water into streams; indeed, these highlands are the sources of Lesotho's rivers, including the rivers that make up the regionally significant Gariep basin. The Gariep joins the Vaal River to its north, which drains South Africa's Gauteng Province, the greatest concentration of economic activity in the region. Downstream, the river traverses an increasingly arid landscape until it meets the Atlantic Ocean in Namibia.
5. Although the ecosystems supplying these goods and services have over time been affected negatively by the trade-offs made in exploiting natural resources, they are currently sustaining a stream of services to the majority of resource users. For instance, land clearance for agriculture and overgrazing in the rangelands (including the mountains) has expanded food production for the Basotho, but has simultaneously weakened the stability of the ecosystems and their ability to regulate water flow, increasing vulnerability to erosion and floods. Climate change is likely to exacerbate these vulnerabilities by further disrupting the prevailing equilibrium between natural resource exploitation and the consequences obtaining from the current trade-offs<sup>8</sup>. The unpredictable nature of climate change will introduce uncertainty in the ability

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<sup>6</sup> Part II should not be longer than 5 pages.

<sup>7</sup> NAPA 2006.

<sup>8</sup> First National Communication, 2005, and NAPA, 2006.

of the ecosystems to continue supplying these goods and services within the stability range that current economic development and livelihoods are built on.

6. *The climate change challenge:* As reported in both the NAPA (2006) and the First National Communication (FNC 2005), a comprehensive analysis of climate change scenarios generated from six global circulation models, using historical data for the years 1961 to 1994, predicted warmer future climatic conditions throughout the country, lower precipitation, particularly in the spring and summer seasons, a higher precipitation in winter, and a gradually increasing precipitation in autumn (FNC 2000, NAPA 2006)<sup>9</sup>. As shown in table 1, all six models indicated a progressive increases in warming for all seasons up to year 2075: the GFDL predicted a 0.7°C increase in temperature for all seasons by year 2030; an increase of 1.1°C for both winter and summer and 1.0°C for both spring and autumn by year 2050; and increases of 2.0°C for both summer and autumn, 1.5°C for winter, and 2.7°C for spring by year 2075. Similarly, most of the models indicated a reduction in precipitation, with the highest drop of 0.7mm/day depicted by the United Kingdom Meteorological Office High Resolution model (UKHI), and 0.4mm/day by the Geophysical Fluid Dynamics Laboratory model (GFDL) for the month of October 2075. The only increase in precipitation occurs in the month of April, where both the UKHI and GFDL models estimate an increase of 0.3mm/day. Seasonally, the models indicate a decrease in summer and spring precipitation up to year 2075; a decrease in winter precipitation, which is reversed to an increase in year 2075; and, a minimal decrease in autumn precipitation, which becomes significant in year 2075.
7. These scenarios imply that Lesotho is likely to experience a warmer climate with lower rainfall in the spring and summer seasons, a higher precipitation in winter, and a gradually increasing precipitation in autumn. The shift would mean that the good seasonal rains that currently characterize the summer season would come in late autumn. This would push the growing seasons forward and perhaps shorten it. On the other hand, an increase in precipitation in winter may suggest increased activity in frontal systems which may result in heavier snowfall occurrences and strong devastating winds which often bring disasters and human suffering. More significantly, all the models largely agree on the fact that climate change in Lesotho in this and coming decades will severely exacerbate the country's pre-existing climatic variability, and that these changes are already causing a shift in the characteristics of ecosystems stability bandwidth, with consequent changes in the supply of ecosystem goods and services, particularly water catchment services.
8. *Key vulnerabilities in agro-ecological and hydrological systems:* Despite the predictions provided by the FNC, the impacts of climate change on the agro-ecological systems of Lesotho (encompassing grasslands, wetlands and the riverine ecosystems) in the project area are complex and generally difficult to predict with a high degree of accuracy. In particular, the cascading effects of climate-induced changes on the trophic community and physical element of these systems can be difficult to predict. It is however likely that the following patterns will be observed based on current vulnerabilities described in Table 1.

**TABLE 1: CHARACTERISTICS OF MAJOR ECOLOGICAL ZONES MODIFIED FROM LESOTHO FNC 2005**

Parameter	Mountains	Lowlands	Foothills	Senqu River Valley
<b>Typography</b>	Very steep bare rock outcrops and gentle rolling valleys	Flat to gentle rolling	Steeply rolling	Steeply sloping
<b>Soils</b>	Fragile, thin horizon of rich black loam except on valley bottoms	Sandy textured, red to brown in the north clayey in the south	Rich, alluvial along valleys, thin & thick rock on slopes	Calcareous clayey red soils with poor penetration by rainfall
<b>Climate</b>	Cold, moist	Moist in the north, moderately dry in the south	Moist, sheltered	Dry
<b>Risks</b>	Long period of frost, snow, hail, high soil erosion	Parching sun, strong winter winds, hail, periodic droughts, high soil erosion.	Floods, high soil erosion	Severe drought, moderate soil erosion
<b>Main crops</b>	Maize, wheat, peas, potato	Maize, wheat, beans, vegetables	Maize, wheat, peas, fodder crops, potatoes	Maize, sorghum, beans, few trees in valleys
<b>Vegetation</b>	Denuded grassland, indigenous shrubs in some river valleys, stunted peach trees near homesteads	Crop stubble, reforestation on some hills, fruit trees near homesteads	Poplar & willow trees along streams & gullies, crop stubble, a lot of fruit trees near homesteads	Denuded dry shrubs, brush, few trees in valley
<b>Summer Grazing</b>	High mountain cattle posts	Around villages	Around villages	Unsuitable, too dry

<sup>9</sup> The six models used are United Kingdom Meteorological Office High Resolution model (UKHI), the Canadian Climate Centre model (CCCM), the USA Geophysical Fluid Dynamics Laboratory model (GFDL), the USA Oregon State University model (OSU), the Goddard Institute for Space Studies model (GISS), and the United Kingdom Meteorological Office Hadley Centre Transient model (UKTR).

9. *Grasslands:* Lesotho is naturally a grassland country with very little natural tree growth. Rangelands make 65% of the total land area; grasslands, mainly of the climax varieties, constitute 61% of the rangelands. The importance of rangelands is both environmental and economic. They not only play a vital hydrologic function at the head waters of the most important catchment areas in the Southern African region, but also support a large herd of livestock whose contribution to the economy is now relatively higher than that of crop agriculture. In addition to domestic animals, wild ungulates also utilize the rangelands quite extensively, although populations have dwindled in the last few decades. Most of the GCMs predict a worsening situation of forage production under climate change, albeit with some seasonal variation: while the GISS predicts an improvement of 12.8% in forage from warm season grass, the other models predict decreases of between 3.4% and 47.3%. Similarly, while GISS and the UKHI predict increases in forage from cool season grass of 11% and 18.9% respectively, the other models predict decreases of between 0.3% and 13.8%. The projection for forage from forbs is more uniform across the models. While the GFDL, OSUM and UKTR predict increases in forage from warm season forbs of between 3.6% and 10.3%, the UKHI and GISS respectively predict decreases of 1% and 3.1%. On the other hand, only GISS predicts decreases in forage from cool season forbs. The other models predict increases of between 1.4% and 13.9%. All models predict a drop in forage from shrubs, with estimates ranging between 0% and 38.5%.
10. The impact of climate change on pastures is also likely to be exacerbated by the impacts on soil erosion, and its influence on vegetation growth. The predicted warmer climate with shorter growing season and severe winter conditions would indeed expose Lesotho to higher forces of soil erosion via the double effect of higher intensity rainfall over reduced vegetation cover, particularly as the melting of the heavier snow which is expected to fall in early winter is likely to produce torrents. Although soil formation is normally considered to be a long-term process, warm conditions and heavy snowstorms are likely to accelerate soil formation of coarse texture through accelerated weathering. All indications therefore are that future soil loss is likely to be far above current levels, further weakening the capacity to support the country's biological and economic wellbeing, unless drastic adaptive measures are designed and implemented (FNC 2005). As reported by the FNC, the country is likely to lose more of the nutritious climax grass species and gain a lot of hardy and less nutritious species. This will have a pervasively negative impact on the livestock subsector which currently contributes an average 55% to 65% to agricultural output. Indeed, a comparison of the average monthly livestock forage intake over a year showed a consistently lower weight under climate change than under the current climate, with the UKHI model occupying a position very close to the latter scenario. This result translates directly into the average monthly livestock weight, which shows a consistently lower performance under climate change than under the current climate. It does appear, therefore, that the poor performance, particularly of the grass forage species that is predicted by most of the GCMs, will negatively impact on the quality of livestock, leading to low output and productivity, lower farmer incomes, and increased imports to meet increased demand by a higher population.
11. *Water:* Water is Lesotho's most significant natural resource. The multi-billion-dollar Lesotho Highlands Water Project (LHWP) captures, stores, and transfers water from the Orange River system to South Africa, and has made Lesotho almost completely self-sufficient in the production of electricity, in addition to generating approximately USD 24 million annually from the sale of electricity and water to South Africa. The GCM models identified two types of water systems that are likely to be negatively affected by climate change and climate variability: the surface and sub-surface runoff. The GCM model simulations up to 2075 show decreased surface runoff when compared to the normal historical data, particularly for the dry season in the dry years. Reduction in the quantity and quality of water on which biological resources are dependent will reduce the services these biological resources in turn supply to livelihoods. Part of the water from nature is used for direct human consumption and economic production. If, due to climate change effects, the capacity of the natural water (stream flow) to provide water for direct consumption for households and for maintenance and biological production diminishes, the availability of ecological resources diminishes, increasing household vulnerability and reducing overall welfare. In addition, the predicted higher future temperatures are likely to lead to higher rates of evaporation that would further reduce the amount of water that is available for vegetation. Considering the prediction that total amount of rainfall will decrease and the frequency of droughts and rainstorms increase, the combined effect would be increased periods of time without adequate surface water. This would make the droughts more severe, a fact that is already being felt under current demand and supply situation, where shortages of water resulting from protracted droughts have had severe impacts on the economy (NAPA 2006). It is the expected impact of climate change on the sub-surface flow that is likely to impact the economy and the livelihoods of the Basotho in the foothills, lowlands and the SRV most severely.
12. In contrast, climate change is likely to affect *forests* in Lesotho positively. Although Lesotho is generally one of the least forested countries in Africa (its vegetation largely being grasslands), trees and shrubs remain important resources to rural communities and provide fuel wood, construction materials, medicines, forage and shelter. Indigenous trees and shrubs comprise the mixed evergreen and deciduous forest patches found in the valleys and gullies of the lowlands and foothills; while stands of trees and scrubby areas can be found in the lower mountain zone up to 2,500m. It is estimated that these

native forests cover a mere 34,685 hectares of land, with a total crown cover of 34.14% of the country (FNC). The interactions of the changes in the temperature and precipitation, the two bioclimatic variables critical in the productivity and distribution of terrestrial vegetation are expected to lead to improved conditions for tree growth. The FNC reported that there is likely to be a large sub-tropical dry forest bioclimatic zone whose warmer climatic conditions would improve growth and yields of various forest species. In particular, it seems quite probable that Lesotho could be a producer of sub-tropical fruit in future, although irrigation might be necessary due to predictions of relatively dry conditions. Improved tree performance is likely to impact positively on soil stabilization, provision of organic nutrients to the soil, and improvement of biodiversity, counteracting some of the negative impacts on soil erosion caused by changes in rainfall patterns. On the other hand, improved biomass production should impact positively on fuel wood supply in rural areas. It is also conceivable that wood-based industries could emerge if the country took advantage of the favorable climate. This could create additional employment opportunities and improve household incomes. However, these impacts will not be realized if capacities to manage current levels of land and forest degradation are not urgently put in place.

13. In summary, the agro-ecological and hydrological systems supporting livelihoods in the Foothills, Lowlands and SRV are so closely linked to the mountain ecosystem that their ability to continue providing the goods and services that support livelihoods is dependent on the continued functioning of the latter. In all four areas, the systems face a number of climatic vulnerabilities linked to natural and social assets such as water, pasture, forests, livelihoods and land use systems. Although they are currently providing food, fresh water, fibre, fuel, pasture and soil fertility maintenance at a rate that is maintaining livelihoods, the foreseeable impacts of climate change are expected to destabilize the prevailing equilibrium between exploitation, ecosystem management and long-term ecosystem functionality, and, ultimately, the long-term support to economic development. Historically, these ecosystems have been managed within the context of individual economic sectors, each of which produces a single service, leaving managers unaware of the inherent trade-offs that exist among services (Ayensu et al. 1999). As in many other places, the impacts of these trade-offs have largely been ignored, and their multiple cascading effects have weakened the resilience of livelihoods considerably, particularly to the effects of climate change.
14. In the past, the relatively high rainfall and widespread availability of perennial springs in the mountains, as well as low population enabled the establishment of a dense pattern of settlements, which usually depended on one or two springs throughout the year. However, rapid population growth, the introduction of water supply infrastructure and borehole technology in the past 3 decades, as well as the migration of people from the mountain to more developed lowland and peri-urban areas, has enabled settlements to rapidly expand into more arid parts of the western lowlands, compelling the government to increasingly intervene in water supply, in both urban and rural areas. Overstocking the rangelands in the mountains has increased the ability of the system to support large herds, but it has almost destroyed the highly sensitive wetlands, ferns and bogs that regulate flow of water to the rivers that are economically significant in Lesotho and the Southern Africa region. Together with clearing land for cultivation in the foothills, lowlands and the SRV, these management and exploitation practices have weakened the ecosystems in several critical ways: they have disrupted the matrix of natural vegetation patterns, thereby simplified the structural complexity throughout the landscape. This has weakened natural habitats, reducing landscape scale heterogeneity and environmental gradients, corridors of gene flow, pollination, seed dispersal, etc. Collectively these disturbances have reduced the capacity of these ecosystems to absorb disturbance and reorganize while undergoing change expected as a result of climate change. It is indeed clear that further climate variability and change is likely to push these ecosystems to tipping points beyond which recovery will be too difficult and expensive to undertake.
15. **Baseline project:** The proposed LDCF project aims to re-orient baseline national programmes on land rehabilitation, the revision of the rangelands and wetlands management strategies, and the regionalization of the provisions of the new National Sustainable Development Programme in order to make them more effective in addressing climate risks. This will be done through two components through which it will strengthen the resilience of the natural systems, and their ability to buffer livelihoods against the effects of climate change and climate variability, while increasing productivity. By increasing the use of cutting edge knowledge in the assessment of the impacts of climate change on the relationships between ecosystem management, functionality, integrity and delivery of ecosystem goods and services, the project will ensure that the baseline programmes, and in particular the Land Rehabilitation Programme and the revised rangelands and wetlands' strategies, integrate climate risks into the rehabilitation and management of target ecosystems. It will also increase the skills and awareness of the local population and technicians to ensure that targeted population groups participate effectively in the application of the climate smart rehabilitation and management practices and other risk reduction measures. These initiatives will be in line with CCA-2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level, where they will contribute directly to outcomes 2.1 and 2.3 (*Increased knowledge and understanding of climate variability and change-induced threats at*

country level and in targeted vulnerable areas: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level, respectively). In the second component, the project will strengthen the governance systems for enforcement of mainstreaming of climate risks across the policies of the productive sector. This will enable the upscaling of successful land rehabilitation initiatives piloted by the project across sectors and landscapes, in line with CCA-1: *Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level*) where it will contribute directly to Outcome 1.1 and outcome 1.2: *(Mainstreamed adaptation in broader development frameworks at country level and in targeted vulnerable areas and Reduced vulnerability to climate change in ecosystem and land based productive sectors respectively)*. In addition to reducing vulnerability of the ecosystem based productive sectors<sup>10</sup> to the effects of climate change, the project will reduce unemployment and poverty amongst the youth in Lesotho, factors which have made them particularly vulnerable to climate change in the past.

16. The project will build on three major government programmes with a combined value of over USD 50 million nationally (only USD 19 million of which will serve as co-finance for this project<sup>11</sup>). These are: i) the Land Rehabilitation Programme (LRP) led by the Ministry of Forestry and Land Reclamation (MFLR); ii) the implementation component of the new National Sustainable Development Plan; and iii) the new rangeland and wetland management strategies, currently being developed by the departments of Rangelands Management and Water Affairs<sup>12</sup>. These are described below:
17. The Land Rehabilitation Programme: The goal of programme is to restore landscapes through the implementation of a land rehabilitation programme that addresses land degradation while creating employment. Employment is being created through engagement of local communities in the rehabilitation of degraded lands. The programme has been running since 2007 and is expected to continue into the foreseeable future. It has an annual budget of USD 6 million (a total of USD 66 million between 2007 and 2017 (USD 15 million of which is counted as baseline to this project). The programme outcomes are to: increase the area of rehabilitated and protected watersheds; increase the area of properly managed, productive range-lands; protect wetlands to enhance sustainable water yields into the nationally important Dams; contribute to the reduction of employment and resultant poverty; increase honey production, and increase fruit tree production. The programme is currently being implemented in 80 constituencies, reaching over 60% of the country, and has involved 387,836 workers, who have collectively earned over 366,464,564 Malutti (US\$ 48.8 million). Under the programme, each department has the following activities: i) the Department of Forestry (DOF) is responsible for, and undertakes rehabilitation of existing forest reserves based on purchase of tree seedlings from local farmers, planting of fruit trees along contour bunds, bee keeping and honey production; ii) the Department of Soil and Water Conservation is responsible for rehabilitation of gullies, construction of silt traps and check dams, construction of dams, construction of roof/storage tanks, and reseeding degraded marginal fields; iii) the Department of Range Resources Management is responsible for protection of wetlands by fencing around them, reseeding of degraded rangelands, removal of invader species, and formation of grazing associations for the improved management of livestock; and iv) the District Coordinator Offices are responsible for preparing action plans for selected sites including activities and targets, coordinating field activities, particularly organizing the labour teams, providing monitoring and evaluation back up, and mainstream rehabilitation programmes into district development programmes.
18. Starting from this year, the LRP is being implemented within the context of the new National Sustainable Development Strategy (NSDP) for the period 2012-2017, which emphasizes reversal of environmental degradation and adaptation to climate change as a central pillar for achieving sustainable development. In recognition of the fact that sound environmental policies and land use planning can make a significant contribution to long-term sustainable economic growth, the new NSDP commits to provide resources through the line Ministries to: (i) reverse land degradation and protect water sources through integrated land and water resource management; (ii) improve national resilience to climate change; (iii) promote biodiversity conservation; (iv) increase clean energy production capacity and environment friendly production methods and explore opportunities for carbon trading; (v) improve land use and physical planning as well as increasing densification and ring-fencing towns to avoid human encroachment on agricultural land and other fragile ecosystems; (vi) improve the delivery of environmental services, including waste and sanitation and environmental health promotion; and (vii) improve coordination, enforcement of laws, information and data for environmental planning and increase public understanding and protection of the environment. Additional support to the two baseline programmes arising from the implementation of these aspects of the NSDP is expected to be in the order of USD 2 million a year, totalling to USD 12 million in the 2013-2017 period (of which USD 3 million will serve as co-finance to this project).

<sup>10</sup> Such as agriculture and livestock.

<sup>11</sup> USD 19 million being the estimated part of the baseline covering the 30 constituencies targeted by the project.

<sup>12</sup> It will also be closely aligned with the Lesotho Component of the Africa Adaptation Project (funded by the government of Japan through UNDP)—see para 55 for further information.



Much of this support will be delivered through the regional councils, which will be updating their regional development plans, budgeting and coordination systems.

19. The Departments of Rangelands Management and Water Affairs are both working to develop new rangeland and wetland management strategies that include broad stakeholder engagement. As part of the management strategies to improve natural resources based livelihoods in Lesotho, the country has embarked on a more aggressive attempt to improve natural resources governance, through mainstreaming sustainability into sector policies. This is a response to the continued degradation of water and rangelands resources in the highlands from the already felt impacts of climate variability, experienced as declining wetlands and prolonged droughts. Livestock farming is a dominant livelihood activity and people are sensitive to the deterioration of rangelands and wetlands (used as watering posts). A key strategy to be pursued is reduction of livestock numbers in the highlands. While farmers are accepting of the idea of destocking, they are resistant to putting it into practice and improved enforcement is required. The government is spending approximately USD 2 million a year on technical support to the process and participatory consultation processes. This process is expected to take about 3 years (from 2012-2015), at a total cost of USD 6 million (of which USD 1 million counts as co-finance to this project).
20. Through support from the LDCF, the proposed **long-term solution** is to build on the baseline work of the LRP, the revision of the rangelands and wetlands management strategies and the regionalization of the provisions of the new NSDP, to pilot the use of ecosystem management, functionality, integrity and delivery of ecosystem goods and services as the basis of integrating climate risk and enhancing resilience. It will finance the additional costs of maintaining natural assets and related agro-ecological and hydrological services essential to sustaining local livelihoods in the face of climate change, including increased climatic variability. More specifically, the project will ensure a transition to a much more rational use of natural assets and the long-term maintenance of a stream of agro-ecological and hydrological services associated with them, based on adequate landscape-level planning frameworks. In doing so, the overall project will generate benefits in three important streams: increasing ecosystem resilience, which will reduce negative impacts of climate shocks; maintenance of important economic support systems; and increasing household incomes through job creation.
21. **Barriers:** Despite these commitments, the baseline programmes (described above) are unlikely to strengthen the integrity and functionality of critical ecosystems to the extent that they continue to support livelihoods and economic development in a changing climate. This is because climate change risks, vulnerabilities and resilience are not sufficiently mainstreamed into these baseline programmes due to the following barriers:
22. *Barrier 1: Inadequate application of cutting edge knowledge to understand the impacts of climate change on ecosystem resilience and the relationships between resource management, ecosystem functionality, integrity and productivity in the planning and implementation of land rehabilitation works:*
23. While it is widely accepted that healthy ecosystems are more effective at buffering livelihoods from the impacts of climate change, the implementation of the two key baseline programmes (land rehabilitation and the formulation of the rangelands and wetlands strategies) are proceeding without taking adequate consideration of the additional risks to ecosystem productivity, integrity and resilience emanating from climate change. Mainstreaming climate risk considerations into the land rehabilitation programme is being challenged by the difficulties related to localizing information on climate risks. Translating climate risk data from Global Climate Models (GCMs) into practical guidance for sectoral or landscape level planning faces several challenges related to the scales and inherent uncertainties in the science of climate change. This is because GCMs are typically applied at a spatial scale of 200-300 km<sup>2</sup>, and often cannot capture the physical processes and features of the landscape that are important determinants of local and regional climate to accurately represent the circulation patterns and physical processes (e.g. convection). In Africa, this is complicated by limited understanding of the regional dynamics of the climate of the continent. This is particularly true for Lesotho: the country is rather small for the GCM scales and there may be aspects of the local climate system which could interact with globally forced changes to either exacerbate or mitigate expected change, e.g. land-use change. Models for the 4 agro-ecological systems to be covered by this project include a degree of uncertainty, and are rendered even more uncertain by the unpredictable effects of natural oceanic forces on the region's climate. Although downscaled simulations have been used to provide more accurate descriptions of the local climate and projected change, the higher resolution offered by these simulations does not necessarily mean higher confidence in the projections. There are also large uncertainties in seasonal predictions, complicated by difficulties in understanding forecast implications, due to low levels of skills on climate science amongst the technicians working on the two key baseline programmes. Thus even when seasonal predictions are understood properly, it may not be obvious how to use them in the rehabilitation programme to influence for example choice of policy options or rehabilitation measures such as species mix, technologies, etc.

24. While it is uncertain if GCMs are likely to significantly increase in quality in the near future, there is room to strengthen skills for applying climate science in the land rehabilitation programme, and to bridge the gap between the producers of climate science data and natural resource users and managers. The technicians on the programme need to be supported by climate scientists with better training and experiences of applying climate change models, particularly at the local scale, using techniques such as downscaling. They should also be linked to suitable platforms for knowledge management and sharing on climate change science and development, ensuring that they have the relevant technology capacity (equipment and skills) to interact on these platforms. This will provide them with space and means for collaborative action, mutual learning and the exchange of a range of material on relevant topics. Noting that long-term climate observations and models are not the only means to determine changes in climate, most rural communities in Africa have always relied on indigenous knowledge to help them deal with climate variability and change. A key question is how to integrate this indigenous knowledge with climate science successfully, to guide the mainstreaming of climate risks into the land rehabilitation programme. The UNDP Africa Adaptation Programme (AAP) has made some progress in establishing national level capacity and coordination on adaptation programmes and knowledge sharing, but it has a very limited budget compared to the magnitude of the task.
25. Yet the core issue for the LRP should not be so much the accuracy of climate projections for the coming decades, but much more on understanding (and mainstreaming) the impacts of the current climate variability (particularly increased temperatures, increased frequency and severity of droughts, change in seasonal availability of water, overall decreased water availability and decreased surface runoff) on important ecosystem properties such as resilience, stability and productivity, their role in adaptation and likely tipping points for ecosystems. Although the economies and livelihoods of the communities in Lesotho are highly dependent on natural resources, the nature of the ecosystem goods and services delivered by the key agro-ecological and hydrological systems of the project area, their vulnerabilities to climate change and the impacts of the current management practices on these qualities and vulnerabilities are only partially known, and certainly not being considered in the baseline land rehabilitation programme. The inadequate use of information on the consequences of land-cover change across multiple ecosystem services, especially at the scale at which management decisions are made, presents a significant obstacle to the effectiveness of the land rehabilitation programme to strengthen the important ecosystems characteristics, including resilience. Implementation of the baseline programmes is therefore being hampered by the lack of simple analytical tools that can handle complex assessments integrating multiple and evolving data sets, combining climate variability and projections with landscape, resources and land use features as well as socio-economics factors, to produce practical and pragmatic products for strengthening resilience in natural and social capital.
26. The use of a geographic information system (GIS) is critical in the modeling of climate change risks scenarios and the prioritization of catchments and watersheds for rehabilitation. The country has two GIS systems, the main one located in at the Ministry of Forestry and Land Rehabilitation with a supplementary one in the Department of Range Resources Management. However, the potential of the GIS is not being applied to the rehabilitation programme due to insufficient staffing, inadequate GIS utilization skills and inadequate collaboration between the two units. In addition, the low levels of staff, compounded by lack of skills and information on climate change and its impacts on the LRP have led to weak application of science in the selection of rehabilitation techniques and measures, poor supervision of physical works and weak monitoring of the completed works. A 2012 review of the programme reported that the Departments of Forestry, Soil and Water Conservation Range Resources Management, the GIS and Engineering sections all needed additional staff with more updated skills. The engineering section for instance, which is responsible for land surveying, design of physical interventions e.g. dams and ponds, preparation of technical manuals for field officers, training and technical backstopping of District Offices has one permanent position, currently filled by a consultant who is a retired Government of Lesotho (GOL) employee, and two Assistant Surveyors, none of whom have training on ecosystem management or climate science. The current programme lacks a socio-economics unit, meaning that selection of biophysical works does not take important social capital issues into consideration, particularly as they relate to risks emanating from climate change. The LRP has no Monitoring and Evaluation unit; thus monitoring is very superficial and limited to recording of outputs for quarterly and annual reports. Planning of the rehabilitation interventions does not include sustainability mechanisms or analysis of risks, particularly those related to climate change and its impacts on the long-term success of the rehabilitation programme and the ability of ecosystems to continue delivering goods and services, particularly reducing the vulnerability of livelihoods.
27. *Barrier 2: Upscaling of successful land rehabilitation initiatives and mainstreaming climate risk into the new rangelands and wetlands strategies are being hampered by weak governance systems for enforcement of mainstreaming across policies of the productive sector and poor coordination across landscapes and sectors:*

28. The current land rehabilitation programme works in two pilot sites per constituency, with the intention that successful initiatives will be piloted more widely within the 80 constituencies and beyond. While the programme indeed presents a cost effective opportunity to ensure that climate change related risks are integrated into land rehabilitation and management practices for all the productive sectors (such as agriculture, civil engineering works, infrastructure development), upscaling of the ‘rehabilitation’ experiences is being hampered by weak natural resources governance systems, compounded by weak coordination and poor linkages to policy frameworks.
29. Although the country has made some progress in mainstreaming the climate change language and concepts at the level of the overarching policies, such as the National Sustainable Development Plans and Vision 2020, there is limited actual translation of these policies into the sector strategies. Mainstreaming climate change risk, vulnerabilities and resilience into sector policies is not a straightforward process. Sector policies have a lifetime of 8-10 years, making it hard to mainstream these considerations even where “state of the art” analyses on the possible impacts of climate change into different sectors are available. There is a need to provide more operational tools to mainstream climate risk considerations within these general difficulties. The AAP has made steady progress, but the opportunities provided by local and regional development planning and financing frameworks to advance this mainstreaming are still not being fully exploited.
30. Upscaling land rehabilitation initiatives and facilitating the formulation of the strategies are envisioned to be through the District Coordination Offices (DFO), with backstopping from National technical staff of the Ministry of Forests and Land Reclamation. The DFOs are the backbones of local level development, and are supposed to coordinate District level planning, integration, M&E and learning. However, the 2012 review of the LRP found that the units responsible for the cooperation and coordination in the two ministries housing the programmes were inadequately staffed, coordination is weak, and that opportunities for strong collaboration that would reach policy makers were not being utilized. The review reported that the DFOs are seriously under-capacitated for the magnitude of the tasks and had insufficient resources to carry out the present workload in a timely, efficient and technically sound manner, or to mainstream such considerations into the other ministries. While the LRP has an extension unit responsible for developing and disseminating an outreach programme, currently the unit produces materials such as posters, pamphlets and brochures and content for a radio programme. However, this is devoid of any information on climate change and its effects on ecosystems and their services, or the impacts of climate change on the rehabilitation programme.
31. **Incremental cost reasoning and associated adaptation benefits:** The Government of Lesotho is requesting GEF support through the Least Developed Countries Fund for Adaptation for this project to remove the barriers to mainstreaming climate change considerations into important national baseline programmes. This will ensure that the implementation of the baseline programmes leads to improvement in ecosystems integrity, functions and resilience of the four key natural systems that support economic development and livelihoods in Lesotho, thereby increasing their ability to continue providing these goods and services in the face of increased climatic variability and changing climate. The LDCF budget will be used to pay for the adaptation increment, which will primarily support two important themes: i) the use of cutting edge knowledge to increase understanding of the impacts of climate change on the relationships between ecosystem management, functionality, integrity and delivery of ecosystem goods and services. This information will be used to support planning of the land rehabilitation works so that they integrate climate risks into the rehabilitation to strengthen the integrity, functionality and resilience; and ii) strengthen the governance systems for enforcement of mainstreaming of climate risk across policies of the productive sector. This will enable the upscaling of successful land rehabilitation initiatives piloted by the project across sectors and landscapes. The components and the additional cost reasoning are presented below:
32. *Component 1: Knowledge, skills and institutional capacity support Land Rehabilitation Programme to factor in additional risks from climate change, increase resilience and reduce vulnerability.*
33. **Baseline scenario:** The specific baseline activity (and investment for this component) is the GIS systems, the planning units and the actual Land Rehabilitation Programme, with a combined baseline value of over US\$ 40 million. As explained in the barriers section, the country has two GIS systems, located at the Ministry of Forestry Land Rehabilitation (main one) and a smaller unit in the Department of Range Resources Management. Currently the GIS systems and the technical teams are not well matched and the potential of the GIS systems to increase modeling of both climate variability and ecosystems services is not being exploited. Land rehabilitation works are therefore following a “business as usual” mode, without understanding the current impacts of climate variability on important ecosystem characteristics such as resilience, integrity and function; and, more significantly, how the rehabilitation programme can be utilized to improve these characteristics, so as to ensure continued productivity under changing a changing climate regime.
34. There are serious shortfalls in the current LRP arising from inadequate analysis; for example, although the challenge of soil erosion has been acknowledged for a long while, the approaches to soil conservation have not evolved adequately

from the emphasis on construction of structures. Lack of involvement by the affected communities in the planning and design of these structures has resulted in disinterest. The government has now fully embraced the importance of trees in soil stabilisation and other sustainable land management aspects of fragile mountain ecosystems, such as providing shelter from winds, improving the water holding capacity of catchments, improving aesthetics, providing building materials and meeting fuel needs of rural communities. The majority of households in Lesotho are planting trees supported by the land rehabilitation programme. But there are still major problems with survival rates of trees seedlings; largely because Lesotho's natural vegetation is grasslands. Change in vegetation cover is critical to ecosystem services, and the lack of consideration of the consequences of land-cover change across multiple ecosystem services, especially at the scale at which management decisions are made, reduces the effectiveness of the rehabilitation programme considerably. Without the project, the LRP will continue to be implemented without factoring in these critical facts putting the investments worth over USD 40 million dollars at risk, and failing to effectively reduce vulnerability of livelihoods.

35. Additionality of Component 1: In the alternative scenario enabled by the LDCF funding, systems and capacities will be put in place to strengthen the generation and timely use of information on risks to ecosystems from climate change and variability, as well as the most appropriate methods and approaches to be adopted by the LRP to focus on ecosystems rehabilitation to improve productivity and resilience.
36. The project will upgrade the role of the GIS unit to support better planning by developing a geo-based climatic, agro-ecological and hydrological information system, which will inform the rehabilitation programme and form the basis of future monitoring of the impacts of climate variability and change on ecosystems and resilience of livelihoods. Technical capacity of the two GIS units and the current planning unit will be boosted through a combination of strategies that will include: better linkages to other capacitated entities (such as institutions of higher learning in both Lesotho and abroad, other projects and platforms, stronger national departments such as the Meteorology, etc.); combined with hiring of climate scientists and GIS specialists and on-the job training of the current staff. Initially the information system will focus on project sites. However, efforts will be made to ensure expansion to cover other parts of the country, as well as long-term sustainability. This will be achieved through engaging as many relevant institutions as possible, particularly those with the skills, knowledge, capacity and mandate for knowledge management. The key purpose will be to enable the analysis of climate-driven vulnerabilities and the cost-effectiveness of planning of specific rehabilitation works in a manner that strengthens social and natural assets. In doing so, the project will re-orient the LRP to become a system for managing evolving risks and uncertainty linked to climate change; one that is based on the relationships between climate change and variability, ecosystem health and resilient livelihoods, informed by the scientific disciplines relevant to ecosystems management, and using cutting edge knowledge, skills and technologies to identify the most effective ways of enhancing resilience of livelihoods.
37. The system will combine data and information on natural assets available (water, forests, wetlands) and ancillary information on their use, with identification of critical areas for agro-ecological and hydrological services and their role in livelihoods. Adopting a participatory approach where science serves as a social process to resolve practical resources management problems through the participation and mutual learning of stakeholders, the project will undertake a strategic environmental assessment, including vulnerability and resilience analysis to identify threats to ecosystem resilience and the associated production systems. The assessment will include mapping and quantifying ecosystem services at the landscape level, assessment of distributions of such services and areas of importance to sustaining service delivery and areas of overlap between services. It will also include an assessment of changes in ecosystem service delivery as a result of past land-cover change. These assessments will provide information on the consequences of land-cover change across multiple ecosystem services and their implications to resilience and the capacity of the ecosystems to buffer communities from the adverse effects of climate change while maintaining productivity.
38. This information will then be used by the LRP to identify and implement rehabilitation (and management) practices at the landscape and "farm" level that increase structural complexity of the natural systems by mimicking the matrix of natural vegetation patterns (for habitat, corridors, gene-flow, pollination, seed dispersal and reducing edge effects, e.g. micro-climate changes). This will be achieved by *inter alia*—creating and maintaining large, structurally complex patches of vegetation supported by small areas of native vegetation keystone structures; improving/creating buffers around sensitive areas such as native vegetation; improving corridors or stepping stones to improve connectivity between the landscapes; improving landscape scale heterogeneity and capturing environmental gradients, improving spatial patchiness and landscape pattern variability, including in highly productive, fertile soils. To do this successfully, practical and additional measures to support the rehabilitation may include identifying and increasing keystone species, encouraging key seed dispersal agents; apply appropriate disturbance regimes (e.g., fire regimes, water/targeted irrigation), controlling invasive species, minimize threatening processes (e.g., chemical pollution, over-grazing, cultivation that leaves land bare for long periods). At the farm level, these measures will be complemented by use of conservation agriculture and agro-forestry

principles to increase soil fertility, provide alternative sources of goods such as livestock feed, wood, fruits, etc. Collectively, these measures will reduce the precariousness of landscapes and farms and increase their ability to buffer livelihoods from the effects of climate change and variability.

39. Actual implementation of the LRP must be supported by the sound capacity of the land managers and resource users to continue managing resources in a way that increases productivity and resilience simultaneously. In addition to ensuring that the LRP has a full complement of staff with technical expertise on the science of climate change, ecosystems productivity and resilience, the project will design a skills development programme for resource managers. It will assist the relevant ministries to undertake a detailed capacity assessment of the current LRP, identifying gaps in staffing and skills. It will then assist the Ministry to formulate a capacity development strategy, which will include sustainability measures for the staff, skills and equipment introduced by the proposed project. Implementation of the strategy will ensure that technicians are supported by climate scientists with better training and experience of climate change models, particularly at the local scale using techniques such as downscaling. They will also be linked to suitable platforms for knowledge management and sharing on climate change science and development, ensuring that they have the relevant technology capacity (equipment and skills) to interact on these platforms. This will provide them with the space and means for collaborative action, mutual learning and the exchange of a range of material on relevant topics.
40. In addition the project will facilitate the formulation of a skills development plan for the local communities who are responsible for much of the actual implementation and maintenance of the land rehabilitation measures. The training will incorporate indigenous knowledge that has been traditionally used to deal with climate variability and change. This will complement the long-term climate observations and models in mainstreaming climate risks into the land rehabilitation programme at the practitioner level. The specifics of the training will be designed during PPG, following a skills and capacity needs assessment. It is however likely that land users in the 30 villages covered by the project will receive training in the recognition of land management practices that increase their vulnerability to climate shocks and change; the adoption and maintenance of land rehabilitation techniques that increase resilience of the individual farms as well as landscapes to climate shocks while improving productivity of the land; maintaining soil and water conservation technologies and infrastructure on individual farms and the landscapes; monitoring trends in weather variation and using the information in decision making. The project will ensure that programme implementation is supported by a sound M&E plan, with a clear learning strategy. It will also ensure that all project outputs and activities are being communicated in the most efficient and systematic manner throughout the project to all intended target groups. This will include the diligent documentation and communication of the lessons learned from the project, informing stakeholders at all levels about climate change risk management and adaptation options as tested in the 50 pilot villages (in 30 constituencies), as well as the costs and benefits of implementing such measures. The project will support the involvement of communities in the long-term monitoring of the effects of the land rehabilitation programme on resilience. In this regard, it will also establish inter-landscape level mechanisms for monitoring cross-landscape/ecosystem risk management. This is necessary because although communities in the foothills and the Senqu Valley are highly dependent on what happens in the highlands for water (for agriculture and people) and regulation of flooding, they have no systems for influencing management practices in the highlands. The project will facilitate the establishment of inter-council collaboration mechanisms to facilitate coordination of land rehabilitation programmes between the mountain and lowland ecosystems, to ensure that loss of resilience in the highlands does not increase vulnerability to the lowlands. This will be supported by a policy advocacy programme (component 2) that allows aggrieved communities to demand compensation for environmental damage in an adjacent landscape, through the regional councils.
41. The project will support the establishment of a socio-economics unit to support the integration of social capital and livelihoods needs in the selection, implementation and maintenance of climate smart rehabilitation measures. Lessons generated from the process will be widely disseminated to support adaptive management. It will also establish M&E support to the rehabilitation programme, building on the existing M&E unit in the Ministry of Forestry and Land Reclamation. The unit will be facilitated to identify relevant indicators, including those of monitoring whether the rehabilitation programme is putting the ecosystems in a trajectory of improvements in resilience and productivity under conditions of changing climate and increased climate variability, and to set up long-term data collection and management systems.
42. *Component 2: Climate change adaptation mainstreamed into local and regional development planning and finance.*
43. Baselines: The baselines for this component is made up of two projects/programmes: i) the formulation of new rangeland and wetland management strategies; and ii) the regional role out of the new NSDP, particularly the regional council budgeting processes, collectively totalling USD 8 million for the period between 2012 and 2017. As described in the baseline section, the current natural resources governance systems are too weak to enable the dynamic resource

management decisions and actions required for effective integration of climate risks into policy implementation. The LRP and the formulation of the rangelands and wetlands management strategies are indeed not adequately doing so. The weaknesses in coordination and enforcement at the technical Ministries level are compounded by the breakdown of traditional natural resources governance institutions and systems.

44. Traditionally, the Basotho culture was based on a sound understanding of the importance of maintaining a balance between livelihoods, natural resources (plants and animals) and the interplay between these the two important artefacts of their culture with climate. Indeed, under traditional management systems, where signs of environmental fatigue were detected, the community would rest land in a system of transhumance between the lowlands and mountains that allowed seasonal regeneration of forage and biomass. Similarly, water sources and wetlands were protected and hunting regulated to ensure flow and species sustainability. These traditional resource management principles are no longer enforced as the cultural values have been negatively affected by many adverse factors such as water scarcity, widespread poverty, inequitable land distribution, the migration of large numbers of households to relatively flat lowland areas, recurrent droughts, shortage of traditional building materials, etc. However, the formal governance systems have not been very effective in harmonizing cultural practices with the present natural resources reality; thus while the quality and quantity of the country's range resources have depreciated, domestic animals are still largely kept for non-commercial or traditional reasons and there is considerable resistance to destocking programmes, even as transhumance has been curtailed. Such inconsistencies are at odds with the changes, leading to severe imbalances in the ecosystems, which is bound to be exacerbated by further climate variability and change
45. Adaptation Alternative: The project will ensure that the national strategies for rangelands and wetlands management are informed by the science of climate change/variability and ecosystems management and take into considerations risks to resilience emanating from the interplay of the two with resources management and livelihoods. The project will therefore ensure that the review/formulation processes thoroughly utilize information from the analytical studies undertaken under component one. They will also be informed on the additional measures identified as necessary to strengthen the land rehabilitation programme through component one.
46. The project will also ensure that the process of mainstreaming the provisions of the new NSDP *into regional development strategies* takes full cognizance of the role of healthy ecosystems in ensuring resilience and buffering livelihoods and natural capital against climate shocks. This will be achieved through the strengthening of inter-ministerial coordination at the regional council and district levels. These units are responsible for the implementation of development initiatives on the ground, including mainstreaming emerging issues and new government policy guidelines, such as stipulations of the NSDP into the practical development work. Currently, these units are facing serious capacity constraints for coordinating logistics and technical works. The project will boost the capacity of the units in the project sites, not only in coordinating logistics, but for facilitating the expansion of the current multi-disciplinary teams to include specialists from public works, Agriculture, Livestock and Social Science, who will work together as a team.
47. The regional councils will be supported to review local policies across the other productive sectors, particularly agriculture, infrastructure development and rural development to incorporate resilience in local development processes (such as development construction of physical infrastructure); these reviews will informed by the analytical assessments and practical management measures identified under component. To increase enforcement, the councils will be supported to ensure that requirements for integrating climate risks outlined in national development strategies (such as the NSDP) are integrated into council level development policies and procedures. The capacity to enforce these regulations will be boosted through the formulation of simple guidelines to enforce compliance in the design and approval processes of any local development programmes, plans and activities. This will be supported by the formulation and implementation of training programmes (building on those formulated under component one) for a wider range of stakeholders, including engineers, builders, urban and rural planners and small-and medium-sized enterprises; who are concerned with physical construction and/or land use planning tasks in their day-to-day occupations. The project will work with institutions of higher learning (universities, technical colleges, vocational training institutions) to ensure integration of these courses into regular training curricula. In doing so, the project will build on partnerships that have already been developed under the UNDP AAP. This strategy will ensure that climate resilient development is not exclusively dependant on top-down processes, but it is recognized and supported by bottom-up systems, including regulations and professionals who ultimately undertake the development related tasks. This will cultivate the behavioral changes required at local level to sustain climate resilience climate resilience in the long-term.
48. Best practices and documentation from the entire project will be disseminated nationally through the Lesotho SLM Platform established under the GEF LD project, and globally via the UNDP's Adaptation Learning Mechanism (ALM), wikiADAPT. To share the lessons nationally as widely as possible, the project will facilitate Farmer Field Schools' mode

of extension. During project execution, exchange visits will be organized between the project's target constituencies but also with adjacent landscapes and ecosystems, with the understanding that the LDCF project is a pilot whose successful initiatives must be up-scaled and perpetuated in the future. In addition, the project will use local media such the widely diffused radio and television network to inform local populations on the effects of climate change and envisaged adaptation measures. Finally, guides for climate risks management best practices will be published in local languages and diffused to facilitate appropriation of the tools developed by the project. The measures at the local practitioner level will be necessary for ensuring sustainability of the project initiatives, particularly the long-term maintenance of structures, skills and equipment obtained through the project.

## A.2. Stakeholders

49. The project will involve a broad spectrum of stakeholders including the private sector, civil society organizations, local and indigenous communities. Specific stakeholders and their specific roles and responsibilities will be detailed during the PPG and reported in the ProDoc. Likely stakeholders include:

Stakeholders	Role in the project
<b>Youth groups and farmers, particularly women and the elderly</b>	Youth groups (15-35 years) will benefit from the project, but are also considered custodians of sustainability for project initiatives. Youth will be widely consulted during project formulation and heavily involved in implementation. They will be the primary beneficiaries of the "cash for work" programme of land, water and soil rehabilitation through jobs generated by the initiative. Farmers, particularly women and the elderly will also be primary beneficiaries and implementers of the climate smart initiatives, contributing labour and indigenous knowledge. They will reap most of the benefits from improved productivity and resilience. A community based M&E system will also be formulated and implemented with significant community participation.
<b>Regional Councils</b>	Councils in both mountain and low lands will be key participants in coordinated management to ensure that land rehabilitation measures are implemented in both ecosystems, and monitor impacts of climate change in each. This will ensure that negative impacts in the highlands do not undermine livelihoods in the lowlands.
<b>District Councils and Chiefs</b>	District councils will be involved in the local level governance and coordination of technical teams supporting the project implementation. They will be beneficiaries of capacity building in order to improve logistical support to project implementation as well as coordination of the technical teams from the relevant departments/ministries.
<b>Civil Society Groups</b>	Will be involved in policy reviews and implementation of some outcomes, particularly training.
<b>Government departments</b>	National and District Teams of the Department of Environment, Meteorology, the ministries of Education, Youth, Sports, Recreation and Gender, Agriculture and Food Security, Forestry and Land Reclamation, Natural Resources, Trade and Industry, Cooperatives and Marketing, Employment and Labour, etc. will be involved in planning and implementation of the project activities. They will be expected to provide guidance and technical support to participating communities and stakeholders.

## A.3. Risk management:

54. A comprehensive risk analysis will be undertaken during the PPG phase; however, the table below outlines some of the more obvious risks.

Risk	Rating	Management Strategy
Local communities and other stakeholders (e.g. regional councils, NGOs, public entities) resist changing traditional practices that threaten the provision of agro-ecological and hydrological services and persist in using unsustainable methods.	M	Because of the importance of the buy-in and full participation of the key players in natural resources management, the project has adopted a three pronged strategy to ensure that the resistance to change does not become a killer assumption; it will use science as a tool of social change that involves resource users in a participatory approach that engages all key players with a stake to the resources. This way, science will become a social process aimed at resolving practical resource management and livelihood challenges, through the participation and mutual learning of stakeholders, providing solutions to questions inspired by the beneficiaries and managers of the resources, and useful for mainstreaming ecosystem services into local land-use planning. This will be complemented by the formulation and implementation of a communications strategy outlining the risks and benefits of adopting improved, climate-smarter measures, including the inclusion of such messages in the education curricula. The two strategies will be supplemented by strengthening governance and enforcement procedures, via stronger coordination at the regional council and inter-ministerial levels.
High illiteracy levels in villages may hinder the progress of pilot interventions and/or dissemination of lessons learned as well as long-term maintenance of mitigation technologies;	M	The project will invest in an extensive training programme and will train management committees and farmers involved in various interventions to ensure that they understand, not only the risks of continuing with business as usual, but also the correct techniques of climate smart practices. The project will work with religious groups to disseminate messages/deliver training. It will also adopt the "Farmer-Field Schools" mode of extension to increase reach. This is in addition to using the traditional avenues of disseminating information and lessons such as television and radio programmes in local languages.
The geo-based climatic, agro-ecological and hydrological information system	L	This risk will be mitigated by cultivating partnerships with capacitated institutions based on comparative advantage and mandates. Strong linkages will be established with universities in

Risk	Rating	Management Strategy
may not be sustained beyond the lifetime of the project.		Lesotho and abroad and the Department of Meteorology, which although has significantly higher capacity, still needs support. Institutional arrangements for effective implementation and sustainability of this (and other outputs) will be identified during PPG and actualized during implementation. The project will formulate an exit strategy which will include post-project arrangements and measures to sustain this and other) outputs. These arrangements and measures may be outlined in MoUs and ToRs where it will be found necessary.
The baseline programme is being implemented under cash for work programme. Money might be spent on the 'wrong' things, such as tobacco, alcohol, or drugs (Low);	L	The project will build on the existing cash for work baseline and incorporate lessons generated to date. Review of the previous cash for work programmes (supported by Oxfam's world-wide monitoring and evaluation) shows that beneficiaries of cash-transfer programmes use the cash mainly for food purchase, repayment of loans, school books/fees/uniforms, clothes, livestock, and agricultural inputs. Although insignificant amounts were reported to have been spent on cigarettes and other items considered non-essential in terms of nutrition or livelihoods, it is believed that the same risk exists with in-kind distribution, and that stopping cash distributions will not stop people buying non-essential commodities

**A.4. Coordination.** Outline the coordination with other relevant GEF financed and other initiatives:

55. Lesotho is a beneficiary to several national and regional programmes and projects which are relevant to the proposed project, and which will be closely coordinated with the current project. These include:
- i. Environmental Long-Term Observatories of Southern Africa (ELTOSA): ELTOSA is a member of the International Long Term Ecological Research (ILTER), which is a global 'network of networks', of research sites located in a wide array of ecosystems worldwide that can help understand environmental change across the globe. Most ILTER members are national or regional networks of scientists engaged in long-term, site-based ecological and socioeconomic research (known as LTER or LTSE). They have expertise in the collection, management and analysis of long-term environmental data. Together they are responsible for creating and maintaining a large number of unique long-term datasets and information which can contribute to solving international ecological and socio-economic problems through question and problem-driven research, with a unique ability to design collaborative, site-based projects, compare data from a global network of sites and detect global trends. ELTOSA is hosted by South African Environmental Observation Network (SAEON) and is expected to involve all Southern Africa countries. Lesotho is not yet participating effectively in ELTOSA. This project will facilitate that participation to ensure that the country benefits from the extensive networks created through ILTER, while it also contributes to global advances in monitoring the impacts of climate change on the ecological processes.
  - ii. African-European Parliamentary Dialogue on Climate Change: The overall objective of this programme is to increase parliamentary action in Africa and Europe related to sustainable development and climate change, based on the Action Plan of the Environment Initiative of NEPAD, which aims to promote an informed and proactive debate on climate change within the parliaments. The programme also aims at engaging and involving parliamentarians in the process of policy formulations at the national and sub-regional (SACU) level. Lessons learnt from the Lesotho project will be fed to the parliamentarians through the coordination mechanism established by the Africa Adaptation Project, to inform their discussions in the Pan-African NEPAD initiative.
  - iii. Sectoral Planning and Implementation Water Research Commission Programme: This regional project focuses on Climate Change and Water Resources in Southern Africa. It is currently working on: the Development of Plausible Climate Change Scenarios for Southern Africa; Investigation of the Potential Impacts of Climate Change on Hydrological Responses and Associated Water Resources; Investigation of Possible Water Related Socio-Economic Impacts of Climate Change in the Thukela Catchment and Factors Contributing to Future Risk; Recommendations on Some Strategies to Adapt to, and Cope with, Water-Related Impacts of Potential Climate Change; Detection of Effects of Climate Change and Recommendations on Appropriate Monitoring Systems for its Detection. Due to the limited budget supporting the regional project, countries are expected to make contribute by raising funds for national level implementation. The proposed LDCF project will strengthen Lesotho's contribution to the regional project, while utilizing the networks and resources of the regional component.
  - iv. The project will also be closely coordinated with the Lesotho component of the Africa Adaptation Programme (AAP), which has four objectives: i) Leadership, technical skills and knowledge increased among individuals, communities and institutions to plan for and implement effective Climate Change Adaptation measures, including an integrated and decentralized approach: ii) Climate-resilient and community-based adaptation policies promoted: iii) Financing options to meet national health and energy adaptation costs, including Private Public Partnerships and private participation, have been expanded at the local and national levels: iv) Knowledge on adjusting national and sub-national development



processes to fully incorporate climate change risks and opportunities generated and shared across all levels. Under objective one, the programme is working to strengthen leadership and institutional capacities in addressing climate change, revive and strengthen the climate change adaptation (CCA) coordination platforms, improve technical capacity and leadership of climate related service providers and, ensure women and youth participation in the adaptation programme, through implementation of an action plan to promote their participation. Under objective two, the programme will promote climate change adaptation policies for energy and health sectors as well as develop the relevant national capacity to address climate change risks within these sectors. Under objective three, the programme will strengthen the financial development framework on climate change, promote Community Based Adaptation financing mechanisms: and, support private sector investments and private-public partnerships in HECCA (Health and Energy Climate Change Adaptation) opportunities. Under objective 4, the programme aims to facilitate generation and sharing of climate change adaptation information.

- v. At the national level, this project will complement the FAO LDCF pilot project on ‘Strengthening capacity for climate change adaptation in the agriculture sector in Lesotho’ (undertaken during 2009-2011), which has been followed up with submission of the new and recently approved PIF titled ‘Strengthening capacity for climate change adaptation through support to Integrated Watershed Management’ with the following objectives: i) to implement sustainable land and water management practices 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. In contrast, the proposed project focuses on implementation of ecosystem-based adaptation approaches to promote off-gate natural resources management at the landscape level, and re-orient target national policies including the LRP, the NDSP and the new rangeland and wetlands strategies to rehabilitate critical ecosystems, strengthen socio-ecological resilience, and support the continued supply of vital ecosystems goods and services upon which all production systems in Lesotho depend. The proposed project will take place in different locations to the FAO project, focusing on the agro-ecological and hydrological systems supporting livelihoods in the Foothills, Lowlands and Senqu River Valley; while the FAO project will operate at the community level in selected watersheds in the three districts of Thaba Tseka, Mafeteng and Mohale’s Hoek. In addition, the FAO project principally supports implementation of Lesotho’s National Action Plan for Food Security, while the proposed project supports implementation of Lesotho’s NAPA, NDSP and LRP, and seeks to remove the barriers to mainstreaming climate change considerations into national programmes and policies mentioned above. This will lead to improvements in the integrity, function and resilience of the four key natural systems that support economic development and livelihoods in Lesotho, thereby increasing their ability to continue providing essential ecosystem goods and services in the face of increased climatic variability and changing climate.
- vi. Lesotho is also currently implementing a sustainable land management project titled ‘Capacity Building and Knowledge Management for Sustainable Land Management in Lesotho’, whose goal is “that sustainable land management provides a strong base for sustainable development in Lesotho while providing a range of global benefits to the region”. The specific objective of the project is that, supported by a knowledge management network, Lesotho is equipped at local and national levels with the techniques, approaches, capacity and strategy for upscaling successful SLM in support of national biodiversity conservation, food security and poverty reduction strategies. The project focuses on the livestock production systems in the mountain region and is working towards developing a workable model that would improve resource governance in the rangelands, particularly reducing overgrazing sustainably. It is also building local and national capacity for adapting and scaling up the proven SLM models and facilitating mainstreaming of SLM considerations into national policies. The project is in the process of establishing a national dialogue platform to facilitate national debate on important SLM and policy matters, as well as to formulate a country level strategic investment framework (CSIF) for upscaling financing for accelerated SLM adoption countrywide. The project is in its final year of implementation and all efforts will be made to build on its achievements in the implementation of the proposed LDCF project. In particular, the resource governance model for the rangelands in the mountain region will be critical in reducing overstocking, a critical factor in improving ecosystem integrity of the overstocked and degraded mountain ecosystems. The SLM National Platform created by the SLM project will be utilized to form an effective bridge with the proposed LDCF project. It will therefore be used to disseminate lessons from the SLM process to the adaptation project and to lessons from the adaptation project into the SLM platform and policy debates. The proposed project will also be closely coordinated with the National Climate Change Programme financed by the AAP described in the baseline section.

## **B.1. Description of the consistency of the project with:**

### **National strategies and plans or reports and assessments under relevant conventions.**

56. Lesotho's economic development is heavily dependent on the continued supply of ecosystems goods and services. As reported in the poverty eradication paper, the country's economy is largely based on agriculture, livestock water and electricity sold to South Africa. Food production is mainly through rainfed agriculture, which provides employment for more than 80% of the population. Securing ecosystem services for both water provision and agriculture are mentioned in virtually all the development policies of the country, including the Vision 2020, the Poverty Reduction Strategy, the NAPA, the 2012-2016 National Sustainable Development Plan (NSDP) and policies of relevant ministries such as Ministry of Agriculture and Food Security, Forestry and Land Reclamation. With regard to the NSDP, the project will contribute to the following objectives: (i) reverse land degradation and protect water sources through integrated land and water resource management; (ii) improve national resilience to climate change; (vi) improve the delivery of environmental services, including waste and sanitation and environmental health promotion; and (vii) improve coordination, enforcement of laws, information and data for environmental planning and increase public knowledge and protection of the environment.

## **B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:**

57. Lesotho is a signatory to the UNCCCF and has completed the First National Report on Climate in 2000 and the National Adaptation Programme of Action (NAPA) in 2007. The NAPA process identified eleven adaptation options, most of which emphasize the need for integrating SLM into ecosystem management and agriculture, in order to increase productivity without further damage to the natural resources base. Consistent with the Conference of Parties decisions, the project will implement priority interventions in Lesotho's NAPA, and therefore satisfies criteria outlined in UNFCCC Decision 7/CP.7 and GEF/C.28/18. The project requests the LDCF to finance the additional costs required to build on the considerable baseline investments in SLM to ensure that resilience developed through the current SLM programme is sustained. These costs relate to facilitating the adoption of an ecosystems based approach to adaptation needed to address the additional ecological challenges presented by climate change. The additional LDCF funds will establish the enabling environment for the paradigm shift required to ensure that ecosystems and their services are sufficiently resilient to climate change pressure, and that capacities and tools to remove barriers currently hindering climate risk from being actively integrated within land and water resource planning and management are removed. It will therefore improve the capacity of government decision-makers and private resource users to conserve and rehabilitate natural ecosystems, to secure the foundation of human development.

## **B.3. The GEF Agency's comparative advantage for implementing this project:**

58. UNDP has a long-standing history of supporting climate change adaptation and disaster risk reduction, as well as mainstreaming environmental considerations in the development frameworks of Lesotho. Mainstreaming adaptation into land, biodiversity and water management are core components of the Lesotho Country Programme Action Plan (CPAP), which outlines UNDP's support to government in line with UNDAF (United Nations Development Assistance Framework). The project fits in the 2011-2015 UNDAF, contributing directly to "Increased employment, household security and enhanced natural resources & environmental management" (UNDAF outcome 2). It will contribute to UNDP's Country Programme and Action Plan (CPAP, 2008-2012) sub-programmes on Poverty and Food Security, Environment and Energy. This contribution will be to strengthen national capacity to improve environmental sustainability, create employment opportunities for women, men and youth (Outcome 2.1), National policies for employment adopted and implemented for youth in viable sectors (Output 2.1.2), and Demand-driven and decentralized public service delivery based on claim-holder aspirations and participation strengthened (Outcome 3.3). In addition, UNDP has already assisted the government to design and implement several adaptation programmes including the AAP and other GEF projects. Through the AAP, UNDP has supported the Government to formulate a Climate Change Policy and build national level institutional capacity for tackling climate change and development. It has also been instrumental in implementing "Youth and Environment for Development" programmes, and, strengthening the role of communities and of women in promoting sustainable development.
59. The proposed LDCF project will benefit from the agency's considerable experience with implementing a wide-range of climate change adaptation projects (including those focusing on ecosystems, agriculture and water sectors) in Least Developed Countries (LDC). UNDP is also able to draw on its adaptation experience in helping the majority of LDC governments to prepare NAPAs. It has demonstrated effectiveness in leveraging resources from a range of funding sources in support of GEF-financed projects. UNDP is particularly well positioned to provide implementation support to the design and implementation of demonstration activities at the community level. This is largely owing to its country


presence, its established networks and working relationships in country. UNDP currently has a total annual delivery of USD 5 billion per annum, including capacity building and investment work undertaken through its regular programmes and special funds, such as the Capital Development Fund. UNDP thus has the experience and capacity to support the ‘cash for work’ initiative of the LRP, and is already supporting similar green jobs/cash for work initiatives in Lesotho, including i) the design, funding and implementation of a community-based risk management project as a pilot project on use of risk assessment in development programming; and ii) the implementation of a project titled ‘Strengthening Rural Livelihoods severely affected by climate change-induced drought’, which seeks to mainstream management for climate change into council plans. UNDP will provide a cash co-finance of US\$ 4 million to this project in the form of grants. The source is UNDP’s core funds (TRAC). In addition, UNDP and the government will help leverage the rest of the co-financing necessary for meeting the minimum targets proposed under this PIF and likely surpassing them.

### **PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE
Stanley Damane	Director, Department of Environment & OFP	Ministry of Tourism, Environment and Culture	10/8/2012

#### **B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	Date	Project Contact Person	Telephone	Email Address
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